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BANK FINANCIAL MANAGEMENT

Indian Institute of Banking & Finance

MACMILLAN

'THE ARCADE', WORLD TRADE CENTRE, CUFFE PARADE MUMBAI 400 005

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- To promote continuous professional development.
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INTERNATIONAL BANKING

UNITS

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2. Basics of Forex Derivatives
3. Correspondent Banking and NRI Accounts
4. Documentary Letters of Credit
5. Facilities for Exporters and Importers
6. Risks in Foreign Trade - Role of ECGC
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UNIT 1 Exchange Rates and Forex Business

STRUCTURE

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1.0 OBJECTIVES

The objective of this unit is to understand:

The definition and types of exchange rates The mechanism and the markets The Factors affecting rates The Related guidelines How a dealing room operates and Forex operations in India - Various guidelines

1.1 INTRODUCTION

The world trade, export and import of commodities, cross-border movement of manpower and capital, travel and tourism and export of services, all necessitate the need for exchange of currency of one country to the currency of another country. The export of goods manufactured in India, to USA, are paid in US dollars, where the exporter needs to convert the USD proceeds of the bill into Indian rupees. Similarly, import of capital goods from Germany into India, billed in Euro, is to be paid in Euro, by converting Indian rupees into Euro. Thus conversion of currencies from the currency of invoice to the home currency of the exporters will be generally required for all cross border trades. This is Foreign Exchange. For the Indian exporter or the importer, the US dollars or Euro is foreign exchange, while for the American (buyer of Indian goods) or the German (seller of capital goods), Indian rupee is foreign exchange. Thus, in today's world, when nations push for greater inflow or outflow of goods, capital or services, foreign exchange has become an integral part of the world financial system. The term Foreign Exchange is more broadly used to denote foreign currency, i.e. currency of any country, as well as the exchange of currency of one country into that of another.

Can we think of not exporting our surplus produces or not importing the new technology, machineries or consumables into India? Can we do without import of capital, to fund our country's growth related investments? Travel, tourism, exports, imports of goods and services, repatriation of savings by expatriates, all depend on foreign exchange.

1.2 FOREIGN EXCHANGE - DEFINITION AND MARKETS

Foreign Exchange Management Act (FEMA), 1999, (Section 2) defines foreign exchange as: "Foreign Exchange means foreign currency, and includes:

- (i) All deposits, credits and balances payable in foreign currency, and any drafts, traveler's cheques, letters of credit and bills of exchange, expressed or drawn in Indian currency and payable in any foreign currency,
- (ii) Any instrument payable at the option of the drawee or holder, thereof or any other party thereto, either in Indian currency or in foreign currency, or partly in one and partly in the other." Thus, broadly speaking, foreign exchange is all claims payable abroad, whether consisting funds held in foreign currency with banks abroad or bills, checks payable abroad.

In other sense, a foreign exchange transaction is a contract to exchange funds in one currency for funds in another currency at an agreed rate and arranged basis. Exchange rates thus denote the price or the ratio or the value at which one currency is exchanged for another currency. The number of units of one currency, which exchange for a given number of units of another currency, is the exchange rate of the currency. For example, 1 US dollar is equal to Rs 48.10, or 1 Euro is equal to 1.47 US dollar.

The exchange rate is a dynamic rate, which varies from day-to-day, minute-to-minute and second to second, and in practice a few times per second, depending upon a variety of factors. We shall learn more about the forex markets and other aspects as we go ahead.

Foreign Exchange Markets

Foreign exchange markets comprise a large spectrum of market participants, which include individuals, business entities, commercial and investment banks, central banks, cross border investors, arbitrageurs and speculators across the globe, who buy or sell currencies for their needs. It is a communication system-based market, with no boundaries, and operates round the clock, within a country or between countries. It is not bound by any four-walled marketplace, which is a common feature for commodity markets, say vegetable market, or fish market. It is a profit centre with simultaneous potential for losses.

Forex markets are dynamic markets and work round-the-clock, in different time zones, in which various countries are located. Geographically, forex markets extend from Tokyo and Sydney in the east, through Hong Kong, Singapore, Bahrain, London and New York in the west.

If we view the markets as per GMT, when the London and other European markets start the day it is almost lunch time for the Indian markets, and when the Indian markets are about to close, the New York market is about to begin its day. Further, while the New York market operates for sometime alongside the London and European markets, the markets in the east: Tokyo, Hong Kong and Singapore are ready to start, before New York closes. The Indian and Middle East markets are ready to start the day, before close of Singapore and Hong Kong markets.

The world currency market is a very large market, with a large number of participants. Major participants of forex markets are:

- Central Banks - managing their reserves and using currency markets to smoothen out the value of their home currency.
- Commercial Banks - offering exchange of currencies to their retail clients and hedging and investing their own assets and liabilities, as also on behalf of their clients, and also speculating on the movements in the markets.
- Investment Funds/Banks - moving funds from one country to another using exchange markets as a vehicle for investments as also hedging their investments in various countries/currencies.
- Forex Brokers - acting as middleman, between other participants, and at times taking positions on their books.
- Corporations - moving funds between different countries and currencies for investment or trade transactions or even speculation in currency markets.

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- Individual - ordinary or high net worth individuals using markets for their investment, trade, personal, and travel and tourism needs.

As given here, the participants not only use the forex markets for trade or travel purposes, but also for investments, hedging and speculative, thus generating large volumes for the market.

It may be surprising to note that the global forex market handles total turnover of approx. US dollar 3.20 trillion (USD 3200 billion) per day, while the daily world trade turnover is approx. 2.00 % of this forex turnover. This means that around 98% of the global forex trading relates to investments, or speculative trading. The Indian forex markets too, trade over USD 30 billion per day. which is again a good multiple of the India's average daily export /import trade turnover, mostly because of regulatory exchange control regime and restrictive flow offoreign currency. The forex markets are highly dynamic, that on an average the exchange rates of major currencies (say GBP/USD) fluctuate every four seconds, which effectively means it registers 21,600 changes in a day (15 X 60 X 24). Now that means that you look aside for a second and when you turn back for the rate, the same could have moved either way.

Forex markets usually operate from 'Monday to Friday' globally, except for the Middle East or other Islamic countries which function on Saturday and Sunday with restrictions, to cater to the local needs, bur are closed on Friday. The bulk of the forex markets are OTC (over the counter), meaning that the trades are concluded through telephone or other electronic systems (dealing systems of various news agencies, banks, brokers or Internet-based solutions).

Banks in London quite commonly deal with banks in Paris, Frankfurt, Mumbai and New York and even in Tokyo or Singapore, which are totally in a different time zone. Large dealing rooms of global banks or Corporates, operate round the clock, to be with all major markets across the globe. A few traders, are provided dealing platforms in their homes, to enable them to trade in any time zone. Now with the internet accessibility on the mobile, the markets can be accessed any time any place.

Major banks, which act as market makers offer two-way quotes, (buy and sell), and leave upon the caller to either buy or sell as per his needs. This generates greater market depth and volumes. Thus the characteristics of foreign exchange market can be listed as under:

a 24-hour market an over the counter market

a global market with no barriers/no specific location a market that supports large capital and trade flows highly liquid markets

high fluctuations in currency rates (every 4 seconds) settlements affected by time zone factor

markets affected by governmental policies and controls

of one currency

2. The exchange rates of major currencies fluctuate every
3. The Forex markets are dynamic and round the clock markets. True/False
4. Forex markets are not affected by government policies. True/False
5. A large part of the total global forex turnover results from global commodities trade. True/False

1.3 FACTORS DETERMINING EXCHANGE RATES

The quotations in the Forex markets depend on the delivery type of the foreign currencies, i.e., exchange of streams of the two currencies being exchanged. The spot rates, being the base quotes in the forex markets are more dynamic and are effected by varied reasons, a few of which are fundamental and other technical. The main factors, which influence movement of exchange rates, can be summarised as under:

(a) Fundamental Reasons

These include all those causes or events, which affect the basic economic and monetary policies of the concerned government. The causes normally affect the long-term exchange rates, while in the short- run, many of these are found ineffective.

In a long run, exchange rates of all currencies are linked to fundamentals, as given under:

- Balance of payment - generally a surplus leads to a stronger currency, while a deficit weakens a currency.
- Economic growth rate - a high growth leads to a rise in imports and a fall in the value of currency, and vice versa.
- Fiscal policy - an expansionary policy, e.g., lower taxes can lead to a higher economic growth.
- Monetary policy - the way, a central bank attempts to influence and control interest and money supply can impact the value of currency of their country.
- Interest rates - high domestic interest rates tend to attract overseas capital, thus the currency appreciates in the short term. In the longer term, however, high interest rates slow the economy down, thus weakening the currency.
- Political issues - political stability is likely to lead the economic stability, and hence a steady currency, while political instability would have the opposite effect.

(b) Technical Reasons

Government controls can lead to an unrealistic value of a currency, resulting in violent exchange rates. Freedom or restriction on capital movement can affect exchange rates to a larger extent.

This is a recent phenomenon, as seen in Indonesia, Korea, etc. Huge surpluses generated in the petroleum exporting countries, (due to the sudden spurt in petroleum prices), which could not be utilised in these countries, had to be invested overseas. This creates huge movement of capital overseas and resultant appreciation of the relative currency.

Capital tends to move from lower yielding to higher yielding currencies, and results, is movement in exchange rates.

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(c) Speculation

Speculative forces can have a major effect on exchange rates. In an expectation, that a currency will be devalued, the speculator will short sell the currency for buying it back cheaper at a later date. This very act can lead to vast movements in the market, as the expectation for devaluation grows and extends to other market participants.

Speculative deals provide depth and liquidity to the market and at times, act as a cushion too, if the views do not lead to a contagious effect.

1.4 EXCHANGE RATE MECHANISM Types and Calculation

Due to the vastness of the market, operating in different time zones, most of the Forex deals are done on SPOT basis, meaning thereby that the delivery of the funds takes place on the second working day following the date of deal/contract. The rate at which such deals are done is known as SPOT rates. Spot rates are the base rates for other FX rates. The date of delivery of funds on the date, on which the exchange of currencies actually takes place, is also referred to as 'value date'. The delivery of FX deals can be settled in one or more of the following ways:

Ready or Cash

Settlement of funds takes place on the same day (date of deal), e.g., if the date of Ready/Cash deal is 5 October 2009 (Monday), settlement date will also be 5 October 2009.

Tom

Settlement of funds takes place on the next working day of the date of deal, e.g., if the date of TOM deal 5 October 2009 (Monday), settlement date would be 6 October 2009 (Tuesday, provided it is a working day for the markets dealing as well as where currency is to be settled). If Tuesday is a holiday, in any of the 2 countries, the settlement date will be next working day in both the countries.

Spot

Settlement of funds takes place on the second working day after/following the date of contract/deal, e.g., if the date of Spot deal is 5 October, 2009 (Monday), settlement date will be 7 October, 2009. (Presuming all markets are working on 5, 6 and 7 October 2009). If not, it will be the next working day in both the countries.

Forward

Delivery of funds takes place on any day after Spot date, e.g., if the date of forward deal is 5 October 2009 (Monday), for value settlement date 30 October 2009 or 30 November 2009, it is a forward deal.

Spot and Forward Rates

As explained earlier, in the Forex market all rates quoted are generally 'Spot Rates'. The spot rates are for delivery of currency or exchange of the streams of currencies dealt in, on the second working day from the date of deal or transaction.

Say USD/INR quoted as 1 USD = 48.10 Rupees, or GBP/USD quoted as 1 GBP = 1.6050 USD or EURO/USD as 1.4750.

The volume, depth and volatility of the spot market is higher due to large participation of market players in the spot trades.

On the other hand, when the delivery of the currencies is to take place at a date beyond the Spot date, i.e., beyond two working days, then it is a forward transaction, and the rate applied is called forward rate, which is generally different from the spot rate. Let us now see, why and how this is so?

Forward Margins - Premium and Discounts

Forward rates are derived from spot rates, and are function of the spot rates and forward premium or discount of the currency, being quoted.

Forward rate = Spot rate + Premium (or - Discount).

If the value of the currency is more than that being quoted for Spot, then it is said to be at a Premium, while if the currency is cheaper at a later date than spot, then it is called at a Discount.

To, simplify, if the forward value of the currency is higher than (costlier) the spot (present) value, then the currency is said to be at a Premium, say, if the spot GBP against USD is being quoted at L6000, and 1 month forward as L6050, then GBP is dearer, value one month forward, and a premium of 50 pips is being charged for the same.

Similarly, if the forward value of a currency is cheaper than the present value (spot), the currency is said to be at a Discount. In the above example, where the spot GBP is quoted as 1.6000, against USD, and 3 month forward as L5900 (100 pips), while the GBP is at a premium, the USD, the other currency is at a discount against the GBP.

Let us take another example. Indian rupee spot being quoted as 48.10/11, against USD i.e., 1 USD is being bought at 48.10 and sold at Rs 48.11. Now if the six-month premium being quoted is 68/69 paise, it means that the USD is being quoted dearer in forward, and is being quoted as 48.78/80 Here the USD is at a premium, while the INR at a discount, thereby meaning that the USD is costlier for future value, while the Indian Rupee is cheaper for future value.

Thus, a correlation is clearly established as the quotes are for a pair of currencies, where one is exchanged for another, (GBP/USD, USD/INR, USD/SGD, Euro/USD, USD/JPY, etc.).

The forward premium and discount are generally based on the interest rate differentials of the two currencies involved, as also on the demand and supply of forwards in the market. The demand and supply depends upon various factors, which include, movement of capital in normal times as well as

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out of fright/ fear (flight of capital), status of exports and imports, trade balance as also balance of payment, other financial and fiscal status of countries, freedom to invest and move in and out, infrastructure and labour position, political stability and activity, speculative activities, etc.

In a perfect market, with no restrictions on finance and trade, the interest factor is the basic factor in arriving at the forward rate. If the rate of interest, say in the US, for three months prime bank bills is 2% p.a. while similar paper in London can be purchased at a rate of interest of 4% p.a., there will be a flow of funds from USA to London to take advantage of higher yield shown by the UK bills. (Assuming there are no exchange controls and free movement of capital is allowed.) The US investor will have to buy GBP by surrendering his USD (owned or borrowed) in the spot market and the GBP so obtained by him would be invested in the UK bills. This will lead to a demand for GBP in the spot market. At the maturity of pound bills, the pounds received would be reconverted to US dollars. This will lead to a demand for USD in the forward. This gain or sacrifice will be adjusted in the forward rate of currencies (as forward margin - premium or discount), dealt in the foreign exchange market, to ensure a no-profit, no-loss situation.

Therefore, the forward price of a currency against another can be worked out with the following factors:

- (i) Spot price of the currencies involved.
- (ii) The interest rate differentials for the currencies.
- (iii) The term, i.e., the future period for which the price is worked out.

It would be relevant to emphasize here that the forward rate so worked out is no indicator of the future trend of the currency values.

Direct and Indirect Quotes

As mentioned elsewhere, the price of the currency can be expressed either as one unit of home currency, equal to so many units of foreign currency, or as one unit of foreign currency equal to so many units of home currency.

Under direct quotes, the local currency is variable, say as in India, 1 USD = Rs 48.10. The rates are called direct, as the rupee cost of foreign currency is known directly. These quotes are also called Home Currency or Price Quotations.

On the other hand, under indirect method, the local currency remains fixed, while the number of units of foreign currency varies. For example, Rs 100 = 2.05 USD.

It would be worthwhile to mention that globally a practice is being followed where all currencies, (except a few) are quoted as direct quotes, in terms of USD (1 USD = so many units of another currency).

Only in case of GBP (Great Britain Pound/British Pound), Euro, AUD (Australian Dollars), and NZD (New Zealand Dollars), the currencies are quoted as indirect rates, i.e., one GBP, Euro, AUD, or NZD = so many units of USD.

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So, the currency rates, as generally quoted on a given day, can be under :

| | |
|------------------------------------|--------------------------------|
| USD/INR-Rs 48.10/11 perUSD, | GBP/USD-USD 1.6000/10 per GBP, |
| EURO/USD - USD 1.4710/20 per EURO, | USD/JPY- JPY 91.50/60 per USD, |
| USD/CHF- 1.0390/00 per USD, | USD/SGD 1.4175/95 per USD, |
| USD/HKD 7.7475/00 per USD, | AUD/USD 0.8730/40 per USD, |

Cross Rates

When we deal in a market where rates for a particular currency pair are not directly available, the price for the said currency pair is then obtained indirectly with the help of cross rate mechanism.

This can be explained with the following example:

Suppose, we intend to get a quote for Euro/rupee and no one is prepared to quote Euro/Rs directly in the market. We can work out a Euro/Rs quote through Euro/USD and USD/Rs quotes. Euro/USD quote would be available in the international markets and USD/Rs would be available in the domestic market. By crossing out USD in both the quotes, we can arrive at an effective Euro/Rs quote.

This is the basis for working out cross rates. Cross rate mechanism is a possible solution for calculation of rates for currency pairs which are not actively traded in the market.

For example, we need to quote GBP against INR, but in India, usually GBP is not quoted directly, as such we need to take rates for USD/INR and GBP/USD to compute GBP/INR rate.

If, USD/INR is 48.10/11, and GBP/USD is 1.6000/10, then, to GBP/INR rate, we need to cross both the given rates, which would give us GBP/INR rate as Rs 76.9600/77.0200.

Or say if USD/ JPY is 91.50/60, the rate for Rupee /JPY would be Rs 53.50/60 per 100 JPY (JPY being quoted per 100 units, due to their values) .

Fixed vs. Floating Rates

The fixed exchange rate is the official rate set by the monetary authorities for one or more currencies. It is usually pegged to one or more currencies. Under floating exchange rate, the value of the currency is decided by supply and demand factors for a particular currency.

In some cases, even fixed exchange rates are allowed to fluctuate between definite upper and lower bands, as fixed by the monetary authority of the country.

Since 1973, the world economies have adopted floating exchange rate system. India switched to a floating exchange rate regime in 1993 (from currency basket peg where currency fluctuations depend on fluctuations in the basket of currencies- decided upon the trade relationships.)

Bid and Offered Rates

The buying rates and selling rates are also referred to as bid and offered rates. In a USD/INR quote, of 48.10/11, quoting bank is bidding for USD at 48.10 and is offering to sell the USD at 48.11.

On the other hand, in a GBP/USD rate 1.6000/10, the quoting bank is willing to buy GBP at 1.6000 and willing to sell at 1.6010.

Exchange Arithmetic - Theoretical Overview

All foreign exchange calculations have to be worked out with extreme care and accuracy and also the use of decimal point has to be correctly placed. Constant check is also required to minimise the risk of mistake, as the markets work on very thin margins. An error in one quote may erode, earnings from several trades/transactions.

Chain Rule

It is used in attaining a comparison or ratio between two quantities linked together through another or other quantities and consists of a series of equations, commencing with a statement of the problem in the form of a query and continuing the equation in the form of a chain so that each equation must start in terms of the same quantity as that which concluded the previous equation.

Per Cent and Per Mille

A percentage (%) is a proportion per hundred, e.g., 1 % is one part in every hundred parts such as Rupee 1 per Rupees 100, while per mille means per thousand, e.g., 1 per mille is one part in every thousand, such as Rupee 1 per Rupees 1,000.

Percentage or per mille can also be used to ones advantage in checking roughly any calculations, such as interest when allowed in a rate of exchange.

Value Date

This is the term used to define the date on which a payment of funds or an entry to an account becomes actually effective and/or subjected to interest, if any. In the case of payments on Telegraphic Transfers (TT) the value date is usually the same in both centres, i.e., payment of the respective currency in each centre takes place on the same day, so that no gain or loss of interest accrues to either party. Such payments are said to be value compensate, or, simply, here and there. If there is time lag between receipt of funds at one centre and payment of funds at another centre, compensation should be paid to party, which is out of funds. Normal mode of compensation is interest, which should be recovered/paid separately. This may be done by adjusting the value date if acceptable to both the parties. Thus, the date of settlement of funds is known as value date.

Arbitrage in Exchange

Arbitrages consist in the simultaneous buying and selling of a commodity in two or more markets to take advantage of temporary discrepancies in prices. As applied to dealings in foreign exchange, arbitrage consists of the purchase of one currency for another in one centre, accompanied by an almost immediate resale against the same currency in another centre, or in operations conducted through three or more centres and involving several currencies. A transaction conducted between two centres only is known as simple or direct arbitrage. Where additional centres are involved, the operation is known as compound

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or three (or more) point arbitrage. Such operations must be carried out with the minimum time delay if advantage is to be taken of temporary price differences, and they require a high degree of technical skill. Speed in handling the deals would be the foremost aspect in such deals, as markets usually tend to move towards such deals and the differences get wiped out in no time. Rates quoted to merchants, or for retail transactions are specified by the nature of transactions. By this, the different rates could be applied for TT, Bill transactions. Foreign Money or Cash transactions, Travellers Cheques transactions, or even personal checks buying. The rates would be different for buying or selling transaction, levying different margins over the interbank rates, depending upon the nature of transaction.

Check Your Progress (B)

Fill in the blanks

1. Main factors effecting exchange rates are technical,
2. In a spot contract, settlement of funds takes place on the _ the date of contract.
3. If the currency is costlier in forward, it is said to be at a ___ .
4. If the forward value of the currency is cheaper, it is said to be at a
5. The date of settlement of funds is known as _____ date.
6. The rate at which the quoting party is ready to buy the currency is called and speculation.

_____ working day following rate.

1.5 FOREIGN EXCHANGE DEALING ROOM OPERATIONS

The Forex dealing room operations comprise functions of a service branch to meet the requirements of customers of other branches/divisions to buy or sell foreign currency, manage foreign currency assets and liabilities, fund and manage nostro accounts as also undertake proprietary trading in currencies. It acts as a separate profit centre for the bank/institution.

The Dealers, who are actually involved in the buying and selling of currencies, or undertaking market activities are the most critical manpower, as their understanding of the job, risk taking capacity and speed in decision-making, all lead to lot of profits for the dealing operations. On the other hand, a small mistake, a misjudgment may wipe off all days profit in a second. A good dealer needs to have a good understanding of the changing nature of things. Certain psychological qualities are prerequisites. The ability to work under stress, willingness to accept responsibilities, the ability to make decisions quickly, a good measure of aggressiveness and above all, a willingness to recognise that one can be wrong. There must exist an atmosphere of complete trust within a dealing room.

A dealer has to maintain two positions - funds position and currency position. The funds position reflects the inflow and outflow of funds, i.e. receivables and payables. Any mismatches in the receivables and payables will throw open interest rate risks, in the form of a possible overdraft interest in nostro accounts, loss of interest income on surplus credit balances. It is very important for a dealer to properly maintain the funds position and manage the funds.

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The currency position, on the other hand, deals with the overbought or oversold positions, arrived after taking various merchant or interbank transactions, and the dealer will be concerned with the overall net position, which exposes the dealer to exchange risks from market movements. The dealer has to operate within the permitted limits prescribed for the exchange position by the management. The funds position comprises of items that are Ready in nature, effecting funds position immediately, as also those in the nature of forwards, which effect funds position at a later date, thus the dealer also needs to manage gap positions in different currencies. The other part of the dealing room is Back Office, which takes care of processing of deals, accounts, reconciliation, etc. This function is of the equal importance, any laxity in this area would also land the institution into unforeseen trouble. Either, it may negate the efforts of the dealers to generate profits, or it could be so lax that the dealers indulge in misreporting or wrong doings, without the notice of the back office it has both a supportive as well as a checking role over the dealers.

The third part, is Mid-Office, which deals with the risk management, and parameterization of risks for forex dealing operations. It acts as a check over the risk taken by the dealers as also supplements them by giving market information. Mid office is also supposed to look after the compliance of various guidelines /instructions and is an independent function.

With the increasing volume of foreign exchange transactions arising out of expanding international trade, both in goods and services, cross border flow of money, and also because of the Authorised dealers undertaking foreign exchange trading, the necessity for exercising management control over profit/loss evaluation and adhering to the prescribed guidelines/limits needs no emphasis.

Reserve Bank of India has approved the guidelines on Uniform Standard Accounting Procedure for valuation of foreign exchange profits and losses by authorised dealers, issued by Foreign Exchange Dealers' Association of India (FEDAI). which require banks to undertake profit /loss evaluation of forex positions at the end of each month notwithstanding the practice of passing accounting entries at quarterly intervals. However, the mechanisation of dealing operations facilitates profit evaluation at lesser frequencies as well, and in some organizations on daily basis.

As per extant guidelines, each foreign currency position covering all components of foreign currency (exchange) position, viz., mirror accounts of the currency, foreign currency notes held, import suspense account, all spot and forward positions, including export bills (both sight and usance), transactions which are reported to the position desk but not adjusted in the accounts, i.e., actual vouchers not put through, overdue contracts - inter-bank, if any and merchant contracts, and other foreign currency assets and liabilities—should be revalued separately.

Foreign Exchange Dealers' Association of India advises the valuation rates based on ongoing market rates on month-end dates, to enable the authorised dealers to revalue their foreign currency positions.

Management and Control of a Dealing Room

Reserve Bank of India, has advised that the Board of Directors of banks should frame an appropriate policy and fix suitable limits for its Forex dealing functions.

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The management of dealing room operations should focus on risk associated with foreign exchange dealing room operations, which arise due to complex nature of foreign exchange markets and the volatile nature of exchange rate movements.

The major risks associated with foreign exchange dealing operations, where the management needs to frame policies and keep a constant vigil, can be summarised as under:

Operational Risk: It is a risk arising on account of human errors, technical faults, infrastructure breakdown, faulty systems and procedures or lack of internal controls.

Exchange Risk: It is the most common and obvious risk in foreign exchange dealing operations and arise mainly on account of fluctuations in exchange rates and/or when mismatches occur in assets/ liabilities and receivables/payables.

Credit Risk: It is a risk of loss which arises due to inability or unwillingness of the counter party to meet the obligations at maturity of the underlying transaction. Credit risk is further classified into pre-settlement risk and settlement risk. Pre-settlement risk is the risk of failure of the counter party before maturity of the contract thereby exposing the other party to cover the transaction at the ongoing market rates.

Settlement risk is the risk of failure of the counter party during the course of settlement, due to the time zone differences, between the two currencies to be exchanged. That is, where one party performs its part of the contract by delivering the currency to be delivered by it but the counter party fails before delivering the currency to be delivered by it. in a different time zone.

Liquidity Risk: Liquidity risk is the potential for liabilities to drain from the bank at a faster rate than assets. The mismatches in the maturity patterns of assets and liabilities give rise to liquidity risk. Thus, it is a risk, which may arise due to a party to foreign exchange transaction unable to meet its funding requirements or execute a transaction at a reasonable price.

Gap Risk/Interest Rate Risk: In the course of its business, a bank buys and sells currencies for spot and forward value. It may not be always possible for the bank to match its forward purchase and sales. Thus, if the purchase and sale take place for different value, while the bank may completely stand hedged on exchange front, it creates a mismatch between its assets and liabilities referred to as GAP.

These gaps are to be filled by the bank by paying/receiving appropriate forward differentials.

These forward differentials are in turn a function of interest rates and any adverse movement in interest rates would result in adverse movement of forward differentials thus affecting the cash flows on the underlying open gaps or mismatches.

Therefore, it is the risk arising out of adverse movements in implied interest rates or actual interest rate differentials.

Market Risk: The risk that arises due to adverse movement of market variables when the players are unable to exit the positions quickly.

Legal Risk: It is the risk arising on account of non-enforceability of contract against a counter party.

Systemic Risk: This risk is the possibility of a major bank failing and the resultant losses to counter parties reverberating into a banking crisis.

Country Risk: It is the risk of counter party situated in a different country unable to perform its part of the contractual obligations despite its willingness to do so due to local government regulations or political or economic instability in that country.

Sovereign Risk: It is a sub-risk in the overall country risk in that certain state-owned entities themselves quoting their sovereign status claim immunity from any recovery proceedings of fulfillment of any obligations they had originally agreed to, as in these countries, the sovereign status cannot be questioned even in a court of law.

A comprehensive and accurate management control of dealing room operations would cover assessment of the above risk exposures and their management. It is to be noted that foreign exchange dealing room operations are considered to be profit centres in most of the major banks and a complete risk aversion will only help the management to avoid loss. To generate profit, it is essential to have a proper risk appetite to optimise profit, through proper risk-reward trade off. Details about these risks and their management and control would be covered under the unit Risk Management.

Foreign exchange dealing operation is a highly specialised function and has to be performed by well-trained personnel. Typically a dealing room should consist of dealing and back-office staff who are responsible for the follow-up of deals put through by the dealers. The need for effective control over dealing room operations is of great importance as possibilities exist for manipulation of exchange rates, dealing positions, washing names, mismatches, etc. A supreme principle of operational procedures and the area of dealing room activities is a clear functional separation of dealing, back office accounting (processing and control) and reconciliation.

The above details on the dealing room and its operations make it clear that the operations are crucial and important to any bank or institution. The contribution of exchange profit (from merchant transaction as well as trading operations) has its own place in the bottom line of the bank, as such large players in major markets, have deployed a large number of dealers and other staff, supported by sophisticated communication and IT systems with huge investments, to handle the forex dealing operations.

These large dealing rooms have separate desks for traders, as also for derivatives, each of which specialises in its own product, and are constantly in the market to make money for the bank.

In India too, a number of banks have large dealing rooms, and have grown to cater to various products, as permitted by Reserve Bank of India.

1.6 RBI/FEDAI GUIDELINES

The Reserve Bank of India, being the central bank of the country and the custodian of nation's foreign exchange reserves, has prescribed guidelines for authorised dealers, permitted by it, to deal in foreign exchange and handle foreign currency transactions. FEMA 1999, also prescribes rules for persons, Corporates, etc., in handling foreign currencies, as also transactions denominated therein.

The Reserve Bank of India has issued 'Authorised Dealers' (AD) licenses to banks and all-India financial institutions to undertake foreign exchange transactions in India. At present there are over 90 ADs, which

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include all public sector banks, foreign and a large number of private banks, a few all-India financial institutions and a few Scheduled cooperative banks.

The RBI has also issued Money Changer licenses to a large number of established firms, companies, hotels, shops, etc., to deal in foreign currency notes, coins and traveller's cheques, to facilitate encashment of foreign currency for foreign tourists. Entities authorised to buy and sell foreign currency notes, coins and traveller's cheques are called Full Fledged Money Changers (FFMCs) while those authorised only to buy are called Restricted Money Changers (RMCs).

Categorization of Authorized Dealers: In the year 2005, the categorization of dealers authorized to deal in foreign exchange has been changed by the Reserve Bank of India. Now, the entities so authorized are called as Authorised Persons, with category, denoting their level of authority to undertake variety of transactions, as under:

Authorised Person - Category I: Authorised Dealer Banks, Financial Institutions, and other entities allowed to handle all types of foreign exchange transactions. (Earlier known as Authorised dealers).

Authorised Person - Category II: Money changers, allowed to undertake sale/purchase of foreign currency notes, travellers cheques, as also handle foreign exchange transactions relating to remittance facilities allowed to residents, like Travel abroad, studies abroad, medical needs, gifts, donations, etc. (Earlier known as Full fledged Money Changers-FFMCs).

Authorised Person - Category III: Entities allowed to undertake only purchase of foreign currency notes and traveller's cheques, (Earlier these entities known as Restricted Money Changers-RMCs).

Foreign Exchange Operations, undertaken without any boundaries or controls, can adversely effect the movement of exchange rates and the value of currency, besides profitability of the entity dealing in an arrogant manner.

As such, for regulated, disciplined market operations, RBI has prescribed broad guidelines with regard to foreign exchange operations. RBI guidelines include guidelines related to open positions, gaps, borrowing and lending in foreign currencies, interbank dealings in India and Overseas Markets, hedging of bank's own exposures as well as that of its resident and non-resident clients.

Foreign Exchange Dealers Association of India. FEDAI, on the other hand, is a non-profit making body, formed in 1958 with the approval of Reserve Bank of India, consisting of Authorised dealers as members. FEDAI prescribes guidelines and rules of the game for market operations, merchant rates, quotations, delivery dates, holidays, interest on defaults, etc. In terms of RBI directives, all authorized dealers are members of FEDAI and it is mandatory for them to follow the guidelines/directives issued by FEDAI.

FEDAI guidelines also prescribe rules-related to handling of export-import bills, transit period, crystallisation of bills and other related issues. It also advises RBI on market-related issues and supplements the efforts of RBI to strengthen the foreign exchange market in the country.

A few of the major FEDAI guidelines/rules can be summarized as under:

1. All export bills to be allowed standard transit period, as prescribed, for the purpose of allowing concessional interest rates and calculation of notional due dates.

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2. Export bills drawn in foreign currency, purchased/discounted/negotiated, must be crystallized into rupee liability, in case of delay in realization of export bills. The same would be done at TT selling rate. The prescription of crystallisation of export bills on the 30 th day from the due date /notional due date, has since been relaxed for bank's to decide on the days for crystallisation on their own , based on nature of commodity, country of export etc. The crystallisation period can vary from bank to bank, customers to customers, etc, but cannot exceed 60 days.
3. Sight Bills drawn under Import letters of credit would be crystallized on the tenth day after the date of receipt if not yet paid.
4. All forward contracts must be for a definite amount with specific delivery dates.
5. Option period can be specified by the customer, in case of option contracts, but in any case the delivery period under the option contract shall not exceed beyond one month. All such contracts must state the start and end dates.
6. Cancellation of forward contracts - All contracts, which have matured and have not been picked up, shall be automatically cancelled on the seventh working day, after the maturity date.
7. All cancellations shall be at bank's opposite TT rates, TT selling rate for purchase contracts and TT buying rate for sale contracts.
8. In the event of delay in payment of interbank foreign currency funds, interest at 2% above the prime rate of the currency of the specified banks shall be paid by the seller bank.
9. In the event of delay in payment of rupee settlement funds, interest for delayed period at 2% above the NSE MIBOR ruling on each day.
10. All currencies to be quoted as - per unit of foreign currency = INR, while JPY, Indonesian Rupiah & Kenyan Schilling are to be quoted as 100 unis of foreign currency = INR.
11. FEDAI also prescribes code of conduct for forex dealers, as also guidelines with regard to dealings with forex brokers.

Let us also see some of the RBI guidelines, applicable to authorized persons, with regard to their operations and risk management of their own asset /liabilities and products that can be offered to clients:

- (a) AD Cat I - Banks are allowed to open/'close rupee accounts (non-interest bearing) in the names of their overseas branches or correspondents (except Pakistani banks operating outside Pakistan) without prior reference to RBI.
- (b) Opening of Rupee accounts in the name of Exchange Houses for facilitating private remittances through exchange houses requires prior approval of RBI.
- (c) AD Cat I - Banks are allowed to opea'close foreign currency accounts abroad to route foreign exchange transactions handled by them. Banks are also allowed to maintain balances in these accounts, as approved by their Board.
- (d) AD Cat-1 Banks are free to undertake investments in overseas markets in money market instruments and/or debt instruments, issued by foreign state with a residual maturity of less than one year and rated as per guidelines.
- (e) Surplus hands in Nostro accounts can be utilized for granting loans to resident constituents for meeting their foreign exchange or rupee working capital or capital expenditure needs, extending

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credit facilities to Wholly Owned Subsidiaries/Joint Ventures of Indian companies abroad, subject to conditions.

- (f) Loans/overdrafts: All borrowings of banks, including ECB, and temporary overdrafts in nostro accounts not adjusted within five days, shall not exceed 50% of their unimpaired Tier I capital or USD 10 million, whichever is higher. Overseas borrowings for the purpose of extending export credit in foreign currency. Tier II capital placed by foreign banks head offices with their Indian branches and Capital funds raised by issue of innovative perpetual instruments or debt capital instruments shall not be a part of the above ceiling for raising foreign currency funds.
 - (g) Banks can allow residents to book forward exchange contracts to hedge their exchange risk exposure in respect of a transaction for which sale or purchase of foreign exchange is permissible under the FEMA 1999.
 - (h) Banks should satisfy about the genuineness of the underlying documentary evidence and exposure, irrespective of the transaction being current or capital account in nature. The particulars of the forward contract booked should be marked on the documents, and copies retained thereof for verification. It must be ensured that the maturity of the contract must not exceed the tenor of the underlying.
 - (i) Banks can allow their importer and exporter customers to book forward contract on the basis of a declaration of an exposure and based on past performance up to an average of the previous three financial years (April-March) actual import/export turnover or previous year's actual turnover, whichever is higher, subject to certain conditions.
 - (j) Similarly, Small and Medium Enterprises (SME) can book forward contracts to hedge their direct or indirect exposures, without production of the underlying, subject to the condition that the SME enjoys credit facilities with the bank with which it desires to book the forward contract, and the quantum of forward contracts is in alignment with the credit facilities availed by it, and certain other conditions, as specified.
 - (k) Banks can also allow resident individuals, who are banking with them, to book forward contracts up to a limit of USD 100,000.00, with the condition that contracts booked under this facility will normally be on deliverable basis, the notional value should not exceed USD 100,000.00, and the forward contract may be booked for tenors up to one year only.
 - (l) Banks are also allowed to offer other derivative contracts, such as Interest Rate Swap or Coupon Swap or foreign currency Option or Interest Rate Cap or Collar or Forward Rate Agreement contract, to resident entities who have borrowed foreign exchange in accordance with the provisions of FEMA 1999. These offerings and cover there of, shall be subject to certain conditions as specified.
 - (m) Bank can also offer Foreign Currency - Rupee Swap to resident persons that has a foreign exchange or a rupee liability to hedge long term exposure, with certain conditions.
 - (n) Banks can enter into cross currency options with their customers on back-to-back basis, subject to certain conditions.
 - (o) Banks can also enter into foreign currency - rupee options with their customers on back-to-back basis. They can also run a book for this product, subject to RBI permission.
-

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Check Your Progress (C) Fill in the blanks:

1. 2.
- 3.
- 4.
- 5.

The dealers are officials, who are actually involved in the and

The section which handles processing of deals, reconciliation, etc., is called Banks permitted to deal in foreign exchange are called _____ persons.

of currencies, office.

day

Import bills drawn under Letters of Credit must be crystallized into Rupees on the from the date of receipt of documents, if not paid by that date.

In terms of FEDAI rules, besides, Japanese Yen, _____, is the other currency which is quoted as 100 units= so much Rupee..

Exchange Arithmetic - A Few Examples Example 1

Inflow of USD 100,000.00 by TT for credit to your exporter's account, being advance payment for exports (credit received in nostro statement received from New York correspondent). What rate you will take to quote to the customer, if the market is 48.09/11?

Answer

It will be purchase of USD from customer for which USD will have to be sold in the market. Say when USD/Rs is being quoted as 48.09/11, meaning that market buys USD at Rs 48.09 and sells at Rs 48.11. We shall have to quote rate to the customer on the basis of market buying rate, i.e. 48.09, less our margin, as applicable, to arrive at the TT Buying Rate applicable for the customer transaction.

Example 2

On 3.10.09, your exporter customer tenders an export bill for USD 500,000.00, drawn 120 days from the date of shipment, (shipment date 3.10.2009) due date 1.2.2010. Compute applicable rate, presuming (a) exchange margin of 0.15%, (b) Spot Rupee 48.14/15 and premium Spot - Jan.45/46 paise, (c) Rate to be quoted to nearest 0.25 paise, and rupee amount to be rounded off, and (d) Applicable interest at 8.50% for Post shipment export finance upto 180 days and Commission on bills purchased 0.0625 % to be charged upfront .

Answer

(i) Calculation of bill buying rate Spot rate

Less: 0.15% margin

Add: Premium

Rate for the transaction {Bill Buying Rate)

Rs 48.1400 0.0722 48.0678 say 48.0675 0.4500 48.5175

(ii) Calculation of amount payable to the customer:

USD 500,000.00 at 48.5175 = Rs 2,42,58,750.00 Interest 120 days @8.50 % = 677916.00
 Commission @0.0625% = 15162.00 Amount payable to exporter customer:
 2, 35,65,672.00

Example 3

Retirement of import bill for GBP 100,000.00 by TT Margin 0.20%, ignore cash discount/premium, GBP/USD 1.5975/85, USD/INR 48.14/15. Compute Rate for Customer

Answer

For retirement of import bill in GBP, we need to buy GBP, to buy GBP we need to give USD and to get USD, we need to buy USD against Rupee, i.e. sell Rupee.

At the given rates, GBP can be bought at 1.5985 USD, while USD can be bought at 48.15. The GBP/INR rate would be 76.9678. (1.5985 x 48.15), at which we can get GBP t market rates.

Thus the interbank rate for the transaction can be taken as 76.9675.

Add Margin 0.20% 0.1539.

Rate would be 76.9675+ 0.1539 = 77.1214 or say 77.1225 for effecting import payment. (Bill Selling Rate).

Example 4

On 15 September, a customer requests for booking of a forward contract for export bill of USD 150,000.00, to be realised in the month of December.

Given that USD/INR spot is 48.45/50 and forward premium is as under:

October : 18/19 paise

November: 30/32 paise

December: 41/43 paise

Margin to be charged 0.05 paise per USD.

Answer

For calculating rate for forward purchase contract, we need to take forward premium for November, the one that the market would pay, i.e. 30 paise. Spot rate as 48.45, getting forward interbank rate as 48.75 and deduct 0.05 paise as margin to arrive at 48.70, the customer forward rate for delivery of export proceeds during December, full month at the option of the customer (Forward TT Buying Rate). Forward margin for the period prior to the start of the delivery period would be passed on, as the customer has an option to deliver currency on he first day itself, i.e. 1st December.

Example 5

On 1 June 2009, a customer requests to book forward contract, for retirement of import bill for USD 100,000.00, due for payment on 15 September 2009. Given rates: Spot USD/INR 48.27/29, forward premium - Spot June: 10/12, Spot July 21/23, Spot August 32/34, Spot Sept. 43/45 and August to 15 Sept. 6/7

Charge Margin of 0.20%. Answer

Being a merchant sale forward booking transaction, rate would be calculated as under: USD/INR spot to be taken as 48.29

Premium payable:

Spot August 34 paise

August -15th Sept. 1 paise

Add: Total premium 41 paise 0.41

Thus IB forward rate would be: 48.70

| | |
|-------------------|-------|
| Add: Margin 0.20% | 0.10 |
| Rate for customer | 48.80 |

Example 6

Your foreign correspondent maintaining a nostro Rupee account with your bank, wants to fund his account by purchase of Rs 30.00 million, against US dollars. Assuming that the USD/INR interbank market is at 48.2550/2650, what rate would be quoted to the correspondent, ignoring exchange margin. Calculate amount of USD you would receive in your USD nostro account, if the deal is struck.

Answer

The transaction is to sell Rs 30.00 million, against US dollars, and hence we would quote the lower of the two rates, i.e. 48.2550 (Sell low maxim).

If the deal is struck, the foreign bank would pay USD 621697.23 to our USD nostro account,

Example 7

M/s BCD wants to remit JPY 100,00 million by TT value spot, as payment of an import invoice. Given that USD/INR is at 48,2500/48,2600 and USD/JPY is 90,50/60, and a margin of 0.15% is to be loaded to the exchange rate, calculate rate to be quoted and the Rupee amount to be debited to the account of M/s BCD.

Answer

Since JPY is to be sold against Rupee, and the rate is not directly given, we would use cross rate mechanism to calculate the same.

We need to buy JPY against USD and USD against INR for the deal.

Thus, USD/INR rate would be 48.2600 (market USD selling rate - high) and USD/JPY at 90.50 (market JPY selling rate - low). The JPY/INR rate would be $48.2600/90.50 = 0.533260$ per JPY i.e. per 100 JPY

| | |
|----------------|--------|
| Margin of 0.15 | 0.0799 |
|----------------|--------|

53.4059

| | |
|----------------|---------|
| Rounded off to | 53.4050 |
|----------------|---------|

Total Rupee amount to be debited to the account of M/s BCD would thus be Rs. 534,05,000.00

[Note: JPY is quoted as per 100 Yen, as per FEDAI guidelines] Example 8

You are required to book forward sale contract for USD 1.00 million delivery 3rd month and another forward purchase contract for USD 2.00 Million for delivery 2nd month. Given that USD/INR spot is 48.9100/9200, premium quoted as under, calculate rates for merchant transactions, if the exchange margin of 0.15% is to be loaded for the purchase transaction and 0.20% for the sale transaction.

Premium (in paise):

Answer

1 m

2 m

3 m

(a) Calculation of rate for forward sale of USD 1.00 million: Spot rate to be taken (higher rate of the market)

3 m premium to be charged

Add: Margin 0.20%

(b) Calculation of rate for forward purchase of USD 2.00 million: Spot rate to be taken (lower rate of the market)

1 m premium to be paid/passed on

Less: Margin 0.15% Rounded off to
0750/0850 1800/1900 2750/28500
48.9200
0.2850
49.2050
0.0984 49.3034 or 49.3025
48.9100 0.0750 48.9850 0.0735
48.9115 or 48.9125

Note: For a sale contract premium for the full period, up to end date of the contract shall be charged, i.e. full 3 months, whereas, for purchase contract, premium would be passed on only up to the beginning of the contract period, i.e. only up to the start date, or for 1 month only.

Example 9

A forward purchase contract for USD 500,000.00 booked 2 months back at 49.2500 is due for delivery 2 days later (spot date). The customer is informed by the drawee of the bill that the payment will be delayed by one month.

Given that the interbank spot is 47.5675/5775 and one month forward premium is 09/10 paise, and margin on TT buying and TT selling would be 0.15%, calculate rate for cancellation of the existing contract and also give indicative rate for re-booking of one month fixed date or option contract beginning one month from spot date.

Also, calculate the amount to be debited/credited to the customer's account on spot date, upon cancellation of the contract.

Answer

(a) The existing forward contract would have been booked at TT buying rate, and hence it has to be cancelled at opposite TT selling rate, computed as under;

| | |
|--|---------|
| Interbank USD/INR spot (higher of the two) | 47.5775 |
| zlc/c/-Margin 0.15% | 0.0714 |

49.2500 = Rs 2,46,25,000 47.6500 = Rs 2,38,25,000

The contract would be cancelled at Rupee amount at contracted rate USD 500,000 Less amount at cancellation rate USD 500,000 Amount due to the customer (to be paid to his account on spot date) (b) Indicative rate for contract proposed to be re-booked;

If the contract is booked with option of one month beginning spot date; Interbank rate Less:

Margin 0.15%

47.6489 47.6500

Rs 8,00,000

47.5675 0.0714 47.4961

or say

47.4950

If the contract is booked for delivery fixed date one month forward, or the option is beginning after

one month, premium for 1 month would be passed to the customer as under:

Interbank rate

47.49

50

Add: Premium for one month

Some statistics:

0.0900 47.5850

- Global forex turnover April-2007 USD 3.210 trillion per day as compared to USD 1.90 trillion per day in April 2004, and USD 1.20 trillion in April 2001.
- Average daily forex turnover in April in India USD 3 billion, 7 billion and 34 billion in 2001, 2004 and 2007 respectively.

Let Us Sum Up

Foreign exchange markets play an important role in the global economy. It is a 24-hour and over the counter market, with different type of players. The market operates on a professional basis and helps in developing not only the forex markets but also the world trade and flow of funds. Being part of the global market, the Indian foreign exchange market is no exception, and has developed fine market practices over the years, in line with the ongoing liberalization, privatization and globalization ('LPG' process) initiated in India.

The working of forex markets across all time zones and its sheer size, lays emphasis on the importance of the dealing room operations, its organisation, management and control. Following of prescribed guidelines and parameters would help in development of an orderly market as also growth of the dealing functions for an institution.

Keywords

Foreign Exchange: Exchange of one currency into another or foreign currency.

Rate of Exchange: The price of one currency in terms of another or a simple arithmetic expression of value of one currency in terms of another currency.

Foreign Exchange Market: The market where foreign currencies are dealt with.

OTC Market: Over the counter market.

Authorised Persons: Banks/Institutions/money changers authorised to deal in foreign exchange.

Value Date: The date of settlement of funds.

Cross Rate: Price of a currency pair, not directly quoted, arrived from price of two other currency pairs.

FEDAI: Foreign Exchange Dealers' Association of India.

Forward Contract: It is a binding contract for purchase/sale at a future date.

Premium/Discount: It represents interest rate differential in a forward contract.

Premium: A currency is said to be at a premium if it commands more units of another currency at a future date.

Discount: A currency is said to be at a discount if it commands less units of another currency at a future date.

Swap: It is an exchange of specific streams of payments over an agreed period of time.

Fixed Exchange Rate: Official exchange rate fixed by the monetary authorities.

Floating Exchange Rate: Market exchange rate decided by supply and demand factors.

Direct Exchange Rate: Exchange rate expressed in terms of home currency quotations.

Indirect Exchange Rate: Exchange rate expressed in terms of foreign currency quotations.

Ready/Cash Rate: Value to be settled on the same day - value today.

Tom Rate: Value to be settled tomorrow, next day.

Spot Rate: Value to be settled on the second working day from the date of transaction.

Forward Rate: Value to be settled beyond spot value.

Foreign exchange risk: Risk that a bank may suffer losses as a result of adverse exchange rate movements during a period in which it has an open position, in an individual foreign currency.

Transaction exposure: Transaction exposure measures the risk involved due to change in the foreign exchange rate between the time the transaction is executed and the time it is settled.

Translation exposure: This exposure relates to valuation of foreign currency assets and liabilities at the end of accounting year at current realisable values.

Operating exposure: Operating exposure is a measure of sensitivity of future cash flows and profits of a bank to unanticipated exchange rate changes.

Open position: The extent to which assets and outstanding contracts to purchase a currency exceed liabilities plus outstanding contracts to sell that currency and vice versa.

Overnight position: A limit on the maximum open position left overnight, in all major currencies

Day-light position: A limit on the maximum open position in all major currencies at any point of time during the day. Such limits are generally larger than the over-night position.

Options: A foreign exchange option is a contract for future delivery of a currency in exchange for another, where the holder of the option has the right, without an obligation, to buy (or sell) the currency at an agreed price, the strike or exercise price, on a specified future date.

Call option: The right to buy under the option.

Pm option: The right to sell under the option.

Futures: Futures are forward contracts with a standard size, standard maturity date governed by a set of guidelines stipulated by the exchange concerned for settlement and payments.

Currency swaps: When two counter parties agree to exchange specific amounts of two different currencies at the outset and repay these over time in instalments, reflecting interest and principal.

Interest rate swaps: When interest payment streams of different character are periodically exchanged between the contracting parties.

Answers to Check Your Progress

A. 1. (i) foreign currency; (ii) Exchange; 2. four seconds; 3. True; 4. False 5. False

B. 1. Fundamental; 2. Second 3. Premium; 4. Discount, 5. Value. 6. Bid

C. 1. Buying and selling; 2. Back Office; 3. Authorized 4. IO¹⁰. (tenth) S.Indonesan Rupaih / Keniyan schilling.

Terminal Questions

1. Foreign Exchange markets are

(a) regional markets

(b) domestic markets

(c) global markets

(d) localized exchange traded markets

Ans:

2. Foreign exchange does not include:

(a) Deposits payable in foreign currency

(b) Instruments drawn in foreign currency and payable in a foreign currency

(c) instruments drawn in Indian rupees on a checking account of the drawer and payable abroad

(d) instruments drawn in Indian rupees on a current account of an Indian company and payable in India.

Ans:

3. Out of the several factors, the following factor does not have an effect in the movement of exchange rates:

- (a) Political instability
- (b) Increase in domestic interest rates
- (c) Change in Taxation policy
- (d) Increase in domestic tourism

Ans:

4. Spot dealing in FX market means:

- (a) Delivery of funds is on the 30th working day from the date of deal.
- (b) Delivery of funds is on the second working day from the date of deal.
- (c) Delivery of funds is next date from the date of deal
- (d) Delivery of funds is one week after the date of deal.

Ans:

5. The rate at which the quoting bank is ready to sell the currency is called

- (a) Bid rate
- (b) Offer Rate
- (c) TT Buying Rate
- (d) Swap rate

Ans:

6. Operational Risk does not include:

- (a) movement in exchange rates
- (b) Human errors
- (c) Technical Faults
- (d) Systemic failures.

Ans:

7. Cancellation of forward contracts is to be done at:

- (a) Opposite Bill rate
- (b) Opposite Cash rate
- (c) Opposite TT rate
- (d) Opposite TC rate

Ans:

8. Crystallisation of export bills is to be done:

- (a) On the 10th day from the due date of the bills.
- (b) Before the due date
- (c) On the 30th day from the notional due date / actual due date
- (d) On the due date itself

Ans:

9. Fill in the blanks:

- (a) Exchange rate denotes a _____, at which one currency exchanged for another. _____ Markets, with no barriers.
 - (b) Foreign Exchange Markets are _____
 - (c) The currency appreciates due to inflow of overseas capital, if local interest rates are _____
 - (d) _____ deals provide depth and liquidity to the market.
-

- (e) Direct quotes are also called _____ currency quotations.
 - (f) The part of dealing room operations, which deals with risk management is called _____ office.
 - (g) Risk of loss arising due to inability or unwillingness of the counter party to meet its obligations is called _____ risk.
 - (h) _____ guidelines prescribe code of conduct for dealers brokers.
10. Quote rates:
- (a) TT Buying rate for inward payment of USD 250,000, if Interbank rate is 49.00/02, and margin to be charges is 0.08%.
 - (b) Bill selling rate for import bill of USD 100,000, if Interbank market is 48.5600/5700, and margin to be charged at 0.20%.

- (c) TT buying rates for GBP 50,000/- inward payment, if USD/INR is 48.50/52 and GBP/USD is 1.6050/60. Ignore margins.
- (d) TT selling rate for issue of draft for JPY 100,000, if USD/INR is 47.9400/9450 and USD/JPY 99.50/55. No margins. Give rupee amount to be charged.
- (e) Rate for forward purchase booking of USD 100,000 delivery 3rd month (full month) if USD/INR spot is 48.7850/7950 and premium is 1M-0.0800/0.0900, 2M-0.1600/0.1700 and 3M-2500/2550. Ignore Margins.
- (f) Forward sale contract USD 500,000 delivery 2nd month (full month). If spot and forward rates are same as given in (e) above margin 0.15% to be charged.
- (g) What rate would a forward purchase contract of USD 100,000 due on spot date be cancelled if interbank spot is 48.5125/5175 and exchange margin on TT purchase is 0.08% and TT selling is 0.15%.
- (h) Calculate difference to be charged/paid to the customer, in the above question, if the original contract was booked at Rs 49.7500 per USD.

References for Further Reading

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UNIT 2 Basics of Forex Derivatives

STRUCTURE

2.0 Objectives

2.1 Introduction

2.2 Definition of Risk and Risks in Foreign Exchange Operations Check Your Progress (A)

2.3 Management of Risk and Guidelines on Risk Management

2.4 What are Derivatives - History and Development Check Your Progress (B)

Let Us Sum Up Keywords

Answers to Check Your Progress Terminal Questions

References and Books for Further Reading

2.0 OBJECTIVES

The objective of this unit is to understand:

What is risk and the various risks in forex operations
Guidelines related to risk management of forex risks
Definitions and features of various derivative products
Forex derivatives and their usage

Appreciate whether derivatives are instruments to manage risk or is a risk in itself

2.1 INTRODUCTION

Any activity you indulge in is associated with uncertainty which may result in some loss or some gain. In financial parlance, risk is associated with a loss that is expected to be incurred due to happening or non happening of certain events. It is an unplanned event with financial consequences resulting in loss or reduced earnings. The risk could be more or less depending upon the area of operation, volume, number of players, etc. The arena of international trade and foreign exchange operations is also prone to risks, mainly due to the complex nature of transactions, the individual characteristics of different currencies as also a vast area of operations. Like in any other human activity, risk cannot be avoided in international trade and foreign exchange operations. While in the international trade buyer risk, seller risk, shipping risk, etc., keep the parties on vigil, the foreign exchange operations are plagued with exchange risk, settlement risk, liquidity risk, country risk, sovereign risk, interest rate risk, and operational risk. Risk and return have a direct relationship between them in as much as higher risks means higher returns. In the process of earning higher returns, one can enhance the risks beyond manageable levels. Therefore, risks needs to be accepted and managed effectively and efficiently to minimize the adverse effect and maximize the profit/goals of the organization.

The risks related to volatility in prices, exchange and interest rates of exposures such as commodities, currencies or shares and bonds, need innovative instruments that could hedge their value.

Derivatives are such instruments, which when added to the exposure will neutralise or alter to acceptable levels, the uncertainty profile of the exposure. The values of these financial instruments are derived from the values of the underlying exposures.

Some of the popular derivative instruments in foreign exchange market are forward contracts, options, swaps, forward rate agreements and futures.

One of the avowed virtues of derivative instruments is that they enhance the system of information transmission by offering greater liquidity with lower transaction costs. They are also supposed to service a productive economic function by providing a mechanism by which risk transfers are facilitated between players who are less willing to bear risk to those who are more willing to do so.

Very importantly, derivative instruments offer a vehicle to manage risk. Man has always struggled to manage risk. Risk arises because of uncertainty, as man is unable to visualize the potential state on some future date. He tries to manage risk by seeking to ensure the existence of suitable state of affairs on the future date and to that extent, minimize the possible detrimental effects of an adverse situation at that point of time.

Now, let us go in detail and study the risks in the international trade and then the hedging tools, viz., derivative instruments.

2.2 DEFINITION OF RISK AND RISKS IN FOREX OPERATIONS

A risk can be defined as an unplanned event with financial consequences resulting in loss or reduced earnings. An activity where the result is uncertain and there is a chance of loss, may be called a risky proposition, due to the uncertainty or unpredictability of the activity or trade in future, even though this activity may ultimately result in profit or gain. While, in human life, the risk is related to illness, impairedness or loss of life, in commercial and business activities, the business profit or loss would depend upon how the business is run or its affairs managed.

In other words it can be defined as the uncertainty of the outcome. A risk in any currency, commodity or an object is due to any exposure in that particular currency, commodity or the object.

As explained in Unit 1, forex operations and markets are somewhat different from other commodity markets and peculiar in nature, due to the reasons that they are largely over the counter market, open 24 hour-a-day, without any single location and barriers, fluctuations registered almost every four seconds, movements in other markets, effects of controls/policies of respective governments, delayed settlements due to time differences, etc. These peculiarities expose the participants to various risks. The participants, as such, have to exercise extreme caution in managing forex operations. Any laxity on their part may result in losses and exposures, ruining the whole business. Some of the very common risks faced in foreign exchange operations are: exchange risk, settlement risk, liquidity risk, country risk, sovereign risk, interest rate risk, operational risk, etc.

Let us check on these risks individually which have been discussed below:

A. Exchange Risk

Movements in exchange rates can adversely affect the value of our foreign exchange holdings, i.e. receivables and payables (purchases and sales), if not covered at the appropriate time, with due watch on the market moves. Normally, the dealer is expected to cover the transactions immediately (by entering into matching and opposite transactions), without loss of time. In case this is not done, then he is exposed to exchange risk. This is the most common and obvious risk in foreign exchange dealing operations. The markets may move against him, resulting in loss. Thus, the dealer has to immediately cover his positions and keep constant watch on his positions and the market moves, so as to not to get affected by adverse movements.

A position in a given currency arises when assets and outstanding contracts to purchase that currency exceed the liabilities plus the outstanding contracts to sell that currency. In the former case, the bank will have a long (overbought) position and would be exposed to a risk if the currency depreciates in value. In the latter case, the bank will have a short (oversold) position and would stand to lose if the currency appreciates in value. This overbought or oversold position is the open position for the dealer.

In the present world, when globe is literally wired, major currencies of the world viciously floating against each other, the risk of open position assumes considerable significance.

As due to market lot requirements, thin trading on select days, or other events, it may not be possible to cover each and every transaction individually, this risk has to be controlled and managed by prescribing suitable limits (daylight and overnight limit, single deal limit - trading position limit, volume limit, overall overnight open position limit, stop loss limit, gap - forward mismatch limit, etc.). In fact, it is a practice to accumulate and keep positions open, taking a

view on the movement of exchange rates, like possible depreciation/appreciation of currencies, etc., but all within the prescribed limits.

Reserve Bank of India has authorized the boards of respective banks to specify and approve limits relating to forex operations. Banks, according to their merchant turnover requirements, trading skills and volumes, as also considering the capital base, fix various limits for their forex dealing operations.

Basically, foreign exchange exposures can be classified into three types:

- (i) **Transaction Exposure:** Arising due to normal business operations consequent to which the value of transactions will be affected. This is affected by the transactions undertaken which may expose the company/firm to currency risk, when compared to the value in home currency.
- (ii) **Translation Exposure:** This arises when firms have to revalue their assets and liabilities or receivables and payables in home currency, at the end of each accounting period. This also is affected due to consolidating the accounts of all foreign operations. These are not actual costs or gains, but notional, as the actual loss or gain is booked at the time of actual translation of the exposure.
- (iii) **Operating Exposure:** This affects the bottom-line of the firm /company, not directly due to any foreign exchange exposure of the firm /company, but due to other external factors in the market/ economy, like changes in competition, reduction in import duty increasing competition from imported goods, reduction in prices by other country exporters- effecting exports, increase in import duty by other country -trade tariff, etc- causing reduction in exports, etc.

B. Settlement Risk (Pre-settlement and Settlement Risks)

The international financial system evolves around foreign exchange markets. Forex markets facilitate conversion of currencies, movement of funds, global investments, travel and tourism, all culminating into a huge daily turnover, of over US\$ 1.5 trillion. This volume is transacted between the market participants worldwide without the use of one single central clearing house - it is truly over the counter market.

In the absence of such a single, global, centralized clearing house, each foreign exchange market participant has to make and receive payments on an individual basis. This entails counter-party credit risk for each transaction. Any disruption in the market due to sudden doubts about the solvency of one of the market participants could have serious repercussions for the global trade and finance and for the international banking system as a whole.

Thus credit risk in foreign exchange operations, is the risk of failure of a counter party, whether a bank or a customer, to meet obligation at maturity of the contract, which could result in the need for resultant open position to be covered at an ongoing rate.

This could happen prior to settlement by one of the parties or subsequent to execution by one party but before execution by the other one. The risk is, thus, classified into pre-settlement risk and settlement risk.

Pre-settlement risk is the risk of failure of the counter party, due to bankruptcy, closure or any other reason, before maturity of the contract thereby compelling the bank to cover the contract at the ongoing market rates. This entails the risk of only market differences and is not an absolute loss for the bank.

Settlement risk is the risk of failure of the counter party during the course of settlement due to the time zone differences between the two currencies to be exchanged. That is, where the bank, in earlier time zone, say Japan, or Australia, performs its part of the contract by delivering the

currency to be delivered by it but the counter party, in another time zone, say Germany, fails before delivering the currency to be delivered by them. Such an event means complete risk and loss for the bank, which is in the earlier time zone.

In other words, at its core, settlement of a foreign exchange trade requires the payment of one currency and the receipt of another. In the absence of a settlement arrangement that ensures that the final transfer of one currency will occur if and only if the final transfer of the other currency also occurs, one party to a foreign exchange transaction could pay out the currency it sold but not received the currency it bought. This principal risk in the settlement of foreign exchange transaction is variously called foreign exchange settlement risk or temporal risk or Herstatt risk (named after the 1974 failure of the Bankhaus Herstatt in Germany). This can happen because banks operate in different time zones.

As the nature of trade and forex business does not make it possible to totally eliminate the settlement risk, more particularly due to countries situated and operating in different time zones, the risk is recognized by the market participants by applying credit lines (limits) to each counter party to reduce the risk. The credit limits take the form of maximum outstanding limit as well as daily delivery limits for each bank.

The settlement risk could be avoided, if only settlement systems, operating on a single time basis, as also on real-time gross settlement basis, are put in place.

This would eliminate the time zone problems and also would pay only on 'if received' basis. The time zone differences could be eliminated, if the global books are linked to a single time zone, say GMT closing.

C. Liquidity Risk

When a party to a foreign exchange transaction is unable to meet its funding requirement or execute a transaction at a reasonable price, it creates Liquidity Risk. It is also the risk of the party not being able to exit or offset positions quickly at a reasonable price. Here, for whatever reason, the market turns illiquid and positions cannot be covered or liquidated, except for high price.

For example, in a deal of US dollar purchase against rupee, if the party selling US Dollar is short of funds in the nostro account, then it may not be possible for him to generate/borrow or buy USD to fund the USD account. Liquidity risk is said to have arisen, in such an occasion. For this, proper funds and cash management practices have to be followed by the dealers.

Therefore, liquidity risk is the potential for liabilities to drain from the bank at a faster rate than assets. The mismatches in the maturity patterns of assets and liabilities give rise to the liquidity risk. Liquidity risk could also arise, in case the markets turn illiquid, leading to higher bid-offer spreads or even market makers getting out of the market.

For protecting against the liquidity risk, the bank has to resort to control the mismatches between maturities of assets and liabilities. This is done by fixing limits for maturity mismatches and reduce open positions.

D. Country Risk /Sovereign Risk

Country risk arises when a foreign entity or a counter party, private or sovereign, may be unwilling or unable to fulfil its obligations for reasons, other than the usual reasons or risks which arise in relation to all lending and investment.

Dealing in foreign currencies and with counter parties in another country, will sometimes result in country risk. Movement of funds across international borders creates uncertainty with regard to their receipts and payments and this uncertainty is defined as country risk. The foreign parties may be unwilling or unable to fulfil their obligations for reasons, such as imposition of exchange and other controls by the central bank or the government regulation, on which the parties do not

have any control (externalization). Country risk is considered very high in the case of countries which are facing problems related to foreign exchange reserves, balance of payments, management of resources, liquidity, etc.

Country risk is usually controlled by fixing countrywise exposure limits and being dynamic, has to be constantly monitored, more particularly in case of difficult countries. The difficult countries, may give high returns, as not too many countries, banks or parties wish to take exposure in such countries.

It would be worthwhile to mention that country risk is different from the usual credit and other risks associated with lending decisions, like credit risk, settlement risks, liquidity risk, etc.

A country risk arises, when the counter party or the borrower or the buyer is a good credit risk and does not have any desire to default, but by local laws or directives, is forbidden by the government or the central bank to honour the commitment. A sovereign risk is larger, when the counter party is the foreign government itself or any of its agencies, and enjoys sovereign immunity under the laws, with no legal recourse to other party. Another dimension of sovereign risk could be a change in the government policies, or the change in the government itself, which could invalidate the previous contracts and thus forbid the parties concerned to complete or take recourse for the same.

While sovereign risk cannot be completely avoided, when dealing with another country, it can be suitably reduced by inserting disclaimer clauses in the documentation and also making the contracts and the sovereign counter parties subject to a third country jurisdiction.

E. Interest Rate Risk

Interest rate risk or GAP risk, as it is otherwise known, arises due to adverse movement of interest rates or interest rate differentials.

It also refers to the potential cost of adverse movement of interest rates that

the bank faces on its deposits/borrowings/lending, or the currency swaps, forward contracts, forward rate agreements, or other interest rate derivatives. The increasing capital flows in the global financial markets by the day, the economic disparities between nations and the increased use of interest rates as a regulatory tool for macro-economic controls, to regulate global economies, have resulted in significant volatility in interest rates.

While, in the course of its business, the bank buys and sells currencies for spot and forward value, borrows and lends foreign currencies, enters into swaps, futures or options relating to interest rates, it is not practical and also always possible to match its forward purchase and sales, borrowing and lending, creating a mismatch between its assets and liabilities. This mismatch is referred to as GAP. These gaps are to be filled by the bank by paying/receiving appropriate forward differentials or resorting to other interest rate derivatives. The forward differentials are, thus a function of interest rates. Any adverse movement in interest rates would result in adverse movement of forward differentials thus effecting the cash flows on the underlying open gaps or mismatches.

Besides, deployment of foreign currency resources is not exactly for matching maturities, exposing the bank to an interest rate risk due to uneven cash inflows and outflows.

Interest rate risk also occurs when different bases of interest rates are applied to assets and corresponding liabilities. If the degree of fluctuations in the two different interest rates is different, affecting the spread originally envisaged, then interest rate risk is said to have occurred.

With the integration of foreign exchange and money markets, the dealers manage interest rate risks frequently by undertaking appropriate swaps, or matching funding actions or through appropriate risk mitigating interest rate derivatives.

To reduce interest rate risks. Individual and aggregate gap limits are fixed for the international banking operations. Some banks adopt strategy to determine the interest rate scenario, undertake appropriate sensitivity exercises, for estimating the potential profit or losses based on interest rate projections and devise suitable hedging strategy and adopt various risk-assessing models, like value at risk, interest rate sensitivity test, etc., and use derivative products like interest rate swaps, currency swaps and forward rate agreements for managing the interest rate risk.

F. Operational Risk

Being a critical area of operations, operational risk is another important risk that should be managed by a dealing room. It may occur due to deficiencies in information systems or internal control or human errors or other infrastructure problems that could lead to unexpected losses. If the infrastructure provided to the dealing room, such as computer systems, communication systems, including telephone lines, etc. fail to function due to some error or fault, the operations in the dealing room would come to a grinding halt and exposed to various risks.

Operational risk can be controlled by providing state of art systems, specified contingency plans, disaster control procedures, and sufficient back-up arrangements for man and machine, and a duplication process at a different site (mirroring).

G. Legal Risk

Legal risk arises when it transpires that the counter party with whom the transaction has been undertaken, does not have the legal or regulatory authority to enter into such transaction. In other words, the counter party is incapacitated for engaging in such a deal, resulting in non-enforceability of contract. Legal risk also includes compliance and regulations related risks, arising out of non-compliance of prescribed guidelines or breach of governmental rules, leading to wrong understanding of rules and penalties by the enforcing agencies.

Check Your Progress (A)

1. Risk is an _____ event.
2. The values of Derivatives are derived from its ____.
3. State whether the given statements are True or False:
 - (a) Movements in exchange rates may result in loss for the dealer's open position.
 - (b) Reserve Bank of India has not authorized banks to approve limits relating to foreign exchange operations.
 - (c) Settlement risk can be avoided only if settlements are made on real-time basis.
 - (d) Herstat Risk, (failure of the bank of the same name) was not in any way related to settlement defaults.
 - (e) Any adverse movement in interest rates could affect the bank's profitability.
 - (f) Non-compliance of regulations is a legal risk.
 - (g) Derivative instruments are a vehicle to manage risks.
 - (h) International trade is risk free.
4. Fill in the blanks
 - (a)
 - (b)
 - (c)
 - (d)
 - (e)
 - (f)

In case of excess of assets over the liabilities, the dealer will have Settlement risk arises due to the absence of a single global _____ position.

Liquidity risk can be managed by practicing proper control of

Country risk is a _____ risk and can be controlled by fixing

Sovereign risk can be managed by suitable

by subjecting such sovereign entities to _____ limit.

clauses in the documentation and also _____ jurisdiction.

Operational risk can be controlled by putting in place state of art plans.

_____, specified

2.3 MANAGEMENT OF RISK AND GUIDELINES ON RISK MANAGEMENT

To manage risk, it is important to identify and appreciate the process of measurement of risks as a prerequisite. Some risks, like exchange risk, interest rate risk, etc., are easy to be quantified, while some other risks like country risk, operational risk, legal risk, etc., cannot be

mathematically quantified and can only be qualitatively compared and measured. Some risks like gap risks in foreign exchange operations

can be measured using modern mathematical and statistical tools like 'value at risk', etc. Thus only after the risk is identified and assessed, question of management of risk arises.

We have seen that risk is an unforeseen event, and to avoid risk proactive measures could be taken so as to either eliminate the same or reduce the same. Thus risk management is a process focusing upon steps to contain or avoid risks and losses there from. Since certain risks may not be avoided totally, its management would depend upon the expected rewards, risk appetite as also profile of the risk portfolio held.

A sound risk management process would start with a detailed policy, a specific limit structure for various risks and operations, a sound management information system, and specified control, monitoring and reporting process. Putting in place sound risk management policies, understood and laid down by the top management/board, would be a prerequisite for determining the risk exposures being faced by the bank. Measures to determine the market risks, credit or liquidity risks can be put in place in accordance with the laid down policies.

Thus the risk management process starts from the top, i.e. the Board of Directors, which should prescribe and approve a detailed policy for management of various risks being faced or expected to be faced by the bank. This policy would also specify limits for various types of trades, functions as also upper limits for exposures. All these limits would be based on the risk appetite of the bank vis-a-vis the expected rewards in taking the risks. (Risk-reward equilibrium)

After the benchmarks are set out by the board, the top management has to involve in implementation of the plans, by putting in place required manpower, various infrastructure, tools, etc., to help the dealing staff in better functioning so as to avoid risks as also to measure and contain risks. The top management has not only to implement the policies approved by the board, but also ensure compliance to regulatory requirements.

The risk policy framework should cover the goals and objectives, delegation of responsibilities, specify activities to be undertaken and level of acceptable risks, besides the authority to undertake such functions and a system of review. While implementing the risk policies, the top management has also to take appropriate measures to ensure proper and regular measuring and monitoring of the risks.

Risk management Policies require constant focus and attention and need to be reviewed on a regular basis. The nature of risks, the market scenario and the tools, MIS, and risk containment measures keep on changing with the business profile. Risk management is dynamic and needs to remain in constant focus of the users as well as the top management.

The Guidelines

The broad policy approved by the Board of Directors and the steps for implementation taken by the top management would all be within the overall guidelines laid by the central bank of the country and/or other regulatory authorities. Reserve Bank of India and FEDAI have issued guidelines for management of risk in international trade and foreign exchange, which itself limit the risk in the forex operations.

RBI has issued Internal Control Guidelines (ICG) for foreign exchange business, which covers various aspects of dealing room operations, code of conduct for dealers and brokers and other aspects of risk

control guidelines, including set up of the dealing room, back office, and risk management structure.

Under ICG, banks are required to put in place various dealing limits for their forex operations, which can be briefly summarized as under:

- (i) Overnight limit: Maximum amount of open position or exposure, a bank can keep overnight, when markets in its time zone are closed.
- (ii) Daylight limit: Maximum amount of open position or exposure, the bank can expose itself at any time during the day, to meet customers' needs or for its trading operations.
- (iii) Gap limits: Maximum interperiod/month exposures which a bank can keep, are called gap limits.
- (iv) Counter party limit: Maximum amount that a bank can expose itself to a particular counter party.
- (v) Country risk: Maximum exposure on a single country.
- (vi) Dealer limits: Maximum amount a dealer can keep exposure during the operating hours.
- (vii) Stop loss limit: Maximum movement of rates against the position held, so as to trigger the limit - or say maximum loss limit for adverse movement of rates.
- (viii) Settlement risk: Maximum amount of exposure to any entity, maturing on a single day.
- (ix) Deal size limit: Highest amount for which a deal can be entered. The limits is fixed to restrict the operational risk on large deals.

Besides above limits, banks approve panel of brokers through whom deals could be undertaken, the currencies in which the bank/dealers would deal in, Value of Risk limit, Nostro Balances limit. Overdraft limits, etc.

Further, the master circular on Risk Management and Interbank Dealings, issued by Reserve Bank of India, specifies risk management facilities that are available to residents and non-residents, to hedge their forex exposures, as also facilities for authorized dealers, for managing exposures on their foreign currency assets and liabilities. The guidelines permit booking of forward contracts by customers on the strength of underlying exposure/transaction or merely on the basis of past turnover. There are guidelines on undertaking interest rate swaps. Foreign currency and rupee options, etc.. Interbank dealings, procedures, norms for position and gap limits, authority to undertake FX derivatives, foreign currency accounts, borrowing/lending in foreign currency and various reports to be submitted to the Reserve Bank of India are also prescribed in the Master Circular.

Thus, while the RBI has prescribed the broad guidelines on operations and risk management aspects of FX dealing room, detailed guidelines have been issued by FEDAI on certain aspects. Most of the guidelines and risk management framework is to be finalized and approved by the board of the bank, to be implemented by the top management, treasury head and the MID office functionaries.

Mitigation of Settlement Risk- Indian scenario: In India, CCIL conducts netted settlements for various segments of money and Forex markets. CCIL takes over the settlement risk, for which it creates a large pool of resources, called Settlement Guarantee Fund (SGF), which is used to cover outstanding of any participant, in case of defaults.

In case of settlement of Forex deals, the participant bank send a file with details of deals to be settled, giving amounts in foreign currency, deals rates, amount in Rupee, and value dates along with counter party banks, which CCIL settles on netted basis, leading to only one inflow or

outflow of foreign currency and INR for one bank. The only condition is that both the counter parties should be members of CCIL in the related segments. CCIL handles a large volume of settlements daily.

CCIL: Clearing Corporation of India is an institution created for the purpose of clearing and settlement in Repos, CBLOs, gilts and inter bank Forex deals. It is a clearing corporation, which takes over the settlement risks of the banks, and undertakes settlement in various instruments on net settled basis. For inter bank Forex settlement, it handles USD /fNR deal settlement with netted amounts being paid / received to /from the participant banks.

2.4 WHAT ARE DERIVATIVES - HISTORY AND DEVELOPMENT

Derivatives, are often viewed with a certain degree of awe. It is often felt that derivatives are shrouded deep in mystery. As explained in the beginning of this unit, derivatives refer to a variable, which has been derived from another variable. Interest in derivative products may mostly arise out of interest in the underlying product, but it can also be without any interest in the underlying. Even if so, the values of derivatives and the underlying are interrelated and irrespective of the fact that one has interest in both or only the later, the two will affect each other's prices.

The underlying can be any product, literally anything ranging from agricultural products, foreign exchange, interest rates, oil, gas, gold or silver, stocks and stock indices, financial instruments (Treasury Bills, Bonds, etc.) or anything in the world, which itself is traded. Thus derivatives are derived from markets, products, risks or any underlying on which they are based.

Derivatives have been in use for hundreds of years, in the form of futures or options, when high seas cargoes were bought and sold in future prices (or priced for future delivery) or rice produce sold for future delivery by Japanese farmers. The future transactions were then done in various pockets, in anticipation of future deliveries. The explosion of the market could be linked to or coincided with the collapse of Bretton Woods fixed exchange rate regime (35 USD = 1 Ounce of Gold) and suspension of US Dollars' direct links to gold in the 1970s. The de-linking of US dollars to a fixed parity of gold, effected volatility in exchange rates as also the interest rates. The increased volatility thus lead to the creation and explosion of a financial derivatives market which has since then grown manifolds.

In early 1970s, the Chicago Mercantile Exchange introduced the world's first exchange traded currency future contract. Later in 1975, the first interest rate futures were introduced. Several exchanges then introduced exchange rate and interest rate futures contracts. By 1983, the derivative markets saw further growth with currency options trading in Philadelphia Stock Exchange.

Trading in Currency Futures and options gave the world a whole new range of risk management techniques for managing exchange risk, which helped in growth of global trade, investments and cross- border remittances.

This was the time (early 1980s) when interest rate swaps were also introduced. Interest rate swaps helped borrowers and lenders to switch their borrowings/lendings from fixed to floating rate structures or vice a versa, as per their views on the interest rate movements.

Mid-1980s saw a boost in the derivatives market, with a host of exchange rate, interest rate as also commodity price risk derivative tools/products being traded in various exchanges, which was evident from the fact that Chicago exchange handled millions of derivatives contracts annually.

Initially, the derivative products were used mainly by the hedgers as actual users of the underlying contracts, who used these products for managing their risks. The importers, exporters, financiers, borrowers, buyers, etc., were the major users of these products.

Gradually, individuals and institutions tracked the prices of derivative products, much similar to speculation in commodity prices or cross currency prices. They started speculation in futures, options and swap prices. This gave depth and volumes to the derivative markets.

Further, there were people who would be always on a look out for opportunities of mispricing and uneven pricing on the markets, and arbitrated between market differences, until the differences disappeared.

Thus, hedgers, speculators and arbitrageurs provided depth, volumes and initiative for newer derivative products, so that a large number of exchanges offered these products with spurt in volumes by the day. The derivative products in a short lifespan of 25 years, have seen tremendous growth, which can be observed from the fact that in April 1988, the average daily turnover in derivatives was to the order of USD 1.3 trillion while, the notional amounts outstanding for OTC contracts and exchange traded contracts stood at USD 72 trillion and USD 14 trillion respectively in June 1998. (BIS Data).

The main reasons for this growth in derivatives market were increased volatility in the financial and commodity assets during 1970 and 1980s, the oil shocks in 1971 and thereafter, the need to insulate exchange risk for incomes in different currencies, arising out of increased global investments, technological advancements providing real-time information systems and 24-hour financial trading platforms, also development of pricing models and instruments based on computer-generated work sheets, the political developments and the increasing professionalism amongst all market participants, be it banks, traders, actual users, companies, investors, etc.

Check Your Progress (B) Fill in the blanks:

1. Some risks, like _____

2. 3.

risk and

risk are easy to be quantified.

A sound risk management would start with a sound risk management _ .

Risk management is _____ and needs to remain in constant focus of the users as well as the

4.

5.

6. 7.

management.

is the maximum exposure on a single country.

Highest amount of deal, a deal is allowed to be made is called

limit.

A risk limit, which triggers, on adverse movement of exchange rates is called In India, settlement risk is largely mitigated by settlements through _____

limit.

Details of forex derivatives are given in Module C (Treasury Management).

Let Us Sum Up

Risk management nevertheless is an interesting game, more so in the international trade and finance, where the boundaries are global. Proper perception of risks undertaken and then the measures to contain the risks is a must for any trader, bank or institution. Use of variety of derivative products with a proper understanding as also constant watch over the positions and the hedge could lead to ample profits on one hand, but could lead to a doom, if not handled with care.

The growth of the global markets, and also the Indian markets, where several products are now permitted and being offered, has given ample opportunity to the student of this area of financial world to explore, understand and use the financial products for maximization of profits.

Keywords

Risk: Uncertainty

Exchange Risk: Risk arising out of fluctuations in exchange rates.

Settlement Risk: A kind of credit risk.

Liquidity Risk: It is funding risk.

Country Risk: It is associated with problem countries.

Sovereign Risk: It is a subcategory of country risk and arises on account of sovereign entities.

Interest Rate Risk: It arises due to changes in interest rates.

Derivatives: They are hedging instruments.

Forward Contract: It is a binding contract for purchase/sale at a future date.

Premium/Discount: It represents interest rate differential in a forward contract.

Option: Contracts confer upon the holder the right without the obligation to take up the contract.

Premium: In an option contract represents the fee charged by the option writer.

Swap: It is an exchange of specific streams of payments over an agreed period of time.

Futures: It is a contract traded on an exchange to make or take delivery of a commodity.

Answer to Check Your Progress

- A. 1. Unforeseen; 2, underlying; 3. (a) True, (b) False; (c) True (d) False, (e) True (f) true (g) true (h) false. 4. (a) long (b) clearing house, (c) mismatches, (d) dynamic, country (e) disclaimer, third country, (f) systems, contingency .
- B. 1. foreign exchange, interest rate; 2 policy; 3. dynamic, top; 4. country limit. 5. Dealsize 6. Stoploss 7. CCIL.

Terminal Questions

Fill in the blanks:

1. A risk can be defined as an reduced earnings.
event with financial consequences resulting in loss or
 2. Movements in exchange rates can adversely affect the
of our foreign exchange holdings,
 3. The exposure arising due to normal business operations consequent to which the value of
transactions will be affected is called exposure.
 4. risk is the risk of failure of the counter party, due to bankruptcy, closure or any other
reason, before maturity of the contract.
 5. For protecting against the
risk, the bank has to resort to control the mismatches between
maturities of assets and liabilities.
 6. Interest rate risk arises due to adverse movement of
-

rates.

7. Overnight limit is the maximum amount a bank can keep overnight, when markets in its time zone are ____.
8. The maximum movement of rates against the position held, so as to trigger the limit - or say maximum loss limit for adverse movement of rates, is called ____.
9. Banks are allowed to use derivatives to manage risks of their assets and liabilities, and also for ____ purposes.
10. Thus forward contracts are a firm and ____ contracts entered into by two parties.
11. The currency with lower interest rate would be at a ____ premium in future,
12. A ____ contract conveys an agreement to buy a specific amount of a commodity or financial instruments at a particular price on a stipulated future date.
13. The options convey the right to buy or sell an agreed quantity of currency, commodity or index value, at an agreed price, without any to do so.
- 14 . ____ option can be exercised only at maturity date (fixed date)
15. In 2008, Currency futures have also been started in the ____ markets.

References for Further Reading

1. Reserve Bank of India Guidelines for Internal Control for Foreign Exchange Business, Master Circulars, Circulars, issued from time to time.
 2. FEMA 1999.
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 4. FEDAI Study Booklets for Orientation workshops.
 5. Books by D.C. Gardner.
 6. Rajwade, A.V., Foreign Exchange International. Finance and Risk Management.
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UNIT 3 Correspondent Banking and NRI Accounts

STRUCTURE

3.0 Objectives

3.1 Introduction

3.2 Correspondent Banking - Bank accounts

3.3 Electronic modes of transmission/Payment gateways - SWIFT, CHIPS, CHAPPS, etc. Check Your Progress (A)

3.4 NRI Banking

3.5 NRE Accounts - Rupee and Foreign Currency Accounts Check Your Progress (B)

3.6 Facilities to NRIs

3.7 Advances to Non-residents and Third Party Advances Against NRI deposits/Guarantees Check Your Progress (C)

Let Us Sum Up Key words

Answers to Check Your Progress Terminal Questions References for Further Reading

3.0 OBJECTIVES

The objective of this unit is to understand the concept of correspondent banking, their need and services rendered by them, the electronic modes of transmission, which facilitate fast and reliable communication, and transmission of secured financial messages throughout the globe. The unit also takes us through the concept of NRI banking and accounts as also various facilities available to NRIs for investment in India.

3.1 INTRODUCTION

The international trade and finance is based on the network of international banks as well as the support and services provided by other banks in foreign countries. The relationship between foreign banks to facilitate cross border handling of trade documents, receipts and payments, etc. have come a long way, that international trade and finance, without correspondent banks cannot be thought of in this era of globalisation.

The large number of Indians living abroad, send remittances to their country, for sustenance of their near and dear ones, as also for savings purposes. NRI funds constitute a large corpus, for the country's forex resources, and have a place of importance of its own. The segment has been offered facilities of opening different types of accounts, as also various investment facilities, both on repatriable and non- repatriable basis. Let us see, the bouquet of services being offered to the NRI customers by the banks, and related RBI guidelines.

3.2 CORRESPONDENT BANKING -ACCOUNTS AND OTHER SERVICES

Correspondent banking in its true sense, is the relationship between two banks which have mutual accounts with each other, or one of them having account with the other. However, in a larger sense, this means a relationship and servicing of banking needs, as agents, without having account relationship also. This was due to a large number of banks offering correspondent banking services and it was not possible to have and maintain accounts with a large number of them, but the growing needs of the international business, required help and services from a large number of banks, across the globe.

Thus, correspondent banking is a practice, where a bank is able to handle business in another city or country, through local banks there at, the local bank acting as an agent of the former, and charging fees for the services rendered. This system eliminated the need to have a global network of branches, which involved high costs and volumes to service the branches. Further, it was not possible for all international banks to obtain permission for opening of branches in several

countries, due to restricted foreign bank/ branch licensing policies adopted by some countries. Thus the correspondent banking system allows the bank to take advantage of the business opportunities in other countries, without a branch network of its own and with minimum operational costs.

1. Functions Handled by Correspondent Banks

As correspondent banking is based on the services that are provided by one bank to the other bank, it is largely used in international business operations. The functions covered by such arrangements can be largely summarised as under:

A. Account Services

These services require having account relationship with the foreign bank.

- (i) Clearing House functions: The correspondent bank offers services related to handling of outward payments, receipts of inward payments and collections, through the account maintained with it. The account is also used for reimbursement of LC claims, check collections draft/ cheques issue on the account. The services include providing of statement of account at predefined intervals, as also advices and details of transactions, which went through the account. The services would include providing an intra-day line of credit for passing of payment instructions, in anticipation of covers to be received later in the day.
- (ii) Collections: Correspondent banks provide services as agents for collection of export/import bills as well as checks, in their country. They also credit the proceeds of such collections after realization to the account maintained with them. Besides, this service may include, follow up for payments, reminders, noting and protesting of bills of exchange, as also taking steps to safe-guard the interest of the client bank. The foreign bank also collects clean instrument for credit to the account of the bank.
- (iii) Payments: The correspondent bank handles and executes all payment instructions of the client bank, by debiting to the account maintained with it. The payments could be inter-bank payments, for settlement of FX deals or customer payments for imports of goods and services. The payments can be for beneficiaries in the same city, country or other countries, depending upon the location of beneficiaries' correspondent bank accounts.
- (iv) Overdrafts and loan facility: The correspondent bank, by virtue of having an account of the client bank, also grants overdrafts for temporary needs, say, overnight, to fill up short-term funding gaps. It can also consider granting of loans on short-term basis, based on credit assessment of the foreign bank.
- (v) Investment Services: The correspondent bank offers services related to investment of overnight surplus balances in the account, beyond a minimum peg balance, at the domestic call rates minus a small margin. It also offers investment of funds in short-term deposits, cash management services as also in specific securities for the client bank.

B. Other Services

These services would not normally require account relationship, and can be offered on standalone basis, depending upon the relationship and credit assessment by the correspondent bank.

- (i) Letter of Credit advising
 - (ii) LC confirmations
 - (iii) Bankers Acceptances
 - (iv) Issuances of Guarantees — bid-bond, performance, etc.
 - (v) Foreign Exchange services, including derivative products
 - (vi) Custodial services
-

- (vii) Trade referrals and credit reports on foreign parties
- (viii) Services related to investment of overnight surplus funds, short-term deposits, as also securities, etc.
- (ix) Other fund raising services, like placement of shares, bonds, ADR/GDR etc.
- (x) Training and seminars on various topics/on latest developments.

2. Bank Accounts

We have seen in the earlier part that correspondent banking include one of the major functions of account relationship, even though it may not be a prerequisite. The account facilitates, handling of receipts and payments, collections and reimbursements, in the country and in the currency of the correspondent bank.

The foreign currency accounts maintained by a bank, with another bank are classified as Nostro, Vostro and Loro accounts.

NOSTRO account: It means "Our account with You". For example, SBI, Mumbai maintaining an USD account with CITI Bank New York is Nostro account in the books of SBI, Mumbai.

VOSTRO account: It means " Your account with Us". Say American Express Bank, New York, maintaining A Rupee Account with SBI, Mumbai, is Vostro account in the books of SBI, Mumbai.

LORO account: It refers to accounts of other banks, i.e. "his account with them". For example, Citi Bank referring to Rupee account of American Express Bank, with SBI Mumbai, or some other bank referring to the USD account of SBI, Mumbai with Citi Bank, New York.

Mirror account: While a bank maintains Nostro account with a foreign bank, (mostly in foreign currency), it has to keep an account of the same in its books. This is more or less a reflection or a shadow of the nostro account. The entries in the mirror account are used for reconciliation of entries in the nostro account. The mirror account is maintained in two currencies, one of which is the foreign currency and the other one is the home currency.

Bank accounts, are a major function in the realm of correspondent banking, and generate good revenue for the international banks, in the form of surplus balances, charges on debits/credits handled, payment commissions, etc.

3.3 ELECTRONIC MODES OF TRANSMISSION/PAYMENT GATEWAYS - SWIFT, CHIPS, CHAPPS, RTGS, ETC.

The vastness of global trade and finance, and the related payments and transfers from one bank to another, one country to another, as also numerous interbank payments and receipts, can only be executed with the help of various payment gateways and telecommunication systems, which have proved to be foolproof over a long period of time.

1. Swift

SWIFT stands for Society for Worldwide Interbank Financial Telecommunications. This is a cooperative society, owned by member banks and financial institutions, providing secured telecommunication and one point contact with 8,300 member financial institutions, spread over 209 countries. The system has built in security system with an automatic authentication of financial messages, through bilateral key exchange (BKE), and is available 24 hours a day and 365 days in a year. The system is cost effective with cost of an average message grossly lower by almost one-fourth than the conventional telex systems.

SWIFT has since introduced new system of authentication of messages between banks, whereby banks are required to have a authentication key exchanged between themselves, through a set format by use of Relationship Management Application (RMA), (also called Swift BIC, i.e. Bank Identifier Code).

2. Chips

CHIPS (Clearing House Interbank Payment System), is a major payment system in the USA, operating since 1970. It is a fully automated; computer based messaging and net settlement payment system used by major banks for settlement of a large part of US dollar payments in the USA. CHIPS was established by New York Clearing House, as a substitute to paper checks.

Over the period, CHIPS has grown both in volumes, with a membership of 48 currently.

The participating banks use the system throughout the day for sending and receiving electronic payment instructions, which at the end of the day are netted and net payment received/paid by each bank to the clearing house. The net position is then debited or credited to each bank's account with Federal Reserve.

The system uses CHIP participant codes to identify the participants, and UID numbers to identify the beneficiary account. The banks maintaining US dollar Nostro accounts with any of the US based banks are given a specific UID number, which facilitates Straight Through Processing (STP) of most of the Interbank payments and receipts, through the system.

CHIPS is operative only in New York, and as such, is mainly used for foreign exchange Interbank settlements and Euro Dollar settlements.

3. Fedwire

This is another US payment system operated by Federal Reserve Bank, operated all over the US states since 1918, and handles majority of domestic payments. It is an automated computer-based messaging and payment system, working on gross settlement basis. All US banks maintain accounts with Federal Reserve Bank, and are allotted an 'ABA numbers' to identify the senders and receivers of payments.

As compared to CHIPS, this is a large system, with over 8,000 participants, and handles a large number of payments across USA, covering Interbank transfers out of New York, local borrowings and lending, commercial payments, and also some securities transaction related payments for domestic banks.

4. Chaps

Clearing House Automated Payments System (CHAPS), is a British equivalent to CHIPS, handling receipts and payments in LONDON. This system works on the same principles as CHIPS, working on the net payment settlement system. CHAPS is used by a large number of banks in UK, with about 16 member banks and over 400 indirect members, using the system through some large bank.

5. Target

Trans-European Automated Real-Time Gross Settlement Express Transfer system is an EURO payment system comprising 15 national RTGS systems working in EUROPE. These are interconnected by common procedures and uniform platform for processing high value payments by over 30,000 participating institutions across EUROPE. This facilitates receipts and payments of funds across the Euro zone (all member countries).

6. RTGS-plus and EBA

These are other Euro clearing systems, with RTGS plus, being a German hybrid clearing system and operating as an European-oriented real time gross settlement and payment system. RTGS plus has over 60 participants.

The EBA-EURO I, with a membership of over 66 banks, in all EU member countries, works as a netting system with focus on cross border Euro payments. For retail payments, EBA has another system, called STEP 1, with around 200 members across EU zone.

STEP 2 is also in use in EU zone, which facilitates straight through processing (STP) to member banks, using industry standards.

7. RTGS/NEFT in India

RTGS: Reserve Bank of India has implemented Real Time Gross Settlement (RTGS) system for the banks in India, where banks can remit funds to other banks through this mechanism,. The RTGS system is managed by IDBRT, Hyderabad, which connects all banks to a central server maintained at RBI.

Each bank maintains a pool account with the RBI for inflow and outflow of funds received /paid through RTGS. The bank has to monitor the balances in the account through out the day, so as to keep it sufficiently funded, to take care of outward remittances. For customer remittances, the minimum amount for RTGS transfers is Rs. 1.00 lac.

NEFT: This is another funds transfer facility for banks in India, which runs on a batch process method. This is used for small remittances by customers from an account with one bank to another account in another bank. The funds adjustment for NEFT is also done through the pool accounts maintained by individual banks.

Both RTGS and NEFT have facilitated faster funds transfer for bank customers, across the country, leading to a great reduction remittances/payments sent earlier through cheques/drafts.

Check Your Progress (A)

Fill in the blanks:

(i) _____

(ii) For using bank.

banking, eliminates the need to have a global network of branches. services, it is a must to have an account relationship with the correspondent

(iii) account means your account with us.

vostro

(iv) Mirror account is the shadow account of _____ account.

nostro

(v) Authentication of financial messages in SWIFT is based on exchange of RMA/ BIC

(vi) CHAPS is the British equivalent of _____ in the USA.

CHIPS

(vii) The RTGS of the EURO zone is called _____.

Target

(viii) NEFT is used for _____ of funds in India.

3.4 NRI BANKING

For any country, with a large population of natives working abroad as expatriates, serving the nonresidents, becomes important, particularly in view of the need to shore up foreign exchange reserves.

India too, needs to service the requirements of its people, staying abroad for business or profession, or even settled abroad. As such, specific rules for opening of accounts and maintenance of non resident Indians, its operations, repatriability, interest payments, investments and other facilities have been framed by the Government of India under FEMA as also Reserve Bank of India.

1. Definition of NRI

As per the FEMA 1999, Non-Resident Indian means:

(a) A person resident outside India who is a citizen of India, i.e.

(i) Indian citizens who proceed abroad for employment or for carrying on any business or vocation or for any other purpose in circumstances indicating indefinite period of stay outside India.

(ii) Indian citizens working abroad on assignments with Foreign Governments, Government Agencies or International/Multinational Agencies like United Nations Organizations (UNO), International Monetary Fund (IMF), and World Bank, etc.

(iii) Officials of Central and State Governments and Public Sector Undertaking deputed abroad on assignments with Foreign Govt. Agencies/Organizations or posted to their own offices including Indian Diplomatic Missions abroad.

(b) A person of Indian origin who is a citizen of any other country other than Bangladesh or Pakistan,

if

(i) He, at any time, held an Indian passport

(ii) He or either of his parents or any of its grand parents was a citizen of India by virtue of Constitution of India or Citizenship Act 1955 (57 of 1955)

(iii) The person is a spouse of an Indian citizen or a person referred in sub clause b(i) or (ii) above.

Thus, in general, an NRI is a person of Indian nationality or origin, who resides abroad for business or vocation or employment, or intention of employment or vocation, and the period of stay abroad is indefinite.

A person is of Indian origin if he has held an Indian passport, or he/she or any of his/hers parents or grandparents was a citizen of India.

As such, government officials going abroad on posting to Indian missions or World Bank, IMF, etc., are NRIs. Similarly, tourists on brief visit to foreign countries are not categorized as NRIs. Students going abroad for higher studies, are considered as NRIs specifically as per RBI guidelines, even though their visit abroad is not for indefinite period nor for business or vocation. A spouse, who is a foreign citizen, of an Indian citizen or a person of Indian origin, is also treated as a person of Indian origin, for the purpose of opening of bank accounts and other facilities granted for investments into India, provided such accounts or investments are in the joint names of spouses.

Overseas corporate bodies (OCB): Overseas firms, trusts or companies, predominantly owned by non resident Indians are called Overseas Corporate Bodies. The level of ownership of NRIs in such bodies, should be minimum 60 %, by one or more NRI owners. The facilities for investment into India, granted to OCBs were almost similar to those granted to individual non-resident Indians.

However, effective 16.09.2003, OCBs have been completely de-recognised as an investor class by Reserve Bank of India. Accordingly, they are now not allowed to make fresh investments in India, under various routes/schemes, available under the extant guidelines/FEMA.

Let us now have a look at the types of account that can be maintained by NRIs and their operational aspects.

3.5 NRE ACCOUNTS - RUPEE AND FOREIGN CURRENCY ACCOUNTS

NRIs have been provided with various schemes to open bank accounts and invest in India. The types of account facilities available at present are:

1. Non-Resident (External) Rupee Account (NRE)
2. Non-Resident Ordinary Rupee Account (NRO)
3. Foreign Currency (Non-Resident) Account (Banks) [FCNR (B)]

As can be observed from the name, first two types of accounts are maintained in Indian rupees, while the third one can be maintained in one of the major foreign currencies.

For opening of any Non-Resident Account, the bank has to obtain an application in the prescribed form along with an undertaking that the account holder shall inform the bank the date of arrival, as and when he returns for permanent settlement. The bank should also obtain necessary document, like copy of passport, visa, employment certificate (wherever required) to confirm non-resident status.

Let us now discuss the types of account one by one:

1. Non-Resident (External) Rupee Account

NRE accounts, as they are called, can be opened and maintained by Non-Resident Indians, by (i) remittances from abroad by way of TT, checks, drafts, or even transfer from another Non-Resident account, as also (ii) by tendering of foreign currency travellers cheques or notes by the NRI during his temporary visit to India, provided the bank is satisfied about his non-resident status.

NRE account can be opened as Saving Bank account, Current Account, Recurring Deposit Account or Term Deposit with a minimum period of one year.

NRE accounts can be opened as Joint Accounts, in the name of two or more non-resident individuals, who are persons of Indian nationality or Indian origin. Opening of NRE account, jointly with a person resident in India is not permitted.

No lien is permitted to be marked on the balances held in NRE savings accounts.

Permitted credits

The following credits are freely permitted to be credited to NRE accounts:

- (a) Remittance to India in any permitted currency
- (b) Personal cheques drawn on foreign currency account of the account holder
- (c) Travellers cheques and bank drafts drawn in any permitted currency
- (d) Foreign currency/bank notes tendered during his temporary visit.
- (e) Transfer from any other NRE/FCNR(B) Accounts.
- (f) Any other credit if covered under general permission or specific permission granted by Reserve Bank of India.

Permitted debits

The following debits are freely permitted in the NRE accounts:

- (a) Local disbursements/payments
- (b) Remittance outside India
- (c) Transfer to any NRE/FCNR(B) Account
- (d) Investments in shares/securities, etc.

Other facilities

NRE accounts also offer following other facilities to NRI depositors:

- (a) A checking account with checkbook facility in Savings or Current account is allowed.
- (b) Full repatriation of deposit amount including interest permitted. Maturity proceeds can be transferred to another NRE or FCNR account with same or another bank, as desired by the depositor.
- (c) Nomination facility is permitted. Nominee can be either resident or non-resident.
- (d) Income by way of interest on balances held in NRE account is exempted from income tax, gift tax and wealth tax.
- (e) Residents can operate the account on the basis of power of attorney granted by the account holder. However, the power of attorney holder cannot repatriate funds outside India.
- (f) Banks may allow temporary overdrawing up to Rs 50,000 in NRE saving account. However, such overdrafts must be cleared within two weeks by remittance from abroad or from any other NRE/ FCNR account.

As seen above, these NRE accounts are maintained in Indian rupee, as such, the exchange fluctuation risk lies on the depositor.

Interest on NRE deposits: As per extant RBI guidelines, the interest rates on NRE deposits are, currently, payable as under:

NRE Savings accounts: Interest is payable at 3.50 percent, similar to resident savings account.

NRE Term deposit accounts: Maximum of LIBOR plus 175 basis points (bps -100th part of 1 per cent) for the relative tenor, to be fixed on the last working day of the preceding month, and applicable for fresh deposits or renewals during the subsequent month.

Tenor: NRE term deposits can be made for a minimum period of one year, with a maximum up to 3 years. However, banks can take deposits for higher tenors, at the maximum interest, as for deposits of three years.

2. Non-Resident Ordinary Rupee Account (NRO)

These accounts are Rupee accounts and can be opened and maintained by any person resident outside India and also by Foreign Tourists, who are on a short visit to India on tourist visa. The new accounts are to be opened by sending fresh remittances from abroad or transfer of funds from NRO/NRE/FCNR accounts.

Typically, when a resident becomes a non-Resident, his domestic Rupee account, has to be re-designated as an NRO account.

This is basically a domestic account of an NRI, opened and maintained to facilitate credits which accrue in India, from investments that were made prior to his leaving the country, rent, LIC maturities, or income from other investments made on non-repatriable basis.

NRO accounts can be opened in Indian rupees only as Saving bank account. Current account.

Recurring Deposit account and Term-Deposit account, and most of the regulations for interest rates, tenor, etc., applicable are similar to those for domestic deposit accounts. The interest on NRO accounts is subject to deduction of Income Tax at source, as prescribed.

NRO accounts can be opened as Joint Accounts, with resident Indians.

Permissible Credits

The following credits are freely permitted to be credited to NRO accounts:

- (a) Any remittance from abroad in permitted currency.
- (b) Currency tendered during visit to India of the account holder.
- (c) Any legitimate dues in India of the account holder, (rent, interest, dividend, maturity proceeds of Units of UTI, LIC policy maturities, etc.).
- (d) Transfer from other Rupee accounts of Non residents.

Permissible Debits

The following debits are permissible in NRO accounts, without restrictions:

- (a) All local payments in Indian rupees.
- (b) Remittance outside India of current income in India of the account holder net of applicable taxes, (interest, dividend, rent, etc.).
- (c) Any other transactions if covered under general or specific permission granted by RBI.

Other Facilities

- (a) An amount up to USD 1 million can be repatriated out of funds held in NRO account for permissible transactions, subject to payment of income tax at applicable rates .
 - (b) Where an account is opened of foreign tourist on his temporary visit, the balances held in the account by way of remittance from abroad or conversion of foreign currency, can be converted back to foreign currency and paid to the account holder, provided the account is maintained for a period not exceeding six months.
-

(c) When a resident of India becomes a non-resident Indian, his existing account should be immediately converted into NRO account.

(d) Nomination facility is available in NRO account.

3. Foreign Currency (Non-Resident) Account (Banks) [FCNR(B) Accounts]

These are foreign currency accounts, which can be opened by Non-Resident Indians.

These accounts can be opened and maintained by Non-Resident Indians, in designated currencies only, viz., US Dollar, EURO, Great Britain Pounds and Japanese Yen, CAD and AUD.

NRI can open these accounts only in the form of Term Deposits, with a minimum period of one year and maximum period of three years. The deposits are in foreign currency and are repaid in the currency of issue, along with interest, in foreign currency itself

Joint accounts: Joint accounts can be opened in the name of two or more non-resident individuals, who are persons of Indian nationality or Indian origin.

Permitted credits and debits: All credits and debits, as permitted for NRE Rupee accounts are permitted for FCNRB accounts.

Other Facilities

(a) There is no exchange risk for the account holder as the account is maintained in foreign currency.

(b) Repatriation of principal amount along with interest is permitted.

(c) The interest on the deposit shall be paid on the basis of 360 days to a year, cumulative on half-yearly intervals of 180 days.

(d) Nomination facility is available.

(e) Income earned by way of interest is exempted from income tax.

(f) No operation by way of power of attorney to the resident is permitted, since there are no local withdrawals.

(g) Forward Cover can be booked to hedge the balance held in FCNR account.

Interest on FCNR (B) accounts: In terms of extant RBI guidelines, Interest on FCNRB deposits is payable at prevailing LIBOR plus 100bps, for the respective tenors, prevailing on the last working day of the previous month, and is applicable for all fresh deposits and renewals of deposits during the subsequent month.

Tenor: FCNR deposits can be made for a minimum period of one year and maximum of five years.

FEDAI announces the LIBOR rates for computation of interest on NRE and FCBR deposits, on the last working day of the month, so that the interest rates of banks are linked to similar benchmark.

Check Your Progress (B)

Fill in the blanks:

(i)

(ii) (iii) (iv)

(v)

(vi)

(vii)

(viii)

A person must be of Indian origin or an Indian passport holder, staying abroad for indefinite period, to qualify for status of an _____.

The minimum period for NRE term deposit is ____ .

NRE savings account is a _____ account.

FCNRB Accounts are necessarily ____ deposit accounts maintained in designated foreign currencies.

Interest earned on bonds, invested before getting NRI status, can be credited to ____ account.

An amount up to USD _____, can be repatriated every year out of balances held in NRO account, for permissible transactions. The maximum period for FCNRB deposits is

In FCNRB deposits the depositor does not bear years, risk.

3.6 FACILITIES TO NRIS

Non-resident Indians have been allowed to invest in India, in various securities, schemes, and avenues, so that the precious foreign exchange earned by them is used for the development of the country. The investment by NRIs are now regulated by the regulations prescribed under Foreign Exchange Management (Transfer or issue of security by a person resident outside India) Regulations, 2000. These regulations cover issuance of security by an Indian company or entity to a person resident outside India and purchase and sale of security by a person resident outside India.

1. Investments in Shares/Securities

Investments by NRIs have been broadly categorized into two segments:

- (i) On Repatriation basis
- (ii) On Non-repatriation basis.

The investment on repatriable basis can be made in shares, bonds, securities, from the funds brought from abroad in freely convertible currencies or by debit to NRE/FCNR account of the investor.

General permission has been granted under the regulations, to any person, resident outside India, to purchase equity or preference shares or convertible debentures of an Indian company, subject to conditions and industry/company investment caps, as stipulated.

However, investment in shares and securities by NRIs have been further classified under following categories:

1. Investment under Foreign Direct Investments
2. Investment under Portfolio Investment Scheme
3. Purchase and sale of shares on non-repatriable basis
4. Purchase and sale of securities other than shares and convertible debentures of an Indian company.

NRIs can purchase shares or debentures of an Indian company, subject to specified conditions, as laid down in the FEMA, regulations 2000, referred to earlier. NRIs can invest in shares of Indian companies listed in recognised stock exchange under Portfolio Investment Scheme (PIS), through a designated AD branch, on repatriation as well as non-repatriation basis.

NRIs can transfer such securities to another NRI, as also to a resident, by way of gift. The investment under any of the above mode, can be under the Automatic route of RBI, under international issuance of ADR/GDRs, or under specific approval of the Government, wherever sectoral caps have been prescribed.

While, RBI has granted general permission for remittance of sale proceeds (net of applicable taxes), of a security sold by an NRI, which was originally bought or acquired out of fresh remittances from abroad or from balances held in NRE/FCNRB accounts, securities purchased on non-repatriable basis, sale proceeds are to be credited to the NRO account of the investor, and taxes applicable as local investments.

NRIs are also permitted to invest in exchange traded derivative contracts, approved by RBI, out of Rupee resources held in India on non-repatriation basis, subject to limits prescribed by SEBI.

2. Other Investment Avenues

1. Units of UTI, mutual funds

NRIs are permitted to invest in units of UTI or other mutual funds on repatriable as well as non-repatriable basis.

2. Company deposits

NRIs are permitted to invest in company deposits on repatriable basis, provided the deposits are for a minimum period of 3 years, are within the ceiling prescribed by RBI for the company to accept deposits and are made out of fresh remittances or from balances held in NRE/FCNRB deposits.

3. Investment in partnership firm or proprietorship concern

An NRI is permitted to invest in a partnership firm or a proprietorship concern, by way of capital contribution, provided (i) the concern is not engaged in agricultural /plantation activity or real estate business or dealing in immovable property, with a view to earning profit from it, and (ii) the contribution should be by way of fresh inward remittances into India or out of balances held in NRE/FCNRB deposits accounts. The amount so invested shall be permitted to be repatriable out of India, subject to taxes.

4. Investment in Immovable Property

- (a) A person resident outside India, who is a citizen of India, is permitted to acquire any property in India other than agricultural/plantation/farm house, and transfer the same to any person resident in India or to a person resident outside India, who is an Indian citizen.
- (b) NRI can acquire such a property, out of funds received in India by way of inward remittance from any place outside India, or from the balances held in any non-resident rupee account or foreign currency account maintained in India.
- (c) NRI can also acquire such a property by way of gift by a person resident in India, or from a person resident outside India, who is a citizen of India or from a person of Indian origin, resident outside India.
- (d) NRI can also acquire any immovable property in India by way of inheritance from a person resident outside India, who had acquired such property in accordance with the foreign exchange law, prevailing at the time of such acquisition by him.

Repatriation of sale proceeds of immovable property:- Banks are allowed to permit repatriation of sale proceeds of immovable property, other than agricultural land/plantation/farm house, by an NRI, provided:

- (a) The property so acquired was in accordance with the foreign exchange laws in force at the time of acquisition by him.
 - (b) The sale proceeds required to be repatriated does not exceed the foreign exchange brought in to acquire the property.
 - (c) In case of residential property, the repatriation of sale proceeds is restricted to not more than two properties.
 - (d) Banks are now permitted to allow repatriation of funds out of balances held by NRIs in their Nonresident accounts up to USD 10,00,000 per year, representing sale proceeds of immovable property held by them, without any lock in period, subject to payment of applicable taxes.
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Further, a non-resident Indian is also permitted to acquire any commercial or other property, which is incidental or necessary to his business interests in India, like, branch offices, etc. and which is permitted under the law of the land.

5. Other investments

NRIs can also, without any limit, purchase on non- repatriation basis, dated Government securities, treasury bills, units of domestic mutual funds, units of money market mutual funds. However, they are not permitted to make investments in Small Savings Schemes, including PPF.

3.7 ADVANCES TO NON-RESIDENTS, AND THIRD PARTY ADVANCES AGAINST NRI DEPOSITS/GUARANTEES, OTHER LOANS

1. Rupee loans in India

Banks are permitted to grant loans to Non-resident Indian account holders against the security of funds held in Non-Resident term deposit account schemes.

The purpose of such loans can be either of the ones given hereunder:

- (i) Personal purpose or for carrying on business activities except for the purpose of re-lending or carrying on agriculture/plantation activities or for investment in real estates.
- (ii) Making direct investment in India on non-repatriable basis by way of contribution to the capital of Indian firms/companies.
- (iii) Acquisition of house/flat for his own residential use in India.

Credit of loan amount: The loan so granted shall be credited to NRO account only and not to NRE/ FCNR (B) accounts.

Amount of loan: Presently, loans against NRE / FCNR deposits can be allowed only upto Rs 100 lacs, in terms of RBI guidelines.

Margin: Banks shall maintain reasonable margin and may determine the same on case-to-case basis.

Repayment: Repayment of loan shall be either inward remittance from abroad through normal banking channel/maturity proceeds of the deposit or out of local resources in the NRO rupee account.

2. Foreign Currency Loans in India

Banks may give foreign currency loan to the account holders against security of funds held in FCNR (B) deposits and not against the third party deposits, to the account holder only.

The documents should be executed by the account holder and not by the power of attorney holder

The maturity of loan should not exceed the maturity date of the deposit.

Loan shall be sanctioned for purposes other than investments in India.

Repayment should be made either from fresh remittance from abroad or from the maturity proceeds of the deposit.

3. Loans to Third Parties

Banks may grant loans to third parties against the security of funds held in non-resident deposit accounts, provided,

- (i) There is no direct or indirect foreign exchange consideration for the non-resident depositor agreeing to pledge his NRE/FCNR (B) deposits to enable the resident individual/firm/company to obtain such facilities.
 - (ii) Regulations relating to margin, rate of interest, purpose of loans, etc., shall be as per RBI guidelines.
-

(iii) The loan should be utilised for personal purposes or for carrying on business activities except for the purpose of re-lending or carrying on agriculture/plantation activities or for investment in real estates.

(iv) Non-Resident depositor should himself execute the loan documents in the presence of the bank officials and witness acceptable to the bank.

(v) Loan should not be granted on the basis of power of attorney.

4. Housing Loan in rupees to Non-resident Indians

Banks may grant housing loan to non-resident Indians, for acquisition of a residential accommodation in India, subject to following conditions:

(a) The quantum of loan, margin money and the period of repayment shall be same as applicable for resident Indians.

(b) The loan amount shall not be credited to NRE/FCNR (B) account.

(c) The loan shall be fully secured by equitable mortgage of the property proposed to be acquired and if necessary also by lien on the borrower's other assets in India.

(d) Repayment shall be by remittance from abroad or by debit to his NRE/ FCNR (B)/NRO account or rental income derived from renting out the property acquired by utilization of the loan.

Check Your Progress (C)

True or False

1. NRIs can acquire shares or property by way of inheritance from a person resident outside India.

True

2. NRI cannot acquire shares on repatriable basis.

False

3. NRIs cannot invest in any partnership firm as owners/partners.

False

4. NRIs can acquire property by purchase out of balances held in NRE accounts.

True

5. Banks can permit repatriation of sale proceeds of a house property, held in NRO account up to USD 1.00 million per year.

True

6. Loan/Overdraft of Rs 500 lacs, can be granted to a resident Indian against security of an FCNRB deposit.

False

7. There is no need to get the documents of loan signed by the NRI depositor in the presence of the bank officials.

False

8. The housing loan granted to an NRI can be credited to his NRE account

False

9. Interest on NRO deposits, is subject to deduction of tax at source as per local income tax rules.

True

Let Us Sum Up

We have seen how the areas of correspondent banking, bank accounts as well as payment gateways help the business and banking world in international trade and finance. The correspondent banking is based on the premise of relationship and goes a long way in servicing

banks in other countries. In this era of electronics and telecommunications, products like SWIFT, CHIPS, TARGET, etc., play an important role in faster and secure communications and payments across the globe.

The non-resident segment has its own place of importance in the Indian Banking. The variety of bank accounts, and products for investment available to NRI clients, definitely speak of the importance this segment has in the Indian economy on a macro level.

The unit would therefore be of use to the readers to understand the various aspects of NRI banking, as also some of the procedural aspects related thereto.

Keywords

Nostra: Our Account with you.

Vostro: Your account with us.

Loro: Their account with them(third party/bank).

Swift: A communication system which provides transmission of financial messages, certifying the authenticity, across the globe between members.

Target: A payment system of European union.

Non-Resident Indian: Who is not a resident, has gone out of India with an intention of business or vocation, and period of stay is indefinite.

FCNRB Accounts: Foreign currency accounts which can be opened by Non-resident Indians.

NRO account: Rupee accounts of non residents , which are non repatriable in nature and are used for domestic transactions.

Answers to Check Your Progress

(A) (i) correspondent; (ii) payments; (iii) vostro; (iv) nostro; (v) RMA/ BIC (vi) CHIPS; (vii) Target.

(B) (i) NRI; (ii) one year; (iii) Rupee; (iv) term; (v) NRO; (vi) one million (vii) five (viii) exchange;

(C) 1. True; 2. False; 3. False; 4. True; 5. True; 6. False; 7. False; 8. False; 9. True.

Terminal Questions

1. Correspondent banking does not include

- (a) Account maintenance.
- (b) Opening of branch on behalf of a bank.
- (c) Authenticating and advising of LCs
- (d) Collection of cheques and bills.

2. LORO account is :

- (a) My account with you,
- (b) Mirror of a nostro account
- (c) Your account with me.
- (d) His account with a third bank.

D

3. SWIFT is a

- (a) National messaging system.
 - (b) System to transmit financial messages between banks globally.
 - (c) National RTGS system of India.
 - (d) System managed by a large corporate house in Belgium.
-

6. As per FEMA, a non resident is

- (a) A person working in Dubai for last three years.
- (b) A tourist touring European countries for last fifteen days.
- (c) A software engineer working on a project in California USA, from his site in Hyderabad.
- (d) A student on a visit to Australia on study tour ,while doing his MBA at IIM Indore.

An NRI cannot open following accounts in India

- (a) FCNR deposit in Australian dollars for a period of two years.
- (b) NRE savings bank account, with check book facility.
- (c) FCNR deposit in Canadian Dollars for a period of 10 years.
- (d) An NRE term deposit for a period of 5 years.

State whether the following persons can open NRE accounts with a bank in India:

- (a) A person of Indian origin, who is staying in Japan for last 3 months, and is employed by a US firm, dealing in computer software.
- (b) A lady of US origin, whose husband is of Indian origin, and is settled in France for last five years and runs a restaurant in France.
- (c) A Doctor of Indian origin, who has gone to UK to attend a conference, and will resume his duties at AIIMS, Delhi after 10 days.
- (d) A person of Indian origin, who had gone to Canada for further studies last year, and has now taken up a job there, as a Lecturer.
- (e) A person of Indian origin, who has gone to Australia for doing one year Masters in Management

True or false:

- (a) Target facilitates global funds payments.
- (b) NRO accounts can be opened jointly with a resident Indian relative.
- (c) FCNR deposits can be maintained in INR.
- (d) A Student, studying abroad is allowed a non resident status for banking accounts.
- (e) NRE term deposit can be issued for a maximum period of 10 years.
- (f) Non residents can invest in equity markets in India.
- (g) An NRI can deposit foreign currency notes into his NRE savings account during his visit to India.

References for Further Reading

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 2. FEMA 1999.
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 5. All earlier publications of IIBF.
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UNIT 4 Documentary Letters of Credit

STRUCTURE

4.0 Objectives

4.1 Introduction

4.2 Definition of Letter of Credit

4.3 Types of Letters of Credit Check Your Progress (A)

4.4 Operations of Letter of Credit

4.5 UCPDC 600 and Important Articles.

4.6 Liabilities, Responsibilities and Rights of the Parties Check Your Progress (B)

4.7 Documents under LC - Scrutiny, Crystallisation, Follow-up for Bill under LC and Safeguards for Banks

4.8 Risks Relating to LC Transactions Check Your Progress (C)

4.9 Stand by Letter of Credit (Guarantees)

4.10 Uniform Rules for Bank-to-bank Reimbursements (URR - 525) Check Your Progress (D)

4.11 Incoterms

4.12 Case Studies

Let Us Sum Up Keywords

Answers to Check Your Progress Terminal Questions References for Further Reading

4.0 OBJECTIVES

The objective of this chapter is to make readers understand the concept of documentary credits, its functioning, and role of UCPDC-600, which governs the LC transactions globally, the responsibilities of various parties to the LC transaction, Standby LCs, as also the uniform rules for reimbursements.

4.1 INTRODUCTION

A Letter of Credit/Documentary Credit is a very common and familiar instrument, used for trade settlements across the globe. It is a link between buyers and sellers, reinforcing the buyer's integrity by adding to it, his banker's undertaking to pay, while sellers need to make shipments of goods specified and present shipping documents to banks, before getting the payment. Thus, for international trade, where buyers and sellers are far apart in two different countries, or even continents, the letter of credit acts as a most convenient instrument, giving assurance to the sellers of goods for payment and to the buyers for shipping documents, as called for under the credit.

In order to bring uniformity in matters pertaining to letters of credit documents and transactions, international Chambers of Commerce (ICC), established in 1919 and headquartered in Paris, has framed uniform rules and procedures for issuance and handling of transactions under letters of credit, so that parties to letters of credit transactions uniformly interpret various terms and are bound by a common rule. These rules and procedures are called Uniform Customs and Practices for Documentary Credits (UCPDC). The UCPDC was first brought out in 1933, and has been revised from time to time in 1951, 1962, 1974, 1983, 1993 with the last revision in 2007. The current update of UCPDC is the publication No. 600 of ICC, which has been implemented with effect from 1.7.2007.

4.2 DEFINITION OF LETTER OF CREDIT

A documentary credit or/and letter of credit, (DC or LC) can be defined as a signed or an authenticated instrument issued by the buyer's banker, embodying an undertaking to pay to the seller a certain amount of money, upon presentation of documents, evidencing shipment of goods, as specified, and compliance of other terms and conditions.

An LC can also be defined as an undertaking issued by the bank, on behalf of the importer or the buyer, in favour of the exporter or the seller, that, if the specified documents, showing that a shipment has taken place, or a service has been supplied, are presented to the issuing bank or its nominated bank, within the stipulated time, the exporter/seller will be paid the amount specified.

Thus, in an LC transaction, following parties are involved:

- (i) The buyers/importers or the applicant - on whose behalf LC is opened,
- (ii) The sellers/exporters or the beneficiary of the LC,
- (iii) The opening bank (buyers bank), who establishes the LC
- (iv) The advising bank (bank in sellers country), who acts as an agent of the issuing bank and authenticates the LC.
- (v) The confirming bank - who undertakes to pay on behalf of the issuing bank.
- (vi) The negotiating bank (sellers bank or bank nominated by the opening bank),
- (vii) Reimbursing bank - who reimburses the negotiating or confirming bank.

The advising bank, confirming bank and the negotiating bank could be the same.

4.3 TYPES OF LETTERS OF CREDIT

UCPDC are universally recognized set of rules framed by ICC, governing LC business, and have over the years become an indispensable tool for international business. Since LC ensures payment to the exporter against constructive delivery, by way of handing over the documents to the title to goods, to the paying or negotiating bank, it is a comfort to the sellers (exporters) and buyers (importers) that has been a backbone of international trade.

The UCPDC gives guidance and assistance to all concerned parties to LC transaction, specifically emphasizing upon the duties and responsibilities of the opening bank, buyers and sellers, advising, negotiating and the reimbursement bank, as also specifying the acceptable practices, in case of no specific instructions in the LC. UCPDC-600, i.e. the publication no. 600 of ICC, is the latest version of UCPDC and was made effective 1 July 2007. We shall learn further about the clauses of the UCPDC and how they help the parties to the transaction, let us first go through the types of Letters of Credit, that are in use in the international market.

Following are the basic types of Letters of Credit:

- (a) Revocable LC is the one which can be amended or cancelled at any moment by the issuing bank without the consent of any other party, as long as the LC has not been drawn or documents taken up. The value of such revocable LC is very limited and therefore these are very rarely issued and accepted. In case the negotiating bank has taken up the documents under revocable LC, prior to receipt of cancellation notice, the issuing bank is liable to compensate/reimburse the same to the negotiating bank.
- (b) Irrevocable LC is the one, which holds a commitment by the issuing bank to pay or reimburse the negotiating bank, provided conditions of the LC are complied with. Such an LC cannot be amended or cancelled without the consent of all parties concerned. The Irrevocable Letter of Credit is an unconditional undertaking by the issuing bank to make payment on submission of documents conforming to the terms and conditions of the All LCs issued, unless and otherwise specified, are irrevocable Letter of Credit.
- (c) Irrevocable Confirmed Letter of Credit is an L/C, which has been confirmed by a bank, other than the issuing bank, usually situated in the country of the exporter, thereby taking an additional undertaking to pay on receipt of documents conforming to the terms and conditions of the Letter of Credit. The confirming bank can be the advising bank, which on receipt of request from the issuing bank takes this additional responsibility. The confirming bank has to inform the issuing bank if it does not agree to add its confirmation and has no obligation to add confirmation to the amentiments issued thereafter The confirming bank looks into various risks involved and takes a decision to add its confirmation.

In short, the confirming bank steps into the shoes of the issuing bank and performs all functions of the issuing bank.

- (d) Transferable LC: A transferable Letter of Credit is available for transfer in full or in part, in favour of any party other than the beneficiary, by the advising bank at the request of the issuing bank. There can be more than one second beneficiary, i.e. the LC can be split and transferred in favour of more than one second beneficiary. However, such second beneficiary cannot further transfer the LC in favour of another third party. To be transferable, a credit must specifically be made transferable.
 - (e) "RedClause " LC: Such an LC enables the beneficiary to avail pre-shipment credit from the nominated/ advising bank. The LC bears a clause in "Red Letter" authorising the nominated bank to grant advance to the beneficiary, prior to shipment of goods, payment of which is guaranteed by the opening bank, in case of any default or failure of the beneficiary to submit shipment documents.
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(f) Sight/Acceptance, Deferred Payment, or Negotiation LC: Within the above types of LCs, the LCs can be Sight LC, Acceptance LC, Deferred Payment LC or Negotiation LC. Under a Sight LC, the beneficiary is able to get the payment on presentation of documents conforming to the terms and conditions of the LC at the nominated bank's counters.

In an Acceptance Credit, the bill of exchange or drafts are drawn with certain usance period, and are payable, upon acceptance, at a future date, subject to receipt of documents conforming to the terms and conditions of the Letter of Credit. The usance period may be certain number of days from the date of shipment or date of bill of exchange, etc.

A Deferred Payment Credit is almost similar to acceptance credit, except that there is no bill of exchange or draft drawn and is payable on certain future date, subject to submission of credit conformed documents. The due date is generally mentioned in the Letter of Credit. The absence of bill of exchange saves the beneficiary from the cost of stamp duty or other levies, as applicable in certain countries.

In a Negotiation Credit, the issuing bank undertakes to make payment to the bank, which has negotiated the documents, i.e. give the value for draft and/or documents drawn under the Letter of Credit. The documents negotiated should be strictly as per the terms and conditions of the LC. The LC may be freely negotiable or may be restricted to any bank nominated by the LC issuing bank.

(g) Back to Back LC: When an exporter arranges to issue an LC in favour of local supplier to procure goods on the strength of export LC received in his favour, it is known as Back-to-Back Letter of Credit. Generally, Back-to-Back LC is for procurement of goods locally or for import of goods for meeting the export LC commitments.

Check Your Progress (A)

Fill in the blanks:

1. between a buyer and a seller to facilitate
2. A documentary credit is a link provided by an international trade.
3. It is an _____ by the opening bank to pay, subject to conditions laid therein.
4. The buyer of the goods, opening an LC is also called an _ .
4. International Chambers of Commerce has issued guidelines, practices for LC transactions, known as
5. An LC which allows the openers/opening bank to back out, and cancel the LC is called _ Letter of Credit.
6. The LC which facilitates financing to the supplier prior to shipment is known as
7. An LC that can be transferred in favour of another beneficiary is called __ LC.
8. When an LC is opened for procurement of goods, on the backing of an export LC, it is called LC.

4.4 OPERATIONS OF LETTER OF CREDIT

With the involvement of the several parties, the LC transaction operates between the two nations, as explained in the following diagram:

As shown in the diagram above, the transaction flows as under:

- (i) The buyer and seller enter into the sales contract, for purchase/sale of certain amount of specified goods at specified rates, but agree to cover the transaction under Letter of Credit.
 - (ii) The buyer in country A (applicant/opener) requests his bank, to open LC in favour of the seller in country B (beneficiary) for the specified amount.
-

- (iii) the buyer's bank, i.e. opening bank, issues the LC and sends the same to the beneficiary in country B, through its own branch or correspondent (or at times directly, if the beneficiary is known).
- (iv) the advising bank in country B, advises the LC after authenticating the signatures/swift message. The bank, in country B, which advises the LC to the beneficiary, is called Advising Bank.
- (v) the seller desires for the LC to be confirmed by some bank, in his own country, the bank, which agrees to do so, at the request, and as per arrangement and on behalf of the opening bank, is called the Confirming Bank.

The seller now prepares the goods, and ships as per instructions in the LC, submits the documents called for in the LC to the confirming bank, which examines the same and if found in conformity to the LC terms, negotiates the documents and pays to the beneficiary. This bank now becomes the negotiating bank, and steps into the shoes of the issuing bank, and by this act of negotiation, becomes rightful owner of the documents and claimant of the amount under LC from the opening/issuing bank.

The negotiating bank sends the documents to the opening bank, and claims reimbursement from the reimbursing bank, for the amount paid, to the beneficiary, from the designated bank. The bank, which reimburses the amount to the negotiating bank, is the reimbursing bank, and is usually the Nostro/ostro bank of the opening bank.

The issuing bank, on receipt of the documents, presents the same to the openers/importers and gets the payment of the same on presentation/acceptance or due date, as the case may be.

Upon payment by the applicants/openers, to the issuing bank, and release of documents to the title of goods, as also other documents, as called for under the LC, the LC transaction is complete.

4.5 UCP 600, IMPORTANT CHANGES

A. The New UCP

ICC, Paris, appointed Task Force to undertake revision of the UCP 500, which began its work in 2003, after approval from the Banking Commission. The Task Force after working for over three years prepared a draft of the new UCP. The Drafting group constituted members from 9 countries, which had 15 meetings before the draft was finalized.

A Consultative group, comprising of 41 members from 26 countries was also formed to discuss the Draft. The Draft was also referred to National Committees, including ICC India, and key issues identified, taking in to account various ICC opinions, DOCDEX decisions, various papers, court decisions, etc. After extensive working, discussions, deliberations on various articles, practices, and need to simplify the Articles, the ICC Banking commission approved the Draft of UCP 600, in its meeting on 25 October 2006, bringing the new UCP in to force w.e.f July 2007.

B. Main Features of UCP 600

The UCP 600 was a major review in the history of Uniform Rules for Documentary Credits. The new UCP was leaner, with only 39 Articles, as compared to 49 in the earlier version. While some articles of the earlier version were deleted, some of the articles were merged, and a few new articles added. The major thrust was on a simplified language of articles.

Groupings

The Articles of UCP 600 can be grouped as under:

Article 1-5: Definitions, Interpretations, Independence of LCs and Underlying contracts.

Article 6-10: Availability, Expiry date and place. Obligations of issuing and Confirming bank. Advising credits and Amendments.

Article 11-17: Pre-advised credits, Nominated bank. Reimbursement arrangements, Complying presentations, Original documents, etc.

Article 18: Commercial invoice

Article 19-27: Transport documents

Article 28: Insurance documents

Article 29-33: Extension, Tolerance, Partial and Installment drawings and Hours of presentation.

Article 34-37: Disclaimers

Article 38-39: Transferability and Assignment of proceeds

Important changes in the articles of UCP 600 and their implication for banks in handling letter of credit transactions:

1. UCP 600 does not apply by default to letters of credit issued after July 1st 2007. A statement needs to be incorporated into the credit (LC) that expressly states it is subject to these rules.

Article 1 of UCP 600 also leaves open the possibility for either party to exclude the application of any part of UCP 600 as long as the exclusion is stipulated in the credit.

2. Revocable Credits (Article 2): The term Revocable Credits, which can be amended or cancelled at any time without notice to the seller, cease to exist in UCP 600. Article 2 explicitly defines a credit as "any arrangement, however named or described, that is irrevocable and thereby constitutes a definite undertaking of the issuing bank to honour a complying presentation."

Article 3 states that "A credit is irrevocable even if there is no indication to that effect." and Article 10 makes it clear that "a credit can neither be amended nor cancelled without the agreement of the issuing bank, the confirming bank, if any, and the beneficiary" (seller). Therefore, a prudent seller shall stipulate in the sales contract that the "buyer will open an irrevocable letter of credit".

3. Definitions and Interpretations (Articles 2 and 3): A new section of Definitions and Interpretations has been introduced in the UCP 600. This includes definitions of "Advising bank", "Applicant", "Banking day", "Beneficiary", "Complying presentation", "Confirmation", "Confirming bank", "Credif", "Honour", "Issuing bank", "Negotiation", "Nominated bank", "Presentation", "Presenter". In addition to that, the following terms are now clearly defined: "singular/plural", "irrevocable", "signatures", "legalizations", "Branches of a bank", "Terms describing issuer of a document", "Prompt etc", "on or about", "to", "until", "till", "from", "between", "before", "from", "after", "first half", "second half", "beginning", "middle", "end".

Deferred payment undertakings - Articles 7 and 8: Articles 7 and 8 establish a definite undertaking by issuing and confirming banks to reimburse on maturity whether or not the nominated bank prepaid or purchased its own acceptance or deferred payment undertaking before maturity. Article 12(b) expressly provides authority from an issuing bank to a nominated bank to discount (prepay or purchase) a draft that it has accepted or a deferred payment undertaking that it has given.

Advising of credits-Article 9: At present an advising bank only has to verify the apparent authenticity of the credit that it has advised. Under article 9(b) it has to certify that the document that it advises to the beneficiary is the same document that it received. The obligation is also extended to any second advising bank.

6. Amentiments - Article 10: Article 10 now deals exclusively with amentiments and article 10(c) provides: '... The beneficiary should give notification of acceptance or rejection of an amentiment. If the beneficiary fails to give such notification, a presentation that complies with the credit and to any not yet accepted amentiment will be deemed to be notification of acceptance by the beneficiary of such amentiment. As of that moment, the credit will be amended.' Thus, a beneficiary is deemed to have given notice of acceptance of a proposed amentiment upon presentation of compliant documents.
 7. Time Allowed Banks for Document Review (Article 14): Under UCP 500, banks had a "reasonable time ... not to exceed seven banking days" in which to honor or dishonor documents. UCP 600 has brought down the period to a maximum of five "banking days". Article 2 defines a banking day as "a day on which a bank is regularly open at the place at which an act subject to these rules is to be performed."
 8. Non-Matching Documents (Article 14): UCP 500 required documents that were "on their face" inconsistent with one another to be rejected as discrepant. Article 14(d) of the new UCP 600, seeks to resolve the problem of inconsistency in data by clarifying that there is no need for a mirror image but rather: 'Data in a document, when read in context with the credit, the documents itself and international standard banking practice, need not be identical to, but must not conflict with, data in that document or any other stipulated document.'
 9. Examination of Documents: As per Article 14, Banks now only have 5 banking days to accept or refuse documents. This replaces the "Reasonable time not exceeding 7 banking days". The period for presentation (usually 21 days) only applies to original transport documents. This means that if only a copy or no transport document is required by the credit, and a period for presentation is requested, then the credit should expressly state that the document should be presented within a certain period of time from a defined moment or event. Addresses of beneficiaries and applicants need no longer be as mentioned in the documentary credit. They must however be within the same country. Contact details (Like phone and fax numbers) may be disregarded - and if stated they need not be as in the credit. The shipper /consignor of the goods, may not be the beneficiary of the Credit.(Article 14k)
 10. Non-Documentary Requirements: Under UCP 600, Banks should disregard all non-documentary requirements. This means that any requirement in the credit that is not specifically part of a required document will be ignored by the bank in determining conformity.(Article-14-g).
 11. Complying Presentation - Article 15: Under UCP 500 it was not evident when an issuing or nominated bank had to start the settlement process, but under UCP 600 it is now clear that this begins when the bank determines that a presentation is compliant.
 12. Discrepant Documents, Waiver and Notice - Article 16: Under UCP 500 a bank which refuses documents had the option of holding them at the presenter's disposal or handling them in accordance with the presenter's prior instructions, such as to return them. Article 16 in UCP 600 now encompasses additional options designed to avoid banks sitting on discrepant documents and issues relating to forced waivers. The options are as follows:
 - hold documents pending further instructions from the presenter; or
 - hold documents until it receives a waiver from the applicant and agrees to accept it, or receives further instructions from the presenter prior to agreeing to accept a waiver; or return the documents; or act in accordance with instructions previously received from the presenter. There is no provision for payment under reserve or indemnity.
-

13. Original Documents (Article 17): Article 17 of UCP 600 defines original documents with more precision. An original document will be any of the following:

"any document bearing an apparently original signature, mark, stamp, or label of the issuer of the document, unless the document itself indicates that it is not an original. OR any document that appears to be written, typed, perforated or stamped by the document issuer's. OR any document that appears to be on the document issuer's original stationery OR any document that states it is original, unless the statement appears not to apply to the document presented."

14. Transport Documents - Articles 19-24: The requirement that a bill of lading must show that goods are shipped on board a named vessel has been made much simpler which will hopefully lead to less confusion. It is now acceptable that a "Charterer" (or a named agent on behalf of the charterer) can sign a Charter Party Bill of Lading. If an agent signs on behalf of a "Master" on a Charter Party Bill of Lading then the name of the master need not appear from the document.

The articles of UCP 500 relating to transport documents have been revised to resolve confusion over the identification of carriers and agents. Under UCP 600 a generic set of rules generally applies to all transport documents (other than charter party bills of lading). These include the following:

The document must indicate the name of the carrier and be signed by: (a) the carrier or named agent for or on behalf of the carrier; or (b) the master or named agent for or on behalf of the master.

Any signature by the carrier, master or agent must be identified as that of the carrier, master or agent.

Any signature of an agent must indicate whether the agent has signed for or on behalf of the carrier for or on behalf of the master There is no need to name the master in the case of charter party bills of lading:

These no longer need to indicate the name of the carrier

They may now also be signed by the charterer, although it is difficult to envisage a situation where an FOB buyer/ applicant would wish to rely on a bill of lading signed by the seller/ beneficiary and vice versa in the case of a CIF sale.

Transport documents also no longer need to bear the clause 'clean' in order to comply with any credits that require a document to be 'clean on board'.

15. Insurance Documents - Article 28: Documents providing for wider coverage than stipulated in a credit will be acceptable. Banks will also be able to accept an insurance document that contains reference to any exclusion clause. For the insurance documents the following has been changed: "Proxies" can now sign on behalf of the insurance company or underwriter. Percentage to be covered will be understood as a "minimum" coverage required. The document may contain reference to any "exclusion clause". The risks must be covered at least between the shipment points stipulated in the credit.

16. Partial Drawings and Partial Shipments - Article 31: The articles contain new interpretation of partial shipments.

17. Force Majeure - Article 36: Despite suggestions for an option to allow a grace period of five banking days after a bank reopens for the presentation of documents, the position remains as it was under UCP 500 - i.e. banks will not honour or negotiate under a credit that expired during the force majeure event.

Transferable Credits - Article 38: Article 38 (k) mentions that presentation of documents by or on behalf of a second beneficiary must be made to the transferring bank.

The UCP 600 has now seen usage for over two years, and has brought in new clarity in rules and practices, which have helped openers, beneficiaries and all intermediary banks, reduce ambiguity and disputes.

4.6 LIABILITIES, RESPONSIBILITIES AND RIGHTS OF THE PARTIES

1. The Applicant

The applicant of the L/C must give complete and precise instructions for issuance of Letter of Credit and any amendment thereof. The LC must not include excessive details or give any reference of credit previously issued, to avoid any confusion or misunderstanding (Article 5). The applicant should indemnify banks against any obligations imposed by foreign laws (Article 18).

2. The Issuing Bank

Issuing bank is the party acting on behalf of the applicant and should, therefore, ensure itself about the creditworthiness of the applicant. The issuing bank gives a definite undertaking to make payment in case of sight and accept and pay on maturity in case of acceptance or deferred payment, to authorize bank to negotiate and to reimburse the negotiating bank, provided that the stipulated documents are presented under the Letter of Credit (Articles 2,9). The LC or amendment issued must be precise and there should be no ambiguity in the instructions and details mentioned in the LC (Articles 5, 20, 21). It is the responsibility of the issuing bank to examine the documents with a reasonable care and determine by international standards whether the documents appear on face, to be complying the terms of the credit. If it wishes to refuse the documents, it should do so in a reasonable time, i.e. within five banking days following the date of receipt of documents (Article 16). The issuing bank, solely on its own judgement, can approach the applicant for waiver of discrepancy.

The discrepancies pointed out should also be reported to the bank, from which the documents were received, by expeditious means. The notice must state as to documents are being held pending further instructions from the negotiating bank or being returned (Article 16).

3. Advising Bank

The advising bank has option to choose as to whether it wishes to advise a LC or not. If it agrees to advise the LC, then it must do so by taking reasonable care in checking the authenticity of the credit. In case, it decides not to advise a LC, then it must inform the issuing bank immediately. If the advising bank is unable to establish the authenticity of LC then it must immediately inform the issuing bank and must also inform the beneficiary about the same (Article 9).

4. Confirming Bank

A confirming bank gives a definite undertaking in addition to that of issuing bank, at the request of the issuing bank, to make payment on presentation of documents as per the terms and conditions of the LC. The confirming bank, advising bank and nominated bank can be the same. In case, it does not agree to add its confirmation, it must inform the issuing bank without delay. It may also choose to advise amendments without adding its confirmation, however, intimation must be sent to the issuing bank and the beneficiary (Article 8).

5. Negotiating Bank

It is the responsibility of the negotiating bank or nominated bank to examine the documents as per UCP or international Standard Banking Practice (ISBP), and take a decision to negotiate the

documents, only if they appear on their face to be in compliance with the terms and conditions of the LC (Articles 12, 14).

6. Reimbursing Bank

Article 13 deals with Bank-to-Bank Reimbursement clause. Reimbursing bank shall reimburse the claiming bank, the amount of claim lodged, subject to the condition that it has received reimbursement authorisation from the issuing bank and having accepted the same. The reimbursements and all the parties concerned are bound by Uniform Rules for Bank-to-Bank Reimbursements (URR-525) as discussed later in this chapter.

7. Beneficiary

The beneficiary of the LC also has various rights and responsibilities under Letter of Credit transactions. A beneficiary can in no case avail himself of the contractual relationship existing between the banks or between the applicant and the issuing bank (Article 4).

8. Protection to Banks

Banks do not assume any responsibility for genuineness of the documents submitted or any discrimination in the contents mentioned in the documents (Article 34). Banks are not responsible for any loss arising due to delay in transmission or loss of messages, documents, or telecommunication. No responsibility is taken by the banks for errors in translation/interpretation of technical terms (Article 35). Banks also do not take responsibility for any loss arising due to close of their business by the acts of god, commotions, civil riots, floods or any other causes beyond their control (Article 36). Banks do not take any responsibility for the acts of the correspondent banks, whether the bank was chosen by the applicant or by itself. The applicant is liable to pay the charges, if the charges were on account of the third party and could not be collected. Further, the applicant is liable for any acts done or losses occurred due to foreign laws (Article 37).

Check Your Progress (B)

1. State whether the following statements are True or False.

(a) The issuing bank generally advises LC through advising Bank.

true

(b) The reimbursing bank negotiates the documents and pays to the beneficiary.

false

(c) The applicant has no obligation to indemnify banks against any obligations imposed by foreign laws.

false

(d) If the advising bank is unable to establish the authenticity of LC and then it must immediately inform the issuing bank.

true

(e) The applicant is liable for any acts done or losses occurred due to foreign laws.

true

2. Fill in the blanks.

(a)

(b)

(c)

(d)

(e)

It is the responsibility of the bank to examine the documents, before making payment.

In case the advising bank does not advise the LC, it must inform of its decision to the bank immediately.

The advising bank must ensure the ____ of LC before advising the same to the beneficiary.

In case the reimbursing bank does not pay to the negotiating bank, the ultimate liability lies with the _____ bank.

As per UCPDC 600, the issuing bank has documents drawn under the LC.

_____ banking days to accept or refuse the

4.7 DOCUMENTS UNDER LC - SCRUTINY, CRYSTALLISATION, FOLLOW-UP FOR BILLS UNDER LC AND SAFEGUARDS FOR BANKS

1. Documents under LC and Scrutiny of Documents

Documents are basic requirement of any trade and it evidences the carrying and completing of any trade transaction, whether the transaction is local or international. In fact, documents have a more important place in the international trade, since interest of buyer, seller, buyer's country's requirements as well as seller's country's requirements are to be fulfilled. Similarly, scrutiny of documents presented under an LC is a very crucial and sensitive issue. Since the decision of payment or acceptance of liability for payment, by the issuing bank or conforming bank, solely depends upon the documents under the. Letter of Credit subject to conformity and terms of conditions of the L/C, the person scrutinising the documents has to be extra vigilant and give full attention to the job.

The documents should be scrutinized from the point of articles of UCPDC as well as the terms and conditions mentioned in the Letter of Credit and then decide whether the documents appear on face to be consistent with the requirement of LC, UCPDC and other laws of the land. The person scrutinising the documents should be well-conversant the exchange control guidelines

and articles governing the UCPDC besides having knowledge of Trade Regulations prevailing in the country.

Let us now see some specific requirements of some of the important documents called for under the Letter of Credit.

Bills of Exchange

Bills of exchange, being one of the most important financial documents, is drawn by the beneficiary on the LC issuing bank. It envisages the issuing bank to make the payment immediately, if it is drawn at sight and accept and pay on due date, if it is drawn on acceptance basis. It should, in normal due course, satisfy the following requirements:

- (i) It should be drawn by the beneficiary on the issuing bank and payable at tenor mentioned in the Letter of Credit.
- (ii) It should indicate the number of Letter of Credit along with issuing bank's name, under which it is drawn.
- (iii) It should, unless and otherwise specified, be drawn in the currency of Letter of Credit and should not exceed the amount of Letter of Credit.
- (iv) Any corrections should be duly authenticated.

Invoice

An invoice is a commercial document and is a basic necessity of trade documents. It is prepared by the beneficiary giving details of goods, quantity and value in unit terms, weight and total value of goods. Following specific points should be kept in mind, while preparing or examining the invoice:

(i) It should be made out by the seller/beneficiary, as stipulated in the Letter of Credit. It should, unless and otherwise specified in the Letter of Credit, be made out in the name of the applicant/openers of the LC.

(ii) Description of goods must correspond with the description of goods given in the LC. Invoice must indicate the order number/contract number/proforma invoice number and number of LC along with issuing bank's name. The invoice value should not, invariably, exceed the LC value.

(iii) Terms of sale contract, such as FOB, C&F, CIF, etc., should be indicated in the invoice.

Other particulars like Bill of Lading number, shipping marks, import license number (if any), gross weight, net weight, packing details, etc., should also be mentioned in the invoice. If invoice is issued for an amount in excess of the amount permitted by credit (when not specifically prohibited by terms of LC), as per Article 18 b of UCPDC, the drawing should not exceed the amount of credit.

Bill of Lading

Bill of lading is a transport document evidencing movement of goods from the port of acceptance to port of destination. It is a receipt issued by the ship owner or its authorized agent, stating that the goods indicated therein (quantity, quality, description, etc.) are shipped on specific date and through specific vessel and deliverable to the person mentioned therein as the consignee or to his order, after payment of all dues to the shipping company.

(i) The bill of lading should be in sets with the number of non-negotiable copies, as stipulated in the Letter of Credit.

(ii) It should bear the signature of the ship owner or its authorised agent.

(iii) The description of goods should correspond with the requirements in terms of Letter of Credit and as mentioned in the invoice.

(iv) Bill of lading should bear the Letter of Credit number along with the name of the issuing bank.

- (v) Payment of freight should be clearly indicated in the Bill of Lading, as per the requirement of the Letter of Credit.
- (vi) The Letter of Credit should call for "shipped on board" Bill of Lading, and accordingly, the BL should bear such clause.
- (vii) It should be drawn to the order of the shipper, blank endorsed or in favour of the issuing bank, as stipulated in the Letter of Credit.
- (viii) The date of shipment should be within the date stipulated in the Letter of Credit.
- (ix) Partial shipments or trans-shipment, if permitted in the Letter of credit should be clearly indicated in the Bill of Lading.
- (x) The gross weight, net weight should be as indicated in the invoice.
- (xi) The BL should not generally be dated prior to the date of issuance of LC, unless specifically provided therein.
- (xii) The BL should not be claused, unless specified permitted under the LC.

Insurance Policy/Certificate

It must be issued and signed by the insurance company or their agents. (Article 34a) It should not be issued by the broker. (Article 34b)

The date of issuance of insurance must be on or before the date of shipment or it must be endorsed by specific notation that the cover is effective from the date of shipment. (Article 34c)

The currency of issuance must be same as the currency of LC. [Article 34f(i)] Unless otherwise specified, it should be issued for an amount of 110% of CIF/CIP value of goods. (Article 34f(ii))

The policy should clearly indicate the voyage it is covering, i.e., the port of shipment, port of destination and should also mention the point of termination of insurance coverage. Claims should be made payable in the country of applicant. All originals (if issued more than one) must accompany the documents. The policy must be blank endorsed.

The description of goods in the insurance policy/certificate should be in conformity with that given in the LC.

Certificate of Origin

Certificate of origin determines the origin of goods. It must be issued and signed by an independent authority, such as Chamber of Commerce, informing origin of goods, value, invoice number, Bill of Lading number, etc. Details appearing in the certificate of origin must be consistent with other documents. It must be ensured that origin of goods is not from any war-fighting country, i.e., consisting of banned hazardous goods.

Packing List, Weight List and Other Documents

All other documents like packing list, weight list, Phytosanitary Certificate for goods meant for human consumption (edibles), shipping company's certificate, beneficiary's certificate, etc., should be made out as per the terms of the LC. All documents must be consistent with each other

2. Crystallisation of Foreign Currency Liability

The issuing bank on receipt of documents drawn under its Letter of Credit, has an obligation to pay immediately, if the documents are drawn at sight or accept and agree to pay on due date, if the documents are drawn on acceptance basis, provided the documents are drawn strictly as per the terms of the LC.

In case the documents are drawn at sight, in terms of extant FEDAI guidelines, the issuing bank can hold the documents for a maximum period of 10 days after the receipt of documents at its counter, in foreign currency. In case the bill is not retired or paid by the importer within this period, the issuing bank would crystallise the liability into Indian rupees, on the 10th day, at Bill

Selling Rate or rate at which forward contract was booked. The crystallisation can be effected earlier than 10th day with a specific written request from the importer/applicant.

In case of usance bills, the foreign currency liability would be crystallised on the due date, into Indian rupees.

3. Follow-up of Bills under LC

As per the extant guidelines, the foreign currency liability of import bill drawn under LC, is crystallised into Indian rupees on 10th day after receipt of documents at the counters of the issuing bank, in case of sight bills and on due date, in case of usance bills. In case the importer has been sanctioned import loan facility, the rupee liability is debited to the loan account. If not, the issuing bank is required to follow up with the importer, for payment of bill amount, as being done in case of other outstanding and overdue advances. It is not necessary that importer shall retire the bill on the due date for crystallization as he may choose to retire only after receipt of goods. In such cases, the banks would recover interest as prescribed by Reserve Bank of India directives. The bank would recover normal interest from the date of negotiation to date of crystallisation and penal interest thereafter.

4. Evidence of Import by the Importer

Authorized dealers, while opening Letter of Credit for their importer clients or effecting payment for imports, shall take an undertaking from the importer that they shall submit exchange control copy of Bill of Entry within the prescribed period. The submission of Bill of Entry, duly approved by the customs ascertains that there is actual import of goods in the country.

Authorised dealers, on non-receipt of Bill of Entry within six months from the date of payment, shall follow up with the importer for submission of Bill of Entry and if not submitted within another three months, shall report the same in the BEF statement, being submitted on half yearly basis to Reserve Bank of India.

5. Safeguards for Banks

Every bank has its own internal guidelines for sanctioning Letter of Credit facility to their importer clients. Since the transaction involves overseas payments and movement of goods, Reserve Bank of India has advised banks to have thorough and clear-cut guidelines while sanctioning such facility. The importer clients should be well-versed with the trade, for which he is importing goods and banks are required to follow due diligence and 'Know Your Customer' guidelines meticulously. Banks should be extra cautious while handling large value transactions, where the transactions are offered 100% cash margin or where there is sudden spurt in the business volume of the importer. Banks should ensure to obtain creditworthiness report on the overseas seller, from a reputed credit agency.

The dealing staff should be well-versed with the existing exchange control guidelines and scrutinise the documents received under Letter of Credit properly and with due care. The clauses incorporated in the Letter of Credit should correlate with trade control requirements, internal guidelines, etc., and seek necessary approvals from the competent authority, whenever the transactions are received beyond the delegated powers. There should be strict follow up for submission of Exchange Control copy of Bill of Entry, to ensure that goods have arrived into the country. In the case of Sight Bills, if the importer does not come forward to retire the documents, measures should be initiated to take possession of the goods and ensure insurance as well. Banks should be more vigilant and cautious, while sanctioning usance LC facility. The facility should be sanctioned for reputed and well-known clients and adequate security should be ensured, since the goods are delivered on acceptance basis. The banks should make proper follow-up of bills not retired and rupee liability is outstanding.

4.8 RISKS RELATING TO LETTER OF CREDIT TRANSACTIONS

Letter of Credit is considered to be the most convenient mode of settlement of payment in international trade. The mode secures the payment for the opener/seller, as the payment is received from the negotiating/ paying bank on tendering of the documents evidencing shipment of goods, and other documents called for under the LC, while the buyer/beneficiary is secured, as the payment will be made only after receipt of documents conforming to the terms and conditions of the Letter of Credit (i.e., shipment taking place).

However, like every other trade transaction, this mode of international trade also has certain inherent risks. The risks involved mostly are rejection of documents due to discrepancies, law of land mling over the UCPDC, embargoes, currency restrictions, etc. There have been instances, where the payments under the Letter of Credit was stopped, even after acceptance of documents by the bank, through stay orders from court of law, non-acceptance of documents till the arrival of goods, raising disputes for the quality of goods, even after accepting the documents and taking possession of goods and taking the matter to court, etc. Such instances have raised a question on the safety of LC transactions. However, Letter of Credit continues to be favourable mode for settling trade transactions.

Banks should, therefore, open Letter of Credit on behalf of their regular customer only and ensure that he is well-versed with the trade. The bills of Lading should be called for in the name of the bank

indicating the name and address of the importer Letter of credit should not be opened for import of goods, which are in the restricted item list and wherever the item is licenced, Exchange Control copy of the licence in favour of the importer should be obtained before opening the LC.

All precautions applicable to fund-based limits should be applied while sanctioning Letter of Credit (non-funded) facility. In case, the importer is offering adequate cash margin covering the transaction, still enquiry regarding trade activities and his actual requirements should be made. A satisfactory report on the overseas seller should be called and kept on records. Banks should ensure that importers hedge their large value transactions by booking forward contract, thereby minimising the exchange risk.

The buyer, before entering into trade relation should enquire about the creditworthiness of the overseas seller. He should prefer to obtain a satisfactory report on the overseas party from a reputed credit-rating agency. He should ensure to incorporate adequate clause in the Letter of Credit, so that safety of import of goods is assured and the documents are received as per his requirement. He should be well-versed with the Exchange Control requirements of the seller country and the goods being imported are permitted to leave the shores of that country.

The seller of the goods is equally concerned about the safety of his payment. He should make sure that documents are prepared strictly as per the terms of the Letter of Credit, leaving no chance for the issuing bank to point out any discrepancy. He should ensure that goods dispatched are as per the contract/ requirement of the buyer, particularly where the documents are drawn under usance Letter of Credit. He should also be aware of the related trade control guidelines prevailing in the country of the buyer and also the legal procedures being followed in that country for Letter of Credit transactions, to save himself of any mishaps.

Above risks, in no way degrade the reputation enjoyed by the Letter of Credit related trade transactions but as the saying goes 'A burnt child dreads the fire', few instances in the international market, creating bad examples, pave way for the precautions to be taken even while adopting the safest mode of the LC.

Check Your Progress (C) Fill in the blanks:

1. Bill of Exchange, if required under the LC, will be drawn by the beneficiary

2. Invoice is a _____ document.
commercial

3. _____ is a document evidencing shipment of goods by sea.
Bill of Lading

4. The insurance must be of _____ % of the invoice value, if not specifically provided in the LC.
110%

5. A tolerance of _____ in amount can be allowed, if the amount of LC indicates about or approximately.
10%

6. In case of _____, the foreign currency liability would be crystallised on the due date, into Indian Rupees.
usance bills

7. The importer is required to submit _____, evidencing import of goods into India.
Bill of Entry

8. Banks should open Letter of Credit on behalf of their _____ only.
regular customers

4.9 STANDBY LETTER OF CREDIT (GUARANTEES)

International trade has been dominated by LC transactions, whereby the seller is assured of payment by submitting documents in compliance and conformity with the terms and conditions

of the letter of credit. Standby Letter of Credit has often been used in situations where there is 'non-performance' or to put it in a layman's word, almost a substitute of guarantee. The usage of standby LC is mostly witnessed in countries like the USA, where guarantees are not used, and standby LC acts as a substitute for guarantee. This type of Letter of Credit is opened by banks in countries, where there is restriction on issuance of guarantees and therefore stand-bys provide a suitable substitute for performance or financial guarantees. The documents required are bare minimum, like proof of delivery of goods, proof of nonperformance or simple claim form. However, until very recently, its usage was very much restricted in India, but, with several measures being adopted to liberalise the trade regulations and simplify procedures for imports, the Reserve Bank of India, has approved to adopt International Standby Practices (ISP- 98), a set of rules, relating to standby LCs, formulated by international Chamber of Commerce in 1998. As such, it is now in order for the authorised dealers to issue stand by LCs, either under ISP-98 or UCPDC-600, as agreed upon mutually by the parties concerned.

1. Usage of Standby LC by Authorized Dealers

Banks can establish stand-by LC for the following transactions:

As a document of promise in respect of 'non-performance' situation especially as a substitution to the guarantees which Authorized Dealers are permitted to issue under FEMA, 1999, such as issuing a guarantee in respect of any debt, obligation or other liability incurred by:

- (a) An exporter on account of exports into India
- (b) Owed to a person resident in India by a person resident outside India for a bona fide trade transaction, duly covered by a counter guarantee of a bank of international repute/resident abroad.
- (c) Exporters may also opt to receive stand by LC in respect of exports from India.

2. Commercial Standby LC for Import of Goods

Banks have been permitted by Reserve Bank of India, to issue standby LCs towards import of goods into India. Since standby LCs covering import of goods are susceptible to certain attendant risks in the absence of evidence of shipment/insurance cover, importers should be advised and explained of the risk factors involved/chances of abuse in acceding to the request for establishment of standby LCs for import of goods into India. The following safeguards may be taken where standby LCs are issued:

- (a) The facility of issuing commercial standby shall be extended on a selective basis and to the following categories of importers only:
 - (i) Where such standbys are required by applicants, who are independent power producers/ importers of crude oil and petroleum products.
 - (ii) Special category of importers, viz., Export Houses/Trading Houses/ Star Trading House/Super Star Trading Houses/100% EOUs
 - (iii) Public Sector Units/Public Limited Companies with good track record.
- (b) Satisfactory credit report on the overseas supplier should be obtained by the issuing bank, prior to issue of Standby LC.
- (c) Invocation of the Commercial Standby LC by the beneficiary should be supported by proper evidence. The beneficiary of the credit should furnish a declaration to the effect that the claim is made on account of failure of the importer to abide by his contractual obligations.

Following documents must also be presented:

Copy of invoice

Non-negotiable set of documents including a copy of non-negotiable bills of lading/transport document.

A copy of Lloyds/SGS inspection certificate, wherever provided for, as per the underlying contract.

Incorporation of suitable clause to the effect that in the event of such invoice/shipping document has been paid by the authorised dealer earlier, provisions to dishonour the claim quoting the date/manner of earlier payment of such document may be considered. The applicant of a commercial stand by (Indian importer) shall undertake to provide evidence of imports in respect of all payments made under standby (Bill of Entry). Authorized dealer shall follow up evidence of import as provided for under FEMA, in all cases of payments made under such stand-by.

3. Implications of some of the Articles of ISP-98

Before issuing Stand-by LC, the bank as well as the opener/applicant must understand the implications of the clauses of the ISP-98, detailed as under:

Article 1.02: ISP-98 Rule supplements the applicable law to the extent not prohibited by that law. Hence, if there is any provision in the rule which conflict with the Indian law, such provision would not be applicable.

Article 1.09: Business Day - Business day means a day on which the place of business at which the relevant act is to be performed is regularly open; and Banking Day means a day on which the relevant bank is regularly open at the place at which the relevant act is to be performed. Article 3.13: Expiration Date on Non-Business Day.

Article 3.14: Closure on a Business Day and authorisation of another reasonable place for presentation.

Article 5.01: Timely Notice of Dishonour - The article provides for timely notice of dishonour as per the provisions contained therein.

Articles 10.0 and 10.02 relating to syndication/participation under the standby LC may be taken note of by the banks issuing such standbys under syndication/consortium loan arrangements among authorised dealers.

4.10 UNIFORM RULES FOR BANK-TO-BANK REIMBURSEMENTS (URR-525)

Banks, while issuing Letter of Credit, incorporate a clause authorising the negotiating bank to claim reimbursement of the value of documents negotiated. The international Chamber of Commerce has brought out the uniform rules for bank-to-bank reimbursement, set out in ICC Publication No. 525. The responsibilities of issuing bank, claiming bank, reimbursing bank and all other related parties, as incorporated in the Letter of Credit, have been specified in said rules.

1. General Provisions and Definitions

A. Application of URR

Following standard clause should be incorporated in the reimbursement authorisation by the issuing bank that it sends to reimbursing bank, to bind all the parties concerned.

'This reimbursement authorisation is subject to the Uniform Rules for Bank-to-Bank Reimbursements drawn under Documentary Credits, ICC Publication No. 525.'

This means that reimbursing bank is bound by all the rules set up in URR, by accepting reimbursement instructions. The claiming bank is, however, not a party to it and the arrangement of reimbursement is solely between the issuing bank and reimbursing bank.

B. Definitions

(a) Issuing bank: The bank that has issued the letter of credit and provided reimbursement authorisation.

(b) Reimbursing bank: The bank having accepted the reimbursement authorisation instructions from the issuing bank provides reimbursement.

- (c) Claiming bank: The bank that pays and incurs a deferred payment undertaking accept draft(s) or negotiates under a credit and presents a reimbursement claim to the reimbursing bank.
- (d) Reimbursement authorization: Instructions/authorization, independent of the credit, issued by issuing bank to a reimbursing bank to reimburse the claiming bank.

C. Reimbursement Authorizations

The reimbursing bank is no way concerned or bound by any provisions incorporated in the Letter of Credit even if any reference has been made in the reimbursement authorisation of any terms and conditions of the Letter of Credit. The reimbursement authorisation is totally a separate transaction from the credit.

2. Liabilities and Responsibilities

- The issuing bank is responsible for providing information required to the reimbursing bank under these rules.
- The issuing bank must not request a certificate of compliance to be submitted by the claiming bank to reimbursing bank.
- The reimbursement authority must not have an expiry date.
- The reimbursing bank is not obliged to honour a claim, except its undertaking.
- Reimbursement authority must be issued by an authenticated means and no mail confirmation should be sent for such tele-transmission.
- Reimbursement authorisation must state that they are subject URR-525 and must contain (a) the credit number, (b) the currency and amount, (c) additional amount payable and tolerance, if any, (d) the name of the claiming bank, and (e) the party responsible for payment of charges - both claiming banks and reimbursing banks.
- Reimbursement authorisation must be precise and complete and should not accompany copy of documentary credit.

3. Authorizations, Amentiments and Claims

- All reimbursement authorizations and amentiments must be issued in the form of authenticated tele- transmission or signed letter and no mail confirmation should be sent.
 - All authorizations and amentiments issued must be complete and precise.
 - The reimbursing bank has every right to accept or reject any amentiments.
 - Except in cases, where a reimbursement undertaking has been given, the issuing bank can, at any point of time, cancel or amend its reimbursement authorisation, by issuing notice to the reimbursing bank.
 - An irrevocable reimbursement authorisation cannot be amended or cancelled without the agreement of the reimbursing bank.
 - The reimbursing bank cannot cancel or amend reimbursement undertaking without agreement with the claiming bank.
 - The claiming bank must claim reimbursement in the form of tele-transmission unless specifically prohibited by the issuing bank or by signed letter
 - If a time draft is required to be submitted by the claiming bank, the same must be accompanied by the reimbursement claim.
 - Reimbursing bank shall have reasonable time, not exceeding three banking days, to process the claims.
 - In case the reimbursing bank decides not to reimburse the claim, it must inform the claiming bank and the issuing bank by expeditious means (preferably tele-transmission).
 - The reimbursement claims should not be presented more than 10 days prior to due date, if any, for claiming reimbursement.
-

4. Miscellaneous Provisions

- All claims for loss of interest, loss of value, due to any exchange rate fluctuations or claim of any charges, or any other loss resulting due to non-fulfilment of obligations by the reimbursing bank, should be settled between the claiming bank and reimbursing bank.
- The reimbursing bank's charges should normally be for the account of the issuing bank. In case the charges are to the account of third party, information should be provided by the issuing bank in letter of credit and reimbursement authorisation.
- The issuing bank shall be bound by and should indemnify the reimbursing bank against all obligations and responsibilities imposed by foreign laws and usages.
- Reimbursing bank assumes no responsibility for the consequences arising due to delay or loss in transit of any message, interruption of their business by the act of god, riots, commotions, insurrections, wars or any other cause beyond their control or by strike or lock out.

Check Your Progress (D)

1. Stand-by Letters of Credit are a substitute of _____ .
Guarantee
2. Standby LCs are issued by banks as a document of promise in respect of non____ .
performance
3. Uniform rules framed by ICC for bank-to-bank reimbursements are set out in the ICC publication
URR-525
4. The reimbursing bank is in no way concerned or bound by the provisions incorporated in the
Letter of Credit
5. The reimbursement authority must not have an
expiry
6. Reimbursement claim must not be presented _____
reimbursement.
10
7. The reimbursing bank charges are normally on account of date.
_ days prior to due date for claiming
bank.

Ans: issuing

4.11 INCOTERMS

Parties to contract are not aware of different trade practices in their respective countries which can cause misunderstanding resulting in unnecessary disputes. As such ICC published a set of international rules for the interpretation of trade terms known as "Incoterms" The ICC publication on Incoterms has been updated several times, with latest version being 2000. Incoterms apply to contract of sale but not contract of carriage. They deal only with the relationship between seller and buyer. These can be broadly classified into four categories. Some of the incoterms are:

(a) Departure:

(i) Ex-works (named place) e.g. Ex-works Jamnagar, or Ex-works Pune.

(b) Main Carriage Paid

(i) CFR: Cost and Freight (named port of destination) e.g. CFR JNPT, CFR Chennai

- (ii) CIF: Cost, Insurance and Freight (named port of destination) e.g. CIF JNPT, or CIF Chennai port.
 - (iii) CPT: Carriage Paid To (named place of destination) CPT Dubai
 - (iv) CIP: Carriage and Insurance Paid to (named place of destination) CIP Dubai
 - (c) Main Carriage Unpaid
 - (i) FCA: Free Carrier (named place) FCA Mumbai
 - (ii) FAS: Free Alongside Ship (named port of shipment) FAS, Mumbai port
 - (iii) FOB: Free On Board (name port of shipment) FOB , Mangalore
 - (d) Arrival
 - (i) DAF: Delivered At Frontier (named place) DAF, Sharjah
 - (ii) DES: Delivered Ex Ship named port of destination) DES, Sharjah
 - (iii) DEQ: Delivered Ex Quay (named port of destination) DEQ Mumbai
 - (iv) DDU: Delivered Duly Unpaid (named place of destination) DDU Shajjah
 - (v) DDP: Delivered Duty Paid (named place of destination) DDP Sharjah
-

Several other Incoterms are in use, which need to be known while transacting foreign trade or handling of trade documents.

4.12 CASE STUDIES

Case 1: Credits v/s contracts

Article 4, states that a credit by its nature is separate from the sale or other contract on which it is based and banks are in no way concerned with or bound by such contracts.

It also states that the issuing bank must discourage any attempt by the applicant to include the details of the contract, proforma invoice, etc, as an integral part of the LC.

Further, Article 5 of UCPDC 600, states that banks deal in documents and not in goods and services.

Even then, the applicants at times attempt to get the documents refused due to reasons, such as (i) goods not as per proforma invoice (ii) obtain stay /injunction against the opening bank to honour payment of the documents received under LC, due to the reason that the beneficiary has not sent the goods as shown, as mentioned in the contract or as given to understand.

Thus there could be a breach in the contract between the buyer and the seller, but the documents under LC could be perfectly in compliance of the terms of LC, thus making the issuing bank liable to pay / honour.

Courts, in many cases, have been putting stays /granting injunctions and stopping issuing banks to pay to the negotiating bank and debiting applicants accounts.

While issuing banks' on their own, should not, in connivance or other wise, try to excuse itself from making payments/ honoring the documents, with such reasons, which link the discrepancies to the sale contracts or the quality of goods, the National courts/ law, being above the UCPDC, they are bound to wait for the stay /injunction to be lifted before making payment to the negotiating banks.

The recovery of the amounts of documents from the applicant is altogether a separate issue, as it is a matter of taking credit risk by the opening bank on the applicant. Thus, recovery of amount from the applicant must also not be linked to the honoring of payment to the negotiating bank.

Case 2. Case of Date of documents

Bank A issues LC dated 1.10.2009, in favour of a beneficiary in UK. The last date of shipment as per LC is 15.10.2009 and last date of negotiation 31.10.2009.

The beneficiary presents documents to Bank B, for negotiation on 05.10.2009, with documents evidencing shipment of goods on 30.09.2009, which sends the documents to the opening bank, asking to reimburse as per LC terms.

The opening bank, on receipt of documents notices that, the shipment was made on 30.09.2009 and the invoice was dated 2.09.2009, while the inspection certificate, analysis certificate and packing list were dated 25.09.2009

The issuing bank on receipt of documents rejected the documents, notifying discrepancy that documents were dated prior to date of credit.

Article 14 i, specifically provides that documents could be dated prior to the date of LC, but should not be dated after the date of presentation.

While, the LC is silent about the date of documents, documents presented need to be dated as per LC terms, if so provided in the LC.

As such, assuming that the LC did not provide for dates of the documents, the rejection by the opening bank is not as per UCPDC.

Case 3. Partial Shipments

An LC, covering shipment of 1000 cartons consisting of 15000 pieces of shirts, (readymade garments), from Chennai port to Dubai port, provides that partial shipment is not allowed. The beneficiary hands over 500 cartons of Shirts, to the shipping company on 15.7.2009 and another 500 cartoons on 18.7.2009.

The Shipping Company issues BL for the first 500 cartons on 17.7.2009 and another BL covering 500 cartoons on 19.7.2009. Both the consignments are to be shipped by a vessel that is due to leave Chennai port on 21.7.2009. Thus the total goods under the LC , i.e. 1000 cartons, are shipped on a single vessel, but with two BLs.

The LC issuing bank, on receipt of documents drawn under the LC rejects the documents, stating the shipment is not made under one BL and as such constitutes partial shipment, which is not permitted under the LC. The issuing bank, informs the negotiating bank that goods are held at their disposal and further instructions are awaited.

As per article 31 of UCP, a presentation of documents consisting of more than one set of transport documents, covering shipment of goods on the same means of transport and has same journey, will not be considered as partial shipment, even if they indicate different dates of shipment.

As such, in the given scenario, the rejection of documents by the LC opening bank is not correct as per the Article 31 of UCP, and the bank must pay /honour the documents.

Case 4. Notice of Dishonor

The LC issuing bank on receipt of documents on 15.9.2009 (Tuesday) took two days to examine the same and referred the documents to the applicants for their acceptance on 17.9.2009 (Thursday). The applicants came up with a discrepancy in documents, on 22.9.2009 (Tuesday) evening, stating that the documents need to be rejected as the BL was not stamped with "On board" stamp and initialed by the shipping company.

The issuing bank sent a Swift message of rejection to the negotiating bank on 23.9.2009.

On receipt of Swift message from the issuing bank, informing rejection of documents and discrepancy, as informed by the applicant, the negotiating bank referred the matter back to the opening bank stating

that the message of refusal and notification of discrepancy was not received within the time period of 5 working days, and as such claimed to be reimbursed as per LC terms.

Article 16 d of UCP states that the notice of refusal and discrepancy must be given latest by the closing hours of the 5th working day from the date of presentation. In the instant case, the opening bank was correct in sending the swift message on 23.9.2009, which was 5th working day, subsequent to the date of receipt of documents.

Since, 19th and 20th were Saturday and Sunday and 21.9.2009, being a holiday in India, on account of Ramadan ID, the opening bank was right in sending the notice of refusal / discrepancy on 23.9.2009, which was in compliance with the meaning of the said article.

CASE 5. Insurance

An LC calls for insurance from ware house to warehouse, and insurance to cover 110% of the invoice value.

Bank A negotiates and forwards documents, covering invoice for USD 17920.00 under a Multimodal transport document (Combined Bill of Lading) dated 15.9.2009. to the opening bank, under the said LC. The insurance enclosed to the documents is for USD 20,000.00 and is dated 17.9.2009.

As per the Article 28 of UCP, the insurance must indicate the amount of insurance. It should be at least 110% , of the invoice value if the LC is silent on this requirement and must not be dated prior to the date of transport document.

In the given scenario, the insurance is dated after the date of multimodal transport document, which should be covering the voyage of goods from the godown of the seller, and is more than the given percentage for insurance coverage, i.e. more than 110%.

Banks would normally accept some difference in insurance coverage which could be due to rounding off of the values/cover amount, but still can be used as a discrepancy to refuse the documents. However, a document dated after the date of shipping document, is clearly a discrepancy, and requires specific approval from the applicant..

Let Us Sum Up

With the growing cross-border trade, the volume of international trade under Letter of Credit has increased manifold. This growth has been possible due to UCPDC specifying detailed guidelines on commonly used practices and customs, thereby increasing the comfort to the exporters and importers and eliminating the chances of disputes between the parties. The responsibilities and the rights bestowed upon the parties to the LC make the transaction safer and provide comfort to all concerned.

Although the most commonly used LC is irrevocable LC, the various types detailed above are also in vogue considering the nature of transaction and the need of the parties.

The importance of ISP and the URR also needs to be understood properly, as they play a very important role in explaining the uniform practices and procedures to be followed while handling Stand-by LCs and reimbursements.

LC transactions are at times risky, but a proper and careful handling of the documents, and the transactions, have lead to the growth of faith in the product across the globe for several years now.

Keywords

Advising Bank: The bank through which, the issuing bank arranges to advise the Letter of Credit the beneficiary.

Applicant: The party on whose behalf the Letter of Credit is opened.

Confirmation: Responsibility taken by a bank on behalf of the LC issuing bank to make payment against presentation of credit conformed documents.

Issuing bank: The bank that issues Letter of Credit on behalf of the applicant and issues reimbursement authorisation.

Letter of Credit: A mode of payment in international trade, where LC issuing bank, on behalf of the applicant undertakes to make payment to the bank, having negotiated the documents, on presentation of documents as per the terms of the Letter of Credit.

Back-to-back LC: An LC issued on the backing of another LC, mostly local LC opened for procurement of goods locally, based on export LC.

Bill of Exchange: A document drawn by the supplier (creditor) on the buyer or LC opener/opening bank, as the case may be, claiming the amount to be paid under the bill/LC.

Bill of Lading: A transport document, evidencing movement of goods by sea.

Crystallisation: Conversion of the foreign currency bill in to home currency liability.

Standby letter of credit: An LC issued in lieu of guarantees, as a document of promise in respect of nonperformance.

Answers to Check Your Progress

A. 1. opening; 2. undertaking; 3. applicant; 4. UCPDC; 5. revocable; 6. Red clause;
7. transferable; 8. Back-to-back LC.

B. 1. (a) True; (b) False; (c) False; (d) True; (e) True;

2. (a) Negotiating; (b) Opening; (c) Authenticity; (d) opening, (e) five

C. 1. beneficiary, 2. commercial; 3. Bill of Lading; 4 110%; 5. 10% 6. usance bills; 7. Bill of Entry; 8. regular customers.

D. 1. guarantees; 2. performance; 3. URR-525; 4. Letter of Credit; 5. expiry; 6. 10; 7. issuing.

Terminal Questions

1. Mark which statement is correct:

- (i) (a) The LC must have an applicant and a beneficiary.
- (b) The LC must have an advising bank and a confirming bank.
- (c) The negotiating bank is not responsible to examine the documents.
- (d) The advising bank has no option decide whether it wants to advice the LC or not.

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- (ii) (a) Irrevocable LC cannot be revoked or cancelled , but can be amended without the concurrence of the parties concerned.
 - (b) Red clause LC is called so because it is all over printed in RED letters.
 - (c) Confirmed LC is confirmed by a bank , usually in the country of the exporter, for giving additional comfort to the exporter
 - (d) Transferable LC can be further transferred by the first, second , third , even without specific mention in the original LC.
 - (iii) Back to Back LC is
 - (a) LC opened on the backing of an Export order
 - (b) LC opened on the backing of an Import Order
 - (c) LC opened on the backing of an Export LC
 - (d) LC opened on the backing of an Import LC..
 - (iv) UCPDC 600 IS
 - (a) Set of rules applicable to CC transactions
 - (b) Set of mle having 500 articles.
 - (c) Set of rules framed by ICC governing LC business globally .
 - (d) Set of universally applicable rules governing LC business in India only.
 - (v) ICC is:
 - (a) The issuer of the LC under UCPDC
 - (b) The trade body governing the UCPDC rules
 - (c) A Trade body for Indian exporters helping to increase exports
 - (d) The confirming bank, which governs rules for LC drawn under UCPDC.
 - (vi) In an LC transaction, following parties are not involved
 - (a) the exporter
 - (b) the issuing bank
 - (c) the advising bank
 - (d) the opening banks representative office in beneficiary's country, who helps source business for the issuing bank.
 - (vii) Bill of entry is required to show that
 - (a) the goods have been exported out of the country.
 - (b) the invoice contains fair price and there is no over/under invoicing
 - (c) the goods have come into the country of import
 - (d) the importer has paid the import bill
 - (viii) The incoterms which confirms that the price of the goods is inclusive of Insurance and Freight upto the port of destination, is called
 - (a) C&F (c) CPT
 - (b) CIF (d) CFI
-

References for Further Reading

1. Reserve Bank of India Guidelines for Internal Control for Foreign Exchange Business, Master Circulars, Circulars, issued from time to time.
2. FEMA 1999
3. FEDAI Rule Book and various circulars on the subject.
4. FEDAI Study Booklets for Orientation workshops.
5. Narayan, Sbankar S., Export Finance and Banking Procedures in India.
6. UCPDC-600, ISP-98 and URR-525.
7. All earlier publications of IIBF.

UNIT 5 Facilities for Exporters and Importers

STRUCTURE

5.0 Objective

5.1 Introduction

5.2 Exchange and Trade Control Guidelines for Exporters

5.3 Facilities for Exporters Check Your Progress (A)

5.4 Export Finance

5.5 Exporters Gold Card Scheme

5.6 Forfaiting and Factoring Check Your Progress (B)

5.7 Exchange and Trade Control Guidelines for Importers

5.8 Import Finance

5.9 Trade Credit - Supplier's Credit and Buyer's Credit Check Your Progress (C)

5.10 Case Study on Pre- and Post-Shipment Finance

Let Us Sum Up Keywords

Answers to Check Your Progress Terminal Questions References for further Reading

5.0 OBJECTIVE

The objective of this unit is to facilitate the understanding of the exchange and trade control guidelines that are applicable to the exporters and importers, as also various Credit and Non-Credit facilities available to them. It would cover the types of finance, procedures, as also the other facilities available to them.

5.1 INTRODUCTION

In India, Export trade is regulated by the Directorate General of Foreign Trade (DGFT), which functions under the Ministry of commerce and Industries, of Government of India. While the policies and procedures required to be followed for export trade are announced by the DGFT, financing of export trade and facilities granted under FEMA regulations are governed by the RBI regulations/guidelines. Similarly, import trade is also governed by DGFT, with regulations relating to imports and other payments, as provided under FEMA, are governed by RBI regulations.

Exchange Control regulations as well as Imports and Exports Trade Control regulations are applicable to all transactions related to international trade. The Reserve Bank of India, with powers delegated under FEMA 1999, regulates the Exchange Control and receipts/payments of foreign exchange part through various guidelines, FEMA amendments, while the office of the Director General of Foreign Trade (DGFT), regulates the Trade Control part, through the Exim Policy and periodic announcements with a view to expand or control the international business of the country.

The Reserve Bank of India also governs the broad parameters of the guidelines in financing of exporters, to make available credit to exporters at international levels of interest rates to enable them to compete in the international markets.

Similarly, guidelines and procedural requirements for import of goods, so as to guard the precious foreign exchange reserves on one hand and to expand the base for improved technology and competitive environment, are also covered in the Exim Policy for import of goods and services.

The authorized dealer has to ensure compliance of several guidelines including not allowing the banned or restricted items of export/import, without proper approvals.

Let us now see what the guidelines and facilities are and how they help the exporters/importers to move towards increasing international trade.

5.2 EXCHANGE AND TRADE CONTROL GUIDELINES FOR EXPORTERS

1. Importer-Exporter Code Number

Every person/firm/company engaged in Export-Import trade has to apply for and obtain an importer- exporter Code Number (IEC Number) from the Director General of Foreign Trade (DGFT). This is a registration number of the firm/company for international trade and the exporter/importer has to invariably quote this code number in all declarations/forms, etc., a few of which are explained below:

2. Export Declaration Forms

Section 7(1),(3) of FEMA, all export of goods from India, whether in physical form or any other form, requires to be declared in the prescribed forms to the effect that full value of exports will be realized within the prescribed period and in the prescribed manner. The prescribed forms are GR, PP, SOFTEX and SDF forms which are used for the purposes noted below:

(i) (ii) (iii) (iv)

GR Form PP Form SOFTEX Form SDF Form

Exports made otherwise than by post

Exports made by post parcel

Export of software in non-physical form.

With the introduction of Electronic Data Interchange (EDI) system at certain Customs offices, where shipping bills are processed electronically, the GR form has since been replaced by a declaration in form SDF (Statutory Declaration Form). The SDF form should be submitted in duplicate (to be annexed to the relative shipping bill) to the concerned Commissioner of Customs. After verifying and authenticating the declaration in form SDF, the commissioner of customs will handover to the exporter one copy of the shipping bill marked 'Exchange Control Copy' in which form SDF has been approved for being submitted to the authorized dealer

Exemptions

Following exports/shipments out of India are exempted from Export Declaration Forms, in terms of Regulation 4 of notification No 23/2000-RB date 3.5.2000 of FEMA:

- (a) Trade samples of goods and publicity material supplied free of payment.
- (b) Personal effects of travellers, whether accompanied or unaccompanied.
- (c) Ship's store, trans-shipment cargo, and goods supplied under orders of Central Government.
- (d) Goods or software, when accompanied by a declaration by the exporter that they are not more than USD 25,000 in value,
- (e) Gifts of goods, valuing not over Rs 5,00,000 along with declaration of exporters.
- (f) Aircraft or aircraft engines and spare parts for overhauling or repairs abroad, subject to conditions.
- (g) Goods imported free of cost, on re-export basis.
- (h) Goods not exceeding USD 1000 per transaction, exported to Myanmar, under bilateral trade agreement.
- (i) Goods sent out of India for testing subject to re-import.
- (j) Defective goods sent for repairs, subject to re-import.
- (k) Other exports permitted by RBI, subject to conditions, as specified.
- (l) Goods permitted by development commissioners of EPZ, Technology parks, SEZ, etc.

3. Prescribed Time Limits

A. For Submission of Export Documents

The exporter is required to submit the export documents, along with the duplicate/exchange control copy of GR/PP/SDF form within 21 days from the date of shipment to an authorised dealer, for collection, purchase, discount or negotiation, as the case may be. Even in cases of direct shipment of goods, the relative documents are to be submitted to the bankers, within this time limit.

B. For Realisation of Export Bills

It is obligatory on the part of the exporter that the amount of exports is realized and repatriated into India, within the stipulated time period. While no time period has been prescribed for units in special economic zones (SEZs), Status holder exporters, 100% EOUs, and units set up under EHTPs, STPs and Biotechnology parks, like trading house, export house, etc., are permitted to realize the exports within 12 months.

Goods exported to a warehouse established outside India, for sale in other country, on realization of sale proceeds but within 15 months from the date of exports.

In all other cases, the maximum time prescribed by Reserve Bank of India for realization of export proceeds is 12 months from date of shipment.

If the bill is not realised within this time stipulated, the exporter should apply to his AD for extension of time in ETX form. All overdue bills which are not realized within the due date should be followed up vigorously and reported to Reserve Bank of India in a half-yearly statement XOS (To be submitted by each AD branch for June and December each year).

4. Prescribed Method of Payment

The payment for export proceeds should be received through the medium of the Authorised Dealers (ADs), in any one of the following manners:

- (a) Form of bank draft, pay order, etc.
- (b) Foreign currency notes, travellers' checks from the buyer.
- (c) Payment out of FCNR, NRE account of the buyer.
- (d) Through international credit cards, when goods are sold during the overseas visit of the exporter concerned.
- (e) In Indian rupees, when transaction are with persons resident in Nepal.
- (f) In the form of gold/silver/platinum by gem and jewellery units situated in SEZs, provided the contract provides for the same.

The above payments are to be received through an AD, however in exceptional cases where the track record of the exporter is good, ADs will accept the amount received by exporters direct by cheque, DD, etc.

For the purpose of realization of export proceeds, following classification can be made, (a) Countries under Asian Clearing Union (ACU)

Export proceeds from any of the ACU countries (Bangladesh, Burma Myanmar, Islamic Republic of Iran, Pakistan, Sri Lanka and Nepal) should be settled in US dollar or ACU EURO, terms through a separate dollar/Euro account maintained by the AD for this purpose. A separate dollar/Euro account is maintained to distinguish ACU transactions separately. For all practical purposes, it will be treated as identical US dollar currency, but for settlement purposes it will be denominated as ACU dollar

Trade transactions in Myanmar can be settled in any freely convertible currency, in addition to ACU mechanism.

Maldives is also joining the ACU from 1.1.2010.

Note: Even though Nepal is also one of the participating countries under ACU mechanism for trade settlement, it is exempted under ACU currency settlement arrangements.

(b) Other than ACU Countries

- (i) Payment in Rupees from the account of a bank situated in any country in this group.
- (ii) Payment in any permitted currency like US dollars, UK pound. Euro, Yen, etc.

5.3 FACILITIES FOR EXPORTERS - FACILITIES/REMITTANCES CONNECTED WITH EXPORTS

(a) Agency Commission on Exports

Agency commission can be allowed either by remittance or deduction from invoice value by the ADs subject to the condition that it has been declared in the relative GR/PP/Softex form, and accepted by the customs authorities, and that the relative shipment has already been made.

(b) Reduction in Invoice Value

Exporters may allow reduction in invoice value, on account of cash discount to overseas buyers, for prepayment of usance bills. The discount can be allowed for the unexpired period at the stipulated rate of interest or a LIBOR of the currency.

In other cases, where the export bill has been negotiated or sent for collection, if reduction in invoice value is required to be allowed, ADs can approve the reduction, if satisfied about the

genuineness of the request, provided (i) the reduction does not exceed 25% of the invoice value, the reduction is not in respect of commodities subject to minimum price restrictions, (floor price) and the exporter should not be in the exporters caution list of RBI.

The reduction can be allowed without any percentage restriction, in case the exporter is in the export business for last three years, the track record is satisfactory and the export bills outstanding in the account is not more than 5% of the average annual export turnover of the preceding three calendar years.

(c) Claims Against Exports

Banks can allow claims against export bills, provided the relative export proceeds have been realized and repatriated to India, and the exporter is not in the caution list of the Reserve Bank of India.

(d) Refund of Export Proceeds

Refund of export proceeds can be allowed by the AD, through whom the proceeds of the export bill were originally received, provided the exporter has submitted the evidence of re-import of goods into India on account of poor quality, trade dispute, etc.

(e) Extension of Time Limit

If the export bill is not realized within the prescribed period of six months from date of shipment, for reasons beyond control, the exporter is required to make an application in form ETX to the AD, which has handled the export bill, and seek extension of time limit for realization of export proceeds.

The AD is permitted by the Reserve Bank of India, to grant extension of time limit for realization of export proceeds beyond twelve months from the date of export, up to period of six months at a time, irrespective of the invoice value of export, provided the export covered under the invoice is not under the investigation by directorate of Enforcement/CBI, the bank is satisfied that the non realization is beyond the control of the exporter and the exporter undertakes to get the bill realized during the extended period.

Any extensions beyond 12 months from the date of export, can be granted by the AD, if the total export outstanding of the exporter should not be more than USD 1.00 million or 10% of the average of export realizations during the preceding three years, whichever is higher.

All cases, which do not fall under any of the above categories, and do not comply with the restrictions given above, should be forwarded to the Reserve Bank of India, for prior approval for extension of time limits. Also, cases under investigation by Enforcement Directorate or CBI, or other investigating agencies, would require prior approval of RBI for extension of time limit. All the export bills, remaining un realized beyond six months from the date of export, should be reported in XOS statement to RBI, on half yearly basis.

(f) Extension of time and self write off of unrealized export bills

All exporters have been allowed to write off outstanding export dues and extend the prescribed period of realisation, provided, the aggregate value of such exports bills written off, (including reduction in invoice value), and bills extended for realisation, does not exceed 10% of the export proceeds due during the financial year, and that the export bills are to under investigation.

(g) Effective Date of Realization

In terms of FEDAI rules, the effective date of realization of an export bill is the date of credit in the bank's 'nostro' account in case of Foreign Currency bills, and in case of Rupee bills the effective date of realisation is the date of debit in the 'vostro' account.

As such, in case of foreign currency bills, the value date of credit is taken as the date of credit and interest charged up to this date on advance allowed against the particular export bill.

(h) Foreign Currency Accounts

- (i) Overseas Foreign Currency Account: The Reserve Bank of India permits exporters to open foreign currency accounts in foreign countries, or in India, to hold export proceeds, for the purpose of making payments for the goods imported. This can be opened to save on exchange fluctuations as also operating cost and time in bringing the proceeds into India and remit back for payment purposes.

Participants in international trade fairs/exhibitions have been allowed to open temporary foreign currency accounts, to deposit sale proceeds. The balances in these accounts have to be repatriated to India, within one month from the close of the exhibition/trade fair

- (ii) Diamond Dollar Account (DDA): Exporters-importers dealing in rough and polished diamonds or diamond-studded jewellery, with a track record, of at least, three years and average export turnover of Rs 5.00 crores, can open Diamond dollar account with an AD, for transacting business in foreign exchange. An exporter can maintain up to 5 DDAs.

In October 2009, the eligibility to open a Diamond Dollar account has been revised to track record of two years and average turnover of Rs 3.00 crores.

- (iii) EEFC Account: Any person resident in India, who is an earner of foreign currency (including Special Economic Zones, Software Technology Parks, Export Processing Zones and status account holders), can open and maintain with an authorised dealer in India, a foreign currency account known as Exchange Earners Foreign Currency Account (EEFC), and can currently credit up to 100% of the inward payments received in foreign currency to this account. These EEFC accounts are in the nature of current account, and are non-interest bearing. Balances in EEFC accounts can be used for any current account transactions, including repayment of packing credit advances, whether availed in Rupee or foreign currency.

Check Your Progress (A) Fill in the blanks:

- (a) Every person/firm or company must have import trade.
- (b) SOFTEX form is used for export of _
code, issued by DGFT, to engage in export-
software
- (c) The exporter is required to submit the export documents, along with the copy of GR/PP/SDF form within ___ days from the date of shipment to an authorized dealer
- 21
- (d) Export proceeds from any of the ACU countries should be settled in US dollar terms through a separate _____ account maintained by the AD for this purpose.

ACU dollar

- (e) The exporter is required to apply in form ____ for permission for extension of time limit for realization of export proceeds.

ETX

- (f) An export unit in SEPZ, can retain ___
account with the AD.

(g) The effective date of realization of a foreign currency bill will be the account.
per cent of the export proceeds in his
date of credit to the

5.4 EXPORT FINANCE

The Reserve Bank of India has framed specific guidelines for finance to exporters, so as to allow finance at concessional interest rates, to make exporters compete with their competitors from

other countries, as also to boost the exports from the country. The finance to exporters can be rupee finance, or it can be finance in foreign currency.

The Reserve Bank of India has issued broad directives to banks, on the subject of export finance, and banks are free to charge interest rates up to the ceilings prescribed. The RBI also prescribes the manner of charging interest, etc.

An exporter may require financial assistance for procurement of goods as also to fund the export bills. Finance allowed to an exporter, to fund the need for procurement of raw material, manufacturing and upto the stage of packing and shipment, is called Pre-Shipment Finance/Loan (PCL). While on the other hand, finance against export bills, when the shipment is already made, is called Post Shipment Credit or Post-Shipment Export Finance (PSEF).

The Reserve Bank of India has also permitted banks to allow both Packing credits as well as post-shipment advances to exporters in Indian rupees as also in foreign currencies.

Let us see the rules related to rupee advances first, before going to the foreign currency export credit to exporters.

Pre-shipment finance can be of two types:

1. Packing Credit (PCL),
2. Advance against Govt, receivables, i.e. Duty Drawback, etc.

Post-shipment finance can be of various types, as under:

1. Export bills purchased/discounted/negotiated (FBP/FUBD/FBN)
2. Advance against bills sent on collection
3. Advances against exports on consignment basis
4. Advances against undrawn balances
5. Advances against Duty Drawback

1. Pre-Shipment Finance

As given above, pre-shipment finance, generally known as Packing Credit Loan (PCL) or Export Packing Credit (EPC), as is essentially a working capital advance allowed for the specific purpose of procuring/ processing/manufacturing of goods meant for export. It could cover all costs prior to shipment of finished goods, i.e. packing, local transportation, labour charge, etc.

For allowing Packing Credit advances it is a pre-requisite that the borrower must have a firm export order or an Export Letter of Credit, and that the loan so allowed must be liquidated out of relative export proceeds. Here, in certain cases, the bank can waive submission of order or LC at the time of availing of advance.

While making appraisal of an export credit proposal, banks are supposed to follow the guidelines/rules issued by RBI, DGFT, ECGC, and each bank's internal system for granting advances. Normally, the following broad guidelines need to be ascertained:

A. Pre-sanction

1. The borrower is bank's customer
 2. He should have Export/Import Code number (IEC) allotted by Director General of Foreign Trade.
 3. His name should not appear under the caution list of RBI.
 4. He should not be under the Specific Approval list of ECGC.
 5. He has the capacity to execute the order within stipulated time and has a genuine and valid export order or Letter of Credit for export of goods.
 6. All 'Know Your Customer' guidelines are complied with.
 7. The export credit limit should commensurate with the expected turnover as well as cost of inputs.
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8. The total period sanctioned should be as per the manufacturing cycle or the process cycle of the goods being manufactured. Normally, quantum of finance will be fixed on the FOB value of the contract or the LC or the domestic value of the goods whichever is less after deducting the profit margin. Advance for the freight and insurance charges are not to be disbursed at the initial stage itself. If the contract or the LC is on CIF basis, the FOB value will be arrived at by deducting 13% to 14% (representing freight and insurance) from the CIF value, if the dispatch is through sea and around 25% if the dispatch is by air. After arriving at the FOB value, the usual margin, i.e., profit margin stipulated in the terms of sanctions to be deducted.
9. Normally the total period of PCL should not exceed 180 days. Banks can grant extensions beyond 180 days up to 360 days, based on their assessment and need of the customer. Any extension beyond 360 days, would cease to qualify for concessional rate of interest to the exporter, ab initio.
10. The Rate of Interest is linked to the Benchmark Prime Lending Rate (BPLR) of each bank, and is concessional for first 180 days, (maximum PLR minus 2.50%).
11. Banks may adopt a flexible attitude with regard to debt-equity ratio, margin and security norms but there could be no compromise in respect to viability of the proposal and the integrity of the borrower
12. Exporter's credit requirements at pre- and post-shipment stages are to be considered in total.

B. Post-sanction

1. No PCL has been availed by him against the same order/LC from any other bank.
2. Bank should call for Credit Report/Status reports on the foreign buyers.
3. The exporter should submit stock statements for the goods on which PCL has been allowed.
4. If the exports are covered under letters of credits, banks would need to be satisfied about the standing of the credit opening bank.
5. Banks may also look into the regulations, the political and financial conditions of the buyer's country.
6. After proper sanctioning of credit limits the disbursing branch should inform ECGC the details of limit sanctioned in the prescribed format within 30 days from the date of sanction. (Wherever advances are covered under Whole Turnover Policies of ECGC.)
7. The advance should be liquidated on submission of relative export bills, by way of allowing post shipment finance against those bills. (Even in case post-shipment limits are not sanctioned, PCL should be liquidated by allowing post-shipment advance to the extent of PCL, by earmarking PCL limit. Once goods have been shipped, we cannot continue with a pre-shipment advance against these goods.)
8. In case after allowing PCL, exports do not take place, the advance is treated as local advance, and interest at domestic penal rates is to be charged.
9. With the recent liberalization and deregulation of various guidelines, banks have been allowed operational flexibility for liquidation of packing credit advances.
10. Existing packing credit may be liquidated with any other export proceeds against which no packing credit has been availed by the exporter. Banks should also ensure that the exporter has not availed any packing credit with any other bank against this export proceeds.

C. Special Cases for allowing Packing Credit Advances

- (a) Packing credits can be allowed to sub-suppliers also at the first stage under the Rupee credit scheme. Packing credit can be granted on the basis of the inland LC opened by a bank at the request of the Export Order holder.
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(b) Banks have been authorized to grant pre-shipment advances for exports of any commodity without insisting on prior lodgement of letters of credit/firm export orders under 'Running Account' facility subject to the following conditions:

(i) The facility may be extended, provided the need for 'Running Account' facility has been established by the exporters to the satisfaction of the bank.

(ii) The banks may extend the 'Running Account' facility only to those exporters whose track record is good.

(iii) In all the cases where pre-shipment Credit Running Account facility has been extended, letters of credit/firm orders should be produced within a reasonable period of time. In the case of commodities covered under Selective Credit Control, banks should insist on production of letters of credit/firm orders within a period of one month from the date of sanction.

(iv) In case of PCL allowed for purchase of seeds, for export of de-oiled cake, the proceeds from local sale of oil can be used to liquidate PCL, within a period of 30 days from the date of advance.

2. Post-Shipment Finance

Post-shipment finance is essentially an advance against receivables, which is in the form of export documents. It involves handling of export documents, sending it to the foreign bank/buyer and collecting proceeds thereof. The responsibility of an AD is increased in the post-shipment part, since the realisation of export proceeds of the export bills is monitored by the Reserve Bank of India. Some of the major exchange control regulations and other aspects concerning export finance at the post-shipment stage are listed below:

1. The exporter should hold valid IEC code and each shipment should accompany the prescribed declaration (GR/PP/SOFTEX/SDF) form in which the value of export has been declared and duly certified by the customs authority.

2. The shipping documents along with relative GR form must be submitted to an AD within 21 days from the date of shipment. If there is any genuine delay beyond the control of the exporter, AD has been delegated with powers to condone the delay and accept the shipping documents even after 21 days from the date of shipment.

3. In case of rupee finance, the bill is to be purchased/discounted/negotiated at appropriate bill buying rate of the bank, keeping in view the tenor or notional due date of the bill.

4. The rate of interest should be within the broad guidelines fixed by RBI, concessional for first 90 days, higher for next 90 days or maximum 180 days from the date of shipment, and still higher beyond 180 days.

5. The payment should be received in an approved manner within the prescribed time limit, i.e., usually within six months from the date of shipment. However, RBI has now permitted certain categories of exporters to realize the proceeds within 360 days also.

Let us now go through different types of post-shipment finances:

A) Export bills purchased/discounted

The export bills, representing genuine trade transactions, strictly drawn in terms of the sale contract/live firm contract/order may be discounted or purchased by the banks, against proper sanctioned limits. The bills drawn on sight basis, i.e. Documents against Payment, are purchased and those drawn on usance, i.e. Documents against Acceptance basis, are discounted by the bank.

Since the export is not covered under Letter of Credit, risk of non-payment is higher in such documents. The risk is more pronounced in case of documents under acceptance. In order to

safeguard the interest of the bank and also the exporter, banks may opt for coverage of credit risks through the guarantees/ policies for post-shipment advances, offered by ECGC. The bank will normally be covering the advance under Whole Turnover Post-Shipment Guarantee Scheme. In addition to this guarantee, exporter should be advised to go for a separate buyer-wise policy. By having this additional policy, wider coverage will be available to the exporter in case of any default. Bank should make vigorous follow-up for due dates, and payments for bills purchased/discounted by them.

B. Export bills negotiated

Negotiation of documents takes place, when export documents, drawn under Letter of Credit, are presented to the bank and financed by the bank. These documents should be scrutinized carefully with the terms and conditions of the LC, before negotiation, since the LC issuing bank undertakes to honour its commitment to pay/accept/reimburse, only. If the beneficiary submits the stipulated documents conforming to terms of LC. Further, as the operation of Letter of Credit is governed by Uniform Customs & Practices for Documentary Credits (2007 Revision) of the International Chamber of Commerce. Brochure No. 600, compliance of the terms of LC and other Articles of UCPDC is a must, to ensure our claim for payment and not give chance to the issuing bank to refuse the reimbursement. The issuing bank has all rights to refuse payment in case of discrepant documents. As such examination of documents, has its own importance, which precede negotiation of export documents. Some of the discrepancies commonly observed are listed below:

1. Late shipment of goods.
 2. Submission of documents after the expiry- of the LC.
 3. Late presentation of documents even when the LC is current, (particularly when partial shipments are to be made after gap of time)
 4. Excess drawings than LC amount.
 5. Shipments made from and shipped to ports other than those stipulated in the LC.
 6. Partial shipments/Trans-shipments effected which are not authorised by the LC.
 7. Bill of Lading/AWB not properly signed, not properly dated and not properly stamped. Alterations, if any, not properly authenticated. Mostly, 'ON BOARD' stamp not affixed or not authenticate or dated.
 8. Presentation of insufficient and/or incomplete set of B/L.
 9. Presentation of Claused Bill of Lading/Received for Shipment Bill of Lading/Short Form Bill of Lading - when not permitted in the LC.
 10. Variations in the weight in the invoice and the weight list and other documents.
 11. Presentations of inconsistent documents, like invoice, packing list, weight list, insurance certificate/ policy, certificate of origin, inspection certificate. Bill of Lading/AWB, which are inconsistent with each other.
 12. Inadequate insurance amount.
 13. Presentation of insurance documents unsigned, undated, unstamped and drawn in a different currency other than the currency of the LC.
 14. Description of goods including charges in the invoice presented, not authorized by LC.
 15. Incomplete or incorrect Drafts/Bills of Exchange.
 16. Insufficient number of copies of various documents as called for in the LC.
 17. Non-submission of certain documents as called for in the LC.
 18. Shipping marks in Invoice and Bill of Loading differ.
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19. On Deck shipment, when LC does not specifically pennits it.
20. Charter Partly Bill of Loading submitted.
21. Short shipment.

The above discrepancies are commonly-found discrepancies, and more could be listed, based on LC specific conditions. As such, in case of discrepant documents are tendered, the bank should make an effort to get the discrepancies rectified by the exporter. In case of discrepancies, it could either make the payment against a guarantee of the beneficiary, or make the payment under reserve to the beneficiary's banker, or obtain the authority of the LC opening bank to negotiate the documents in spite of the discrepancies noticed therein.

Dispatch of export bills under Letter of Credit: If the bills are drawn in conformity with the LC terms and the bank has negotiated the bill, the documents should be dispatched to the LC opening bank without delay.

C. Advances against bills sent on collection basis

In some cases the bills will be sent on collection basis, either when the export credit limits are fully utilized, or in cases when the bills, drawn under LC, are discrepant or even when, the exporter himself requests for sending the bills on collection basis, in order to delay the realisation in anticipation of the strengthening of the foreign currency.

Banks allow advance against these collection bills to an exporter, as rupee finance, without fixing the Foreign Currency liability. Concessive rate of interest can be charged for this advance also up to the

transit period in the case of DP Bill and transit period + Usance Period + grace period (if any) in the cases of Usance Bills. Beyond this period, the interest rate will be subject to the various rates prescribed as per RBI guidelines by the banks themselves.

For computing the eligible transit period (NTP), the period will commence from the date of acceptance of the export documents at the branch for collection.

Before extending this facility to the exporter, branch should ensure that they have proper delegated sanctioning powers to allow such facility. In some banks sanctioning of advance against collection bills is not vested with all the sanctioning authorities.

D. Advances against exports on consignment basis

Goods are exported on consignment basis for approval and sale abroad and remittance of sale proceeds by agent/consignee at the risk of the exporters. Under such type of exports, the sale proceeds are remitted for the part of goods sold, and in case of unsold goods, goods are sent back to the exporter. The overseas branch/correspondent of the bank is instructed to deliver the documents to title of goods, to the consignee, against Trust Receipt. Advances granted against the export bill covering goods sent on consignment basis will be liquidated from remittance of the sale proceeds within six months from the date of shipment, conforming to the Exchange Control Regulations.

In the case of exports through approved Indian-owned warehouses abroad, the time limit for realization would be 15 months.

E. Advances against undrawn balances

In certain line of export trade, it is the practice of the exporter to leave a part of the amount unpaid for some time, as undrawn balances, which is settled by the buyer after satisfying himself about the weight, quality, etc., on arrival and inspection or analysis of the goods. Authorized dealers can handle such bills, provided the undrawn balance is in conformity with the normal level of balance left undrawn in the particular line of export trade, subject to a maximum of 10% of the bill export value.

The exporter should give an undertaking that he would surrender or account for the balance of the proceeds within the period prescribed for realisation. A proper follow-up should be made for the realisation of the undrawn balance. The authorised dealer will retain the duplicate copy of the GR form till such time the full export proceeds are realised.

Advance against undrawn balance can be made at a concessive rate of interest for a maximum period of 90 days, with specific margin held for such advances, in view of the likely hood of some part of this undrawn balance usually being deducted for quality claim, reduction in weight, etc.

F. Advances against duty drawback

In case of certain commodities, particularly engineering items, the domestic cost of production is higher in relation to international prices, due to which the exporters of such commodities are given support from the government, to make them competitive in the overseas market.

The Government of India and other agencies provide export incentives under the Export Promotion Scheme. This can only be in the form of refund of excise and customs duty known as Duty Drawback.

Banks grant advances to exporters against their entitlements under above category of export incentives, at lower rate of interest for a maximum period of 90 days. These advances are in the nature of unsecured advances, and as such should be allowed along with main export credit facilities (Pre and post-shipment credit).

For such advances, after the shipment is made, the exporters lodge the claim supported with relevant documents to the Customs Authorities. The customs will process the claim and disburse the eligible amount. While the claims are processed, which may take time, the exporters avail advance against these claims. The advances are liquidated out of the settlement of claims lodged by the exporters.

The bank should ensure that the bank is authorized to receive the claim amount directly from the concerned Government authorities.

Other Conditions

1. Period of Finance

The concept of Normal Transit Period (NTP) is applicable to all export bills for calculating the due date or the notional due date. The NTP allowed at present is 25 days for all foreign currency export bills. The Notional Due date, as such for demand bills will be 25 days from the date of handling, and that for Usance bills it shall be usance period plus 25 days NTP.

Banks allow concessional interest rates on export bills up to the Notional Due Date of the bill, calculated on the basis of the tenor of the bill and the NTP.

As such for Demand Bills, Post-Shipment advance is allowed at concessional interest rate for a period up to the Normal Transit Period (NTP) of the bill, while for Usance bills, the advance at concessional rate is allowed for the transit period + usance + grace period if any, but in any case not exceeding 180 days from date of shipment.

For example, for a sight bill drawn in USD, submitted to the bank on 1.7.2009, the NTP allowed will be 25 days, and the Notional due date (NDD) of the bill will be 25.7.2009. The advance will be allowed at concessional interest rate for 25 days, after which the bill/advance will be treated as overdue.

Similarly in case of a 90 days DA (Usance) bill in GBP, tendered to the bank on 1.7.2009, the NTP will be 25 days and NDD 25 + 90 days, i.e. 23.10.2009., considering that no grace period is allowed (ignoring holidays).

In case of a fixed due date export bill, where due date is linked to the date of bill of exchange or the Bill of Lading (shipping documents, etc. No Normal Transit Period is allowed, as the actual due date is already available/can be computed beforehand. In such cases, the period of concessional advance will also be calculated likewise.

2. Quantum of Finance

In the case of post-shipment advances, normally no margin is maintained for bills drawn under LCs, however banks tend to keep a small margin of 10%, in order not to finance the profit margins of the exporters.

In the case of export bills purchased against contracts/firm orders, some banks prescribe certain amount of margin, ranging from 10% to 25%, depending upon the additional security available, type of bill (DP or DA), past track record of the exporter, value of connection, etc.

3. Crystallization of Overdue Bills

All export bills drawn in foreign currency, purchased, discounted or negotiated, enter into the forward foreign currency position of the bank, and the liability of the exporter is to realise the same by the given due date and deliver the foreign currency to the bank.

In case of non-realisation of export bill by the given due date, the foreign currency liability of the exporter would continue, till the bill is realized or the liability is converted into the home currency, i.e., Indian rupee in our case, and liability fixed for the exporter

As such to restrict the period of this uncertain liability, FEDAI rules provide for crystallization or conversion of exporter's foreign exchange liability into rupee liability on the 30th day from expiry of the normal transit period in case of demand bills and on the 30th day after the notional due date in case of unpaid usance bills at the prevailing TT selling rate. If the 30th day falls on a non-banking day, on the following next-working day, crystallization should be effected.

Banks have now been given freedom to decide on the number of days to be allowed for crystallisation of export bills, depending upon the nature of commodity, country of exports and nature of transaction. As such, banks can now allow different period for crystallisation of export bills to customers, depending upon a variety of factors.

4. Export Credit in Foreign Currency

With a view to make credit available to exporters at internationally competitive interest rates, banks in India have been permitted to extend export credit in foreign currency to its exporter clients, at LIBOR linked rates, as under:

1. Pre-shipment Credit in Foreign Currency (PCFC)

PCFC can be allowed to exporters in foreign currency, as being allowed in INR. The PCFC can be allowed in USD, Pound Sterling, Euro or JP Yen, out of foreign currency balances available with the bank in EEFC, FCNRB, RFC, RFCD accounts, or from borrowings from banks/correspondents abroad, from line of credit arranged for the purpose, as also by generating foreign currency funds from rupee swaps.

The PCFC can be allowed initially for a maximum period of 180 days, and further extensions can be considered as in the case of Rupee PCL.

The spread for pre-shipment credit in foreign currency is related to international reference rates, such as LIBOR/EURO LIBOR/EURIBOR, and at present, banks are allowed to charge interest not exceeding 2.00% over the benchmark for 180 days. Any period beyond 180 days would attract 2% above the given rate.

The amount of PCFC allowed can be utilised for domestic inputs or for imports. In case of domestic inputs, the foreign currency loan is converted into rupee, while in the other case (imports), the amount so disbursed can be remitted directly to the overseas supplier.

PCFC is to be liquidated by discounting/rediscounting the foreign currency bill, under EBR scheme (details follow).

2. Export Bill Rediscounted Abroad (EBR)

EBR scheme is a scheme to finance export bills in foreign currency, and is equivalent to the FBP/FUBD or FBN under Rupee financing.

As in the case of PCFC, EBR can be allowed by banks out of own funds or borrowings or generating foreign currency funds from Swaps, as also by arranging Bankers Acceptance Facility (BAF) from overseas banks.

EBR can be allowed for a maximum of 180 days, at LIBOR plus 2.00% interest rate, as in the case of PCFC.

The proceeds of the bill handled under EBR, so discounted or purchased or negotiated, would go for adjustment of PCFC if any, taken against the particular order or LC. If no PCFC has been taken by the exporter, the foreign currency amount can be converted at prevailing TT buying rate, and rupee amount credited to exporters account.

Banks are permitted to allow export credit in foreign currency, out of their foreign currency liabilities (FCNRB, EEFC, RFC, etc. deposits) as also resort to borrowing funds from overseas correspondents, without any ceiling. Banks can also borrow funds from local interbank markets for the purpose. Banks are also allowed to generate foreign currency funds by undertaking Rupee/Foreign currency swaps.

5.5 GOLD CARD STATUS FOR EXPORTERS

Based on the indications made by the Government (Ministry of Commerce and Industry), in the Foreign Trade Policy 2003-04 to launch a Gold card scheme for creditworthy exporters with good track record for easy availability of export credit on best terms, the RBI, in consultation with select banks and exporters, has drawn up a gold card scheme, which envisages certain additional benefits based on the record of performance of the exporters. The gold card holder would enjoy simpler and more efficient credit delivery mechanism in recognition of his good track record.

The salient features of the scheme are:

- (i) All creditworthy exporters, including those in small and medium sectors with good track record would be eligible for issue of gold card by individual banks as per the criteria to be laid down.
 - (ii) Gold card under the scheme may be issued to all eligible exporters including those in the small and medium sectors who satisfy the laid down conditions.
 - (iii) Gold card holder exporters, depending on their track record and credit worthiness, will be granted better terms of credit including rates of interest than those extended to other exporters by the banks.
 - (iv) Applications for credit will be processed at norms simpler and under a process faster than for other exporters.
 - (v) Banks would clearly specify the benefits they would be offering to gold card holders.
 - (vi) The scheduled charges and fee-structure in respect of services provided by banks to exporters under the scheme will be relatively lower than those provided to other exporters.
 - (vii) The sanction and renewal of the limits under the scheme will be based on a simplified procedure to be decided by the banks. Taking into account the anticipated export turnover and track record of the exporter the banks may determine need-based finance with a liberal approach.
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- (viii) 'In-principle' limits will be sanctioned for a period of 3 years with a provision for automatic renewal subject to fulfillment of the terms and conditions of sanction.
- (ix) A stand-by limit of not less than 20 per cent of the assessed limit may be additionally made available to facilitate urgent credit needs for executing unexpected/sudden orders. In the case of exporters of seasonal commodities, the peak and off-peak levels may be appropriately specified.
- (x) In case of unanticipated export orders, norms for inventory may be relaxed, taking into account the size and nature of the export order
- (xi) Requests from card holders would be processed quickly by banks within 25 days/15 days and 7 days for fresh applications/renewal of limits and ad hoc limits, respectively.
- (xii) Gold card holders would be given preference in the matter of granting of packing credit in foreign currency.
- (xiii) Banks would consider waiver of collaterals and exemption from ECGC guarantee schemes on the basis of card holder's creditworthiness and track record.
- (xiv) The facility of further value addition to their cards through supplementary services like ATM, internet banking, international debit/credit cards may be decided by the issuing banks.
- (xv) The applicable rate of interest to be charged under the gold card scheme will not be more than the general rate for export credit in the respective bank and within the ceiling prescribed by RBI. In keeping with the spirit of the scheme banks will endeavour to provide the best rates possible to gold card holders on the basis of their rating and past performance.
- (xvi) In respect of the gold card holders, the concessive rate of interest on post shipment rupee export credit applicable up to 90 days may be extended for a maximum period up to 365 days.
- (xvii) Gold card holders, on the basis of their track record of timely realization of export bills, will be considered for issuance of foreign currency credit cards for meeting urgent payment obligations etc.
- (xviii) Banks may ensure that the PCFC requirements of the gold card holders are met by giving them priority over non-export borrowers with regard to granting loans out of their FCNR (B) funds etc.
- (xix) Banks will consider granting term loans in foreign currency in deserving cases out of their FCNR (B), RFC etc. funds, (banks may not grant such loans from their overseas borrowings under the 50 per cent window of overseas borrowings.)
- (xx) The credit to Indian exporters should be at rates of interest not exceeding Libor + 3.50 per cent.

Individual banks have framed their own gold card policies, with rebates in interest/other charges and other benefits to gold card holders, as envisaged in the RBI guidelines.

5.6 FACTORING AND FORFAITING

Besides the regular financing avenues from banks, the exporters also have access to other avenues of financing which also act as risk management products. Factoring and forfaiting are the two products, which allows the exporters to sell their book debts and raise finance. Let us see how these products work and what benefits accrue to the exporters.

1. Factoring

Factoring is defined as a continuing agreement between a financial institution (known as 'Factor') and the business concern (the exporter/seller) selling goods or services to track customers on

Open Account Basis, whereby the factor purchases the clients' book debts, either with or without recourse to the client and in relation thereto controls the credit extended to the customers and administers the sales ledger. As given above, the purchase of book debts is central to the function of the factoring, while credit control and administration of sales ledger are other services provided by the factor. While factoring has a long history, dating back to several centuries, in India, it was recently introduced in early 90s after recommendation of Kalyanasundaram Committee, set up to examine the feasibility of introduction of factoring in India which were accepted by the Reserve Bank of India.

A factor provides different services, which can be described as under:

- (a) Debt Administration: Managing the sales ledger of the client, saving his administrative cost of book keeping, invoicing, credit control and debt collection. This would also include work of following up for the debt collection.
- (b) Credit Protection: As professionals, factors, will have the facility for credit intelligence to enable them to assess credit risk and advise their clients accordingly.

The database on the individual buyers built up over a period of time, by the factor could be used by the client for a fee.

- (c) Factor Financing: While in India financing is an essential activity for a factor, in certain countries it may not be an essential service. Generally, a factor will be willing to advance up to 75-80% of the outstanding debts.

Factor Mechanics: For factoring operations, the basic need is to have a factoring agreement between the factor and the client. Besides these two parties, the purchaser, who has purchased the goods from the client, is also a party to the factoring deal, which normally evolves on the steps as given below:

1. The client/exporter approaches the factor with requisite details of business, debtors and orders in hand, which he intends to get factored.
2. The factor, (export factor), contacts his counterpart in the country of the importer/buyer, (known as import factor), to assess the creditworthiness of the debtor/buyer, to set limits on him.
3. The export factor, then signs an agreement with his client, detailing terms of services, along with indicative limits on the buyers/importers.
4. The clients submit two copies of the invoices drawn on the buyer/debtors, and get finance up to the extent approved.
5. The export factor sends one copy of the invoice to his counterpart, in the country of the importer, for collection of debt, when due.
6. The import factor, collects the debt, on due date and remits proceeds to the export factor, enabling him to adjust his outstanding. The balance amount is released to the exporter, after adjusting for interest, charges, etc.

In case on non-payment by the debtors on due date, the import factor settles the dues, and steps in to the shoes of the client/export factor for recovery of dues from the debtor.

Factoring could be done in a variety of systems;

1. Single factor system — where usually the exporter and the importer decide to have a common factor, with offices/branches in both the countries, to speed up the process and reduce costs.
 2. Two factor system - where two different factors in two countries are used, both independently rendering services to the exporter and the importer
 3. Direct export factoring - in this case, only one factoring company, based in exporters country is engaged, who makes all arrangements, assessment of credit of the debtor, etc., on his own.
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4. Direct import factoring - here only one factor, based in importers country is engaged. He is engaged by the importer to primarily facilitate financing of debts.

Advantages of Factoring

- (a) Immediate financing up to 75-80% of the invoice value.
- (b) No need for LC, thus saving costs for the importer
- (c) Credit check on importers/buyers.
- (d) Sales ledger maintenance.
- (e) Credit protection on all approved debtor limits.
- (f) Advisory services for new areas, countries.

2. Forfaiting

Another product for financing of export receivables is Forfaiting. It can be defined as a mechanism for financing by discounting of export receivables, without recourse to the exporter/seller, for a medium term, on a fixed rate basis, for the full value of the contract/invoice. In another words, forfaiting is the purchase by the financier, of medium term export claims on the buyers, without recourse to the exporters. It is a source of finance and not a type of credit insurance, as such no other costs, other than financing costs are involved in the transaction. The financier agrees to finance the transaction on the basis of the standing of the importer, his country risk, and at times, does so on the strength of guarantee of the importer's bank. Since forfaiting generally covers medium-term financing, export of capital goods, projects, etc., made on medium term basis, are eligible for forfaiting. However, there is no restriction for financing of medium term exports only, as such exports of commodities, consumer goods, where exports are normally made for short periods of say up to 12 months are also financed through this route.

Mechanism of a Forfaiting Transaction

There are five parties to any forfaiting transaction. Other than the exporter, importer and the financier, the banks of the exporter and the importer are also involved.

After getting the proposal from the exporter, the forfaiter ascertains the country risk, as also the credit worthiness of the importer. If need be, the importer is advised to get guarantee of his bank for payment of invoices on him. The discount charges for the transaction would depend upon the quality of credit, country risk and the nature of transaction. If the conditions are agreeable to the parties concerned, a contract is signed between the exporter and the forfaiter. Thereafter, the exports are made and bill so raised, discounted by the forfaiter.

Forfaiting is done against the bill of exchange or the promissory note, duly accepted by the importer and guaranteed by his bank. This is known, 'availing of the bill of exchange'. The cost charged by the forfaiter, usually covers the commitment fees, discount/financing charges as also documentation fees. The commitment fees usually ranges between 0.50 to 1.50% per annum, on the unutilized portion of the value of contract, and is charged for the period the commitment is given. The commitment fee is non refundable. Discount charges are market-related financing costs, based on LIBOR for the period of credit, plus a margin to cover forfaiters risks.

In India, RBI has permitted Exim Bank to facilitate financing of medium-term export bills through Forfaiting.

Benefits of Forfaiting to Exporters

- (a) Takes away political and commercial risks associated with export receivables.
 - (b) Makes available 100% finance against the invoice drawn.
 - (c) Without recourse facility.
 - (d) Freedom from credit administration, and follow-up.
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- (e) Cost saving on export credit insurance, besides related paperwork.
- (f) Fixed rate financing, freedom from movement of interest rates for the tenor of the bill.

Check Your Progress (B)

Fill in the blanks:

- (a) Finance allowed to an exporter, to fund the needs procurement of raw material, manufacturing and up to the stage of packing and shipment, is called _____ finance.
pre-shipment
- (b) While considering export credit, it must be ensured that the exporter's name does not appear under the exporter's _____ of RBI, and _____ list of ECGC.
caution list, specific approval
- (c) Normally the total period allowed for PCL should not exceed _____ days.
180
- (d) PCL advance should be liquidated on submission of relative export bills, by way of allowing _____ finance against those bills.
post shipment
- (e) PCL allowed without prior lodgement of order or LC is called account facility.
Running
- (f) Post-shipment finance is essentially an advance against _____ .
receivables
- (g) In case of rupee finance, the bills is to be purchased/discounted/negotiated at appropriate rate. _____ of documents takes place, when export documents, are drawn under Letter of Credit.
- (i) The NTP allowed at present is generally _____ days for all foreign currency export bills.
25
- (j) In case of non-realisation of a export bills purchased/discounted, the same should be usually crystallised on the _____ day from the NDD.
30th
- (k) The present interest cap for PCFC/EBR for 180 days is Libor plus _____ %.
3.50
- (m) Guaranteeing payment of a bill of exchange, is called _____ .
- (n) A factor would finance generally _____ % of the invoice value, while forfaiting could be done for _____ value of invoice.

and

are the two other methods of financing exports.

5.7 EXCHANGE AND TRADE CONTROL GUIDELINES FOR IMPORTERS

Keeping in view the need to conserve the precious foreign exchange, and to guard the country from scrupulous imports and bogus outward remittances, various export-import regulations and exchange control guidelines have been prescribed from time to time. While the physical movement of goods into India is regulated by Exim Policy formulated by the Director General of Foreign Trade (DGFT), the regulations relating to payment of such imports are governed by Exchange Control Regulations framed on the basis of Foreign Exchange Management Act, 1999 (FEMA 1999).

- (a) Importer-Exporter Code (IEC): As explained earlier, first and foremost, the importer customer has to have a valid IEC, issued by the office of DGFT.
 - (b) Approved commodity: OGL or Import licenses: While ADs are required to ensure that the goods imported or intended to be imported are as per the current export-import policy, the goods can be under the Open List (OGL), which can be freely imported, or can be imported
-

under specific license issued for the purpose by the DGFT. This has to be ensured prior to making import remittance, handling of import bills for collection or opening of letters of credit for import of goods. For this purpose, the ADs should verify the Export-Import Policy Book or the public notices issued by the DGFT.

- (c) Payments for imports: Any person who wants to make a remittance for imports, exceeding USD 500 or its equivalent, should make an application in form A1 (as prescribed by RBI) to the authorised dealer. This form contains the details of the currency, the total value of imports, commodity, the license number, etc., along with an undertaking by the importer and Authorized Dealer that they will comply with the Exchange Control Regulations.

Payment for imports should be to the debit of party's account. The approved method of payment relating to imports is as applicable to receipt in exports like Asian Clearing Union and other group.

- (d) Time limit for import payment. The remittance against imports should be completed not later than six months from the date of shipment. Any delay beyond this period should be justified by proper explanation from the importer. If the payment is to be made on a deferred payment arrangement (i.e, payment beyond six months and up to a period of three years) it will be treated as Trade Credits.

ADs can remit interest on import bills, sight basis as also usance bills, generally up to a period of six months, and up to 3 years in case of trade credits.

(c) Advance remittances: ADs may allow remittances of advance payment against imports of goods, to the extent and subject to the following conditions:

- (i) Up to USD 100,000 or its equivalent, after duly satisfying about the transaction, nature of trade and standing of the supplier, etc.
- (ii) If the amount of advance remittance exceeds USD 100,000, or its equivalent, an irrevocable standby letter of credit or a guarantee from a bank of international repute situated outside India or a guarantee of a bank in India, if such a guarantee is issued against the counter guarantee of an international bank situated outside India.
- (iii) The requirement of guarantee may not be insisted upon in case of remittances above USD 100,000 and up to USD 5,000,000, subject to a suitable policy approved by the bank's Board of Directors, to undertake such transactions.
- (iv) All cases beyond USD 5,000,000 should be referred to RBI, for prior approval.
- (v) Within the above ceilings, advance remittance may be permitted after verifying the documentary evidence indicating the cost of the goods and the proof of insistence by the overseas supplier on advance payment must be produced by the importer.
- (vi) The importer holds exchange control copy of a valid import licence for importing goods under reference or the goods not covered under the negative list.
- (vii) Remittance is made direct to the overseas supplier or his bank, and not to any agent of the supplier.
- (viii) Physical import into India should be made within six months (three years in case of capital goods) from the date of remittance and the importer should give an undertaking to produce documentary evidence of import within fifteen days from the close of the relevant period.
- (ix) In case of non-import of goods into India, the AD should ensure that the amount of advance remittance is repatriated to India or is utilized for any other purposes permissible under the extant rules or regulations.

F. Evidence of Imports

To ascertain importation of goods into India, importers are required to produce and submit to the AD who has handled opening of LC or the remittance of import bill, the exchange control copy of the Bill of Entry/Postal appraisal form or Customs assessment certificate, duly approved by customs. Authorized dealers are required to cross check the particulars in the Bill of Entry with the particulars of LC opened/ remittance made for imports.

In terms of extant RBI guidelines, an AD has to ensure receipt of Bill of entry in all cases where the value of foreign exchange remitted for import exceeds USD 100,000 or its equivalent, within three months from the date of remittance.

In case the Bill of Entry is not submitted within one month another reminder should be sent by registered post with acknowledgement due. If the importer has defaulted in submission of Bill of Entry within 21 days from the date of issue of registered reminder, AD should forward a statement consisting list of such defaulters to RBI on half yearly intervals, in the form of BEF furnishing the details of these import transactions.

For the purpose of monitoring receipt of bills of entry, proper records should be marked in the LC Register/Remittance Register. AD should in all cases acknowledge receipt of exchange control copy of Bill of Entry from the importers by issuing acknowledgement slips containing all details of Bill of Entry received by them.

The Bill of Entry should be preserved by authorised dealer and made available to Internal Auditors/RBI Inspectors for verification. In case of import through postal service and courier service, postal/courier wrapper must be obtained and preserved.

In case of imports by a company listed on a stock exchange, whose net worth is not less than Rs 100 crore as on the date of last balance sheet, ADs may accept either the copy of Bill of Exchange or a certificate from the CEO or the auditor of the company, certifying that the goods for which the remittance was made, have actually been imported into India, provided that the foreign exchange remitted is less than USD 1,000,000 or its equivalent.

Banks have been advised to have their own policy, duly approved by their Board of Directors, for follow up of the submission of evidence of import involving amount of USD 100.000 or less.

5.8 IMPORT FINANCE

1. Import Letter of Credit

This is the most used method of financing imports. The importer gets LC limits sanctioned from his bank and establishes LC on DA basis (usance), there by getting credit from the overseas supplier on the strength of his banks credibility (LC).

At times import LC are also used to generate liquidity, by way of establishing DA LCs for commodities, which can be sold immediately on sight basis, or for cash.

We have seen how Letters of credit work, in earlier unit. LC transaction also support Buyers credit and suppliers' credit, being other modes for financing of imports, are discussed later in this unit.

2. Import Loan

Such loans are at times granted against imported raw material, or goods meant for trading. The loans can be against pledge of goods or hypothecation to the financing bank. Importers prefer such loans, even at higher rates of interest, to hoard goods and to take benefit of depreciating domestic currency.

The financing against imported material/stocks and local stocks is at times differentiated, due to difference in interest rates, surcharge, interest tax laws, etc., which are imposed keeping in view the need for restrictions required for imports and the position of country's forex reserves, where outflows are required to be monitored and checked.

5.9 TRADE CREDIT - SUPPLIER'S CREDIT AND BUYER'S CREDIT

1. Supplier's Credit

Supplier's Credit is credit directly extended by the overseas supplier of goods to the importer. As in domestic markets, in the international markets also, the payment terms are either sight or on credit. The period of credit, normally depends on the necessity for the exporter/seller of the goods to increase sales, the demand of the goods in the market, requirement of the importer and the current market practices. The exporter may avail finance against the bills, after making the shipment, from his banker and the bank would receive funds on the maturity date. However, the exporter shall be liable to repay his bank, in case the overseas buyer does not make payment on due date.

In India, the period of supplier's credit is governed in terms of exchange control guidelines issued by Reserve Bank of India. Earlier, importers in India were allowed to avail supplier's credit, for a period of up to six months from the date of shipment, without any approval of Reserve Bank of India. However, supplier's credit availed beyond six months from the date of shipment, was termed as short-term loan, and therefore, required Reserve Bank of India's approval.

Subsequently, with the implementation of more and more liberalized steps by the Government, and Reserve Bank of India and also due to comfortable position of country's forex reserves, relaxations were announced for import of goods as well. To facilitate their operations and to make approvals hassle free, the suppliers' credit extended by the overseas supplier, for a period of more than six months from the date of shipment and up to less than three years has been termed as 'Trade Credit'. Any credit extended for three years or more shall be in the category of External Commercial Borrowings (ECB).

Banks can now, at their level itself, approve proposals received from their importer clients, for availing supplier's credit for a period beyond six months from the date of shipment, with maturity up to three years, for import of all items permissible under the Exim Policy, up to USD 20 million per import transaction. Similarly, for import of capital goods, banks can approve proposals for supplier's credit, with maturity up to less than three years, up to USD 20 million per transaction.

2. Buyer's Credit

The buyer's credit is credit arranged by the importer (buyer), from a bank/financial institution outside his country, to settle the payment of imports. In short, it is credit arranged by the buyer to settle import payments, irrespective of the period of credit.

In this type of credit, the supplier of the goods need not worry about the payment, as the payment is assured by the bank/financial institution, provided he completes his responsibility as per the requirement of the buyer. The modus operandi is that, in some cases on one hand the supplier (exporter) is not ready to give any credit (supplier's credit) while the buyer (importer) is also not in a position to make immediate payment. As such, the importer approaches his bank and requests for arrangement of payment to the exporter on immediate terms. The bank, through their own resources, or correspondent relationships, ties up with a foreign bank/financial institution, and after agreeing upon on the pricing/costing, makes arrangement to make payment to the exporter on submission of shipping documents. The importer then repays on the due date.

In India, the buyer's credit, as in the case of supplier's credit also, is regulated by exchange control guidelines issued by Reserve Bank of India, from time to time. In terms of earlier guidelines, buyer's credit, irrespective of the period of credit, required Reserve Bank of India's approval. In an era of restricted regulations, efforts were made to restrict imports and thereby

conserve precious foreign exchange. Accordingly, importers were not freely allowed to raise foreign currency loans and had to approach Reserve Bank of India for necessary approvals. Now in a liberalised era and with the comfortable position of country's foreign exchange reserves. Reserve Bank of India has permitted banks to approve at their level itself, proposals received from their importer clients, for availing buyers' credit for a period with maturity up to one year, for import of all items permissible under the EXIM Policy, up to USD 20 million per import transaction. Similarly, for import of capital goods, banks can approve proposals for buyers' credit, with maturity less than three years for an amount not exceeding USD 20 million per transaction.

Interest ceilings: The present ceilings for all in cost, including interest for buyers/suppliers credit, as fixed by RBI is as under:

- (i) Up to 365 days, LIBOR plus 200 bps
- (ii) Above one year - upto 3 years LIBOR plus 200 bps.

Above ceilings are for all in cost, and include management fees, arrangement fees, etc.

CHECK YOUR PROGRESS (C)

(i) Fill in the blanks:

(a) Every Importer must have an code issued by DGFT.

Export Import Code (IEC)

(b) For making payment of an import bill, the importer has to apply to authorised dealer in form

(c) The remittance against imports should be completed not later than the date of shipment
six

(d) Advance remittance for imports can be allowed up to USD _
100,000

guarantee of an international Bank.

months from

, without insisting on

In case of advance remittances for commodities, physical imports should be made within
months.

duly

(e)

(f)

(g) As per RBI guidelines, any credit up to a period of less than three years is called _
credit, while credits for three years and more are called ECB.

Trade credit

(i) Banks can approve, proposals for availing buyer's credit for a period with maturity up to
_____, for import of all items permissible under the Exim Policy, up to USD _
million per import transaction.

As an evidence of having made the imports, the importer has to submit ___
approved by customs, to the AD.

_____ credit is credit directly extended by the overseas supplier of goods to the importer.

(ii) State whether the following sentences are True or False:

(a) The Reserve Bank of India, with powers under Exim policy, regulates the Exchange Control
and receipts/payments of foreign exchange.

false

b) Every person/firm/company engaged in Export Import trade has to apply for and obtain an Importer-Exporter Code Number (IEC Number) from the Director General of Foreign Trade
true

(c) SOFTEX form is used for declaration of Export of software.
true

d) Trade samples of goods and publicity material supplied free of payment must be declared on the statutory declaration form.

false

e) Payment of export bills can be received by debit to FCNR, NRE account of the buyer.
true

f) Exports to Nepal are to be paid through ACU mechanism.

false

g) Status account holders are allowed to retain 100% of the eligible credits received in EEFC account.

true

h) Export bill financing is known as PCL.

false

i) In case after allowing PCL, exports do not take place, the advance is still treated as export credit.

false

j) At present banks are allowed to charge interest on PCFC, for 180 days at a maximum of LIBOR plus 1.00%.

false

5.10 CASE STUDY ON PRE- AND POST-SHIPMENT FINANCE

Case: A textile exporter, with estimated export sales of Rs. 300 lacs during the last year and projected sales of Rs.500 lacs for the current year, approaches the bank for granting credit facilities. The bank sanctions following facilities in the account:

PCL/FBP/FUBD/FBN..... Rs. 100.00 lacs

Sub limits:

PCL (25 % margin on fob value) Rs. 50.00 lacs FBP (10 % margin on bill amount) Rs. 50.00 lacs FUBD (15 % margin on bill amount) Rs. 50.00 lacs FBN (nil margin) Rs. 100.00 lacs

He gets an order for USD 50,000.00 CF, for exports of textiles- dyed/hand printed, to UK, with shipment to be made by 15.9.2009.

On 2.6.2009 he approaches the bank for releasing PCL against this order of USD 50,000.00. The bank releases the PCL as per terms of sanction.

On 31.8.2009, the exporter submits export documents for USD 48,000.00, against the order for USD 50,000.00. The documents are drawn on 30 days usance (D/A) as per terms of the order

The bank discounts the documents at the days applicable rate, adjusts the PCL outstanding and credits the balance to the exporter's account, after recovering interest up to notional due date.

Interest on PCL recovered separately.

The documents are realized on 29.10.2009, value date 27.10.2009, after deduction of foreign bank charges of USD 250.00. The bank adjusts the outstanding post shipment advance allowed against the bill on 31.8.2009.

Bank charges interest at - PCL- 8.50 % upto 180 days, and post shipment at 8.50 % upto 90 days and 10.50 % thereafter. Overdue interest is charged at 14.50%.

the USD/INR rates were as under:

— 2.6.2009: Bill Buying 48.20, bill Selling 48.40.

— 31.08.2009: TT buying 47.92, Bill buying 47.85, TT selling 48.08, Bill selling 48.15., premium for 30 days was quoted as 04/06 paise.

Now give answers to the following:

1. What is the amount that the bank allows as PCL to the e.xporter against the given export order, considering insurance and freight costs of 12%.
(i) Rs. 15,90,600 @ (ii) Rs. 2410000.00 (iii) Rs. 2120,800.00 (iv) Rs. 1815000
2. What exchange rate will the bank apply for purchase of the export bill for USD 48,000.00 tendered by the exporter:
(i) 47.89 (ii) 47.85 (iii) 47.91 (iv) 47.96
3. What is the amount of post shipment advance allowed by the bank under FUBD. for the bill submitted by the exporter:
(i) Rs.19,54,728 (ii) Rs 19,52,280 (iii) Rs.19,53,912 (iv) Rs.22,98,720
4. What will be the notional due date of the bill submitted by the exporter:
(i) 30.10.2009
(ii) 30.9.2009
(iii) 25.10.2009
(iv) 27.10.2009
5. Total interest on the export bill discounted, will be charged up to;
(i) notional due date 25.10.2009
(ii) value date of credit 27.10.2009
(iii) date of realisation 30.10.2009
(iv) date of credit to nostro account 29.10.2009

Ans. 1: USD 50,000.00 @ 48.20 = Rs.. 2410000.00 - less 12% for insurance and freight cost i.e Rs. 289,200 = Rs.21,20,800.00 (fob value of the order. Less margin 25% i.e. Rs.530,200.00 balance Rs 15,90,600.00

Ans. 2: 47.89 - Bill buying rate on 31.8.2008 - 47.85 plus 4 paise premium for 30 days, this being a DA bill.

€

Ans 3: USD 48,000.00 @ 47.96 =Rs. 23,02,080.00, less 15% margin on DA bill, i.e. Rs. 345312.00 = Rs 19,56,768.00

Ans 4: Bill submitted on 31.8.2009- drawn on 30 days DA plus normal transit period of 25 days - 31.8.2009 plus 30 days plus 25 days, i.e. total 55 days from 31.3.2009 i.e. 25.10.2009

Ans 5: Interest is charged up to the date the funds have been credited to the banks nostro account, the effective date of credit is the value date of credit, i.e. 27.10.2009.

Let Us Sum Up

We have seen that on one hand, the exporters in India are required to comply with several guidelines under FEMA, Exchange control and Trade Control, while on the other hand, they are given several facilities on trade front as also by allowing concessional finance.

The importers are also required to comply with import trade control and RBI guidelines, but that is required considering the country's policy to gradually open up on trade front, due to low reserves all these years.

Various concessions and freedom, now available to any Indian exporter or importer, have resulted in growth of country's international trade during last few years. The fi-eedom allowed

under the policy of Trade Credit, has also helped the Indian businessman to grow his business, by getting cheaper credit facilities from overseas markets.

Keywords

IEC code: A code number must for all persons/firms/companies engaged in export import trade, issued by the office of DGFT

Softex form: An export declaration form used for export of software in non-physical form.

EEFC Accounts: A foreign currency account, which can be opened and maintained by any exchange earner, an individual, firm or corporate.

PCL: An advance allowed for procurement of goods, manufacturing and shipment of good for export purposes.

PSEF: Advance against export bills.

NTP: Notional Transit Period allowed to each bill, for calculation of notional due date.

Crystallisation of export bill: Conversion of foreign currency liability of an export bill on the 30th day from due date, in case of non-payment.

PCFC: Packing credit allowed in foreign currency.

EBRD: Post shipment finance in foreign currency.

Factoring: Financing and maintenance of book debts by another party.

Forfaiting: Financing of export bills on non-recourse basis.

Buyer's credit: Credit arranged by buyer/importer to finance the transaction.

Supplier's credit: Credit arranged by the supplier/exporter for financing the transaction.

Bill of entry: A document, certified by customs authorities, evidencing import of goods.

Answers to Check Your Progress

- A. (a) IEC; (b) Software; (c) 21; (d) ACU dollar; (e) ETX, (f) 100, EEFC; (g) Value, nostro.
B. (a) pre-shipment; (b) caution list, specific approval; (c) 180; (d) post shipment; (e) Running; (f) receivables; (g) bill buying; (h) negotiation; (i) 25; (j) 30th, (k) 3.50; (l) Factoring, forfaiting; (m) availing; (n) 75-80%, fill.
C. (i) (a) IEC; (b) AI; (c) six, (d) 100,000; (e) six; (f) bill of entry; (g) suppliers; (h) Trade, (i) One year, 20. (ii) (a) False; (b) True; (c) True; (d) False; (e) True; (f) False; (g) True; (h) False; (i) False; (j) False

Terminal Questions

1. IEC number is required for:

- (a) Import of capital goods.
- (b) Filing of bill of entry with customs.
- (c) Undertaking any export or import transaction
- (d) Receiving gift from relatives abroad.

2. Banks cannot allow export credit for:

- (a) Supplies to special economic zones established within the country.
- (b) Supplies to merchant exporters, where the payment is received in rupees from the bankers of the exporters.
- (c) Supplies to oil mills for export of oil cake, where a large part of packing credit is adjusted by sale of oil in the local markets
- (d) Supplies to a manufacturer in India, who makes import substitute spare for machineries.

3. An export to a State Electricity Board, covering supply of Transmission towers, under a World Bank financed Project, will be called exports

- (a) Global
 - (b) Merchant
-

- (c) Deemed
- (d) Sub-supplier
- 4. Export credit in foreign currency can be presently allowed to exporters in India at a maximum interest rate of

- (a) Libor plus 200 bps. (c) Libor plus 350 bps.
- (b) BPLR-250bps. (d) BPLR plus 100 bps.

- 5.
- 6.
- 7.

Packing Credit Loan (PCL)

- (a) Is allowed against export bills on consignment basis.
- (b) Can be allowed to local manufacturer for supply of goods for exports.
- (c) Is another mode of financing imports.
- (d) Can be allowed in local currency only.

An Authorised dealer bank/branch, needs to submit to Reserve Bank of India, statement on half yearly basis, showing details of import bills, where evidence of imports has not been submitted within the stipulated time:

- (a) XOS (b) BEF

EEFC accounts can be maintained:

- (c) ETX
- (d) STAT 8
- (a) By individuals receiving grants in Rupees from abroad, under FCRA.
- (b) By companies going in for External Commercial Borrowings.
- (c) By companies having imports of goods for domestic consumption..
- (d) By receivers of inward remittance by way of export proceeds.

8. A financing arrangement, where the transaction is financed by a financial institutions in the exporter's country or any third country, based on the arrangements made by the importer or his bank, is called:

- (a) A transaction under Documentary Credit
- (b) A transaction of Supplier's Credit
- (c) A transaction of Buyer's Credit
- (d) A transaction finance through Factoring

9. As per extant FEDAI guidelines, crystallization of export bills purchased/discounted, is to be done as under:

- (a) On the 10th day after due date of the bill
- (b) On the 20 th day from the date of handling of the bill.
- (c) On the 45 th day from the due date
- (d) As prescribed by each bank or as per the arrangement between the bank and the customers.

10. Factoring is defined as:

- (a) Agreement between the exporter and importer to factor the price of shipping goods into the export invoice.
 - (b) Agreement between the financial institution and the importer to manage the Credit portfolio of the exporter
 - (c) Agreement between the financial institution and the exporter for purchase of the later's book debts and control the credit extended to the importers.
-

(d) Agreement between the exporter's Bank and the importer's bank for discounting of export receivables without recourse.

References for Further Reading

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UNIT 6 Risks in Foreign Trade Role of ECGC

STRUCTURE

6.0 Objectives

6.1 Introduction

6.2 Definition of Risk and Risks in international Trade

6.3 Country Risk

Check Your Progress (A)

6.4 Export Credit Insurance in international Trade

6.5 ECGC of India Role and Products

6.6 ECGC Policies

6.7 Financial Guarantees

6.9 Other Special Guarantees and Schemes Check Your Progress (B)

Let Us Sum Up Keywords

Answers to Check Your Progress Terminal Questions

References and Books for Further Reading

6.0 OBJECTIVES

The objective of this unit is to make readers understand:

- What is risk and various risks in international trade.
- Management of these risks and various guidelines related to risk management.
- Role and products of ECGC of India and how it supports exports financing to help increase exports from the country.

6.1 INTRODUCTION

We have seen in the earlier unit that any activity you indulge in is associated with uncertainty which may result in some loss or some gain. The arena of international trade is also not free from such uncertainties or In the international trade buyer risk, seller risk, shipping risk, etc., need to be kept in view and managed effectively. Risks needs to be accepted and managed effectively and efficiently to minimize the adverse effect and maximize the profit/goals of the organization. International Trade is largely dependent of financing by banks; as such countries have developed export credit guarantee corporations to take care of credit risks of the export financing institutions. In India, this role is played by ECGC of India Ltd. Various policies offered by ECGC; to financing banks and exporters help insure export finance and exporters' money, which can lead to growth of exports for the country.

Now, let us go in detail and study the risks in the international trade and the role of ECGC and its products.

6.2 DEFINITION OF RISK AND RISKS IN INTERNATIONAL TRADE

A risk can be defined as an unplanned event with financial consequences resulting in loss or reduced earnings. An activity which may give profits or result in loss may be called a risky proposition, due to the uncertainty or unpredictability of the activity or trade in future. While, in human life, the risk is related to illness, impairedness or loss of life, in commercial and business activities, the business profit or loss would depend upon how the business is ran or its affairs managed.

In other words it can be defined as the uncertainty of the outcome. A risk in any currency, commodity or an object is due to any exposure in that particular currency, commodity or the object. Like currency risk. Commodity price risk. Interest rate risk, etc. it is an integral part of international trade.

International trade is affected by a number of additional risks, more than those that affect domestic trade. This is because of its vast arena of operations, where the buyer and the seller are located in different countries, the goods and the value of goods move in opposite directions, the currency of the country of the buyer and the currency of the country of the seller have their own values which undergo frequent change frequently, while the invoicing may be in a third currency, acceptable to both. Sometimes it is possible to identify, isolate and quantify the risks, while at other times, it may not be possible to do so.

While we have deliberated upon risk in foreign exchange operations, in Unit 2, we now see what other risks, effect the international trade operations:

- A. **Buyer Risk:** The seller faces risks relating to non-acceptability, non-payment, quality acceptance, credit risk, etc.
 - B. **Seller Risk:** The Buyer faces the risk relating to the seller not shipping the goods after receiving advance payment, may ship poor quality goods and may ship the goods after considerable delay, which may either lead to cancellation or delays in further orders taken by the buyer or even penalties in delays/ non-shipment.
-

Over the period, when the buyer/seller undertake a few transactions, know each other's business, practices and commitments well, the buyer's and seller's risk reduces to a great extent.

C. **Shipping Risk:** Include risks arising due to other intermediaries in the international trade, like shipping companies, handling agents, port authorities, local transporters, or even loaders, etc., which may lead to delays, or non-shipment of goods in time, due to a variety of reasons, like, goods being mishandled, goods abandoned, goods siphoned, goods wrongly delivered, goods delivered at another destination, goods appropriated for freight payment. Transshipment risk, strike by local transporters causing delay in reaching goods to ports, strike by porters effecting loading of goods into the ship, backlog/unavailability of containers due to delayed train movements, attack by sea pirates causing delays, breakages, loss of goods, etc.

Due to above risks, beyond the control of buyers and sellers, nations at times declare shipping, and other related activities as essential services to promote cross border trade, particularly when the country is largely dependent either on exports or imports.

D. **Other Risks:** Some of the other risks like, bank failure risk, settlement risk, risk of competition, genuineness of documents, price risk, legal risk, spread risk, market risk (absorption/rejection), etc. could affect the parties to the international trade.

We can also categorise the risks in international trade as under:

- (a) **Credit Risk:** Relates to credit worthiness of the buyer, and could result in non payment of export bills, due to any reasons, like financial crunch, defaults, insolvency, etc.
- (b) **Legal Risk:** Relates to any amendment in the laws of the sellers or buyer's country, which could result in inability of the seller to export or of the buyer to remit proceeds of invoices. This could be due to embargoes on countries, ban or restriction on export of particular goods, ban or restriction on remittance of funds to particular countries, etc.
- (c) **Country Risk and Political Risk:** Relates to the developments in the country of buyer or seller, leading to default in export or payments. This could be due to uncertainty in laws, uncertainty in financial position of the countries, unharmonious relationship between countries, or fluid political situation. Countries' bad forex reserves position could lead to shortage of foreign exchange and inability to buy foreign exchange, resulting in externalization issues.
- (d) **Operational Risk:** Relates to operational issues at both ends or even at supporting organizations place. Strikes at seller's factory or even at sellers' raw material suppliers' factory, transporters, loaders, banks, clearing agents, etc. Similarly, operational break outs or failures of systems, connectivity, and communication break downs, commotions and other strikes, or errors by operating staff, etc. could lead to non shipment, or delay in shipment, shipment of defective or damaged goods, delays in making payments or receiving payments, etc.
- (e) **Exchange Risk:** Relates to movement on currencies. Any exporter or importer faces exchange risk, directly or indirectly. Invoicing in currency, other than home currency, strengthening or weakening of currency in which imports are billed, weakening of currency from where competitors import goods or supply goods to the same buyers/countries, etc could result in exchange risk to the exporter or the importer.

For example, after the exports, invoiced in foreign currency are made, strengthening of the home currency when payment is received, would result in exchange loss.

Similarly, strengthening of home currency to a higher extent, as compared to competitors' home currency, could result better pricing by competitors and in shifting of orders to other country.

6.3 COUNTRY RISK

Country Risk - RBI guidelines: As given above, international trade is prone to country risk, due to chances of loss in cross border trades, which can be caused by events in a particular country, affecting the profitability of the business or recovery of trade credits or investments. There could be several reasons leading to defaults by the buyers, due to reasons not within his control, but for the Governmental, political, economic or legal reasons of the land.

Reserve Bank of India has prescribed country risk guidelines for authorised dealer banks. In terms of these guidelines, banks are required to have their own country risk policy and have a system of grading/ rating of countries, based on a set of parameters. Where banks do not have their own system of rating of countries, they can adopt the country risk ratings, of ECGC of India. The country risk classification of ECGC of India, classifies countries into seven categories. Banks are also required to make provisions in case its exposures to any one country is one percent or more of its total assets, as on the last balance sheet date.

The country risk exposures of a bank shall include exposures by way of balances abroad, deposits placed abroad, investment abroad in bonds, debentures, overseas lending to corporates, as also trade finance exposures.

Factors, which need to be assessed, while reviewing the country risk, can be enumerated below;

- | | |
|--------------------------------------|-----------------------------------|
| (i) Political Stability/Instability | (ii) International Relations |
| (iii) Economic Policy | (iv) Gross Domestic Product (GDP) |
| (V) Inflation | (vi) Exchange Rate - Volatility |
| (vii) Level of Foreign Trade | (viii) Balance of Payment |
| (ix) External Debt | (X) International Reserves |
| (xi) IMF Quotas | (xii) International Rating |
| (xiii) Past Track Record on Payments | (xiv) Overall Assessment |
-)

RBI has suggested that, banks can have their own system for assessing country risk- i.e. set their own parameters for categorizing countries, as per risk. However, banks, who cannot have their own country risk assessment, and classification, can adopt the country risk classification, published by ECGC.

ECGC adopts a seven fold classification, covering presently 204 countries. It updates and publishes the country risk classification on quarterly basis. The country risk classification as on 30.9.2009 is as under;

Insignificant Risk - A1

Low Risk - A2

Moderately low risk - B1

Moderate Risk - B2

Moderately high risk - C1

High Risk-C2

Very High Risk - D

Besides above, 20 countries have been placed in Restricted Cover Group I, where revolving limits are approved by ECGC, valid for 1 year. 13 countries have been placed in Restricted Cover Group II, where specific approval is given, on a case to case basis, on merits.

Thus, we have seen that risks in international trade are a part of the activity, and are more than the domestic trade. The mantra to mitigate risk is to act cautiously, with proper planning of movement of goods and money and also by setting limits for counterparties, wherever, felt necessary. Further these risks can be mitigated to a large extent, with the help of credit insurance, which also covers country risk. Direct exchange risk can be covered with tools, such as forward cover, futures, options, etc. or even timing the inflows and out-flows of foreign exchange. Foreign currency accounts also help to mitigate exchange risk of the exporters and importers. It must be ensured that the tools used to mitigate risk, do not add to the risks, thereby meaning that products, which are understood well and can be controlled, only be used to mitigate the original risks.

We have studied the forex derivatives and their uses in Unit 2. We can now move to see how credit insurance is helpful in international trade and how it works in India.

Check Your Progress (A)

Fill in the blanks:

1. Risk is an event.

_, due to buyer and sellers being located in different countries.

Ans: Unforeseen

2. International trade is surrounded by various risks

3. Shipment of goods being delayed due to strike by port staff will be categorized as operational

4. Movement in price of home currency vis a vis the currency of invoice, would lead to risk. exchange

5. Political uncertainty in a country, leading to fall of the incumbent Government, would be a risk for its trade partners.

Country risk

6. True or False:

(i) Forward contracts can be used to mitigate country risk.

- false
(ii) International trade is risk free.
false
(iii) Risk is an integral part of any activity
true
(iv) Exchange risk cannot be mitigated.
false
(v) In international trade, only exporters face risk.
false

6.4 EXPORT CREDIT INSURANCE IN INTERNATIONAL TRADE

Exports grow on the backing of export financing by banks. Governments, in order to support exports, provide cheap financing options and provide comfort to exporters and financing banks, by way of export credit insurance. Export credit insurance, provides protection against losses from political and commercial risk to the exports and financing institutions

Countries have set up special corporations to provide these services of export credit insurance.

Some general insurance companies also provide credit guarantee for exports. Credit insurance lowers the cost of borrowing/financing, as the Government agency bears the risk of default as per policy terms. Usually, the insurance is on risk sharing basis- as such it covers a large part of credit default, but requires the insured exporter/financer to bear some part of the loss.

In India, export credit is guaranteed by ECGC of India, which was set up by the Government of India, to support growth of export. Several countries, small or big have institutions to guarantee credit for exports, like ECGD in USA, in Germany, etc. Globally, some of the non- life insurance companies offer credit insurance products. These products are meant specifically for providing risk cover to exporters, for any default on their export receivables. In India, too some non -life insurance companies, (e.g. New India assurance company) offer export credit insurance for defaults in receivables.

6.5 ECGC OF INDIA - ROLE AND PRODUCTS

1. About Export Credit Guarantee Corporation of India Ltd.

It is a credit guarantee institution, set up for the promotion of exports, by protecting the exporters from any financial loss due to the buyer's failure to pay or due to the problem of externalization in the country of import, by issuing various types of policies to the exporters. At the same time, ECGC issues various types of guarantees to banks, financing exporters, which protect banks in case of loss from their advances to exporters.

In other words, ECGC provides credit enhancements to augment the credit worthiness of the exporters so that they could get more and better facilities from banks.

In 1957 the Government of India established Export Risks Insurance Corporation (ERIC) to provide credit risk insurance to exporters, which was then transformed to Export Credit Guarantee Corporation Ltd., in 1964.

ECGC was established with the primary goal to support and strengthen the export promotion drive in India so that the trade gap between exports and imports is reduced to a minimum.

2. Main Activities of ECGC

ECGC provides a wide range of credit risk insurance cover to exporters against loss in export of goods and services. It also offers guarantees to banks and financial institutions to enable exports to obtain facilities, credit or otherwise, from banks. Recently they have started giving credit reports of overseas buyers also.

(A) Some of the main policies offered by ECGC to the exporters are:

- (i) Standard Policies to exporters to protect them against payment risks involved in exports on short-term credit.
 - (ii) Small Exporters Policy basically a Standard Policy, but incorporating certain improvements in terms of cover to enable to encourage small exporters.
 - (iii) Specific Shipment Policies designed to protect firms in India, against payment risks involved in
 - (a) Exports on Deferred Payment Terms
 - (b) Insurance for Buyers' Credit and Lines of Credit
 - (c) Services rendered to Foreign Parties
 - (d) Construction Works and Turnkey Projects Undertaken Abroad.
 - (iv) Exports (Specific Buyer) Policy
 - (v) Export Turnover Policy
 - (vi) Buyer Exposure Policy
 - (vii) Consignment Exports Policy
 - (viii) Multi-buyer Exposure Policy.
- (B) The guarantees/policies offered by ECGC to the banks are:
- (i) Export Credit Insurance for Banks (Whole turnover- Packing Credit)-ECIB (WT-PC).
 - (ii) Export Production Finance Guarantee
 - (iii) Export Credit Insurance for Banks (Whole turnover- Post shipment Credit)-ECIB (WT-PS).
 - (iv) Export Finance Guarantee
 - (v) Export Performance Indemnity
 - (vi) Export Finance (Overseas Lending) Guarantee
 - (vii) Transfer Guarantees

Besides above, ECGC also offers some Special Schemes, such as Transfer guarantees, (covering risk on transfer of funds), Scheme for Small Exporters, Exchange Fluctuation Risk Insurance Scheme, etc.

6.6 ECGC POLICIES

Let us now go through the main features of some of the policies and guarantees.

A. Standard Policies

The Standard Policies of ECGC provide cover for exporters for short-term exports. The different types of policies are:

- (i) Shipment (Comprehensive Risk) Policy - to cover both commercial and political risks from the date of shipment.
- (ii) Shipment (Political Risks) - to cover only political risks from the date of shipment.
- (iii) Contracts (Comprehensive Risks) Policy - to cover both commercial and political risks from the date of contract.
- (iv) Contracts (Political Risks) Policy - to cover only political risks from the date of contract.

Standard policies cover following risks:

- (i) Commercial Risks - covering Insolvency of the Overseas Buyer, Protracted Default by the overseas buyer to pay for goods accepted by him within a specified period usually 4 months from the due date. Repudiation - Buyers' failure to accept goods subject to certain conditions.
- (ii) Political Risks - which covers imposition of restrictions on remittance by the Government in buyers' country or any Government action which may block or delay payment to exporter, war, revolution or civil disturbances in buyers' country. New Import Licensing restrictions or cancellations of a valid import license in the buyers' country, intermption or diversion of voyage outside India resulting in payment of additional freight or insurance charges which

cannot be recovered from the buyer, any other cause of loss occurring outside India, not normally insured by general insurers and beyond the control of both the exporter and the buyer.

Standard policies do not cover following risks:

- (i) Commercial disputes raised by the buyer.
- (ii) Causes inherent in the nature of goods.
- (iii) Buyer's failure to obtain necessary import or exchange authorization from authorities in his country.
- (iv) Default or insolvency of any agent of the exporter or collecting bank. Loss or damage to goods which can be covered by general insurers.
- (v) Exchange rate fluctuation risk.
- (vi) Failure of the exporter to fulfill the terms of the export contract or negligence on his part.

The cover granted by ECGC on Standard policies is 90% of the value of exports. The premium for such policies varies for different countries and payment terms.

B. Small Exporters' Policy

The Standard Policy (Shipments comprehensive Risks Policy) issued by the Corporation to exporters is a declaration type of policy and is issued to cover shipments that may be made in period of 24 months ahead. For the purpose of issuing the Policy, a Small Exporter is defined as an exporter whose anticipated total export turnover for the period of 12 months ahead is not more than Rs 50 lacs. (Projected Export Turnover)

This policy provides cover against Commercial risks, covering insolvency of the buyer, failure of the buyer to make the payment due within 2 months from the due date, buyer's failure to accept the goods.

due to no fault of the exporter, provided that legal action against the buyer is considered to be inadvisable.

It also provides cover against Political risks, covering: (i) imposition of restrictions by the Government of the buyers' country or any Government action which may block or delay the transfer of payment made by the buyer (ii) War, civil war, revolution or civil disturbances in the buyers' country, (iii) New import restrictions or cancellation of a valid import license, (iv) Intermption or diversion of voyage outside India resulting in payment of additional freight or insurance charges which cannot be recovered from the buyer

Small exporters policy does not cover losses arising due to the following risks:

- (a) Commercial disputes including quality disputes raised by the buyer, unless the exporter obtains a decree from a competent court of law in the buyers' country in his favour
- (b) Causes inherent in the nature of the goods.
- (c) Buyer's failure to obtain necessary import or exchange authorization from authorities in his country.
- (d) Insolvency or default of any agent of the exporter of the collecting bank.
- (e) Loss or damage to goods, which can be covered by general insurers.
- (f) Exchange rate fluctuation.
- (g) Failure of the exporters to fulfill the terms of the export contract or negligence on his part.
- (h) Non payment under LC due to any discrepancy pointed out by the LC opening bank.

This policy is issued for a period of 12 months and its coverage is 95% where the loss is due to commercial risks and 100%, if the loss is caused by any of the political risks and the waiting period for claims is four months from the due date of payment.

C. Specific Shipment Policies - Short-Term

The Specific Shipment Short-Term Policies provides cover against commercial and political risks involved in export of goods on short-term credit not exceeding 180 days. Cover under these policies can be taken for shipment(s) made/to be made by the exporter to a buyer under a contract. These policies can be availed of by exporters who do not hold Comprehensive policy covering shipments in the specific contracts.

Short-term policies could be: (a) Specific shipments policy covering commercial and political risks (b) Specific shipments (political risk) policy, to cover only political risk at the Post-shipment stage in cases where the buyer is an overseas Government or payments are guaranteed by a Government or by banks or are made to associates, and (c) Specific Shipments (insolvency and default of L/C opening bank and political risks) Policy.

Commercial risks covered by the Short-Term policies, include:

- Insolvency of the buyer,
 - Failure of the buyer to make the payment due within a specified period normally 4 months from the due date,
 - Buyers' failure to accept the goods (subject to certain conditions)
- Political risks covered under this policy are:
- Imposition of restrictions by the Government of the buyer's country or any Government action, which may block or delay the transfer of payment made by the buyer,
 - War, civil war, revolution or civil disturbances in the buyer's country,
 - New import restrictions or cancellation of a valid import licence, intermption of voyage outside India resulting in payment of additional freight or insurance charges which cannot be recovered from the buyer,
 - Any other cause of loss occurring outside India, not normally insured by general insurers and beyond the control of both the exporter and the buyer.

Short-Term policies do not cover following losses:

- (a) Commercial disputes including quality disputes raised by the buyer unless the exporter obtains a decree from a competent court of law in the buyer's country in his favour,
- (b) Causes inherent in the nature of goods,
- (c) Buyer's failure to obtain necessary import or exchange authorization from authorities in his country,
- (d) Insolvency or default of any agent of the exporter or of the collecting bank,
- (e) Loss or damage to goods,
- (f) Exchange rate fluctuation,
- (g) Failure of the exporter to fulfill the terms of the export contract or negligence on his part.

D. Exports (Specific buyers) Policy

Exports - Buyerwise Policies - Short Term (BP-ST) provides cover to Indian exporters against commercial and political risks involved in export of goods on short-term credit to a particular buyer. All shipments to the buyer in respect of whom the policy is issued will have to be covered. However, there is a provision to permit exclusion of shipments under LC. These policies can be availed of by exporters who do not hold Standard Policy and also by exporters already having Standard Policy. These policies are of three types:

- (a) Buyerwise (commercial and political risks) Policy - short-term
- (b) Buyerwise (political risks) Policy - short-term.
- (c) Buyerwise (insolvency & default of L/C opening bank and political risks) Policy - short-term.

E. Buyer Exposure Policy

A variant to this policy is Buyer Exposure policy, which is specifically designed for large exporters to enable them to cover their exposure on a particular buyer on the basis of expected exposure. Two types of exposure policies - one for covering the risks on a specified buyer and another for covering the risks on all buyers - are offered.

The Buyer Exposure policy, provides flexibility to exporters to choose to obtain exposure based cover on a selected buyer, which provides cover against commercial and political risks attached to the buyer for both non-LC and LC transactions. A separate Buyer Exposure Policy is issued for each buyer covering all the exports to be made to the buyer during a period of twelve months. If the exporter has opted for commercial and political risks cover, failure of the LC opening bank in respect of exports against LC will also be covered, for the banks with World Rank (WR) up to 25,000 as per latest Banker's almanac. For covering any bank with ranking beyond that level, the exporter has to obtain specific approval from the branch, which issued the policy prior to making the shipment.

For covering the political risks only, in respect of LC transactions or shipments to associates. Buyer Exposure policy with endorsement restricting the cover to political risks only with significantly less premium is offered. This policy can be availed by exporters holding Standard Policy in respect of any of their buyers, where shipments to the buyers covered under Buyer Exposure Policies can be excluded from the purview of the Standard Policy, so that double premium payment and cover can be avoided.

F. Export Turnover Policy

Export Turnover policy is a variation of the standard policy for the benefit of large exporters who contribute not less than Rs. 10 lacs per annum towards premium. Therefore all the exporters whose turnover is likely to exceed the premium payable to ECGC by Rs. 10 lacs in a year are entitled to avail of it.

This policy envisages projection of the export turnover of the exporter for a year and the initial determination of the premium payable on that basis, subject to adjustment at the end of the year based on actuals. It provides for an additional discount in premium with an added incentive for increasing the exports beyond the projected turnover and also offers simplified procedure for premium remittance and filing of shipment information. It also provides for higher discretionary credit limits on overseas buyers, based on the total premium paid by the exporter under the policy. The turnover policy is issued with a validity period of one year. In most of the other respects the provisions relating to standard policy will apply to turnover policy.

G. Consignment Exports Policy

Economic liberalization and relaxing of trade barriers for trade have lead to new methods of trade - supplies and payments. One of the methods now being increasingly adopted by Indian exporters is consignment exports where the goods are shipped and held in stock at overseas centers, ready for sale to overseas buyers, as and when orders are received. Thus there is a time lag between the shipment and actual sale to the buyer, in such trade systems. To protect the Indian Exporters from possible losses when selling goods to ultimate buyers, ECGC has introduced a Consignment Policy Cover, to take care of such needs.

There are two policies available for covering consignment export (a) Consignment Exports (Stockholding Agent), and (b) Consignment Exports (Global Entity Policy)

The consignment exports (Stock-holding Agent) policy provides cover subject to:

- (i) Merchandise shipped to an overseas entity in pursuance of an agency agreement;

- (ii) The overseas agent is an independent and separate legal entity with no associate/sister concern relationship with the exporter;
- (iii) The agent's responsibilities could be any or all of the following, viz., receiving the shipment, holding the goods in stock, identifying ultimate buyers and selling the goods to them in accordance with the directions, if any, of his principal (exporter); and
- (iv) The sales being made by the agent would be at the risk and on behalf of the exporter (whether or not such sales are in the agent's own name or otherwise) in consideration of a commission or some similar reward or compensation on sales completed.

6.7 FINANCIAL GUARANTEES

While it is essential that exporters continue to get timely and adequate export credit both at pre-shipment and post-shipment stage, so that the best possible potential for exports can be realized, banks will be willing to release such facilities freely only if the advances are utilized properly and realized in time. ECGC, with the intention of giving protection to the bankers against losses on account of their financial lending to their exporter clientele, has been giving guarantees to financial institutions/banks. This in turn leads to an additional security for the bankers and thus translates into adequate financial support to exporters.

ECGC issues following types of guarantees looking to the various needs of exporters/financial institutions:

1. Packing Credit Insurance
2. Export Production Finance Guarantee
3. Post-shipment Export Credit Insurance
4. Export Finance Guarantee
5. Export Performance Guarantee
6. Export Finance (Overseas Lending) Guarantee

1. Packing Credit Insurance

Any loan given to an exporter for the manufacture, processing, purchasing or packing of goods meant for export against a firm order or letter of credit qualifies for packing credit guarantee. It is issued for a period of one year against a proposal made for the purpose and covers all advances that may be made by the bank during the period to a given exporter within an approved limit. The claim is payable, in case the pre-shipment credit granted is not paid within 4 months from the due date of the loan.

Export Credit Insurance for Banks (Whole turnover- Packing Credit)-EC1B (WT-PC), is issued by ECGC to banks wherein a higher percentage of cover is available at a lower premium since a large volume of business is offered to cover in this guarantee. Bank is required to notify the limits sanctioned to their exporter customer within 30 days of the sanction and banks are required to take the approval of the Corporation if they exceed an agreed value, called Discretionary limit.

The premium and cover available varies from bank to bank and is specifically approved/prescribed by the ECGC, during the annual renewal of the guarantee. The premium ranges from 6 to 10 paise per Rs 100.00 per month, and cover ranges from 50 to 75%.

2. Export Production Finance Guarantee

This guarantee covers the advances given by banks against incentives/receivable at the Pre-shipment stage. While the extent of cover and the premium are the same as for packing credit guarantee, banks having ECIB (WT-PC) are eligible for concessional premium rate and higher coverage.

3. Post-Shipment Export Credit Insurance

Advances against export bills by way of purchase, negotiation or discount or rupee finance by banks are covered under this guarantee. Under this guarantee, the exporter should hold suitable shipments or contracts policy of ECGC to cover the overseas credit risks.

Export Credit Insurance for Banks (Whole turnover - Packing Credit) - ECIB (WT-PC), is issued by ECGC on whole turnover basis also, wherein the advances granted by the bank to exporters by way of purchase, negotiation, or discount of export bills or advances against export bills sent on collection are covered. In this a higher percentage of cover is available at a lesser premium. The premium for this guarantee is 5-9 paise per Rs 100.00 per month and cover is usually 60-75%. Wherever, the exports are covered under individual policy taken by the exporter, the cover under whole turnover guarantee increases to 75-90%.

4. Export Finance Guarantee

When banks grant post-shipment advances to their exporters against export incentives receivables in the form of cash assistance, duty drawback, etc., it can be covered under this guarantee. The cover available is 75% of the finance, while the premium ranges from 7 paise upwards.

5. Export Performance Indemnity

It is issued by ECGC in the nature of a counter guarantee to the bank against possible losses that they may suffer on account of the guarantees issued by them on behalf of its exporter clients. Guarantees are required to be issued on account of exporters clients, in favour of overseas buyers, for performance of contracts. Bid-bonds, quality, etc. Guarantees are also required in favour of customs, for import of capital as well as raw material free of customs duty, or on reduced duty, against export commitments.

6. Export Finance (Overseas Lending) Guarantee

7. Other Special Guarantees and Schemes

A. Transfer Guarantee

When a bank in India adds its confirmation to a foreign letter of credit, it binds itself to honour the drafts drawn by the beneficiary of the letter of credit without recourse to him provided such drafts are in accordance with the terms of the letter of credit. The confirming bank will suffer a loss if the foreign bank fails to reimburse it with the amount paid to the Exporter. It is this transfer guarantee that safeguards banks in India against a possible loss arising out of such risks.

B. Exchange Fluctuation Risk cover Scheme

The cover under the scheme is available for payment scheduled over a period beyond 12 months up to a maximum period of 15 years. Cover under the scheme is available for payments specified in US dollar, Pound Sterling, EURO, Japanese Yen, Swiss Francs, UAE Dirham and Australian Dollars. However, cover can be extended for payments specified in other convertible currencies at the discretion of the ECGC.

The contract cover provides a franchise of 2%. Loss or gain within a range of 2% of the reference rate will go to the exporters' account. If loss exceeds 2%, ECGC will make good the portion of loss in excess of 2%, but not exceeding 35% of the reference rate. In other words, gains/losses up to 2% and beyond 35% of reference rate will be to the exporters' account. Gains or losses beyond 2% and up to 35% will be to ECGC's account.

C. Maturity Factoring

ECGC full fledged factoring service takes care of the export credit guarantee for the exporters, besides their financing needs. Factoring service covers financing and collection of receivable of series of transactions between the buyer and the seller. It also includes credit protection, besides improving exporter's cash flows.

Factoring applies when the export has sales on open account, on a continuous relationship, the past track record of the seller is clear, the buyer is given a notice of assignment, and the sale does not involve counter trade.

ECGC factoring service provides:

Facilitates purchase of account receivables

Provides upto 90% finance against approved transactions

Full credit guarantee on buyer's default or insolvency.

Maintenance of sales ledger

Follow-up for collection of export proceeds

Eligibility:

Exports with good track record

Dealing on DA terms/open account terms with buyers

Having unexpected bulk orders to execute

Exporters facing large working capital shortfall by way of bill financing

The facility allows exporters to avail additional finance, eliminates the need for routing export bills through commercial banks and also the need for follow up with the buyers for payments.

The export factoring also reduces the administrative costs to the exporters.

6.9 OTHER ASPECTS RELATING TO ECGC-POLICIES AND GUARANTEES

- (i) Credit guarantees and policies of risk sharing basis: All ECGC policies and financial guarantees are issued on risk sharing basis, i.e. the cover provided by ECGC is not for 100 % value of exports made or finance allowed by Banks, but the exporter or the financing bank, who takes the policy or the financial guarantee has to bear a small part of the loss to share the loss incurred in the export financing. The maximum cover is for 90% —95 %, of the value/financed amount.
 - (ii) Since ECGC provides credit insurance for export credit allowed by banks/exporters, its policies and guarantees fall under the purview of Insurance Regulatory & Development Authority (IRDA). The Schemes of ECGC are thus; governed by IRDA and certain guidelines as applicable to general insurance shall apply to these schemes. As in case of any other insurance, even banks, which were earlier required to pay the premium on ECGC financial guarantees, on monthly basis, in arrears (after the end of the month) on the basis of products of financed amounts, are now required to pay up front one month premium, based on previous years' average, so as to comply with the IRDA guidelines.
 - (iii) Monthly declarations are to be submitted by exporters having policies covering their whole export turnover Similarly, banks having financial guarantees covering Pre-shipment and Post- shipment finance, are required to submit a monthly declaration to local offices or nearest offices of ECGC, showing total amounts financed during the month and products thereof along with the premium for the month.
 - (iv) The whole turn over insurance cover issued to banks, by ECGC, are now called as Export Credit Insurance for Banks-(WT-PC) {EC1B-, (WT-PC) } and Export Credit Insurance for Banks - (WT-PS). {ECIB (WT-PS)}.
 - (v) ECGC proscribes: Discretionary Limits (DL) for financial guarantees, up to which limit banks are permitted to allow finance without prior approval of ECGC, and only a notification
-

(report) is to be sent in prescribed format. In other cases, where the limits sanctioned is beyond the DL, prior approval of ECGC is required to be obtained before release of limits.

- (vi) Notice of Default and lodging of Claims: Under the financial guarantees, banks are required to file with ECGC, a notice of default within 4 months from the due date or one month from the date of recall. Similarly, claims are to be filed within 6 months from the date of lodging default notice.
- (vii) Since the policies and guarantees are on risk sharing basis, any recovery made by the exporter or the financing bank, is to be refunded to the ECGC in the ratio the risk has been shared. For example, in case of an export bill where claim has been settled under WT-PS, for 65% of the outstanding amount of advance, the bank, on getting collateral securities realized for a part amount, has to pay back 65% of the realized amount to ECGC, thus continuing the risk sharing ratio at 65:35.
- (viii) For a large majority of countries, the Corporation places on limit for covering political risks. Such countries are referred to as 'open cover' countries. However, in the case of certain countries, where the political risks are very high, cover is granted on a restricted basis. In respect of the few remaining countries under restricted cover, which are high risk countries, specific approvals are given on the merits of each case. The period of validity of specific approval is six months.

In addition ECGC provides the list of borrowers, Directors, Corporates, etc., under their Specific Approval List (SAL) for which, in case of finance, banks should seek prior approval from ECGC.

Check Your Progress (B)

Fill in the blanks:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

ECGC was established with the primary goal to support and strengthen the ___promotion drive in India.

Standard policies cover _____ of the Overseas Buyer.

Political Risks covered under specific policies, include Imposition of restrictions on remittance by the _____ in buyers' country.

Standard policies do not cover _____ fluctuation risk.

Small exporters policy is issued for a period of _____ months.

_____ Guarantee covers post-shipment advances against export incentives receivables in the form of cash assistance, duty draw-back, etc.

Maturity Factoring provides 100% credit guarantee protection against

Let Us Sum Up

We have seen that foreign trade is besieged with several types of risks, which need to be taken care when handling international trade transactions. Proper perception of risks and the measures to contain the risks is a must for any trader, bank or institution.

We have also seen that export credit insurance plays an important role in increasing exports, by providing insurance for export credit to exports/financing institutions. ECGC of India provides

credit insurance to exporters and financing banks, in India. ECGC of India has various policies for exporters and banks, to suit a variety of needs. It may be noted that policies given by ECGC are on risk participation basis, where, the exporters/banks have to bear some loss, on claim being raised on ECGC for any loss under the policy.

Keywords

Risk: Uncertainty

Policies of ECGC: Credit insurance policies are given to individual exporters to cover risk of nonpayment by the buyer of goods or other events.

Insurance cover (Guarantees) of ECGC: Insurance cover (Guarantees) are given to financing banks to cover the risk of non-payment by the exporter or the drawee of the export bills, financed by them.

Maturity factoring: A guarantee scheme, under which, the factor pays only on the due date of the export receivable, and not at the time of drawing of the export bill. The financing of the bill, is done by another financier, on its strength.

RISKS IN FOREIGN TRADE - ROLE OF ECGC

Loss sharing: Insurance by credit insurance companies does not cover 100 % of loss, but a part of the loss is to be borne by the insured.

Answer to Check Your Progress

A. 1. Unforeseen; 2,risks; 3 operational.; 4 exchange.; 5. country; 6. (i) False; (ii) False; (iii) True; (iv) False, (v) False

B. 1. export 2. insolvency 3. Government 4. currency 5. 12 6. Export finance 7. bad debts.

Terminal Questions Objective Type

Fill in the blanks:

does not honour the payment of the bill.

1. An exporter is exposed to credit risk, if the _____

2. The importer is exposed to _____ risk, if the supplier sends goods not as per the specifications

and quality as agreed upon.

3. A last minute delay in shipping the goods due to strike by port staff, leads to _____ risk in

international trade.

4. Political _____, could lead to country risk for the buyer and sellers in international trade.

5. ECGC provides export credit _____, to exporters.

6. ECGC policies re covered under insurance guidelines issued by _____ .

7. Defaults under ECFC financial guarantees to banks is to be filed within _____ months from the

due date of advance.

8. ECGC country risk classification is a _____ fold classification.

Mark the correct option:

1. A risk is:

(a) _____ related to illness, which does not effect the human life

(b) _____ related to events which do not effect the profits of the organization.

(c) _____ related to unplanned event with financial consequences resulting in loss.

(d) _____ a certain event, where outcome is known.

2. (a) Country Risk is when the buyer or borrower is forbidden by the Government to honour his _____

commitment.

(b) _____ Failure of counter party is called liquidity risk.

(c) _____ Settlement Risk arise due to problems related to mismatch of funds or liquidity.

(d) _____ Interest Rate risk arises with favourable movement of interest rates.

3. Operational Risk does not occur if;

(a) _____ Strike at the port.

(b) _____ Non loading of gods on the desired ship, due to rains.

(c) _____ Delay in supplies by sub-suppliers.

(d) _____ Delay in payment by the buyers.

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4. ECGC policies do not cover:

- (a) Exchange fluctuation risk.
- (b) risk due to insolvency of the buyer.
- (c) risk due to default by the shipping company.
- (d) Risk due to new licencing imposed by the buyers country.

5. Exchange Fluctuation Risk of ECGC:

- (a) covers all exports payments upto six months period.
- (b) covers 100 % exchange fluctuation of Indian exporters.
- (c) covers exchange fluctuation above 2% and upto 50 % only
- (d) covers exchange fluctuation above 2% and upto 35 % only.

6. General policies of ECGC do not cover:

- (a) Commercial dispute between the buyers and the sellers.
- (b) Insolvency of the buyer.
- (c) Restrictions imposed by buyers country,
- (d) Default by buyer to pay for goods already accepted.

7. The guarantees given by ECGC. to cover loss on advances for incentives receivable by exporters at pre-shipment stage, is called;

- (a) Post-Shipment Export Credit Guarantee
- (b) Packing Credit Guarantee
- (c) Export Production Finance Guarantee
- (d) Export Finance Guarantee

8. Credit guarantees are on risk sharing basis, means that:

- (a) The buyer and seller share the risk of default of any one of them.
- (b) The buyer shares the defaulted amount with the insurance company.
- (c) The seller shares the risk with the financier.
- (d) The financier shares the risk with the insurance company.

References for Further Reading

1. Reserve Bank of India Guidelines for Internal Control for Foreign Exchange Business, Master Circulars, Circulars, issued from time to time.
 2. FEMA 1999.
 3. FEDAI Rule book and various circulars on the subject.
 4. FEDAI Study Booklets for Orientation workshops.
 5. ECGC product brochures and circulars/website
 6. All earlier publications of IIBF.
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UNIT 7 Role of Exim Bank, Reserve Bank of India, Exchange Control in India - FEMA and FEDAI and Others

STRUCTURE

7.0 Objectives

7.1 EXIM Bank - Role, Functions and Facilities Check Your Progress (A)

7.2 Reserve Bank of India - Role and Exchange Control Regulations in India

7.3 Foreign Exchange Management Act (FEMA) 1999 Check Your Progress (B)

7.4 Role of FEDAI and FEDAI Rules Check Your Progress (C)

7.5 Short Notes on Other Topics : ECB and ADR/GDRs and FCCB Check Your Progress (D)

Let Us Sum Up Keywords

Answers to Check Your Progress Terminal Questions References for Further Reading

7.0 OBJECTIVES

The objective of this unit is to understand the functions and role of EXIM Bank, Reserve Bank of India, FEMA and its important provisions, FEDAI and other related agencies in the development and control of international banking business in India.

International banking and trade involves transactions between two countries, currencies and as such are controlled, supervised, regulated and supported by the central bank of the country, while assisted and supported by various other agencies like EXIM bank, insurance companies, ECGC, FEDAI, etc.

The control and support functions make the trade and markets grow in a manner, which best suits the country, as also is in line with the broad policy framework of the nation - monetary and fiscal, which include value of currency, balance of payment and trade, the needs and capabilities of the country.

7.1 EXIM BANK - ROLE, FUNCTIONS AND FACILITIES

The Exim Bank of India was established in 1981, under the Export Import Bank of India Act 1981, an Act of Parliament, as a principal financial institution for providing financial assistance and services and for coordinating the functions of institutions engaged in financing of export import trade in the country, specially on a long-term basis. It arranges lines of credit to other Governments, for promoting exports of goods made in India.

The functions and operations of Exim Bank evolve around following philosophy:

1. To make exports internationally competitive, by offering finance at competitive rates and conditions.
2. To develop alternate financing solutions.
3. To provide data, information and advice for new export opportunities to Indian exporters.
4. To provide selective production, marketing and financing for Indian products to make them internationally competitive.
5. To respond to export problems of Indian Exporters and pursue policy resolutions.

1. Financing Programmes

EXIM Bank's lending activities to the trade, banks and other institutions, can be listed as under:

A. For Exporters and Importers

- (i) Suppliers' Credit: Export credits extended to Indian exporters to enable them to offer deferred credit to overseas buyers.
 - (ii) Consultancy and Technology Services: Financial assistance to exporters for offering deferred credit to overseas buyers of Indian Consultancy, technology and other services.
 - (iii) Pre-shipment Credit: Finance for executing contracts involving manufacturing cycle of over six months.
 - (iv) Project Finance to Export Oriented Unit: Term loans for setting up of export oriented units in export processing zones as also Domestic Tariff area (DTA) Units exporting minimum 25% of annual sales.
 - (v) Import Finance: Financing of imports which are export related, i.e., imports by export-oriented units, imports of computer systems for development and export of software, import of plant and machinery, technology up gradation, expansion of production capacity for export markets.
 - (vi) Overseas Investment Finance: Finance to Indian companies towards their equity participation in joint ventures abroad.
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Exim Bank has also been permitted by RBI to facilitate financing of medium-term long term export bills through Forfaiting.

Exim Bank also allows finance in foreign currency, at internationally competitive interest rates to Indian exporters for their regular pre-shipment credit requirements. The export bills are handled by the commercial bankers of the company, with an undertaking that the payment of the export bill, upon receipt, shall be passed on to EXIM Bank for liquidation of the finance allowed by them against the goods/bill.

B. For Commercial Banks

- (i) Export bills Re-discounting: Commercial banks in India, authorised to deal in Foreign Exchange, are given refinance facility for their export bills portfolio, and thus can rediscount their short- term export bills with an usance period not exceeding 180 days.
- (ii) Small Scale Industry (SSI) Export Bills Rediscounting: For rediscounting of export bills, by banks, drawn by SSI units.
- (iii) Refinance of Export Credit: This scheme covers refinance of deferred payment loans allowed by authorised dealers in foreign exchange, extended for export of Indian goods.
- (iv) Refinance of Term Loans: Under this scheme, banks can get refinance up to 100% of the term loans allowed to eligible export oriented units, computer software exporters, for procuring capital goods.
- (V) Guarantees: EXIM Bank also participates with Commercial banks in India in issue of guarantees such as advance payment, performance, retention money and guarantees for borrowing abroad for execution of export contracts.

C. For Foreign Governments, Foreign Importers and other Financial Institutions

- (i) Overseas Buyer's Credit: Exim Bank offers credit to foreign importers directly, for import of eligible Indian goods and related services, helping them to get credit on goods purchased from India.
- (ii) Lines of Credit: Exim Bank sanctions Lines of Credit to foreign Governments for allowing term finance for import of eligible Indian goods and related services by them or financial institutions, specified by them. The Indian exporter of goods and services gets payment on submission of shipment documents or proof of completion of service/job, while the foreign Government pays at a later date as per tenor of line of credit.
- (iii) Relending Facility to Banks Overseas: Exim Bank allows Relending facility to international Banks to provide term finance to their clients overseas for import of eligible Indian goods.

2. Deferred Payment Exports/Project Exports

Under the existing Exchange Control Regulations exporters are required to realise full export proceeds within a period of six months from the date of shipment, except for certain specified type of exporters.

like status holders, etc. Such exports are determined to be on cash basis. Whenever export proceeds are proposed to be received fully or partly beyond the statutory time limit of six months, these are treated as deferred payment exports.

The goods eligible for deferred payment export are segregated into two categories, viz.. Group A comprising exports of capital and production goods, and Group B, comprising consumer durables and industrial manufacture.

For availing finance against exports on deferred payment basis, the exporter is required to approach the sponsoring bank, the main banker or the lead bank of the exporter, which can approve such projects valued up to Rs 25.00 crores, subject to conformity with guidelines. Proposals of value not exceeding Rs 100 crores are to be referred by the sponsoring bank to

EXIM Bank, for in principle clearance at bid stage itself, along with copies thereof to RBI and ECGC.

For contracts valued more than Rs 100 crores, an inter institutional working group which meets at EXIM Bank and acts as a focal point has to consider the proposal at pre-bid stage. The working group members comprise of officials from EXIM Bank, ECGC, RBI-FED and sponsoring banks.

3. Assistance for Project Exports/Turnkey Projects/Construction Projects

Export of engineering goods on deferred payment terms and execution of turnkey projects and civil construction contracts abroad are collectively referred to as Project Exports. Project Export contracts are generally of high value and exporters undertaking them are required to offer competitive credit terms to be able to secure orders from foreign buyers in the face of stiff international competition.

Turnkey projects are those which involve supply of equipment along with related services like design, detailed engineering, civil constructions, erection and commissioning of plant. Typical projects include supply, erection and commissioning of boilers or plants for manufacture of cement, sugar, textiles, chemicals.

Construction Projects: It involves civil works, structural works as well as associated supply of construction materials and equipment. While the element of equipment is smaller in construction projects as compared to turnkey projects, the line of demarcation could be very thin.

Construction projects include civil works for roads, railway lines, airports, irrigation canals and dams, buildings, technical and consultancy service contracts involving provision of personnel furnishing of know how, skills, operation and maintenance services and management contracts are covered under the banks financing programme.

EXIM Bank extends funded and non-funded facilities for industrial turnkey projects, civil construction contracts as well as technical and consultancy service contracts. The non-funded facilities would include, Bid Bond, Advance Payment Guarantee, Performance Guarantee, Guarantee for Raising/Borrowing Overseas, Other Guarantees for customs duty exemption, security deposits, etc.

Funded facilities granted by Exim Bank could include Pre-shipment Rupee Credit for procuring material against rupee payment from local suppliers, pre-shipment credit in foreign currencies to finance cost of imported inputs for manufacture and export products to be supplied under the projects. Post-shipment Rupee Credit on deferred payment terms covering eligible Indian Capital and engineering goods and related services.

EXIM Bank also considers Foreign Currency Loans at competitive rates to finance purchase of third country materials, equipments and constructions machinery.

These facilities are extended by EXIM Bank individually or in participation with Commercial Banks.

4. Other Services and Programmes

(i) Consultancy and technology services, wherein Indian consultants are assisted by way of long- term financial assistance, manpower and expert recruitment, preparation of project reports, plans, transfer of technology, etc.

(ii) Ch -erseas investment finance, wherein corporates interested in joint ventures abroad, are provided equity finance by Exim Bank. The equity participation can be by way of export of plant and machinery, for which long-term export finance is considered by Exim Bank.

(iii) Import loans for financing imports from third countries for projects to be executed in foreign countries.

- (iv) International merchant banking services include foreign currency financing and advisory services for raising low cost finance for projects abroad to be executed by Indian companies.
- (V) Export Marketing Fund (EMF): Exim Bank is the nodal agency, designated by the Government of India (GOI), to manage the Export Marketing Fund (EMF) to accelerate the export growth of target products with industrialized markets. EMF-1 was a component of World Bank loan to India of USD 250 million for Industrial Export (Engineering products) project, while EMF-2, amounting to USD 37 million is a component of a World Bank loan to India for export development. EXIM Bank has also launched Export Marketing Finance EMF-3 from its own resources.

Private Sector Companies and joint sector companies, who have the overall resources, capability potential, top management commitment and on export strategy to penetrate and retain presence particularly in developed country markets are eligible for use of EMF support. The funds are to support any manufactured export and in addition, computer software. The activities which are eligible for EMF support include:

- Desk research
- Overseas field market research
- Minor product adaptation
- Overseas travel
- Product inspection services
- Training

Establishing overseas operations:

- Travel to India by overseas buyers
- Front-end promotional expenditure
- Research and development
- Equipment for plant modernisation/capacity enhancement
- Tooling, jigs and fixtures
- Testing/quality control equipment

- (vi) Product Liability Insurance (PLI): In developed countries product liability consciousness of the public is very high, resulting in a large number of litigation and high awards. This forces exporters to indemnify themselves against risk of incidence of product liability through product liability insurance offered by insurance companies. As the cost of PLI premium is high, which acts as a deterrent to market entry efforts of Indian exporters adversely, due to its affect on price competitiveness, EXIM bank's PLI programme enables the exporters' market entry efforts by sharing the initial costs of PLI premium.

Registered Indian exporters endeavoring to export to OECD (Organization for Economic Cooperation and Development) countries are eligible for support under the programme.

- (vii) Export Vendor Development Lending Programme (EVDLP): Manufacturer, exporters and trading export houses source goods from vendors for export on a regular basis. Such indirect exports constitute a significant component of the country's exports. The EVDLP enables exporters to support vendor development. Exporters are granted Rupee loans for implementing strategic vendor development plans, for increased supply of exportable goods, through creation strengthening of backward linkages with vendors.

Such activities include:

- Acquisition of production machinery
 - Purchase of tooling, moulds, jogs, dyes and ancillary equipment
 - Core working capital assistance extended by exporters to vendors
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- Soft expenditure on vendors development such as vendor training, technical assistance to vendors

EVDLP is exporter specific and aimed at capacity enhancing schemes to export large volumes through outsourcing products from vendors. (Sub-suppliers). Products purchased from vendors may be finished or semi-finished or intermediate products with the exporter adding value to the product in the form of further processing or marketing them.

Thus EXIM Bank, as a specific institution for development of exports, has been undertaking various activities, besides financing to support all efforts of the Indian exporting community. This includes commodity exports as also exports of projects, consultancy, software, etc.

5. EXIM Bank line of credit programme for other countries:

Under this route, EXIM Bank grants line of credit to Governments of other countries, for supporting their development plans, which allows the Indian exporter to get instant credit from EXIM Bank, upon exporting the goods/services and submission of export documents through their regular bankers. The beneficiary Government gets a long tenor of say 3-5 years to pay for the products and services, thus allowing them deferred payment credit.

The exporters, get orders from the operating agency in the buyer's country, which is issued under the line negotiated with EXIM Bank. The EXIM Bank also issues a letter to the exporters about availability of lines for the order received by them. The exporter then, based on the order and letter of lines received from EXIM bank proceeds to get pre-shipment finance for procurement/manufacturing of goods. Once shipment is made, documents are to be submitted as per the order/LC, and reimbursement claimed from EXIM Bank, under the line available with them.

Over the past few years, EXIM Bank has been quite aggressively expanding its financing programmes and has been continuously looking out for fresh borrowers, even by taking over financing from traditional bankers. The Bank has been helpful to Indian companies for their international ventures, take over of overseas projects, imports of large projects and machinery involving foreign currency funding, as also domestic imports and exporters for their imports and exports financing requirements.

Check Your Progress (A)

True or false:

- (a) Exim Bank was set up to develop the local bill discounting market.
false
 - (b) Exim Bank allows finance to local manufactures for producing goods for exports.
false
 - (c) Exim Bank is a subsidiary of RBI.
true
 - (d) Exim Bank also arranges issuance of guarantees for development of export/import business.
true
 - (e) The Export marketing funds mn by Exim Bank is to promote imports into India.
false
 - (f) Exim Bank allows credit line for promoting exports to developing countries, which helps these countries a facility of deferred credit.
true
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7.2 RESERVE BANK OF INDIA - ROLE AND EXCHANGE CONTROL REGULATIONS IN INDIA

Reserve Bank of India, being the central bank of the country, is empowered under the statute to control and regulate the foreign exchange reserves and policies related to international trade, inflow/outflow of foreign exchange, as also has supervisory powers over the persons authorized to deal in foreign exchange.

It has the responsibility of maintaining the external value of Rupee, and thus can issue instructions on the subject of exchange control from time to time.

Exchange control was introduced in India, due to severe constraints of foreign exchange during Second World War, with the Defense of India Rules 1935 (DIR 1935) issued as legislation. Later on, in 1973, the Rules were modified and introduced as an Act - FERA 1973, which came into effect from 1.1. 1974. Further, with the opening up of the economy, the FERA 1973 was repealed and a new Act FEMA 1999 was introduced, effective 1. 6. 2000.

FEMA Regulations: As per Section 11(1) of FEMA 1999, Reserve Bank of India, is empowered to give any direction with regard to making payment or doing or desist from doing any act relating to foreign exchange or foreign security, for the purpose of securing compliance with the provisions of the FEMA, and any rules, regulations, notifications or directions made there under. Under Section 11(3) of FEMA 1999, RBI may after giving reasonable opportunities of being heard, impose on the authorized person, a penalty which may extend to Rs 10,000.00 (Rupees Ten thousand) for contravention of any direction given under FEMA or failure to file any return under this Act. In case of continuing contravention, an additional penalty, which may extend upto Rs 2,000.00 per day, for which such contravention continues, may be imposed.

As such, the Reserve Bank of India issues various guidelines under AP (DIR) series circulars, and other circulars, or issues specific directions to any authorized person, from time to time, to safeguard the interest and provisions of FEMA, and to comply with the responsibilities put on RBI under the Act. The guidelines and directions, so issued, relate to foreign exchange transactions relating to exports, imports, remittances, travel and tourism, investments in India, repatriation of funds, non-resident Indian segment, as also overseas investment by Indian residents.

We have covered the exchange control guidelines related to exports, imports, NRIs, foreign exchange transactions, etc., in respective units.

Another important task handled by the Reserve Bank of India is compilation of data related to export- import trade, forex markets, non-resident deposits, as also international assets and liabilities. The data collected by RBI from authorized dealers, goes into compilation of national level data on international trade, status of forex flows, and overall international assets and liabilities of the country. This data being crucial for management of international trade relationship, as also the value of Rupee, is called for by RBI under FEMA regulations, and strict penal action imposed for non-submission, wrong submission or delayed submission.

The data is to be submitted to RBI in the form of returns/statements, some of which are:

- (i) R Return - fortnightly data on forex operations,
 - (ii) BAL Statement - statement showing balances in nostro, vostro accounts,
 - (iii) STAT 5 - data on transactions related to FCNRB deposits,
 - (iv) STAT 8 - data on transactions in NRE and NRO deposit accounts,
 - (v) NRDCSR - consolidated data on non-resident deposits,
 - (vi) International Banking Statistics (IBS) - quarterly data on all international assets and liabilities,
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- (vii) Statement of Remittances sent under Liberalized Scheme for Residents (presently USD 200,000.00) - Monthly.
- (viii) Statement of Trade Credit - Buyer's Credit and Supplier's Credit - Monthly
- (ix)XOS - half-yearly exports outstanding statements, showing all overdue exports bills remaining unrealized.
- (x) BEF - statement showing details of imports where remittances have been effected but proof of imports (bill of entry) not submitted by the remitter.
- (xi)FEMIS - daily data on forex dealing room operations.

Bank wide R Returns: The Reserve Bank of India, vide its instructions issued in 2007, desired that banks should endeavor to submit a single bank wide R Return. Those banks, which were not having the required IT infrastructure, have been advised to ensure to submit the bank wide R Return from fortnight starting 1.1.2009. While the new private sector banks and foreign banks and a few private banks, already using bank wide core banking solutions, started submitting Single R Return, the remaining old private sector banks and public sector banks have now started submitting a single R Return to RBI.

7.3 FOREIGN EXCHANGE MANAGEMENT ACT, (FEMA) 1999

FEMA, 1999 was enacted by the statute of the parliament, and was brought into force w.e.f 1. 6. 2000. The Act is applicable to all transactions in foreign exchange, undertaken in India or by persons resident in India.

Earlier Foreign Exchange Regulation Act 1973 (FERA, 1973) regulated the area of foreign exchange, which had its origin from Defence of India Rules 1935, and later on FERA 1947. The foreign exchange regulations have come a long way since 1935, 1947 and 1973, and with the introduction of a liberalized regime under FEMA 1999, there has been a considerable relaxation in regulatory provisions related to foreign exchange transactions.

The objective of FEMA is to facilitate external trade and payments and to promote the orderly development and maintenance of foreign exchange market in India, while the objective of FERA was to conserve the foreign exchange resources of the country and to ensure proper utilisation thereof in the interests of the economic development of the country.

Under FEMA any violation of the provisions of the Act is to be dealt under the Civil law only, while under FERA, it was to be dealt under Criminal law.

1. Important Provisions of FEMA

The provisions of FEMA relating to exports, imports, exchange rates, currency of payments, nonresident Indians, etc. have been covered in the respective chapters. Reserve Bank of India, has powers delegated under FEMA to issue guidelines, call for reports, data, as also to impose penalties, for violation of provisions of FEMA and for not complying to its directions. We briefly cover the FEMA guidelines applicable to resident Indians with regard to foreign travel, miscellaneous remittances and other areas as under;

A. Foreign Travel

The main provisions with regard to foreign travel are:

- (i) Drawal of exchange for travel to Nepal and Bhutan is prohibited.
 - (ii) Payment in rupees for purchase of foreign exchange may be done in cash, if the rupee equivalent is not more than Rs 50,000.
 - (iii) In case the rupee equivalent exceeds Rs 50,000, the payment should be made by crossed cheques, a banker's cheques or a pay order or a demand draft.
 - (iv) Out of the total foreign exchange drawn, foreign currency notes and coins can be given by the authorized dealer, up to: (a) the entire amount in case of travel to Islamic Republic of
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Iran, Russian Federation or other states of erstwhile Russia, (b) Upto USD 5,000 for travel to Libya or Iraq, and (c) not exceeding USD 3,000 in all other cases.

- (v) A person resident in India can possess or retain foreign currency notes up to USD 2,000 or its equivalent, subject to specific rules on acquiring of such foreign exchange. However, a resident can possess foreign currency coins without any limit.
- (vi) While selling foreign exchange for travel abroad, the passport of the traveller need not be endorsed, unless specifically requested for by him.
- (vii) The traveler should surrender unspent foreign exchange within 180 days from the date of return.
- (viii) The unspent foreign exchange can be deposited by the resident in the Resident Foreign Currency Account (RFCDA), with any Authorized Dealer
- (ix) For private visits, foreign exchange up to USD 10,000 or equivalent in one calendar year for one or more visits (except Nepal and Bhutan), can be drawn.
- (x) For business visits, foreign exchange not exceeding USD 25,000 can be released to a person, for each visit, irrespective of the period of stay. Beyond this, prior approval of RBI has to be obtained. Drawal of foreign exchange out of RFCDA or EEFC accounts can be made over this limit.
- (xi) For participation in international seminars, conferences, etc., an amount of USD 25,000 can be released per person.
- (xii) Person traveling abroad, for employment, or for immigration purposes, can draw foreign exchange not exceeding USD 100,000.
- (xiii) A person can draw an amount up to the estimate of the foreign hospital/doctor, for medical treatment. However, exchange upto USD 100,000 can be drawn, without submission of any estimate.
- (xiv) Persons going abroad for studies abroad, can draw exchange upto USD 100,000 per academic year.

B. Other Remittances

FEMA also allows residents to make remittances for following purposes also:

- (i) Gift remittance per remitter/per donor up to USD 5,000 in one calendar year, to relatives, friends, etc., abroad
- (ii) Donation per remitter/per donor up to USD 5,000 in one calendar year to charitable/religious/cultural organisations.
- (iii) Subscription to Magazines/Periodicals can be allowed by the Authorized Dealers, except for the banned/proscribed magazines.
- (iv) Consultancy Services: Remittance to overseas consultants up to USD 1,00,000 per project.
- (v) International Debit/Credit Card/A TM Card: Residents can use their Credit/Debit or ATM cards while on visits abroad, which can be paid off through the designated AD branch, up to the entitlement of foreign exchange for visits abroad.

Prohibitions:

- (a) Remittance towards purchase of lottery tickets, banned proscribed magazines, sweepstakes, money circulation schemes, etc., is not permitted.
 - (b) Remittance of income from racing, riding not allowed.
 - (c) Exchange for current account transaction with any person resident in Nepal or Bhutan is not permitted.
 - (d) Remittance of prize money/sponsorship for sports events abroad, over USD 100,000 not allowed,
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(prior permission of RBI/GOI required).

C. Indian Investments Abroad

(i) From FERA 1973 - which had its main aim to conserve foreign exchange, India moved to FEMA 1999, which had its motto to facilitate external trade and payment and to maintain orderly growth of exchange markets. Section 6 (3) of FEMA also authorised RBI to regulate the transfer or issue of any foreign security by a person resident in India and the classes of permissible Capital a/c transactions & limit up to which exchange is admissible, (in consultation with Central Government).

(ii) For Indian investments abroad, FEMA Notification No 19/20 - RB - 2000 dated 3rd May 2000 - Transfer or Issue of any Foreign Security - As amended by various notifications, as also directions issued by way of AP (Dir Series) Circulars, are applicable.

(iii) Extant guidelines/regulations prohibit following investments abroad:

1. Investments in Real Estate and Banking
2. Investments by Indian Entity Caution Listed - under investigation by the Enforcement Directorate - Defaulter to the Banking system etc.
3. Investments by Trusts

(iv) Indians can invest abroad by way of:

- (a) Joint Venture: A foreign entity formed, registered or incorporated in accordance with the laws and regulations of the host country in which the Indian party makes a direct investment
- (b) Wholly Owned Subsidiary: A foreign entity formed, registered or incorporated in accordance with the laws and regulations of the host country, whose entire capital is held by the India party

(v) Eligible investors

Corporates including registered partnership firms

Individuals

Mutual funds

Investment by a Firm: Partnership firms registered under the Indian Partnership Act 1932 engaged in any bonafide business activity & having a good track record are permitted to make investments, by submitting form ODA to the designated branch of an AD upto 100% of their net worth. Individual partners can hold the shares for and on behalf of the firm in overseas JV/ WOS if the host country regulations or operational requirements warrant such holdings.

Investment in Overseas Companies: Listed Indian companies can invest in companies abroad listed on a recognised stock exchange which has share holding of at least 10% in an Indian company listed on a recognised stock exchange in India (as on Jan 1 of the year of investment).

Individuals: Can invest in overseas companies (subject to same restriction) and in rated bonds and fixed income securities without any monetary limit

Mutual Funds: Can invest in companies (subject to same restriction), in ADRs/GDRs of Indian companies and also rated debt instruments within an overall cap of \$1 billion May obtain permission from SEBI

(vi) Methods of Funding: Indians can invest abroad in by way of any one of the following:

Balances held in EEFC Accounts, Capitalisation of exports made to the investee company abroad, Purchase of foreign exchange from markets out of Rupee resources, Proceeds of ADRs/GDRs, without bringing in foreign currency funds in to India. Swap of shares (subject to conditions)

(vii) Obligation

- Receive share certificates/other document as evidence of investment-within six months/as permitted
 - Repatriate dues receivable to India-within 60 days of falling due
 - Submit APR to RBI-within 60 days of expiry of statutory period prescribed for finalisation of audited accounts along with a note on working, CA certificate, FIRC, -Audited financial statements.
 - Transfer by sale
- (a) Indian party can sell any share or security held by it in a JVAVOS under Automatic route provided no write off is involved
- (d) Indian listed companies can disinvest even in case such disinvestment results in a write off of the capital invested upto 10% of their previous year's export realisation • Pledge of shares
- (c) Can pledge shares with an AD for availing credit facility for itself JV/WOS abroad (viii)

Role of ADs

- Designate select branches at different centres to handle the ODI transactions
 - Allow investments upto permissible limits, on receipt of form ODI in triplicate & form A2
 - Report of remittance in form ODI (Part I and II) is to be forwarded to RBI, after effecting the remittance, in duplicate
 - Certify that regulatory approvals obtained for investments in financial sector
 - ODI form need not be forwarded to RBI
 - Partnership firm remittances to be forwarded with superscription "Remittance by partnership firm" in form ODI
 - In case of investment by more than one Indian party, form ODI to be signed jointly by all the investing parties
 - Maintain party wise record in respect of each JVAVOS separately
 - AD may allow remittance towards loan to JVAVOS/issue guarantee to JVAVOS
 - Indian party to submit details of capitalisation of export or other dues/royalties/consultancy fees in form ODA to the designated AD.
 - Capitalisation to be reckoned while computing cap of 100%
 - Custom certified copy of invoice to be obtained & to be forwarded to RBI within 15 days of effecting the shipment of goods
 - Capitalisation of export proceeds or other entitlements, which are overdue, require prior approval of RBI, for which Indian party has to file application in form ODI to RBI
- (ix) Identification number
- RBI, on receipt of form ODR from AD, allots for each of the JVAVOS unique identification number
 - To be quoted in all future correspondence by the AD & Indian Party
 - Additional investment in an existing overseas concern to be allowed only after RBI has allotted the number

(X) FORM-ODI

Form ODI is a single form introduced by RBI for all Overseas investments in JVAVOS by Indian entities. The new form has four parts as under:

Part I contains Details of the Indian Party (investor), details of the investment in the new project. Details of investment in existing project. Funding of JV/WOS, declaration by the Indian party and Certificate by the statutory auditors of the Indian Party.

Part II of the ODI form, is for reporting of details of remittances.

Part III of ODI form, is an annual Appraisal Report (APR) to be submitted by the chartered Accountant through the designated AD branch, and

Part iv is a report on closure/disinvestment/voluntary liquidation/winding up of JVAVOS.

2. Foreign Currency Account in India

Resident Indians can maintain following foreign currency accounts in India:

A. Exchange Earners Foreign Currency (EEFC) Accounts

Resident persons, companies or firms can open and maintain EEFC accounts, for the purpose to transacting foreign exchange business. Every recipient of foreign exchange is allowed to retain 100% of the amount in a foreign currency account, with any AD.

This account is non-interest bearing current account. There is no restriction on withdrawal in rupees out of balances held in EEFC accounts. Payments towards Current account transactions, including payment for import of goods and services, and capital account transactions can be freely debited to EEFC accounts, up to the limits permitted by the respective rules.

B. Resident Foreign Currency (RFC) Accounts

Returning Indians, who were non-residents earlier and are now returning to India for permanent settlement, are permitted to open a foreign currency account with any AD, to keep their foreign currency assets held outside India, or any other monetary benefits from the employer outside India.

The account holder can credit foreign exchange received outside India as gift, or in heritage from a person resident outside India, also.

C. Resident Foreign Currency (Domestic) Account - RFCD

A person resident in India is allowed to open and maintain a Resident Foreign Currency account with an AD, out of the foreign exchange acquired by him in the form of currency notes, or travellers cheques, while on a visit to any country outside India, (not from business), or as an honorarium or gift for service rendered in India to any person who is not a resident of India, and is on a visit to India, or represent unspent foreign exchange acquired for travel abroad. The account is a non-interest bearing account, in the nature of current account.

Debits to the accounts can be for any current account transactions, which are in accordance with various provisions in this regard, as also for Capital account transactions, as provided, under FEMA regulations.

D. Diamond Dollar Account (DDA)

The facility of opening Diamond Dollar Accounts has been granted to diamond exporters, as the products they export is imported in raw form, from abroad. India imports, rough diamonds and exports polished diamonds to various countries in the world. As such, since the diamond exports usually need to remit a large part of their realisation of export proceeds for payment of import bills, they can park their foreign currency funds in these diamond dollar accounts and remit funds to retire their import bills, without incurring any exchange risk.

As per RBI guidelines, exporters with two years in export trade of diamonds can open DDA accounts with any Authorised dealers. Large exporters can open accounts with more than one AD, with a maximum of 5 accounts. For this purpose, large exporters are those, whose annual average turnover is equal to or greater than Rs.3 crores. Authorised Dealers can credit 100 % of the export realisation to DA accounts.

Check Your Progress (B)

True or False:

1. As per FEMA 1999, Reserve Bank of India, is empowered to give any direction for the purpose of securing compliance with the provisions of the FEMA.

true

2. RBI has no powers to take any penal action for non-submission of information/statements called for under provisions of FEMA.

false

3. Drawal of foreign exchange for travel to Nepal is similar to drawl for visit to UK.

false

4. For private visits, foreign exchange up to USD 10,000 per year, can be drawn.

true

5. There is no restriction for drawl of exchange for medical treatment even if no estimate is produced.

false

6. Remittance towards purchase of lottery tickets is allowed under FEMA.

false

7. Interest can be paid on balances held in EEFC accounts.

false

of rupee, and thus can issue instructions on

Fill in the Blanks:

(a) RBI has the responsibility of maintaining the subject of exchange control from time to time.

External value

(b) Payment in rupees for purchase of foreign exchange may be done in cash, if the rupee equivalent is not more than Rs _____.

_____ can be released to a person, 50,000

(c) For business visits, foreign exchange not exceeding USD _____ for each visit, irrespective of the period of stay.

25,000

(d) Subscription to Magazines/Periodicals is allowed, except for the Banned

(e) RFC fixed deposit accounts are _____ bearing current accounts. interest

(f) RFCD accounts can be opened by _____ Indians. magazines.

resident

7.4 ROLE OF FEDAI AND FEDAI RULES

A. About FEDAI

FEDAI is a non-profit making body, established in 1958, with the approval of Reserve Bank of India, to take over certain functions of the then Exchange Banks Association (foreign banks). RBI had made it mandatory for all authorized dealers to abide by the rules and terms and conditions prescribed by FEDAI for transacting foreign exchange business. The total membership of FEDAI was 89, as on November 2009, which comprised of foreign banks, public sector banks, private banks, cooperative banks as well as financial institutions, authorized by RBI to deal in foreign exchange.

The main objective of FEDAI is to regulate the dealings of, and between authorised dealers and further their interests. However, FEDAI has been playing a pivotal role in the framing of uniform rules for the market participants (several of which have since been withdrawn as a measure of

liberalisation of markets), development of forex markets as also undertaking ground work for further relaxation and development of markets.

The functions of FEDAI can be listed as under:

- (i) Framing uniform rules and guidelines for ensuring level playing field.
- (ii) Playing the supporting role of catalytic for growth of India's external sector along with RBI and other organizations.
- (iii) Providing training to bank officers, including conducting seminars, workshops on the topics related to foreign exchange and exchange markets.
- (iv) Granting accreditation to forex brokers.
- (v) Providing guidance and information to members on various aspects of foreign exchange business and markets.
- (vi) Preparation for further relaxation of forex markets, particularly derivatives market.
- (vii) Market research facilities for measurement and management of risk.
- (viii) Counselling and guidance on forex business.

With the growth and development of markets, and liberalization thereof of forex markets, FEDAI has also adopted to a new role with focus on value added services to member banks.

B. FEDAI Rules

FEDAI has formulated various rules for the foreign exchange operations of Authorised Dealers, with an intention to have uniformity in dealings, and ensuring level playing field, particularly during the initial years of the development of the markets.

Some of the rules have since been deleted from the rule book, keeping in view the required liberalization of the economy, the trade policy as also to infuse competitiveness amongst banks, which ultimately benefited the exporter/importer customers.

We shall first look into some important rules presently applicable to authorised dealers:

Rule I. Hours of Business

Each AD to fix its own working hours for various types of forex business, including dealing room operations. For dealers, extended dealing hours, if any, should be duly approved by the Management.

Rule 2. Export Transactions

- (i) **Cn-stallization of Bills:** In view of the exchange risk inherent to the forex transactions, in case of delay in realization of export bill negotiated/purchased or discounted, the foreign exchange liability of the exporter must be crystallized into Rupee liability, on the 30th day after expiry of the Notional Transit Period (NTP) in case of demand bills and on the 30th day after notional due date in case of usance bills.

The rule has since been relaxed for bank's to decide on the days for crystallisation on their own, based on nature of commodity, country of export etc. The crystallisation period can vary from bank to bank, customers to customers, etc. The difference in exchange rate between the rate at which the bill was purchased/discounted/negotiated and the rate at which crystallisation is done, should be recovered/paid to the customer. The advance so allowed as such continues as a Rupee advance, from the date of crystallisation till the date of payment/recovery. However, banks have retained the original 30 day rule for customers in general.

- (ii) **Application of interest:** Interest rates as prescribed by RBI shall be applicable for all export transactions and concessional rate of interest should be applied for the normal transit period in case of demand bills and up to notional due date in case of usance bills. In case of realisation prior to the NDD, the banks should refund the interest for excess number of days,

to the exporters. Also, premium passed earlier for the period should be recovered, as per prevailing market rates.

(iii) NTP: For all bills in foreign currencies: 25 days. (For exports to Iraq, NTP shall be 60 days from the date of shipment, in case of exports to Iraq under UN guidelines).

For Rupee bills - bills drawn under LC where reimbursement is provided at same centre (locally): 3 days, at any centre in India, other than the place of negotiation: 7 days. For Rupee bills not drawn under LC-20 days.

(iv) Authorised dealer should pay interest for the delay in payment to the exporters on export bills sent for collection and realized, if the delay is more than the prescribed period from the date of receipt of credit advices/statements.

Rule 3. Import Transactions

(i) For retirement of import bills, whether under LC or otherwise, bank's bill selling rate ruling on the date of retirement of bills or the forward rate, shall be applied.

(ii) All foreign currency bills under LC, if not retired on receipt, shall be crystallized into Rupee liability, at TT Selling rate, on the 10th day after the date of receipt of documents.

Rule 4. Clean Instruments

(i) All foreign currency inward remittances up to an equivalent amount of USD 5000 shall be immediately converted into Indian rupees. Remittances above this amount, shall be converted upon getting option of the beneficiary within the maximum prescribed period.

(ii) Beneficiary of inward remittance should be compensated in case the proceeds are not paid within 10 days from the date of receipt of remittance, or an advice of receipt is not sent within 3 days. Such compensation will be at 2% p.a. over the savings bank rate.

Rule 5. Forward Contracts

(i) Exchange contracts will be for definite amounts and periods.

(ii) The customer, subject to the period not exceeding beyond one month, may specify option period for the delivery. Contracts must state the first and the last date of contracts, e.g. from 1-31 January 2009 or from 17 January to 16 February 2009, etc.

(iii) The option of delivery lies with the merchant, whether a buyer or a seller.

(iv) The bank shall pay/recover swap difference, if any, if it accepts or gives early delivery.

(v) In case an extension of contract is sought, all contracts should be cancelled at appropriate TT selling or buying rate and re-booked at the current rate of exchange.

(vi) Forward contracts can be cancelled on or before the maturity at the request of the customer, against recovery/payment of difference in rates, as the case may be.

(vii) In case no instructions to cancel the contract are received from the customer, all overdue contracts shall be cancelled on the 7th working day after the maturity date. In such cases, where contracts are cancelled after due date, no difference, if accruing to the customer will be paid to him. He shall however be liable to pay adverse difference, if any.

Rule 6. Business with Exchange Brokers

(i) Business shall only be undertaken through accredited exchange brokers.

(ii) No exchange contract will be made with a broker as a principal.

(iii) Banks are also required to submit a monthly statement to FEDAI showing details of deals executed through brokers, where exchange difference, if any has been paid by the brokers due to movement in rates.

Rule 7. Interbank TT-Settlement

(i) For smooth settlement of interbank transactions, the buyer bank must pay the Rupee equivalent on the value date, as per the instructions of the seller bank, and the seller bank

must arrange to deliver the foreign currency funds on the value date, into the nostro account as per the instructions of the buyer bank.

- (ii) In case of any default or delay in settlement of Rupee or foreign currency funds, the buyer bank or the seller bank shall pay compensation to the other party, at the prescribed rate.

FEDAI publishes prime rates for major currencies on monthly basis.

FEDAI rules earlier contained guidelines on calculation of exchange rates for customers, margins, as well as schedule of charges/commissions to be levied on various types of export/import transactions. However, gradually these guidelines were withdrawn, and banks were given freedom to fix/quote their own rates of exchange and commissions/charges. The margins on exchange rates as also the rates of commissions have reduced to a great extent, lowering the costs to the corporates.

Check Your Progress (C)

Fill in the blanks:

- (i) FEDAI, is a _____ making body, established with the approval of Reserve Bank of India, to take over certain functions of the then Exchange Banks Association.

Non profit

- (ii) The functions of FEDAI include framing _____ rules and guidelines for ensuring level playing field.

uniform

- (iii) The NTP allowed for all bills in foreign currencies is generally _____ days.

25

- (iv) As per FEDAI rules, banks shall undertake business only through exchange brokers. accredited

- (v) Import bills should be crystallized on the _____ day, if not paid by the date.

10th

- (vi) Export bills should be generally crystallized on the _____ due date.

30

- (vii) Overdue forward contracts should be automatically the due date of contract.

day from the due date/notional _____ on the 7th working day, from

cancelled

7.5 SHORT NOTES ON OTHER TOPICS

1. External Commercial Borrowings

In a broader sense, it would include commercial bank loans, buyer's credit, supplier's credit, bonds, loans from ODAs, multilateral agencies. However, taking a limited view, ECBs would include medium and long-term loans as permitted by Reserve Bank of India and the Government of India.

ECBs have been permitted by the Government of India as a source of finance for fresh investments and for expansion of existing facilities. Since these constitute international debt for the country, the Government keeps some ceiling or a cap on ECBs in line with its debt management policies.

Buyers credit or suppliers credit (trade credit) for three years and above also come under the category of ECBs.

ECBs availed by residents are governed by provisions of section 6, FEMA 1999, as amended from time to time. The updated guidelines have been covered under RBI Master circular dated 1.

7. 2009 on the subject.

ECBs can be availed under Automatic Route or Approval Route.

(i) Automatic Route

ECB for investment in real estate sector, industrial sector, infrastructure sector will not require any approval from RBI or Government of India, can be accessed by companies, registered under Companies Act. This route is not available for individuals, trusts and non-profit making organisations, and financial intermediaries such as banks, housing finance companies, etc. For raising funds under this route, funds have to be raised from internationally recognised sources, such as banks, capital markets, export credit agencies, suppliers of equipment, etc. The maximum amount that can be raised under this route can be:

(a) USD 20 million, with a minimum average maturity of three years.

(b) Above USD 20 million and up to USD 500 million with average maturity of five years.

The all in cost, which includes interest and other expenses, except commitment fees, pre-payment fees or other fees payable in Indian Rupees should be 300 basis point above six months Libor for average maturity period of three to five years, and 500 bps above six months Libor for average maturity of over five years.

The borrower may enter into an agreement with the recognized lender for raising ECB, within the prescribed guidelines, without prior approval of RBI and ensure to comply with the reporting requirements. It will be the borrowers' responsibility to ensure compliance of all prescribed guidelines related to end - use, cost, ceilings, etc.

(ii) Approval Route

Under this route financial institutions dealing with infrastructure financing or export credit, and banks or institutions participating in textile or steel sector restructuring, as approved by Government of India, as also others not falling under automatic route are eligible to borrow funds from overseas market.

The funds are to be raised from recognised lenders, with similar caps for all in costs, as in the case of automatic route.

There are restrictions on end use of the funds so raised under this route.

Issuance of guarantees or standby LCs or letter of undertaking or letter of comfort by banks or financial institutions for raising ECBs is not allowed, except permitted by Reserve Bank of India.

2. American Depository Receipts (ADRs)

ADR is an instrument similar to GDR and is issued in the capital markets of USA alone.

Generally, far more stringent rules and regulations prevail for bringing out an ADR issue.

An American Depository Receipt is a receipt or a certificate issued by a US bank, representing title to a specified number of shares of a non-US-company. The US bank is a depository in this case. ADR is the evidence of ownership of underlying shares. ADRs are freely traded in the USA, without actual delivery of underlying non-US-shares.

ADRs can be created in two ways:

1. Unsponsored ADRs

One way to create ADR is by an arrangement which is not initiated by the company concerned, but is generally set up by one or more US brokers, when it is observed that a large number of American investors are interested in dealing in the shares of a non-US-company. The brokers then ask a US depository bank to create ADRs. The depository has to register the ADRs with the Securities and Exchange Commission (SEC), which is the main securities regulator in USA. However, as the ADRs are not initiated by the company concerned, the depository may not be able to fulfil the reporting requirements of the SEC. Therefore, the depository asks exemption from these.

he depository bank receives the compensation or the income from issuance of certificates and from cancellation fees. It also deducts fees from dividend payments. The company whose shares are linked to this kind of ADRs, is not required to pay any costs to the depository.

The trading of ADRs takes place in some of the stock exchanges in USA such as NASDAQ or NY stock exchange.

2. Sponsored ADRs

In this case the issuing company actively promotes the company's ADRs in the USA, choosing a single depository bank, which assumes sole responsibility for administration and dividend payment. In this case, the administrative costs involved in issuing the ADRs are borne by the issuing company. The proceeds of the ADR issue are also received by the company.

The registration of ADRs with SEC (Securities Exchange Commission) is not compulsory. The company needs to submit its annual reports to SEC.

Unregistered ADRs are not eligible for listing on any of the American stock exchanges.

However, trading in such ADRs may take place on the NASDAQ's bulletin board.

If the ADRs are to be registered with SEC, the financial statements of the company need to be prepared in accordance with US Generally Accepted Accounting Principles (US GAAP) and fulfill listing requirements of at least one of the US stock exchanges.

The size of ADR can expand or reduce depending upon demand, as depository banks can issue or withdraw corresponding shares in the local market. Generally, raising forex funds through ADR/GDR route is preferred to external commercial borrowing route. Commercial borrowing adds to the country's external debt burden, which is not the case with ADR/GDRs.

3. Global Depository Receipts (GDRs)

A GDR is a dollar denominated instrument, tradable on a stock exchange in Europe or private placement in USA, representing one or more shares of the issuing company. The shares are acquired by a bank in Europe, which then issues its own "receipts" or "certificates" to the investors. This bank is called a "depository" and such certificates are called "Global Depository Receipts," in short, GDRs. These GDRs can be traded on the European exchange.

A holder of a GDR can at any time convert it into the shares that it represents. However, till conversion, the GDRs do not carry any voting rights. The company, which has issued GDRs, has no commitment to pay any amount in foreign exchange, and thus has no exposure in foreign exchange. As a result, it has no foreign exchange risk. The dividend paid by the company is in local currency. The holder of the GDR has to get the amount converted in US dollars at the prevailing exchange rate. As the GDR represents shares, there is no redemption involved. The company doesn't have to make any payment either in foreign exchange or in local currency for the repayment of GDRs. This arrangement thus, works to the advantage of the company as also is convenient for the holder of the GDRs, as it can be traded on a

foreign stock exchange where they are listed. Alternatively, the holder can convert the GDR into its underlying shares, sell these on the local stock exchange, and then convert the proceeds into US dollars at the prevailing exchange rate.

The main features of GDRs are as under:

1. GDR has a distinct identity from the underlying shares.
2. GDRs do not appear in the books of the issuing company. However, the underlying shares appear in its books.
3. The issuing company collects the GDR proceeds in foreign currency. It may then use these proceeds for meeting the foreign exchange component of its project cost, repayment of foreign loans, or for its domestic expenditure.
4. A GDR holder has the option to convert the GDR and hold the underlying equity shares.
5. GDRs are normally listed on Luxembourg exchange and traded at two other places besides the place of listing-OTC market in London and private placement market in USA.
6. GDR does not entitle the holder any voting rights. However, the holder gets the voting rights, when he prefers to convert GDRs into underlying shares.
7. GDR is an instrument governed by international law.
8. Pricing of GDR would generally be in line with the pricing of underlying shares. However, based on international market conditions and perceptions about domestic currency, the GDR may be at discount or at premium compared to domestic share prices.
9. The GDR market is a global one. It is therefore exposed to international influences, like prices of other securities in the financial market or interest rates in the US market. Currency markets also have impact on GDR prices.

4. Foreign Currency Convertible Bonds (FCCB)

Foreign currency bonds market is an important source of raising funds. The issuers, at times issue convertible bonds, which are equity related, and are convertible in part or full, into equity of the issuing company at a later date, say a few years from the date of issue. It can be said that the bonds have warrants attached to it, which entitles the holder to get equity shares in the company, say at an agreed price, or ratio.

FCCBs, in similar nature, are fully or partly convertible bonds, which give right to the holder to convert the amount into equity shares, at a pre-agreed price. Here, keeping in view the right being given for acquiring equity, the interest rate is very fine, as compared to a pure debt bond. FCCBs also have optional conversion into shares, at the option of the bond holder

The bondholder would exercise the right to convert the bond into shares, when the market price of the equity shares, is higher than the exercise price, otherwise, the bondholder would like to get back the money from the issuer

Indian companies are allowed to issue FCCBs, in terms of RBI guidelines.

Check Your Progress (D)

Fill in the blanks:

- (a) ECBs can be availed under --- Route or approval Route.
automatic
 - (b) In case of unsponsored ADRs, the company whose shares are linked to this kind of ADRs, is --- to pay any costs to the depository.
not required
 - (c) The administrative costs involved in issuing the ADRs are borne by the issuing company, in case of --- ADRs.
-

sponsored

(d) A GDR holder has the option to convert the GDR and hold the underlying equity --- . shares

(e) GDR does not entitle the holder any--- rights.

voting

Let Us Sum Up

We have seen the role played by the Reserve Bank of India, Exim Bank, ECGC, and FEDAI in the field of international banking. The development of forex markets and the international trade in India, could not have been possible without the support and vision of these agencies. The FEMA 1999, has transformed the scenario, and given an open field to the Indian exporter and importer as also public at large, to get into the international trade and finance with an open heart. The policies framed by FEDAI to provide a level playing field to all banks, and gradual opening up the competitive environment has also given an edge to the trade, by reducing their transaction costs. The policies and guarantees of ECGC, provide comfort to financing community, thereby making available large resources for export trade. And the new guidelines on ECB as also opening up of the global markets for generating foreign currency funds through ADR/GDR, also have its own contribution to the development of Indian financial markets and industry.

It can be very well said that the institutional set up and the liberalization of policies have both led to the country achieving new heights in the field of international trade and finance.

Keywords

Exchange Control: The controls imposed by the Government or the central bank of the country restricting the inflow and outflow of foreign exchange.

Authorised Persons: Persons authorized to deal in or handle transactions related to foreign exchange, in terms of FEMA 1999.

EEFC Accounts: Foreign currency accounts allowed to be maintained in India by earners of foreign exchange.

Pre-shipment Credit: Credit allowed for procuring, processing, manufacturing and packing of goods meant for exports.

Post-shipment Credit: Credit allowed against export bills, after shipment has taken place.

Refinance: Secondary financing of bills or credit portfolio, already financed by banks or institutions, as a support to primary financiers.

Lines of Credit: Credit limits for funded or non-funded business allowed by banks or financial institutions to other banks, or Governments or other parties.

FEDAI rules: Rules made by FEDAI, applicable to all authorised dealers, to ensure level playing field.

Crystallization of Bills: Conversion of the bill liability into Rupee liability.

External Commercial Borrowings, in a broader sense would include commercial bank loans, buyer's credit, supplier's credit, bonds, loans from ODAs, multilateral agencies.

GDR: Global Depository Receipt - a dollar denominated instrument, tradable on a stock exchange in Europe or private placement in USA, representing one or more shares of the issuing company.

ADR: An American Depository Receipt is a receipt or a certificate issued by a US bank, representing title to a specified number of shares of a non-US-company.

Un-sponsored ADR: One way to create ADR is by an arrangement which is not initiated by the company concerned, but is generally set up by one or more US brokers, when it is observed that

a large number of American investors are interested in dealing in the shares of a non-US-company.

Answers to Check Your Progress

- A. (a). False (b). False (c). True (d). True (e) False (f) True
B. 1. True; 2. False; 3. False 4. True; 5. False; 6. False; 7. False;
(a) External value; (b) 50,000; (c) 25,000; (d) Banned; (e) interest; (f) resident.
C. (i) non-profit, (ii) uniform, (iii) 25; (iv) accredited; (v) 10 (vi) 30; (vii) cancelled.
D. (a) automatic (b) not required (c) sponsored (d) shares (e) voting

Terminal Questions

True or False:

1. Exim Bank was established under Companies Act 1956, to promote financing of LC bill financing in India.
2. Exim Bank extends lines of credit to foreign Governments to promote exports from India.
3. Exim Bank is the nodal agency for Export marketing Fund of Government of India.
4. FEMA 1999, replaced Defense of India Rules.
5. Indian residents can draw exchange up to the limits prescribed for visit to Nepal.
6. While visiting abroad to Europe, an Indian resident can spent exchange up to the eligibility by using his international credit card.
7. Investment abroad by a tmst, registered under Charitable Tmsts Act, is allowed up to USD 5.00 million per year
8. Resident Indians can park their surplus foreign currency balances, left out after return from abroad, in their RFCD account with a bank in India.
9. As per FEDAI guidelines, forward contract booked by an exporter needs to be cancelled on the 7 th working day, from the due date, if not picked up within the delivery period.
10. Corporates can raise funds through ECBs for any amount, with the tenor and pricing left to the discretion of the borrower and the lender
11. ADRs can be registered in USA, under Securities and Exchange Commission.
12. GDRs can be converted in to shares that it represents.

References for Further Reading

1. Reserve Bank of India Guidelines for Internal Control for Foreign Exchange Business, Master Circulars, Circulars, issued from time to time.
 2. FEMA 1999.
 3. FEDAI Rule Book and various circulars on the subject.
 4. FEDAI Study Booklets for Orientation workshops.
 5. All earlier publications of IIBF.
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MODULE B

UNITS

8. Risk and Basic Risk Management Framework
9. Risks in Banking Business
10. Risk Regulations in Banking Industry
11. Market Risk
12. Credit Risk
13. Operational Risk and Integrated Risk Management

UNIT 8 Risk and Basic Risk Management Framework

STRUCTURE

8.0 Objectives

8.1 Introduction - What is Risk?

8.2 Risk, Capital and Return

8.3 Why Risk Management Let Us Sum Up Check Your Progress

8.4 Basic Risk Management Framework

Let Us Sum Up Keywords

Terminal Questions

Answers to Check Your Progress

Answers to Terminal Questions

8.0 OBJECTIVES

This chapter will be helpful in:

- Understanding Concept of Risk
- Conceptual understanding of the linkages among risk, capital and return
- Why risk needs to be managed

8.1 INTRODUCTION - WHAT IS RISK?

In most cases, we observe that there is deviation in what we achieve from what we had planned or what we had expected. This unpredictability of future is due to uncertainties associated with the steps that we undertake in the process or various external factors that influence the processes that are necessary to achieve our planned objective.

Let us understand it through an example. Say we have to keep an appointment that is very important and we have to reach in time for it. In order to keep the appointment, one has to get ready well in time, arrange a transport and travel the distance to the place of appointment. All these factors are inseparably associated with the process of reaching the place of appointment. There are uncertainties associated with all of them. One may get ready early or be delayed, transport may become available well in time or there may be difficulty and delay in getting it, there may be traffic jam or traffic disorder or traffic flow may be very smooth, the vehicle may breakdown on the way or it may be a trouble-free drive. If everything goes well, one would reach well in time. The uncertainties associated with the factors do not hurt him. But these uncertainties may also become instrumental in one's failing to reach in time. In other words, there is the risk of reaching late for the appointment, which is due to the uncertainties associated with factors mentioned above. These factors are the risk elements or contributors to the uncertainty. Risk would arise when these uncertainties affect adversely.

We may define 'Risks' as uncertainties resulting in adverse outcome, adverse in relation to planned objective or expectations. 'Financial Risks' are uncertainties resulting in adverse variation of profitability or outright losses.

As for as profit or loss of business depends up on the net result of all cash inflows and cash outflows, uncertainties in cash inflows and/or outflows also create uncertainties in net cash flow or profits. Factors that are responsible for creating uncertainties in cash outflows and cash inflows are the risk elements.

In a simple case of a trading business that involves purchase of goods for sale with some administrative and transportation costs, cash inflows would arise from sale. The variation in sales volume and unit price realisation would create uncertainties in cash inflows. Similarly, cash outflow would arise from purchases and administrative and transportation costs. Uncertainties in

purchase price (assuming goods are always available at a price) and other costs would create uncertainties in cash outflows. Uncertainties in both, cash outflows and inflows would result in uncertainties in net cash flow or profits. This can affect profits favourably or unfavourably. If sales price and/or sales volume are more than what was expected or purchase price decline or other expenses incurred are less, it will result in higher profits. But, if sales volume and/or sales price decline or purchase price rises or other expenses increase, it will result in lower profits or even outright losses.

Risk of the business would lie where profits are adversely affected. This can happen due to adverse impact of uncertainties associated with sales volume, sales price, purchase price and administrative and transportation expenses, which are risk factors or risk elements.

Uncertainties associated with risk elements impact the net cashflow of any business or investment. Under the impact of uncertainties, variations in net cash flow take place. This could be favourable as well as unfavourable. The possible unfavourable impact is the 'RISK' of the business.

In the same example, suppose that the trader engages in trading of a commodity where demand fluctuates wildly and/or prices also change substantially over a short period, as is observed in case of trading in shares. In such cases if everything moves favourably, the trader can earn very high profits. Reverse would be true if everything moves adversely. In other words, variability in net cash flow would be high in such cases and because of that it may result in higher profits or in adverse situations, higher losses. We call such business a business with higher risk. Similarly, if variability in net cash flow is lower, it will result in lower profits and lower losses and the business would have lower risk.

Lower risk implies lower variability in net cash flow with lower upside and downside potential. Higher risk would imply higher upside and downside potential.

We may also consider another case where say a retired person has invested Rs 1 lakh 6.50% (payable half yearly) RBI bond that has a maturity of 5 years. The gentleman would receive interest of Rs 3,250 every half-year and would receive back the principal after the maturity period is over. The cash flow associated with the said investment, as we all know, does not have any uncertainty associated with it. In other words, this is a risk-free or zero-risk investment for the period it is invested. It may also be noted that this investment being risk-free, returns are also one of the lowest as compared to other investment opportunities available in the market.

Zero-Risk would imply no variation in net cash flow. Return on zero-risk investment would be low as compared to other opportunities available in the market.

8.2 LINKAGES AMONG RISK, CAPITAL AND RETURN

The above summarisations also enable us to determine key drivers in managing a business. It also gives a linkage with the capital required for carrying out a business. In simple terms minimum capital required for a business should be such that it is able to meet the maximum loss that may arise from the business to avoid bankruptcy.

A business with large variation in net cash flow would be a business with higher risk. The profit potential and loss possibilities would be higher in such businesses due to higher variability of net cash flow. Capital requirements would be higher because of possibilities of higher losses.

Similarly, a business with lower variation in net cash flow would be a business with low risk.

The profit potential as well as loss possibilities would be lower in such businesses due to low variability of net cash flow. Capital requirements would also be lower because of possibilities of lower losses. This is the basic linkage between risk and capital.

In addition, returns expected from a business would be in relation to the risks associated with the business. To understand risk and return linkage, let us take an example. Let us say there are two investment opportunities before you. Cash flows from both these investments over a five-year period are given below.

(Rs in WOs)

| 1 Cash Flow from | Year I | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|------------------|--------|--------|--------|--------|--------|-------|
| Investment I | 6 | 6 | 6 | 6 | 6 | 30 |
| Investment 2 | 3 | 9 | 5 | -2 | 15 | 30 |

If we ignore the time value of money, both these investments yield Rs 30,000 over five-year period or @12% p.a. simple, assuming initial investment at Rs 50,000. From return on investment point of view both are equal, but intuitively, without going into the arithmetic, one is more likely to prefer Investment 1. This is because of steady stream of cash flow associated with it. Investment 2 would have a chance to become equally acceptable provided return on it is higher than what it is now, say @14% p.a. simple. This 2% additional return is the risk premium or cost of risk. Higher the risk is higher would be this premium.

Where we compare two investment options, comparing the return on investment may not lead us to a correct conclusion as risks associated with these investments may differ. It would be desirable to account for risks as well. Returns net of risk would be the proper basis of comparing investments. In other words, risk in a business or investment is netted against the return from it. This is called Risk Adjusted Return on investment. The Risk Adjusted Return happens to be the key factor in investment decisions of investors.

Therefore, key driver in managing a business is seeking enhancement in risk-adjusted return on capital (RAROC). Higher the RAROC, higher is the reward to investors/shareholders and more preferable such investment would be to the market. The return on equity, which is computed from financial statements of a company, fails to capture risks in the revenue model and therefore, is not quite reliable tool in investment decision making.

In other words, capital requirement of a business or revenue model would depend upon the risks associated with the business or revenue model and expected return on the investment would also factor in the risks associated with it. Higher the risks in a business model, higher would be the capital requirement and return expectations. The reverse is also True. This is the linkage between risk, return and capital.

8.3 WHY RISK NEEDS TO BE MANAGED

We know that uncertainties associated with risk elements impact the net cash flow of any business or investment. Under the impact of uncertainties, variations in net cash flow take place. This could be favourable as well as unfavourable. The possible unfavourable impact is the "RISK" of the business. However, it should be understood that the 'unfavourable impact of uncertainties' or 'risk in a business' is not constant or of a fixed magnitude. It can vary depending on the degree of severity of adverse variations of uncertain factors.

To clarify the point, let us revisit the example of the simple trading business discussed in Section 8.1 that involves purchase of goods for sale with some administrative and transportation costs.

Apparent uncertainties in this business would include variation in sales volume, unit price realisation, purchases and other costs. Adverse impact on the business would arise if sales volume and/or sales price decline or purchase price rises or other expenses increase. In a situation where unit price falls after purchases have been made, the business would incur loss. If

purchased quantity is less or unit price rises within a short time, the loss suffered in the business would be low and perhaps can be absorbed in the profits made during the planned period. However, if purchased quantity is more and unit price realisation remains low over a considerable period or unit price has undergone a structural change, the losses can be severe and may wipe out a part of the capital invested in the business or even the entire capital and affect its survival.

The criticality of risk management in the management processes of any organisation becomes apparent when viewed from the angle of the very survival of an organisation particularly in severely adverse business situations. In such situations, the cash flows are affected and losses may be high enough to wipe out the capital employed in the business resulting in its bankruptcy. Such a situation may be avoided if loss potential of a business can be controlled. The loss potential of a business is strongly correlated to the uncertainties of business factors as it is the outcome of their adverse impact. In other words, the loss potential of a business is correlated to the risks in the business, and therefore, risk exposure of a business needs to be managed so as to limit potential losses in adverse situations to a level that can be absorbed by the organisation without affecting its continuity.

This aspect of risk management creates an imperative to develop methods to measure risk so that an organisation is aware of the risk it is carrying for its business, i.e., it has a measure of its potential losses in severely adverse situations and may ensure adequate capital availability for its continuance or limit its risk exposure to the extent of capital available.

While measure of potential losses in severely adverse situations determines adequacy of capital for continuity, the losses arising on account of risks in a business nevertheless have to be accounted for. This is done by treating it as a cost of business. There is a probability of loss associated with all risks. This is factored into pricing. This is another aspect of risk management processes which not only identifies various risks in the business or revenue model but also estimates probability of loss associated with such risks. It may be noted that the pricing process is critical as overestimation of loss on account of risks may result in overpricing resulting in losses of business. Underestimation of losses, on the other hand, may result in lowering of profits, which would affect planned RAROC.

Controlling the level of risk to an organisation's capacity to bear the risk is the essence of risk management and it requires not only identification of risks but also its measurement, control, mitigation and estimating the costs of risk. Since risk management happens to be a job that requires special skills and has an objective which is more orientated towards control aspect of the business, it not only requires a separate setup in the organisation, it also needs a well-defined framework that guides the risk management function.

Let Us Sum Up

1. We may define 'risks' as uncertainties resulting in adverse outcome, adverse in relation to planned objective or expectations. 'Financial Risks' are uncertainties resulting in adverse variation of profitability or outright losses.
 2. Uncertainties associated with risk elements impact the net cash flow of any business or investment. Under the impact of uncertainties, variations in net cash flow take place. This could be favourable as well as unfavourable. The possible unfavourable impact is the 'RISK' of the business. Lower risk implies lower variability in net cash flow with lower upside and downside potential. Higher risk would imply higher upside and downside potential.
 3. Zero Risk would imply no variation in net cash flow. Return on zero risk investment would be low as compared to other opportunities available in the market.
-

4. Capital requirement of a business or revenue model would depend upon the risks associated with the business or revenue model and expected return on the investment would also factor in the risks associated with it. Higher the risks in a business model, greater would be the capital requirement and return expectations. The reverse is also True. This is the linkage between risk, return and capital. Controlling the level of risk to an organisation's capacity to bear the risk is the essence of risk management and it requires not only identification of risks but also its measurement, control, mitigation and estimating the costs of risk.

Check Your Progress

A) Investment in Post Office time deposit is

- (i) Zero-risk investment
- (ii) Low-risk investment
- (iii) Medium-risk investment
- (iv) High-risk investment

Ans: Zero-risk investment

B) Zero-risk investment implies

- (i) Zero variation in cash flow from investment
- (ii) Investment in zero coupon bonds
- (iii) Investment in government securities
- (iv) Investment in bank fixed deposit

Ans: Zero variation in cash flow from investment

C) Which of the following statements is correct?

- (i) Higher the risk-higher would be risk premium
- (ii) Higher the risk-lower would be risk premium
- (iii) Lower the risk-higher would be risk premium
- (iv) None of the statements is correct

Ans: Higher the risk-higher would be risk premium

D) Which of the following statements is correct?

- (i) Higher the risk in a business, higher would be capital requirement
- (ii) Higher the risk in a business, higher would be return expectation
- (iii) Higher the risk in a business, higher would be capital requirement and higher would be return expectation
- (iv) None of the statements is correct

Ans: Higher the risk in a business, higher would be capital requirement

E) What is most critical function of Risk Management?

- (i) Controlling the level of risk to an organization's capacity
- (ii) Identification of risks
- (iii) Estimating the costs of risk
- (iv) Measurement of risk

Ans: Controlling the level of risk to an organization's capacity

8.4 BASIC RISK MANAGEMENT FRAMEWORK

Following are the basic considerations that should be taken into account for designing a risk management framework in an organisation:

1. Management of risk is a major concern of top management. Successful implementation of risk management process emanates from the top management and the main challenge centres on facilitating implementation of risk and business policies simultaneously in a consistent
-

manner. Modern best practices consist of setting risk limits based on economic measures of risk while ensuring best risk adjusted return keeping in view the capital that has been invested in the business. It is a question of taking a balanced view on risks and returns and that too within the constraints of available capital.

2. Management of risks begins with identification and its quantification. It is only after risks are identified and measured that we may decide to accept the risk or to accept the risk at a reduced level by undertaking steps to mitigate the risk, either fully or partially. In addition, pricing of the transaction should be in accordance with the risk content of the transaction.
3. Risk management happens to be a job that requires special skills and has an objective which is more orientated towards control aspect of the business, it requires a separate setup in the organization.

Response to these considerations calls for risk management framework in an organization that has well articulated processes covering the following areas:

Organization for Risk Management Risk Identification Risk Measurement Risk Pricing
Risk Monitoring and Control Risk Mitigation

These areas, with particular reference to banking, have been discussed in some details in the following pages:

8.4.1 Organisation for Risk Management

Usually, risk management organization consists:

- The Board of Directors
- The Risk Management Committee of the Board
- The Committee of senior-level executives
- Risk management support group

The Board of Directors has the overall responsibility for management of risks. The Board articulates risk management policies, procedures, aggregate risk limits, review mechanisms and reporting and auditing systems. The Board should decide the risk management policy of the bank and set limits for various risks.

The Risk Management Committee is a Board level Sub-Committee. The responsibilities of Risk Management Committee with regard to risk management aspects include the following:

- Setting guidelines for risk management and reporting
- Ensure that risk management processes conform to the policy
- Setting up prudential limits and its periodical review
- Ensure robustness of risk measurement models
- Ensure proper manning for the processes

The Committee of senior-level executives is responsible for implementation of risk and business policies simultaneously in a consistent manner and decides on the business strategy to achieve these objectives. It also sets up operating prudential limits and is the review authority for the line management.

Risk management support group analysis monitors and reports the risk profiles to the committee of senior-level executives. It also examines the effects of various possible changes in market variables and recommends the action needed. They are also responsible for the critical functions of independent risk monitoring, measurement, analysis and reporting.

8.4.2 Risk Identification

Nearly all transactions undertaken would have one or more of the major risks, i.e., liquidity risk, interest rate risk, market risk, default or credit risk and operational risk with their manifestations in different dimensions. Although all these risks are contracted at the transaction level, certain risks such as liquidity risk and interest rate risk are managed at the aggregate or portfolio level. Risks such as credit risk, operational risk and market risk arising from individual transactions are taken cognizance of at transaction- level as well as at the portfolio-level.

Aggregated risk determines capital needs. Performance of bank at the aggregated level in terms of risk- adjusted return that it generates is the key corporate issue. Therefore, risk preference as well as total enterprise-wide risks is a corporate level issue. Guidance for risk-taking, therefore, at the transaction level has to emanate from the corporate level.

Products approved at corporate level with due screening procedures and appropriate safeguards and a limit on exposure, product-wise as also amount-wise, provide for necessary guidelines in risk taking. In fact, the guidelines help in standardising risk content in the business undertaken at the transaction level. Any new product or any deviation from the directed procedures and safeguards add to the risk content of the exposure and needs a clearance at the corporate level, where risk return characteristics and risk quantification forms the basis of decision-making.

Impact of risk taking at transaction level on the portfolio risk is a critical issue here.

In essence, risk identification consists of identifying various risks associated with the risk taking at the transaction level and examining its impact on the portfolio and on capital requirement. As we would see later, risk content of a transaction is also instrumental in pricing the exposure as risk adjusted return is the key driving force in management of banks.

Risk identification is best explained by taking an example. Say Branch B has extended a loan of Rs 1 crore in accordance with the corporate policy and guidelines for a period of 5 years at a rate of interest 1% over BPLR (Base Prime Lending Rate) of the bank, BPLR being 10%. The loan is to be repaid in equal quarterly installments with one-year moratorium. Funding of the loan is to

be done from a deposit of three years of the same amount, interest rate on it being 6%. What are the risks associated with the transaction without taking into account CRR/SLR requirements? The deposit would become payable at the end of three years, whereas the loan would stand repaid to the extent of 50% only (assuming that there is no default). At the end of three years, it will face Funding Risk. In case there is default, Time Risk would also arise. These would be liquidity risks associated with the transaction.

The interest on loan is linked to BPLR of the bank whereas the deposit is carrying a fixed rate of interest. If BPLR were reduced during the first three-year period, Basis Risk would arise. After the three-year period, when the question of funding the loan would arise, deposit rate may not remain same. So the transaction would face Gap or Mismatch Risk at the end of three-year period. As the loans get repaid, the repayment proceeds have to be deployed elsewhere. The rate at which this may be done may not be at par with the interest rate being charged on the loan amount. As a result the bank would face Reinvestment Risk. There would always be a possibility that the loan amount is prepaid or the deposit amount is withdrawn prematurely adding to the risk as Embedded Option Risk. These would be Interest Rate Risks associated with the transaction. In addition, there would be Default or Credit Risk and Operational Risks in the transaction.

This transaction would also impact risks at the aggregate level, but it may be noted that the incremental risk in the portfolio may also be less than the risks taken at the transaction level.

8.4.3 Risk Measurement

Risk management relies on quantitative measures of risk. The risk measures seek to capture variations in earnings, market value, losses due to default, etc. (referred to as target variables), arising out of uncertainties associated with various risk elements. Quantitative measures of risks can be classified into three categories.

- Based on Sensitivity
- Based on Volatility
- Based on Downside Potential

Sensitivity

Sensitivity captures deviation of a target variable due to unit movement of a single market parameter. Only those market parameters, which drive the value of the target variable are relevant for the purpose. For example, change in market value due to 1% change in interest rate would be a sensitivity-based measure. Other examples of market parameters could be exchange rates and stock prices. The interest

TABLE 8.1
Computation of Mean of Volatility of Stocks of ABC Ltd.

| Week | Closing Stock (Rs) Price | Deviation . from Mean | Squared Deviation |
|------|-----------------------------|--------------------------|----------------------|
| 1 | 124 | 0.38 | 0.15 |
| 2 | 134 | 10.38 | 107.84 |
| 3 | 120 | (3.62) | 13.07 |
| 4 | 128 | 4.38 | 19.22 |
| 5 | 113 | (10.62) | 112.69 |
| 6 | 112 | (11.62) | 134.92 |
| 7 | 128 | 4.38 | 19.22 |
| 8 | 110 | (13.62) | 185.38 |
| 9 | 137 | 13.38 | 179.15 |
| 10 | 119 | (4.62) | 21.30 |
| 11 | 121 | (2.62) | 6.84 |
| 12 | 126 | 2.38 | 5.69 |
| 13 | 136 | 12.38 | 153.38 |
| 14 | 133 | 9.38 | 88.07 |
| 15 | 120 | (3.62) | 13.07 |
| 16 | 112 | (11.62) | 134.92 |
| 17 | 124 | 0.38 | 0.15 |
| 18 | 132 | 8.38 | 70.30 |
| 19 | 113 | (10.62) | 112.69 |
| 20 | 129 | 5.38 | 28.99 |
| 21 | 115 | (8.62) | 74.22 |
| 22 | 134 | 10.38 | 107.84 |
| 23 | 131 | 7.38 | 54.53 |
| 24 | 112 | (11.62) | 134.92 |
| 25 | 139 | 15.38 | 236.69 |
| 26 | 112 | (11.62) | 134.92 |
| n | 123.62 | | |

Variance Volatility

82.70 9.09

Note: The 'Mean' is the sum of observed values divided by the number of observations (26). The variance is the sum of squared deviations divided by number of observations. The volatility is the square root of variance.

rate gap is the sensitivity of the interest rate margin of the banking book. Duration is the sensitivity of investment portfolio or trading book. Usually, market risk models use sensitivities fairly widely.

This measure suffers from couple of drawbacks. First, it is only with reference to one market parameter and does not consider impact of other parameters, which may also change

simultaneously. Secondly, sensitivities depend on prevailing conditions and change as market environment changes.

Volatility

It is possible to combine sensitivity of target variables with the instability of the underlying parameters. The volatility characterises the stability or instability of any random variable. It is a common statistical measure of dispersion around the average of any random variable such as earnings, mark-to-market values, market value, losses due to default, etc. Volatility is the standard deviation of the values of these variables. Standard deviation is the square root of the variance of the random variable.

It is feasible to calculate historical volatility using any set of historical data, whether or not they follow a normal distribution. Alternatively, implicit volatility may also be computed using option prices, if quoted in the market using Black and Scholes option pricing formula. Implicit volatility has an advantage as it is forward-looking since option price being quoted is also forward looking. The calculation of historical mean and volatility requires time series. Defining a time series requires defining the period of observation and the frequency of observation. The calculation of historical volatility based on defined time series appears in the box below.

Computation of Historical Volatility Based on Defined Time Series

Defining a time series requires defining the period of observation and the frequency of observation. For instance, if we have to determine volatility of a given stock price, period of observation could be taken, as one year and frequency of observation could be daily closing price of the stock. The volatility so computed would be daily volatility of the stock. If the frequency of observation were weekly or monthly, volatility so computed would be weekly volatility or monthly volatility respectively of the stock.

The computation of weekly volatility of the stock of ABC Ltd., based on historical observation, period of observation being 6 months is given here.

We can also compute daily volatility by changing the frequency of observation from weekly to daily or can compute monthly volatility, based on monthly observation. We may also convert daily volatility into weekly or monthly volatility using 'Square root of time rule'. The equation is given below.

Volatility over a time horizon 'T' = Daily Volatility x Square root of 'T'

For example, if daily volatility of a stock were, say 1.5%, the monthly volatility would be 1.5×5.48 (square root of 30) or 8.22. Here T is 30 days as the time horizon is one month. It may be noted that volatility would be more if the time horizon is more.

Volatility helps us to capture possible variations around the average of target variable, both upside and down side. Using historical observations on the target variable, it is possible to estimate upside and downside potential of the target variable with a reasonable accuracy.

Downside Potential

Risk materialises only when earnings deviate adversely. Volatility captures both upside and downside deviations. Downside potential only captures possible losses ignoring profit potential. It is the adverse deviation of a target variable.

The downside potential has two components - potential losses and probability of occurrence. Potential losses may be estimated but difficulty lies in estimating probabilities. Hence, downside risk measures require prior modelling of the probability distribution of potential losses. Worst-case scenario serves to quantify extreme losses but has low probability of occurrence. Downside potential is the most comprehensive measure of risk as it integrates sensitivity and volatility with the adverse effect of uncertainty. This is the measure that is most relied upon by banking and

financial service industry as also the regulators. The value at risk (VaR) is a downside risk measure.

The risk measures are essentially forward looking and they estimate possible future losses that may arise within certain confidence level based on historical data.

8.4.4 Risk Pricing

Risks in banking transactions impact banks in two ways. Firstly, banks have to maintain necessary capital, at least as per regulatory requirements. The capital required is not without costs. The cost of capital arises from the need to pay investors in bank's equity and for internal generation of capital necessary for business growth. Each banking transaction should be able to generate necessary surplus to meet this costs. The pricing of transaction must take that into account.

Secondly, there is a probability of loss associated with all risks. This also needs to be factored into pricing. To explain this, let us take the case of a bank that has 100 credit accounts with say Level 2 risks according to some measure. Say, historical observation indicates that there is an average loss of 2% on Level 2 accounts. This loss is the cost associated with such risk. This is to be factored into in pricing. The intention is to defray the possible losses across similar transactions. In this case, risk premium of 2% may be added in pricing.

Risk pricing implies factoring risks into pricing through capital charge and loss probabilities. This would be in addition to the actual costs incurred in the transaction. The actual costs incurred are cost of funds that has gone into the transaction and costs incurred in giving the services, which are incurred by way of maintaining the infrastructure, employees and other relevant expenses.

Pricing, therefore, should take into account the following:

1. Cost of Deployable Funds
2. Operating Expenses
3. Loss Probabilities
4. Capital Charge

It should also be mentioned here that cost of funds should correspond to the term for which it is deployed. This is because five-year funds may have a different cost than one-year fund due to time value of money.

It may be noted that pricing is transaction-based. This is one of the key reasons for risk measurement at transaction level.

8.4.5 Risk Monitoring and Control

The key driver in managing a business is seeking enhancement in risk-adjusted return on capital (RAROC). Therefore, approach to risk management cannot be in isolation or in stand-alone mode. The approach to risk management centres on facilitating implementation of risk and business policies simultaneously in a consistent manner. Modern best practices consist setting risk limits based on economic measures of risk while ensuring best risk adjusted return, keeping in view the capital that has been invested in the business. It is a question of taking a balanced view on risks and returns and that too within the constraints of available capital.

In order to achieve the above objective, banks put in place the following:

1. An organizational structure.
 2. Comprehensive risk measurement approach.
 3. Risk Management Policies adopted at the corporate level, which is consistent with the broader business strategies, capital strength, management expertise and risk appetite.
-

4. Guidelines and other parameters used to govern risk taking including detailed structure of prudential limits, discretionary limits and risk-taking functions.

It is not enough to put in place a structure for the purpose. It is equally important to ensure that the organisation functions in a manner it has been planned. A feedback of the actual functioning is therefore necessary for the purpose of control. In addition to that, the feedback received on the actual performance requires monitoring also to ensure that the divergence between the planned performance and actual performance is kept at the level that is acceptable. This requires the following:

1. Strong Management Information System for reporting, monitoring and controlling risk.
2. Well laidout procedures, effective control and comprehensive risk reporting framework.
3. Separate risk management framework independent of operational departments with clear delineation of responsibility for management of risk
4. Periodical review and evaluation.

The banks establish an adequate system for monitoring and reporting risk exposures and assessing the bank's changing risk profile. The bank's senior management or board of directors should on a regular basis, receive reports on the bank's risk profile and capital needs. These reports should allow senior management to:

- Evaluate the level and trend of material risks and their effect on capital levels
- Evaluate the sensitivity and reasonableness of key assumptions
- Assess bank's risk profile on a continuous basis and make necessary adjustments to the bank's strategic plan accordingly.

The bank's internal control structure is essential to the process. Effective control of the process includes an independent review and, where appropriate, the involvement of internal or external audits. The bank's board of directors has a responsibility to ensure that management establishes a system for assessing the

various risks, develops a system to relate risk to the bank's capital level, and establishes a method for monitoring compliance with internal policies. The board should regularly verify whether its system of internal controls is adequate to ensure well-ordered and prudent conduct of business.

This is normally carried out through a separate Board Committee on Risk Management.

The banks conduct periodic reviews of its risk management process to ensure its integrity, accuracy, and reasonableness. Identification of large exposures and risk concentrations, accuracy and completeness of data inputs into the bank's assessment process and stress testing and analysis of assumptions and inputs are all a part of control and monitoring processes.

8.4.6 Risk Mitigation

Since risks arise from uncertainties associated with the risk elements, risk reduction is achieved by adopting strategies that eliminate or reduce the uncertainties associated with the risk elements. This is called 'Risk Mitigation'. In case of the example of a trading business cited under Section 8.1 above, one may like to enter into a sale and purchase contract. Since a sale contract would specify volume and the price, the uncertainty associated with them would be contained. A purchase contract would eliminate the uncertainties associated with purchase price. One may also have contract with transport services provider and eliminate risks in his trading business to a large extent provided his contract counterparties keep their commitment. It may be noted that in the process he would bring in another risk element, namely the uncertainty associated with the ability of the contract counterparty to keep his commitment. It may also be noted that while entering into various contracts the trader would also foreclose his option to take advantage of any rise in sales price or reduction in purchase price. In other words, upside potential of profits would

also get reduced. In fact, this is one of the most critical aspects of risk mitigation measures. While they help in reducing adverse impact on profits, it limits upside potential as well. Nevertheless, one achieves stability in his net cash flow and risks stand reduced. In banking, we come across a variety of financial instruments and number of techniques that can be used to mitigate risks. The techniques to mitigate different types of risk are different. For mitigating credit risk banks have been using traditional techniques, such as collateralisations by first priority claims with cash or securities or landed properties, third party guarantees, etc. Banks may buy credit derivatives to offset various forms of credit risk. For mitigating interest rate risk banks use interest rate swaps, forward rate agreements or financial Futures. Similarly, for mitigating forex risks banks use forex forward contracts, forex options or futures and for mitigating equity price risk, equity options.

Risk mitigation measures aim to reduce downside variability in net cash flow but it also reduces upside potential simultaneously. In fact, risk mitigation measures reduce the variability in net cash flow. In addition, risk mitigation would involve counterparty and it will always be associated with counter-party risk. It may also be stated here that markets have responded to the counterparty risk by establishing 'Exchanges' such as stock exchange, commodity exchanges, futures and options exchanges. Such 'Exchanges' take up the role of counterparty and have established rules for risk minimization. As a result, when we enter in to a contract with exchange as counterparty, counterparty risk remains, but gets reduced very substantially. In OTC deals, however, counterparty risk would depend upon the risk level associated with party to the contract.

8.4.7 Risk Mitigation through Diversification and Portfolio Risk

Risks can be mitigated through diversification. In order to understand the concept of risk diversification let us take an example. Say Mr X has a business - business A - that had the following net cash inflow (i.e., all cash inflows net of all cash outflows) in the last five years. (Rs in WOs)

| Cash Flow | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total | Mean | Standard Deviation | Std. Deviation to Mean |
|-----------------|--------|--------|--------|--------|--------|-------|------|--------------------|------------------------|
| from Business A | 10 | 3 | 4 | 8 | 11 | 36 | 7.20 | 3.56 | 0.49 |

The business had variations in cash flow and therefore risks. The risk in this case may be measured using mean and standard deviation of the past performance. The ratio of standard deviation to mean is a measure of comparing risks associated with similar cash flows. The said ratio in case of Business A is 0.49 or 49%.

But, Mr X say has another four businesses and net cash flows from these businesses along with that of Business A are tabulated below. Net cash flow of all the businesses of Mr X, which is the sum total of net cash flows from all the businesses is also shown in the following table.

If we study the ratio of standard deviation to mean of all his businesses, the said ratio is different for different businesses, the maximum and minimum being 61% and 36% respectively. It may however, be noticed that the ratio of standard deviation to mean in case of total portfolio is only 0.25 or 25%, which is less than the minimum observed in case of individual businesses.

This observation is attributed to the fact that variations in net cash flows arising out of all these businesses are not unidirectional. While, cash inflows in the year 2 had decreased in respect of

businesses A and C over that in year 1, the same has increased in respect of businesses B, D and E in the year 2 over year

1. As a result, variation in net cash inflow of the portfolio has been less. This is called diversification of risks. Because of this reason, risk associated with a portfolio is always less than the weighted average of risks of individual items in the portfolio.

(Rs in WOs)

| Cash Flow from | Year1 | Year 2 | Year3 | Year 4 | Year5 | Total | Mean | Standard Deviation | Standard Deviation + Mean |
|-----------------|-------|--------|-------|--------|-------|-------|-------|--------------------|---------------------------|
| Business A | 10 | 3 | 4 | 8 | 11 | 36 | 7.20 | 3.56 | 0.49 |
| Business B | 3 | 8 | 1 | 6 | 4 | 22 | 4.40 | 2.70 | 0.61 |
| Business C | 12 | 8 | 9 | 2 | 4 | 35 | 7.00 | 4.00 | 0.57 |
| Business D | 6 | 9 | 2 | 3 | 5 | 25 | 5.00 | 2.74 | 0.55 |
| Business E | 7 | 12 | 5 | 8 | 6 | 38 | 7.60 | 2.70 | 0.36 |
| Total Portfolio | 38 | 40 | 21 | 27 | 30 | 156 | 31.20 | 7.85 | 0.25 |

In banking business the same concept prevails. Suppose that a branch has taken a credit exposure on a borrower that has risk at level 2 say according to some measure of risk. Likewise the said branch and several other branches together have also taken level 2 credit exposures on say another 99 borrowers. Now the portfolio consists of 100 accounts with level 2 risks. The portfolio risk level would not be a level 2 risk. It would have a lower risk level than level 2. Again, this would be due to effect of diversification, as all these 100 accounts will not behave in a unidirectional manner. Risks in these accounts will not materialize simultaneously thereby reducing the portfolio risk. This would be true for all types of risks.

Let Us Sum Up

A risk management framework provides for facilitating implementation of risk and business policies simultaneously in a consistent manner so that a balanced view on risks and returns and within the constraints of available capital can be taken. It should include identification and its quantification of risks as well as provide for pricing of risks appropriately.

Risk management framework may have well-articulated processes covering the following areas:

Organization for Risk Management Risk Identification Risk Measurement Risk Pricing

Risk Monitoring and Control Risk Mitigation

The Board of Directors has the overall responsibility for management of risks. Supervision aspects are overseen by Risk Management Committee, which is a Board level Sub-Committee. The Committee of senior level executives is responsible for implementation of risk and business policies simultaneously in a consistent manner. Risk management department functions as a support group.

Risk identification consists of identifying various risks associated with the risk taking at the transaction level and examining its impact on the portfolio and capital requirement.

The risk measures seek to capture variations in earnings, market value, losses due to default, etc. (referred to as target variables), arising out of uncertainties associated with various risk elements.

Quantitative measures of risks can be classified into three categories:

1. Based on Sensitivity
2. Based on Volatility
3. Based on Downside Potential

Downside potential is the most comprehensive measure of risk as it integrates sensitivity and volatility with the adverse effect of uncertainty.

Risk pricing implies factoring risks into pricing through capital charge and loss probabilities. This would be in addition to the actual costs incurred in the transaction. The actual costs incurred are cost of funds that has gone into the transaction and costs incurred in giving the services, which are incurred by way of maintaining the infrastructure, employees and other relevant expenses.

It is equally important to ensure that the organization functions in a manner it has been planned. A feedback of the actual functioning is therefore necessary for the purpose of control. In addition to that the feedback received on the actual performance requires monitoring also to ensure that the divergence between the planned performance and actual performance is kept at the level that is acceptable.

Risk reduction is achieved by adopting strategies that eliminate or reduce the uncertainties associated with the risk elements. This is called 'Risk Mitigation'. Risk mitigation measures aim to reduce downside variability in net cash flow but it also reduces upside potential simultaneously. Risks can be mitigated through diversification.

Keywords

Uncertainty; Adverse outcome; Risk; Financial risk; High Risk; Low Risk; Zero Risk; Risk adjusted reUm; Risk adjusted return on capital; (RAROC); Risk Management Processes; Potential Losses; Banking book; Trading book; Maturity mismatch; Market value of equity; Integrity risk; Risk diversification; Portfolio risk; Sensitivity; Volatility; Downside potential; Terminal Questions

(A) Capital charge component of pricing accounts for

1. Cost of capital
2. Internal generation of capital
3. Loss provision

Which of the following is True?

- (i) All the statements are correct
- (ii) Statements 1 and 2 are correct
- (iii) Statements 2 and 3 are correct
- (iv) Statements 3 and 1 are correct

Statements 3 and 1 are correct

(B) Daily volatility of a stock is 0.5%. What is its 10-day volatility?

- (i) 5%
- (ii) 0.25%
- (iii) 1.58%
- (iv) None of these

1.58%

(C) Risk mitigation results in

1. Reduction of downside potential
2. Reduction in profit potential

Which of the following is True?

- (i) All the statements are correct
- (ii) Statement 1 is correct
- (iii) Statement 2 is correct
- (iv) Both are incorrect

All the statements are correct

Answers to Check Your Progress

(A)(i), (B)(i), (C)(i), (D)(i), (E)(i)

Answers to Terminal Questions

A.(iv), B.(iii), C.(i);

UNIT 9 Risks in Banking Business

STRUCTURE

9.0 Objectives

9.1 Risk Identification in Banking Business

9.2 The Banking Book

9.3 The Trading Book

9.4 Off-Balance Sheet Exposures

9.5 Banking Risks - Definitions

Let Us Sum Up Keywords

Terminal Questions Answers to Terminal Questions

9.0 OBJECTIVES

This chapter will be helpful in:

- Understanding Concept of banking book and trading book
- Various risks encountered in banking business

9.1 RISK IDENTIFICATION IN BANKING BUSINESS

Banking business lines are many and varied. Commercial banking, corporate finance, retail banking, trading and investment banking and various financial services form the main business lines of banks. Within each line of business, there are sub-groups and each sub-group contains variety of financial activities. Bank's clients may vary from retail consumer segment to mid-market corporate to large corporate to financial institutions. Banking may differ appreciably for each segment even for the similar services. For example, lending activities may extend from retail banking to specialized finance. Again, specialized finance may extend from specific fields with standard practices, such as exports and commodities financing to structured financing implying specific structuring and customization for making large and risky transactions feasible, such as project financing or corporate acquisitions. Banks also assemble financial products and derivatives and deliver them as a package to its clients as a part of specialised financing commensurate with the needs of its clients.

We may have a fair idea of the wide array of business lines of the banking industry from Table 9.1:

TABLE 9.1

Business Lines

Corporate Finance

Trading and Sales

Retail Banking Private Banking

Commercial Banking

Business Lines of the Banking Industry

Sub-groups

Activities

Corporate Finance, Municipal/Government Finance, Merchant Banking Advisory Services

Sales, Market making, Proprietary Positions, Treasury Prime Brokerage

Retail Banking

Private Lending and Card Services

Commercial Banking

Payments and Settlement External Clients

Mergers and acquisitions, underwriting, privatisations, securitisations, research, Government

debts, debt and equity syndications, IPO, secondary private placements

Fixed income, equity, foreign exchanges, commodities, credit, funding, own position securities,

lending and repos, brokerage, debt

Retail lending and deposits, banking services, tmst and sales

Deposits, banking services, trust and estates, investment advice merchant/commercial/corporate cards, private labels and retail

Project finance, real estate, export finance, trade finance, factoring, leasing, lending, guarantees, bills of exchange

Payments and collections, funds transfer, clearing and settlement
(Contd..)

Business Lines

Agency Services corporate actions
Asset Management
Retail Brokerage

Sub-groups

Custody
Corporate agency Corporate trust

Activities

Escrow, depository receipts, securities lending.
Issuer and paying agents
Discretionary and non-dis- Pooled, segregated, retail, institutional, closed, open cretionary fund management
Retail brokerage
Execution and full service

Source: Document on international Convergence of Capital Measurement and Capital Standards - A revised framework from Basel Committee on Banking Supervision - Annexure VI.

Product lines also vary across client segments. Standard lending products include short-term and long- term loans with specified repayments, demand loans and various other lines of credit, such as bill purchase and bills discounting facillities, cash credit etc. In the retail segments banks have variety of consumer loans such as auto loans, house-building loans, etc. Banks also offer guarantees, letters of credit, etc., which are in the nature of off-balance sheet transactions. There are various deposit products that vary for different segments and different needs. Banks also offer market products, such as fixed income securities, shares, foreign exchange trading and derivatives like standard swaps and options.

The key driver in managing all the business lines are enhancing risk adjusted expected return. This is the common factor for all business lines. But management practices vary across business lines and subgroups and activities within each business lines as profitability of various business lines/activities differ and so does the risk factors associated with them. From the risk management point of view, banking business lines may be grouped broadly under the following major heads.

- The Banking Book
- The Trading Portfolio
- Off-Balance Sheet Exposures

Risks associated with each of them are discussed in the following:

9.2 THE BANKING BOOK

The banking book includes all advances, deposits and borrowings, which usually arise from commercial and retail banking operations. All assets and liabilities in banking book have following characteristics:

1. They are normally held until maturity
2. Accrual system of accounting is applied

Since all assets and liabilities in the banking book are held until maturity, maturity mismatch between assets and liabilities result in excess or shortage of liquidity. This is commonly known as 'Liquidity Risk'.

In addition, interest rate changes take place during the period, such assets and liabilities are held in the banking book. Therefore interest rates on assets as well as liabilities change on their maturity. This affects net interest margin, i.e., interest received net of interest paid. This is called 'Interest Rate Risk'.

Further, the asset side of the banking book generates credit risk arising from defaults in payments of principal and/or interest by the borrowers. This is called 'Default Risk' or 'Credit Risk'. Since banking book is not open to market, it is not exposed to market risk. In addition to all these risks, exposures under banking book suffer from what is termed as 'Operational Risk'. These arise due to human failures of omission or commission, deficiencies in information system and system failure, inadequacy or non-adherence to internal processes, external events etc.

The banking book is mainly exposed to liquidity risk, interest rate risk, default or credit risk and operational risks.

Summary

All assets and liabilities in the banking book are normally held until maturity and accrual system of accounting is applied on them. The banking book is mainly exposed to liquidity risk, interest rate risk, default or credit risk and operational risk.

9.3 THE TRADING BOOK

The trading book includes all the assets that are marketable, i.e., they can be traded in the market. Contrary to the characteristics of assets and liabilities held in banking book, trading book assets have following characteristics:

1. They are normally not held until maturity and positions are liquidated in the market after holding it for a period
2. Mark-to-Market system is followed and the difference between market price and book value is taken to profit and loss account.

Trading book mostly comprises of fixed income securities, equities, foreign exchange holdings, commodities, etc., held by the bank on its own account. Derivatives that are held for trading in the market or over the counter (OTC) and for hedging exposures under trading book would also form a part of trading book. Trading book is subject to adverse movement in market prices until they are liquidated. This is termed as 'Market Risk'. Trading book may have market overseas as well if it is so permitted by laws of the land. This adds to the demand and hence adds to the market liquidity. Instrument having lower demand have lower trading volume and are exposed to liquidation risk where trading may trigger off adverse price movement. Trading book is also exposed to Credit Risk or Default Risk, which arises due to failure on the part of the counter party to keep its commitment. Trading book is also exposed to operational risks that arise from human failures of omission or commission, deficiencies in information system and system failure, inadequacy or non-adherence to internal processes, external events, etc.

Trading book is mainly exposed to market risk, including liquidation risk, default or credit risk and operational risk.

Summary

The positions in the trading book are normally held for liquidating them in the market after holding it for a period. The difference between market price realized and book value is accounted for as profit/loss.

Trading book is mainly exposed to market risk, market liquidity risk, default or credit risk and operational risk.

9.4 OFF-BALANCE SHEET EXPOSURES

Off-balance sheet exposures are contingent in nature. Where banks issue guarantees, committed or backup credit lines, letters of credit, etc., banks face payment obligations contingent upon some event. These contingencies adversely affect the revenue generation of banks. Banks may also have contingency receivables. Here banks are the beneficiaries subject to certain contingencies. Derivatives are off-balance sheet market exposures. They may be swaps, futures, forward contracts, foreign currency contracts, options, etc.

Contingent exposure may become a fund-based exposure. Such exposures may become a part of the banking book or trading book, depending upon the nature of off-balance sheet exposure. Therefore, off-balance sheet exposures may have liquidity risk, interest rate risk, market risk, default or credit risk and operational risk.

Summary

Off-balance sheet exposures may become fund-based exposure based on certain contingencies. Both, contingencies given (where bank provides benefit) and contingencies receivable (where bank is the beneficiary) may form off-balance sheet exposure. Off-balance sheet exposures may have liquidity risk, interest rate risk, market risk, default or credit risk and operational risk.

9.5 BANKING RISKS - DEFINITIONS

From the discussion above, we may summarise the major risks in banking business or 'Banking Risks'. They are listed as follows:

Liquidity Risk Interest Rate Risk Market Risk Default or Credit Risk Operational Risk

The risks mentioned above are defined in the following paragraphs. It is to be mentioned here that each of these risks manifests in different dimension. They are outlined and explained in brief

9.5.1 Liquidity Risk

The liquidity risk of banks arises mainly from funding of long-term assets by short-term liabilities, thereby making the liabilities subject to rollover or refinancing risk. Liquidity Risk is defined as the inability to obtain funds to meet cash flow obligations at a reasonable rate. For banks, funding liquidity requirement is crucial and therefore any liquidity shortfall has to be met at times at a cost which is more than planned or normal costs. At the extreme, banks may even fail to fund the liquidity gap resulting in default with its serious consequences.

The liquidity risk in banks may be of the following types:

Funding Risk

This arises from the need to replace net outflows due to unanticipated withdrawal/non-renewal of deposits (wholesale and retail);

Time Risk

This arises from the need to compensate for non-receipt of expected inflows of funds i.e. performing assets turning into non-performing assets; and

Call Risk

This arises due to crystallization of contingent liabilities. This may also arise when a bank may not be able to undertake profitable business opportunities when it arises.

9.5.2 Interest Rate Risk

Interest Rate Risk (IRR) is the exposure of a Bank's revenue to adverse movements in interest rates. Interest Rate Risk (IRR) refers to potential adverse impact on Net Interest Income or Net Interest Margin or Market Value of Equity (MVE), caused by changes in market interest rates. Interest Rate Risk can take different forms. IRR can be viewed in two ways: Its impact is on the earnings of the bank or its impact on the economic value of the bank's assets, liabilities and off-balance sheet positions.

Gap or Mismatch Risk

A gap of mismatch risk arises from holding assets and liabilities and off-balance sheet items with different principal amounts, maturity dates or repricing dates, thereby creating exposure to unexpected changes in the level of market interest rates.

An example of this risk would be where an asset maturing in two years at a fixed rate of interest have been funded by a liability maturing in six months or a liability maturing over a period but getting repriced periodically. The interest margin would undergo a change after six months /repricing period, causing variation in net interest income.

Basis Risk

The risk that the interest rate of different assets, liabilities and off-balance sheet items may change in different magnitude is termed as basis risk.

An example of basis risk would be to say in a rising interest rate scenario asset interest rate may rise in different magnitude than the interest rate on corresponding liability creating variation in net interest income.

The degree of basis risk is fairly high in respect of banks that create composite assets out of composite liabilities. The Loan book in India is funded out of a composite liability portfolio and is exposed to a

considerable degree of basis risk. The basis risk is quite visible in volatile interest rate scenarios. When the variation in market interest rate causes the Nil to expand, the banks have experienced favourable basis shifts and if the interest rate movement causes the Nil to contract, the basis has moved against the banks.

Yield Curve Risk

In a floating interest rate scenario, banks may price their assets and liabilities based on different benchmarks, i.e. treasury bills' yields, fixed deposit rates, call money rates, MIBOR, etc. In case the banks use two different instruments maturing at different time horizon for pricing their assets and liabilities, any non-parallel movements in yield curves would affect the Nil. The movements in yield curve are rather frequent. Thus, banks should evaluate the movement in yield curves and the impact of that on the portfolio values and income. It may be noted that yield curve risk is a type of basis risk and this arises with respect to different maturity sectors.

An example would be when a liability raised at a rate linked to say 91 days T Bill is used to fund an asset linked to 364 days Treasury Bills. In a rising interest rate scenario both, 91 days and 364 days Treasury Bills may increase but not equally due to non-parallel movement of yield curve creating a variation in net interest earned.

Embedded Option Risk

Significant changes in market interest rates create the source of risk to banks' profitability by encouraging prepayment of cash credit/demand loans term loans and exercise of call/put options on bonds/debentures and/or premature withdrawal of term deposits before their stated maturities. The embedded option risk is becoming a reality in India and is experienced in volatile situations. The faster and higher the magnitude of changes in interest rate, the greater will be the embedded option risk to the banks' Nil. The result is reduction of projected cash flow and income for the bank.

Reinvestment Risk

Uncertainty with regard to interest rate at which the future cash flows could be reinvested is called reinvestment risk. Any mismatches in cash flows would expose the banks to variations in Nil as the market interest rates move in different directions.

Set Interest Position Risk

Where banks have more earning assets than paying liabilities, interest rate risk arises when the market interest rates adjust downwards. Such banks will experience a reduction in Nil as the market interest rate declines and increases when interest rate rises. Its impact is on the earnings of the bank or its impact on the economic value of the bank's assets, liabilities and OBS positions.

9.5.3 Market Risk

Market risk is the risk of adverse deviations of the mark-to-market value of the trading portfolio, due to market movements, during the period of holding. This results from adverse movements of the market prices of interest rate instrument, equities, commodities and currencies. Market Risk is also referred as Price Risk.

Price risk occurs when assets are sold before their stated maturities. In the financial market, bond prices and yields are inversely related. The price risk is closely associated with the trading book, which is created for making profit out of short-term movements in interest rates.

The term Market Risk applies to (i) that part of IRR which affects the price of interest rate instruments, (ii) Pricing Risk for all other assets/portfolio including commodities like gold that is held in the trading book of the bank and (iii) Foreign Currency Risk.

Forex Risk

Forex risk, also termed as Exchange Risk, is the risk that a bank may suffer losses as a result of adverse exchange rate movements during a period in which it has an open position, either spot or forward, or a combination of the two, in an individual foreign currency.

Market Liquidity Risk

Market liquidity risk arises when a bank is unable to conclude a large transaction in a particular instrument near the current market price.

9.5.4 Default or Credit Risk

Credit Risk is most simply defined as the potential of a bank borrower or counterparty to fail to meet its obligations in accordance with agreed terms. For most banks, loans and corporate bonds are the largest and most obvious source of credit risk.

Counterparty Risk

This is a variant of credit risk and is related to non-performance of the trading partners due to counterparty's refusal and or inability to perform. The counter-party risk is generally viewed as a transient financial risk associated with trading rather than standard credit risk.

Country Risk

This is also a type of credit risk where non-performance by a borrower or counter-party arises due to constraints or restrictions imposed by a country. Here reason for non-performance is external factors on which the borrower or the counterparty has no control.

9.5.5 Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Strategic risk and reputation risk are not a part of operational risk.

Operational risk may loosely be comprehended as any risk, which is not categorised as market or credit risk. Scope of operational risk is very wide. It includes Fraud risk. Communication risk.

Documentation risk, Competence risk. Model risk, Cultural risk, External events risk. Legal risk, Regulatory risk. Compliance risk. System risk and so on. Two of these, which are frequently used - transaction and compliance risk has been defined below, which form the part of operational risk.

Transaction Risk

Transaction risk is the risk arising from fraud, both internal and external, failed business processes and the inability to maintain business continuity and manage information.

Compliance Risk

Compliance risk is the risk of legal or regulatory sanction, financial loss or reputation loss that a bank may suffer as a result of its failure to comply with any or all of the applicable laws, regulations, codes of conduct and standards of good practice. It is also called integrity risk since a bank's reputation is closely linked to its adherence to principles of integrity and fair dealing.

We have mentioned above that Strategic Risk and Reputation Risks fall outside the scope of Operational Risk. These are defined as:

Liquidity Risk



Risks in Banking and Financial Services

- Intt Rate Risk
- Gap Mismatch Risk
- Basis Risk
- Reinvestment Risk

FIGURE 9.1

| | |
|--------------------|--|
| Market Risk | |
| | |
| Forex Riskj | |
| | |
| l Price Risk | |
| | |
| l Liquidation Risk | |

- Counter Party Risk
- Fraud Risk
- Documentation Risk
- Yield Curve Risk
- Embedded Option Risk
- Competence Risk
- Liquidity Risk
- Cultural Risk
- Legal Risk
- Compliance Risk
- Market Risk] | Credit Risk~| | Operational Risk | [other Risks]

Communications Risk
Reputation Risk
Transaction Risk
Strategic Risk
Model Risk
External Events Risk
Regulatory Risk
System Risk

Strategic Risk

Strategic Risk is the risk arising from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry changes. This risk is a function of the compatibility of an organisation's strategic goals, the business strategies developed to achieve those goals, the resources deployed against these goals and the quality of implementation.

Reputation Risk

Reputation Risk is the risk arising from negative public opinion. This risk may expose the institution to litigation, financial loss, or a decline in customer base. Risk faced by banking and financial services may be summarised as shown in Fig. 9.1.

Let Us Sum Up

1. From the risk management point of view, banking business lines may be grouped broadly under the following major heads:
 - (i) The Banking Book
 - (ii) The Trading Portfolio
 - (iii) Off-balance Sheet Exposures
2. All assets and liabilities in the banking book are normally held until maturity and accrual system of accounting is applied on them. The banking book is mainly exposed to liquidity risk, interest rate risk, default or credit risk and operational risks.
3. The positions in the trading book are normally held for liquidating them in the market after holding it for a period. The difference between market price realised and book value is accounted for as profit/loss. Trading book is mainly exposed to market risk, market liquidity risk, default or credit risk and operational risk.
4. Off-balance sheet exposures may become fund-based exposure based on certain contingencies. Both contingencies given (where bank provides benefit) and contingencies receivable (where bank is the beneficiary) may form off-balance sheet exposure. Off-balance sheet exposures may have liquidity risk, interest rate risk, market risk, default or credit risk and operational risk.

Keywords

Banking Book; Trading Book; Off-balance Sheet Exposures; Liquidity risk; Interest rate risk; Default or credit risk; Operational risks; Funding Risk; Time Risk; Call Risk; Gap or Mismatch Risk; Yield Curve Risk; Basis Risk; Embedded Option Risk; Reinvestment Risk; Net Interest Position Risk; Price Risk; Forex Risk; Market Liquidity Risk; Counterparty Risk; Country Risk; Strategic Risk; Reputation Risk.

Terminal Questions

Tick the Correct Answer

(A) Financial Risk is defined as

- (i) Uncertainties resulting in adverse variation of profitability or outright losses
-

- (ii) Uncertainties that result in outright losses
 - (iii) Uncertainties in cash flow
 - (iv) Variations in net cash flows
- Variations in net cash flows

(B) Strategic Risk is a type of

- (i) Interest rate risk
 - (ii) Operational risk
 - (iii) Liquidity risk
 - (iv) None of these
- None of these

(C) A bank funds its assets from a pool of composite liabilities. Apart from credit and operational risks, it faces

- (i) Basis risk
- (ii) Mismatch risk
- (iii) Market risk
- (iv) Liquidity risk

Basis risk

(D) A branch sanctions Rs 1 crore loan to a borrower, which of the following risks the branch is taking

- 1. Liquidity risk
 - 2. Interest rate risk
 - 3. Market risk
 - 4. Credit risk
 - 5. Operational risk
- (i) All of them
 - (ii) 1, 2 and 3 only
 - (iii) 1, 4 and 5 only
 - (iv) 1, 2, 4 and 5 only
- 1, 2, 4 and 5 only

(E) Premature payment of a term loan will result in interest rate risk of type

- (i) Basis risk
- (ii) Yield curve risk
- (iii) Embedded option risk
- (iv) Mismatch risk

Embedded option risk

Answers to Terminal Questions

A.(iv), B.(iv), C.(i), D.(iv), E.(iii)

UNIT 10 Risk Regulations in Banking Industry

STRUCTURE

10.0 Objectives

10.1 Regulation of Banking Industries - Necessities and Goals

10.2 The Need for Risk-based Regulation in a Changed World Environment

10.3 1988-BaseI Accord

10.4 1996 Amentiment to Include Market Risk

10.5 Basel II Accord - Need and Goals

10.6 Basel II Accord

10.7 Capital Charge for Credit Risk

10.8 Capital Charge for Operational Risk

10.9 Pillar 2 - Supervisory Review Process

10.10 Pillar3-MarketDiscipline

10.11 Simplified Standardised Approach

10.12 Impact on Emerging Markets and Smaller Banks

Let Us Sum Up Keywords

Terminal Questions Answers to Terminal Questions

Annexure: Regulatory Capital Requirement for Indian Banks

10.0 OBJECTIVE

This chapter will be helpful in understanding:

Necessity of regulating banking business How regulations affect banks Goals of regulators in regulating banking business Systemic Risk Cross border regulation 1988 Basel Accord 1996 Amendment to Basel 1 Accord Basel 11 Accord

10.1 REGULATION OF BANKING INDUSTRIES - NECESSITIES AND GOALS

Banking and financial services, all over the world, are regulated usually by Monetary Authority of the land. This is because banking and financial services are the backbone of an economy. A healthy and strong banking system is a must for any economy to function smoothly and to prosper. As we have seen, banks have risks and risk taking is their business. But if risk-taking is not regulated properly, banks may fail and it would have a disastrous effect on the economy. Therefore, Monetary Authorities across the world regulate functioning of the banks. In India, this function, as we all know, is with Reserve Bank of India, Country's monetary authority. Regulations have a decisive impact on risk management. The regulatory framework sets up the constraints and guidelines that inspire risk management practices, and stimulates the development and enhancement of the internal risk models and risk management processes of banks. Regulations promote better definitions of risks, and create incentives for developing better methodologies for measuring risks. Regulations have several goals. They are:

1. Improving the safety of the banking industry, by imposing capital requirements in line with bank's risks

Note: Regulatory Authorities impose recognition of the core concept of the capital adequacy principle and of 'risk-based capital', which means banks' capital should be in line with risks. This implies a quantitative assessment of risks as well.

2. Levelling the competitive playing field of banks through setting common benchmarks for all players
3. Promoting sound business and supervisory practices.
4. Controlling and monitoring 'Systemic Risk'
5. Protecting interest of depositors as depositors cannot impose a real market discipline on banks

Systemic Risk
Systemic risk is the risk of failure of the whole banking system. Individual bank's failure is one of the major sources of the systemic risk. This happens because of high interrelations that exist on an ongoing basis between banks through mutual lending and borrowing and other commitments. The failure of a single bank generates a risk of failure for all the banks that have ongoing commitments with the defaulting bank. Receivables from the failed bank become non-available putting the counterparty bank into a cash or fund crunch. In fact, because of contagion effect, all banks may be affected, triggering off a systemic risk. Systemic risk is a major challenge for the regulator

10.2 THE NEED FOR RISK-BASED REGULATION IN A CHANGED WORLD ENVIRONMENT

A number of factors helped stabilise the banking environment in the seventies. Strong and constraining regulations weighed heavily on the banks' management. Commercial banking meant essentially collecting resources and lending. Limited competition facilitated a fair and stable profitability. Concerns for the safety of the industry and monetary management were the main priorities for regulators. The rules limited the scope of the operations of the various credit

institutions, and limited their risks as well. There were low incentives for change and competition.

Deregulation in economy came to promote faster growth as a regulated environment hardly provides any incentive for competition and change. Deregulation increased competition between players unprepared by their past experiences, thereby resulting in increasing risks for the system. Competition also promoted globalisation. Cross-border transactions, which resulted from global competition created by multinational enterprises. A regulatory framework, on a cross-country basis, for reconciling risk control and yet maintaining a level playing field for fair competition became necessary. This was undertaken by the Basel Committee on Banking Supervision (BCBS).

Why BCBS?

On 26th June 1974, a number of banks had released Deutschmarks to Bank Herstatt in Frankfurt in exchange for dollar payments that were to be delivered in New York. Due to differences in time zones, there was a lag in dollar payments to counterparty banks during which Bank Herstatt was liquidated by German regulators, i.e., before the dollar payments could be effected.

Note: The risk of settlement that arises from time-difference came to be known as 'Herstatt Risk'. The Herstatt incident prompted the G-10 countries (the G-10 is today 13 countries: Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, Netherlands, Spain, Sweden, Switzerland, United Kingdom and United States) to form, towards the end of 1974, the Basel Committee on Banking Supervision (BCBS), under the auspices of the Bank for international Settlements (BIS), comprising of Central Bank Governors from the participating countries.

BCBS has been instrumental in standardising bank regulations across jurisdictions with special emphasis on defining the roles of regulators in cross-jurisdictional situations. The committee meets four times a year. It has around 30 technical working groups and task forces that meet regularly.

10.3 1988 BASEL ACCORD

The period 1980 was the post-deregulation era (in India deregulation started in nineties).

Deregulation inspired competition indeed resulted in increasing the risks of the bank and it translated in several bank failures. This outlined the need for risk control and linking banking risks with banks' capital. In 1988, the Basel Committee published a set of minimal capital requirements for banks, known as the 1988 Basel Accord. These were enforced by law in the G-10 countries in 1992. The Japanese banks were permitted an extended transition period.

The 1988 Basel Accord primarily sought to put in place a framework for minimum capital requirement for banks that was linked to credit exposure. Keeping in view different accounting practices in vogue across the world, it also defined the capital for the purpose of capital adequacy.

Bank assets were classified into five buckets, i.e., grouped under five categories according to credit risk carrying risk weights of 0, 10, 20, 50 and 100%. Assets were to be classified into one of these risk buckets based on the parameters of counterparty (sovereign, banks, public sector enterprises or others), collateral (e.g., mortgages of residential property) and maturity. Generally, government debt was categorised at 0%, bank debt at 20%, and other debt at 100%. Off-balance sheet exposures such as performance guarantees and letters of credit were brought into the calculation of risk-weighted assets using the mechanism of variable credit conversion factor. Banks were required to hold capital equal to 8% of the risk-weighted value of assets. Since 1988, this framework has been progressively introduced not only in member countries but also in almost all other countries having active international banks.

The accord provided a detailed definition of capital. Tier 1 or core capital, which includes equity and disclosed reserves, and Tier 2 or supplementary capital, which could include undisclosed reserves, asset revaluation reserves, general provisions and loan-loss reserves, hybrid (debt/equity) capital instruments and subordinated debt.

10.4 1996 AMENDMENT TO INCLUDE MARKET RISK

In 1996, BCBS published an amendment to the 1988 Basel Accord to provide an explicit capital cushion for the price risks to which banks are exposed, particularly those arising from their trading activities. This amendment was brought into effect in 1998.

Salient features of the amendment are given below:

1. Allows banks to use proprietary in-house models for measuring market risks
2. Banks using proprietary models must compute VAR daily, using a 99th percentile, one-tailed confidence interval with a time horizon of ten trading days using a historical observation period of at least one year.
3. The capital charge for a bank that uses a proprietary model will be the higher of the previous day's VAR and three times the average of the daily VAR of the preceding 60 business days.
4. Use of 'back-testing' (ex-post comparisons between model results and actual performance) to arrive at the 'plus factor' that is added to the multiplication factor of three.
5. Allows banks to issue short-term subordinated debt subject to a lock-in clause (Tier 3 capital) to meet a part of their market risks.
6. Alternate standardized approach using the 'building block' approach where general market risk and specific security risk are calculated separately and added up.
7. Banks to segregate trading book and mark to market all portfolio/position in the trading book.
8. Applicable to both trading activities of banks and non-banking securities firms.

Does BCBS have Powers to Enforce?

'The Committee does not possess any formal supranational supervisory authority, and its conclusions do not, and were never intended to, have legal force. Rather, it formulates broad supervisory standards and guidelines and recommends, statements of best practice in the expectation that individual authorities will take steps to implement them through detailed arrangements - statutory or otherwise which are best suited to their own national systems. In this way, the Committee encourages convergence towards common approaches and common standards without attempting detailed harmonization of member countries' supervisory techniques. One important objective of the Committee's work has been to close gaps in international supervisory coverage in pursuit of two basic principles: that no foreign bank establishment should escape supervision; and that supervision should be adequate.'

10.5 BASEL-II ACCORD - NEED AND GOALS

Linking of risks with capital in terms of the Basel I Accord needed a revision for the following reasons:

Credit risk assessment under Basel I was not risk-sensitive enough. Capital need assessment under the Basel I accord was not being able to differentiate between banks with lower risks and banks with higher risks. For example, exposure on a company with AAA rating and a company with B rating were treated identically for the purpose of capital adequacy. Both would be placed in 100% risk weight category although, risks associated with them would be quite different. It promotes financial decision-making on the basis of regulatory constraints rather than on the basis of economic opportunities. Capital requirement for all corporate accounts being the same, it encouraged financing of assets with more risks for higher returns. Whereas a sound decision

should take into account risk and return characteristics of an asset, it was discouraged, as capital requirement was not differentiated based on risk characteristic of assets.

It did not recognize the role of credit risk mitigants, such as credit derivatives, securitizations, collaterals and guarantees, in reducing credit risk. It did not take into account operational risks of banks.

The fundamental objective to revise the 1988 Accord has been-

1. To develop a framework that would strengthen the soundness and stability of the international banking system.
2. To ensure that it does not become a source of competitive inequality among internationally active banks and yet have a capital adequacy regulation that is sufficiently consistent.
3. To help promote the adoption of stronger risk management practices by the banking industry.

10.6 BASEL-II ACCORD

The revised accord is also called Basel II. The BCBS has since released the document, "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" on 26 June 2004. Its significant features are:

1. Significantly, more risk-sensitive capital requirements takes into account operational risk of banks apart from credit and market risks. It also provides for risk treatment on securitisation.
2. Greater use of assessment of risk provided by banks' internal systems as inputs to capital calculations.
3. Provides a range of options for determining the capital requirements for credit risk and operational risk to allow banks and national regulators to select the approaches that are most suitable.
4. Capital requirement under new accord is the minimum. It has a provision for supplementary capital that can be adopted by national regulators.
5. The accord in fact promotes stronger risk management practices by banks by providing capital incentive for banks with better risk management practices.

Note: Capital requirement under Basel II does not include liquidity risk, interest rate risk of banking book, strategic and business risks. These risks would be under 'Supervisory Review Process', if supervisors feel that the capital held by a bank is not sufficient, they could require the bank to reduce its risk or increase its capital or both. In the matter of interest rate risk on banking book it has put in place a criteria for 'Outliers'. Where a bank under 200 basis point interest rate shock faces reduction in capital by 20% or more, such banks would be outliers.

The Basel II Accord is based on three pillars -

1. Minimum capital requirement
2. Supervisory review process
3. Market discipline

Structure of Basel-II

Pillar 1 — Minimum Capital Requirement

1. Capital for Credit Risk
 1. Standardised Approach
 2. Internal Ratings Based (IRB) Foundation Approach
 3. Internal Ratings Based (IRB) Advanced Approach
2. Capital for Market Risk
 1. Standardised Approach (Maturity Method)
 2. Standardised Approach (Duration Method)
 3. Internal Models Method
3. Capital for Operational Risk
 1. Basic Indicator Approach
 2. Standardised Approach
 3. Advanced Measurement Approach

Pillar 2 - Supervisory Review Process

1. Evaluate risk assessment
2. Ensure soundness and integrity of banks' internal process to assess the adequacy of capital
3. Ensure maintenance of minimum capital - with PCA for shortfall.
4. Prescribe differential capital, where necessary - i.e., where the internal processes are slack.

Pillar 3 - Market Discipline

1. Enhance disclosure
 2. Core disclosures and supplementary disclosures
-

3. Timely - semi annual

Pillar 1 - Minimum Capital Requirement

Basel 1 Accord and the 1996 amendment thereto has defined capital requirement as $\text{Capital} = \text{Min. Capital Ratio (8\%)} \times (\text{Credit Risk} + \text{Market Risk})$. The Revised Capital Accord or Basel II defines the capital requirement as $\text{Capital} = \text{Min. Capital Ratio (8\%)} \times (\text{Credit Risk} + \text{Market Risk} + \text{Operation Risk})$. It is to be noted that there is no change -

- In the definition of capital
- In the minimum capital ratio, which remains 8%
- In the calculation of market risk and it remains as per 1996 Amendment

The changes are in

- Method of calculating risk in credit exposures
- By way of capital charge on operational risk

In the following paragraphs, we shall describe the changes very briefly.

10.7 CAPITAL CHARGE FOR CREDIT RISK

Standardised Approach

The standardised approach is similar to the current accord in that banks are required to slot credit exposures into supervisory categories based on observable characteristics of the exposures (e.g., whether the exposure is a corporate loan or a residential mortgage loan). The standardised approach establishes fixed risk weights corresponding to each supervisory category and makes use of external credit assessments to enhance risk sensitivity compared to the current accord. The risk weights for sovereign, inter-bank, and corporate exposures are differentiated based on external credit assessments. The risk weights are inversely related to the rating of the counter party.

An important innovation of the standardised approach is the requirement that loans considered 'past due' be risk weighted at 150% unless, a threshold amount of specific provisions has already been sent aside by the bank against that loan.

The standardized approach also stipulates special treatment of certain exposures on a portfolio basis viz. 'retail' and 'SME' exposures. The exposures to these sectors attract a uniform risk weight of 75% irrespective of the individual risk rating of the component exposures.

Credit risk mitigants (collaterals, guarantees, and credit derivatives) can be used by banks under this approach for capital reduction, based on the market risk of the collateral instruments or the threshold external credit rating of recognised guarantors.

Reduced risk weights for retail exposures, small and medium size enterprises (SME) category and residential mortgages have been proposed. The approach draws a number of distinctions between exposures and transactions in an effort to improve the risk sensitivity of the resulting capital ratios.

Internal Rating Based Approach

One of the most innovative aspects of the New Accord is the IRB approach to measurement of capital requirements for credit risk. The IRB Approach offers the following two options:

Foundation IRB Approach (FIRB) and Advances IRB Approach (AIRB) version. The IRB approach differs substantially from the standardised approach to the extent that banks' internal assessments of key risk parameters serve as primary inputs to capital calculation. Since the approach is based on banks' internal assessments, the potential for more risk-sensitive capital requirements is substantial. The salient features of IRB Approach are as under:

- The IRB Approach computes the capital requirements of each exposure directly before computing the risk-weighted assets.
- Capital charge computation is a function of the following parameters:
 - (i) Probability of Default (PD)
 - (ii) Loss Given the Default (LGD)
 - (iii) Exposure at Default (EAD)
 - (iv) Maturity (M)
- The risk-weighted assets are derived from the capital charge computation.

The IRB approach does not allow banks to determine all of the elements needed to calculate their capital requirements. Instead, the risk weights and thus capital charges are determined through the combination of quantitative inputs provided by banks and formulae specified by the Committee.

The IRB approach uses banks' internal assessments of key risk drivers as primary inputs to the capital calculation. The risk weights and resultant capital charges are determined through the combination of quantitative inputs provided by banks and formulae specified the Committee.

The IRB calculation of risk weighted assets for exposures to sovereigns, banks, or corporate entities relies on the following four parameters:

1. Probability of default (PD), which measures the likelihood that the borrower will default over a given time horizon
 2. Loss given default (LDG), which measures the proportion of the exposure that will be lost if a default occurs
 3. Exposure at default (EAD), which for loan commitment measures the amount of the facility that is likely to be drawn in the event of a default.
 4. Maturity (M), which measures the remaining economic maturity of the exposure.
-

The differences between foundation and advanced IRB approaches are captured in the Table 10.1 based on who provides the inputs on the various parameters:

Differences between Foundation and Advanced IRB Approaches

Advanced IRB

Bank

Supervisor Supervisor Bank or Supervisor Function provided by the committee Historical data to estimate PD [5 years]

Bank Bank Bank Bank

Function provided by the committee

Historical loss data to estimate LCD [7 years] and historical exposure data to estimate BAD [7 years] plus that for PD estimation

For retail exposures only advanced IRB is prescribed where, obviously, the maturity parameter is omitted. Securitization, provisions and specialized lending have been accorded special treatment.

10.8 CAPITAL CHARGE FOR OPERATIONAL RISK

Operational risk is an important risk faced by banks and according to BCBS banks need to hold capital to protect against losses from this. This is a new area where the Committee has developed a regulatory capital approach. As in the case of credit risk, the committee has reckoned banks' rapidly developing internal assessment techniques and seeks to provide incentives to banks for improving upon those techniques, and more broadly, banks' management of operational risk over a period of time.

The New Framework provides three options for computing capital charge for Operational Risk with increasing sophistication and risk sensitivity. Base II encourages banks to move along the spectrum of available approaches as they develop more sophisticated operational risk measurement systems and practices. Internationally active banks and banks with significant operational risk exposures are expected to use an approach that is more sophisticated.

Within the Basel II framework, operational risk is defined as the risk of losses resulting from inadequate or failed internal processes, people and systems, or external events. Operational risk identification and measurement is still in an evolutionary stage as compared to the maturity that market and credit risk measurements have achieved.

As in credit risk, three alternate approaches are prescribed:

1. Basic Indicator Approach
2. Standardized Approach
3. Advanced Measurement Approach (AMA)

Table 10.2 captures the provisions of the proposed accord across different approaches: TABLE 10.2 Provisions of the Proposed Accord across Different Approaches

Calculation of capital charge

Basic Indicator

15% of average gross income over three years

Qualifying criteria

None

Standardised

Average gross income segregated into eight business lines, viz., retail banking, retail brokerage and asset management, which carry capital charge of 12%; commercial banking and agency services attract 15%; corporate finance, trading and sales and payment and settlement carry charge of 18%.

Total capital charge is the sum of capital charges across business lines.

Active involvement of board of directors and senior management.

Existence of conceptually sound operational risk management system

Systematic Tracking of loss- data.

Capital charge equals internally generated measure based on:

- Internal loss data
- External loss data
- Scenario analysis
- Business environment and internal control factors

Risk mitigation up to 20% allowed.

Measurement integrated into day-to-day risk management Review of management and measurement processes by internal/external audit.

Minimum five years loss-data.

Compliance of BCBS' 'Sound Practices for Management and Supervision of Operational Risk" is also required.

10.9 PILLAR 2 - SUPERVISORY REVIEW PROCESS

Pillar 2 introduces two critical risk management concepts: the use of economic capital, and the enhancement of corporate governance, encapsulated in the following four principles:

10.9.1 Principle 1

Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels. The key elements of this rigorous process are:

1. Board and senior management attention
2. Sound capital assessment
3. Comprehensive assessment of risks
4. Monitoring and reporting
5. Internal control review

10.9.2 Principle 2

Supervisors should review and evaluate bank's internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process. This could be achieved through:

1. On-site examinations or inspections
2. Off-site review
3. Discussions with bank management
4. Review of work done by external auditors
5. Periodic reporting

10.9.3 Principles

Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.

10.9.4 Principle 4

Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

Participations under Pillar 2 seek to address the residual risk not adequately covered under Pillar 1, such as a concentration risk, interest rate risk in banking book, business risk and strategic risk.

'Stress testing' is recommended to capture event risk. Pillar 2 also seeks to ensure that internal risk management process in the banks is robust enough. The combination of Pillar 1 and Pillar 2 attempt to align regulatory capital with economic capital.

10.10 PILLAR 3 - MARKET DISCIPLINE

The focus of Pillar 3 on market discipline is designed to complement the minimum capital requirements (Pillar 1) and the supervisory review process. (Pillar 2). With this, the Basel Committee seeks to enable market participants to assess key information about a bank's risk profile and level of capitalisation - thereby encouraging market discipline through increased disclosure. Public disclosure assumes greater importance in helping banks and supervisors to manage risk and improve stability under the new provisions, which place reliance on internal methodologies providing banks with greater discretion in determining their capital needs. It has been agreed that such disclosures will depend on the legal authority and accounting standards existing in each country. Efforts are in progress to harmonise these disclosures with Internal Financial Reporting Standards (IFRS) Broad Standards (International Accounting Standards 30 and 32).

10.11 SIMPLIFIED STANDARDISED APPROACH

In order to assist banks and national supervisors where circumstances may not warrant a broad range of options, the Committee has developed the 'simplified standardised approach' (outlined in Annex 9 of the Revised Framework). The annex collects in one place the simplest options for calculating risk-weighted assets; salient features of the SSA are as below.

- SSA uses only rating by Export Credit Agencies (ECAs) for sovereign exposures. Bank and CSU ratings are linked to the rating of the sovereign on the same lines as available in the SA.
- Risk weights for corporate borrowers depends upon the rating assigned to them by a rating agency approved for that purpose and varies from 20% in case of top rated company to 100% in case of an unrated corporate.
- In the case of domestic banks, the risk weight depends on the CRAR of the respective bank and in the case of foreign banks the risk weight is related to the rating assignment to the bank by international rating agencies.

Banks intending to adopt the simplified standardised methods are also expected to comply with the corresponding supervisory review and market discipline requirements of the New Framework. The Basel II document clarified that the SSA should not be seen as another approach for determining regulatory capital. Rather it collects in one place the simplest options for calculating risk-weighted assets.

10.12 IMPACT ON EMERGING MARKETS AND SMALLER BANKS

In an attempt to assess the impact of Pillar 1 requirements of capital adequacy, BCBS did undertake a few quantitative impact surveys (QIS), the last of which is referred to as QIS - 10. The results indicated that, in general, banks' required capital would decrease with respect to credit risks and increase with respect to operational risks. However, in Asia and other emerging markets, several factors may raise the required capital even for credit risks, as real estate continues to be widely used as collateral for business loans, and the standardised approach, which is the most likely approach for many banks, places a 150% risk weight on non-performing loans. Basel II will increase the level of capital that is required for banking institutions in the emerging markets, mainly owing to the new operational risk charge, which will be higher if the basic indicator approach is used.

By application of differential risk weights on the basis of sovereign rating as a benchmark, the capital inflows in emerging markets could be seriously attracted, as most of the borrowers in such markets will be categorised under the speculative grade.

Smaller banks would find the investments on Basel II compliance too big for their existing budgets.

Let Us Sum Up

Banking and financial services are regulated because banking and financial services are the backbone of an economy. A healthy and strong banking system is a must for any economy to function smoothly and to prosper. Regulations have a decisive impact on risk management. Regulations seek to improve the safety of the banking industry, ensure a level playing field, promote sound business and supervisory practices, control and monitor 'Systemic Risk' and protect the interest of depositors.

Deregulation increased competition between players unprepared by their past experiences, thereby resulting in increasing risks for the system. Globalisation and cross-border transactions needed a regulatory framework on a cross-country basis, for reconciling risk control and yet maintaining a level playing field for fair competition became necessary.

In 1988, the Basel Committee published a set of minimal capital requirements for banks, known as the 1988 Basel Accord. The 1988 Basel Accord primarily sought to put in place a framework for minimum capital requirement for banks that was linked to credit exposure. Keeping in view different accounting practices in vogue across the world, it also defined the capital for the purpose of capital adequacy.

In 1996, BCBS published an amendment to the 1988 Basel Accord to provide an explicit capital cushion for the price risks to which banks are exposed, particularly those arising from their trading activities. This amendment was brought into effect in 1998. Linking of risks with capital in terms of the Basel I Accord needed a revision for the following reasons:

1. Credit risk assessment under Basel I is not risk-sensitive.
2. It promotes financial decision-making on the basis of regulatory constraints rather than on the basis of economic opportunities.
3. It did not recognise the role of credit risk mitigants.

The 1988 Accord has been revised with the objectives to develop a framework that would strengthen the soundness and stability of the international banking system, to ensure that it does not become a source of competitive inequality among internationally active banks and yet have a capital adequacy regulation that is sufficiently consistent and to help promote the adoption of stronger risk management practices by the banking industry.

10.12.1 Basel-II Accord

The revised accord is also called Basel II. The BCBS has since released the document, "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" on 26 June, 2004.

Its significant features are:

- Significantly, more risk-sensitive capital requirements and takes into account operational risk of banks.
 - Greater use of assessment of risk provided by banks' internal systems as inputs to capital calculations.
 - Provides a range of options for determining the capital requirements for credit risk and operational risk.
-

- Capital requirement under new accord is the minimum. It has a provision for supplementary capital that can be adopted by national regulators.
- The accord in fact promotes stronger risk management practices by banks by providing capital incentive for banks with better risk management practices.

The Basel-II Accord is based on three pillars -

1. Minimum capital requirement
2. Supervisory review process
3. Market discipline

10.12.2 Structure of Basel-II

Pillar 1 - Minimum Capital Requirement Capital for credit risk

- Standardised Approach
- Internal Ratings Based (IRB) Foundation Approach
- Internal Ratings Based (IRB) Advanced Approach

Capital for Market Risk

- Standardised Approach (Maturity Method)
- Standardised Approach (Duration Method)
- Internal models method

Capital for Operational Risk

- Basic Indicator Approach
- Standardised Approach
- Advanced Measurement Approach

Pillar 2 - Supervisory Review Process

- Evaluate risk assessment
- Ensure soundness and integrity of banks' internal process to assess the adequacy of capital
- Ensure maintenance of minimum capital - with PCA for shortfall.
- Prescribe differential capital, where necessary, i.e., where the internal processes are slack.

Pillar 3 - Market Discipline

- Enhance disclosure
- Core disclosures and supplementary disclosures
- Timely - semi-annual

Keywords

Banking Regulations; Systemic Risk; Contagion Effect; Deregulation; Capital adequacy; Back-testing; Risk Sensitive; Credit Risk Mitigants; Supplementary Capital; Capital Incentive; Outliers; Supervisory Categories; External Credit Assessments; SME; Off-site Review; Residual Risk; QIS.

Terminal Questions

(A) Systemic risk is the risk of

- (i) Failure of a bank, which is not adhering to regulations
- (ii) Failure of two banks simultaneously due to bankruptcy of one bank
- (iii) Where a group of banks fail due to contagion effect
- (iv) Failure of entire banking system

Failure of entire banking system

(B) Central Bank Governors of G-10 countries participate in the Basel Committee on Banking Supervision. Total number of members:

(i) 10 (ii) 11 (iii) 12 (iv) 13

13

(C) 1988 Capital Accord framework accounted for

1. Credit risk
2. Market Risk
3. Operational risk
4. Defined capital component

Which of the following is true?

(i) All of them

(ii) 1,2 and 4

(iii) 1, 3 and 4

(iv) 1,2 and 3

1,2 and 4

(D) Back testing is done to

- (i) Test a model
- (ii) Compare model results and actual performance
- (iii) Record performance
- (iv) None of the above

Compare model results and actual performance

(E) Under Basel II, capital requirement under the accord is

- (i) The maximum capital that is required to be maintained
- (ii) The minimum capital that is required to be maintained
- (iii) The capital as specified by the regulatory authority is required to be maintained
- (iv) None of the above

The capital as specified by the regulatory authority is required to be maintained

(F) Capital charge for credit risk requires input for PD, LGD, HAD and M. Under advanced IRB approach, who provide the input for LGD.

- (i) Bank
- (ii) Supervisor
- (iii) Function provided by BCBS
- (iv) None of the above

Bank

Answers to Terminal Questions

1. (iv), 2.(iv), 3.(ii), 4.(ii), 5.(iii), 6.(i)

ANNEXURE TO UNIT 10

Regulatory Capital Requirement for Indian Banks under Basel II

Risks in banking business when materializes results in revenue losses. Under normal circumstances such losses stands absorbed in the surplus generated in the business. Such losses can be estimated and is termed 'Expected Losses'. This loss is treated as cost and is offset

through appropriate pricing of various banking products and services. However, in abnormal circumstances such losses may exceed not only the estimates for expected losses but also exceed the surplus generated in the business and even beyond. This is termed 'Unexpected Losses' and may be estimated with certain level of confidence. Capital maintained for banking business should at the minimum be equal to the unexpected losses. Such a level of capital would correspond to 'Economic Capital'. However, regulatory authorities provide directives on the capital that banks are required to maintain, which is termed 'Regulatory Capital'.

Banks operating in India are required to maintain regulatory capital as per the directives issued by country's regulatory authority i.e. Reserve Bank of India. Reserve Bank of India, for this purpose, have issued guidelines specifying prescribed minimum capital adequacy ratio that banks are required to maintain, criteria for capital funds and modalities for computation of risk weighted assets (as per Basel II). Effective from 31 st March, 2009 all Commercial banks in India, other than local areas banks and RRBs, are required to compute risk weighted assets based on standardized approach for credit risk, standardized duration approach for market risk and basic indicator approach for operational risk. It may be mentioned that migration to internal rating based approach for credit risk, internal model based approach for market risk and standardized approach/advanced measurement approach for operational risk would be permitted by RBI on a case by case basis for which banks are to obtain necessary approval from RBI. The following paragraphs provide a broad idea of extant directives on regulatory capital requirements. These directives have been discussed in the following paragraphs under the following heads.

- Minimum Capital Requirement
- Capital Funds
- Computation of RWAs for Credit Risk - Standardized Approach
- Computation of Capital Charge for Market Risk - Standardised Duration Approach
- Computation of Capital Charge for Operational Risk - Basic Indicator Approach
- Computation of CRAR

The extant guidelines in detail, however, are available in RBI's Circular DBOD No.DB.BC.21/21.06.001/ 2009-10 dated 1st July, 2009 on the subject "Master Circular - Prudential guidelines on Capital Adequacy and Market discipline - Implementation of the New Capital Adequacy Framework (NCAF)."

Minimum Capital Requirement

Banks are to maintain a minimum level of tier I capital and total capital (Tier I + Tier II) based on the level of risk weighted assets. The ratio of tier I capital to total risk weighted assets is called 'Tier I CRAR' and the ratio of total capital to total risk weighted assets is called 'Total CRAR'. CRAR stands for capital to risk weighted assets ratio.

Total CRAR

Banks which have implemented Basel-II framework effective 31 March, 2008, were required to maintain minimum capital to risk weighted ratio (CRAR) for the financial year 2008 - 09 at 9% of risk weighted assets calculated as per Basel-II framework Or 8.1% of risk weighted assets calculated based on Basel- I framework, whichever is more. For the financial year 2009 - 10 and beyond, they are required to maintain a minimum capital at 9% of risk weighted assets calculated as per Basel-II framework or 7.2% of risk weighted assets calculated based on Basel-I framework, whichever is more.

Banks which have implemented Basel-II framework effective 31 st March, 2009, are required to maintain minimum capital to risk weighted ratio (CRAR) for the financial year 2009 - 10 at 9%

of risk weighted assets calculated as per Basel-II framework or 8.1% of risk weighted assets calculated based on Basel- I framework, whichever is more. For the financial year 2010 - 11 and beyond, they are required to maintain a minimum capital at 9% of risk weighted assets calculated as per Basel-II framework or 7.2% of risk weighted assets calculated based on Basel-I framework, whichever is more.

Total CRAR is to be computed as given below:

(Eligible total capital funds) - (RWAs for Credit Risk + RWAs for Market Risk + RWAs for Operational Risk)

Tier-I CRAR

In addition to above, effective 31st march, 2010 all the banks have to maintain Tier-I Capital Adequacy ratio at 6% at least.

Tier-I CRAR is to be computed as given below:

(Eligible Tier I capital funds) - (RWAs for Credit Risk + RWAs for Market Risk + RWAs for Operational Risk)

Capital Funds

The liabilities in a bank's balance sheet that qualifies as tier I capital and tier II capital have been specified. Total capital is sum of Tier I capital and Tier II capital.

Tier-I Capital Funds

Tier-I capital funds would include the followings:

1. Paid up equity capital, statutory reserves and other disclosed free reserves
2. Capital reserves arising out of sale proceeds of assets
3. Innovative perpetual debt instruments (IPDIs), which meet the regulatory requirements advised by RBI for this purpose limited to maximum of 15% of total Tier-I capital as on 31 st March of the previous financial year.
4. Perpetual non-cumulative preference shares (PNCPS), which meet the regulatory requirements advised by RBI for the purpose subject to a limit such that total of IPDIs and PNCPS does not exceed 40% of total Tier-I capital at any point of time.

Tier-I capital would equal the sum of these items but net of -

- Intangible assets
- Deferred tax assets (DTAs) associated with accumulated loss
- DTA (excluding DTA associated with accumulated loss) net of deferred tax liabilities (DTLs), if it has a positive value.
- Certain other items*

*Note: In addition to the above, regulatory authority has prescribed certain other deductions from capital for the purpose of computing regulatory capital. The details are available in the Circular referred to above.

Total Capital Funds

Total capital fund equals to Tier-I capital fund (computed in accordance with the Para mentioned above) and Tier-II capital. Elements of Tier-II capital are:

- Revaluation reserves at a discount of 55%
 - General provision on standard assets, floating provisions, provisions held for country exposure, investment reserve accounts and excess provision subject to a maximum of 1.25% of total risk weighted assets.
 - Upper Tier-II capital which includes PNCPS, redeemable non-cumulative preference shares (RNCPS) and redeemable cumulative preference shares (RCPS) issued in accordance with the regulatory guidelines for the purpose.
-

- Subordinated debts issued and computed in accordance with the regulatory guidelines for the purpose.
- Innovative perpetual debts instruments (IPDIs) and Perpetual non-cumulative preference shares (PNCPS) held in the books in excess of the prescribed limit and not included for computing Tier-I capital.

The Tier-II capital will be sum up of the items mentioned above, but is limited to a maximum of 100% of Tier-1 capital.

Computation of RWAs for Credit Risk - Standardised Approach

Capital for credit risk is required to meet abnormal losses arising out of risk of default of bank's borrowers. However, in so far as risk of default across various borrowers and exposures differ, capital requirement also differs. In view of this, under standardised approach, different but prescribed risk weights are assigned to borrowers/types of exposure to differentiate risk of default associated with them. Exposure duly risk weighted with appropriate risk weight is termed risk weighted asset (RWA). Capital requirement for credit risk is based on RWA.

Total RWAs for credit risk of a bank is the sum of risk weights of customer-wise credit exposures covering its entire credit outstanding where, the risk weight of an exposure depends upon the type of borrower and exposure and the level of adjusted exposure. Revised framework for capital adequacy adopted by Reserve Bank of India specifies varying risk weight depending upon type of exposures/ borrowers. The adjusted exposure would depend upon outstanding fund based facilities, un-availed

portion of the sanctioned fund-based facilities and outstanding non-fund based facilities net of allowable reductions if such exposures are secured by permissible securities.

Therefore, determination of total RWAs for credit risk of a bank is basically a five stage process comprising of:

Determining Adjusted Exposure
 Determining Allowable Reduction
 Determining Applicable Risk Weight
 Determining RWA for the Exposure
 Consolidation of RWAs of all Exposures
 Determining Adjusted Exposure

Total exposure on a borrower is sum total of exposure on account of-

1. Outstanding balances in fund based facilities
2. Un-availed portion of the sanctioned fund-based facilities and
3. Outstanding non-fund based facilities.

The computation of exposure on account of these three items is to be carried out in the manner given below.

1. Exposure on Outstanding Balances in Fund-based Facilities: This equals total of outstanding balances under Fund-based facilities including outstanding balances under term loans.
2. Un-availed Portion of the Sanctioned Fund-based Facilities: Exposure on account of un-availed portion of the sanctioned fund-based facilities would be 'Nil' in respect of borrower where commitments are cancellable at any time by the bank without prior notice or where commitments are automatically cancellable upon deterioration of borrower's credit worthiness. However, in absence of it, exposure on account of un-availed portion of the sanctioned fund-based facilities would be equal to 20% of un-drawn portion (i.e., Limits Sanctioned - Balance Outstanding) under all fund based facilities with maturity up to and inclusive of one year

+ 20% of Un-drawn portion of the Term Loan, which is to be drawn within 1 year

+ 50% of Un-drawn portion of the Term Loan, which is to be drawn after 1 year

Note:

- Un-drawn portion of term Loan refers to that portion of Term Loan, which is yet to be disbursed.
 - Where a Term Loan is to be disbursed in phases and subsequent phases would be disbursed only after confirmation/consent/approval to be received from sanctioning authority, loans to be disbursed under subsequent phases may not be treated as un-drawn portion of Term Loan as Bank may not disburse the Term Loan.
3. Outstanding Non-fund-based Facilities: Non Fund-based exposure may consist of Financial Guarantees, Acceptances, Performance Guarantees, Bid bonds, Standby Letters of credit, Clean Letters of Credit, Documentary Letters of credit, Unconditional take out finance, Conditional take out finance, etc.

For computing credit equivalent of non-fund based exposures, outstanding under Non-Fund Based facilities are to be multiplied by corresponding Credit Conversion Factors (CCFs). RBI has specified Credit Conversion Factors for various non-fund based exposures (enclosure 1). The sum total of credit equivalent of all non-fund based exposures would be the exposure on account of outstanding non-fund based exposures.

However, credit risk on non-fund based facilities such as interest rate contracts/exchange rate contracts, depends upon market volatility of interest rate and exchange rate. Credit risk on these items also depends upon remaining maturity of these contracts. Hence, credit equivalent for off balance sheet items is determined based on present exposure (this is the positive value of mark to market - as this happens to be the exposure of the bank on its counterparty) and potential credit exposure that may arise in future (this is determined by multiplying contract amount with relevant CCFs). In addition to it, risk of failed delivery/payment by counterparty also exists in such contracts. In determining risk weight for such exposures, these factors are also taken into accounts. For further details, reference may be made to RBI's guidelines referred earlier.

The following is an example that explains computation of exposure on a borrower. Example To explain the method of computing exposure on a borrower account, we have assumed a hypothetical case where following is the position of exposure on the borrower.

Nature of Facilities

Limit Sanctioned (Rs in '000')

Balance Outstanding (Rs In '000'),

Cash Credit Bills Purchased Packing Credit Term Loan Total

200 60 40 200 500

100 30 30 40 200

Undrawn portion under fund-based limit other than Term Loan = (3.00 lakh - 1.60 lakh) = 1.40 lakh

Out of the undisbursed portion of the Term Loan amounting to Rs. 1.60 lakh, Rs.0.60 lakh is to be disbursed within 1 year and Rs.1.00 lakh is to be disbursed after 1 year.

| | | |
|--------------------------------|-----|-----|
| Financial Guarantee | 100 | 90 |
| Acceptances | 100 | 80 |
| Performance Guarantee | 90 | 80 |
| Bid Bonds | 20 | 20 |
| Stand by Letter of Credit | 120 | 50 |
| Clean Letter of Credit | 150 | 50 |
| Documentary Letter of Credit | 100 | 40 |
| Unconditional take out Finance | 100 | 100 |
| Conditional take out Finance | 50 | 50 |

The exposure on the borrower account may be calculated as shown below:

1. Outstanding balances in fund-based facilities in the above case is Rs 200,000
2. Un-availed portion of the sanctioned fund-based facilities = 20% of un-drawn portion (i.e., Limits Sanctioned - Balance Outstanding) under all fund based facilities other than term loans +
20% of Un-drawn portion of the Term Loan, which is to be drawn within 1 year + 50% of Un-drawn portion of the Term Loan, which is to be drawn after 1 year = 20% of 140,000 + 20% of 60,000 + 50% of 100,000 = Rs 90,000
3. Outstanding non-fund based facilities: Exposure on account of non-fund based facilities is calculated in the following table:

SI No. Nature of NFB Exposure

| Outstanding NFB Exposure | | |
|--------------------------|--------------------------------|------------|
| (1) | (2) | (3) |
| 1. | Financial Guarantee | 90 |
| 2. | Acceptances | 80 |
| 3. | Performance Guarantee | 80 |
| 4. | Bid bonds | 20 |
| 5. | Stand by Letter of Credit | 50 |
| 6. | Clean Letter of Credit | 50 |
| 7. | Documentary Letter of Credit | 40 |
| 8. | Unconditional take out Finance | 100 |
| 9. | Conditional take out Finance | 50 |
| | Total | 560 |

Credit Conversion Factor Applicable (%)
(as per Annexure)

| | | | | | | | | | |
|-----|-----|-----|----|----|-----|-----|----|-----|----|
| (4) | 100 | 100 | 50 | 50 | 100 | 100 | 20 | 100 | 50 |
|-----|-----|-----|----|----|-----|-----|----|-----|----|

Credit Equivalent of NFB Exposure (3) X (4)

| | | | | | | | | | |
|-----|-----|----|-----|----|----|----|--|--|--|
| (5) | 90 | 80 | 40 | 10 | 50 | 50 | | | |
| | 100 | 25 | 453 | | | | | | |

Total credit equivalent of non fund-based exposure in the above table comes to Rs. 453,000.

Hence, Total Exposure on the Account = 1 + 2 + 3 = 200,000 + 90,000 + 453,000 = Rs. 743,000

Determining Allowable Reduction

Exposure computed in terms of para above would stand reduced if the exposure on a borrower is secured by

1. Deposits under lien
2. Approved financial collaterals

Benefit of exposure reduction on account of deposits under lien, approved financial collaterals and guarantees is permissible only if certain terms and conditions are met. For ready reference, gist of the terms and conditions have been annexed (Enclosure 2).

1. Deposits under Lien: In case of loans and advances secured by bank deposits under lien, allowable reduction in exposure is to be determined using the following formula.

$$\text{Allowable Reduction} = C \times [1 - \frac{1}{j}] \times M^j$$

Subject to a maximum of Exposure amount (i.e., where allowable reduction is more than amount of

exposure, allowable reduction would equal to amount of exposure)

Where:

- C is the value of Bank Deposit
- $H_j = 0$ if exposure and collateral are in same currency
- $H_j = 0.08$ where exposure and collateral are in different currencies
- Mf- Maturity factor (enclosure 3)

Note: Normally, in cases where deposits under lien and loans and advances are in the same currency and is well-documented, allowable reduction would equal to the value of deposit under lien.

2. Improve Financial Collateral: In case of loans and advances secured by eligible financial collaterals other than bank deposits (enclosure 4), allowable reduction in exposure is to be determined using the following formula.

$$\text{Allowable Reduction} = [C \times (1 - H_j) \times A - \text{£} \times M_f]$$

Subject to a maximum of Exposure amount and minimum of Zero (i.e., where allowable reduction is more than amount of exposure allowable reduction would equal to amount of exposure. Further, where allowable reduction is negative; it should be taken as Zero.) Where:

- £ is exposure net of margin and allowable reduction on account of Lien Deposits, where available
- C is the value of eligible financial collateral
- $H_j = 0$ if exposure and collateral are in same currency
- $H_j = 0.08$ where exposure and collateral are in different currencies
- g is Haircut appropriate to the exposure (enclosure 5)
- H is Haircut appropriate to the collateral (enclosure 6)
- Mf= Maturity factor (enclosure 3)

Illustration on credit risk mitigation:

Example 1

An exposure of Rs 100 lakhs is backed by financial collateral of A+ debt security of Rs 30 lakhs issued by others. The tenor of the exposure is 3 years. The residual maturity of the financial collateral is 2 years.

In this case, the financial collateral is an eligible credit risk mitigant.

As the residual maturity of the collateral is less than the residual maturity of the exposure, maturity mismatch is also there. However, there is no currency mismatch.

Let us first determine the hair cut of the collateral.

$$C^* = C \times (1 - H_j - g) = 30 \times (1 - 6\% - 0\%) = 30 \times 94\% = 28.20$$

Where C^* = Haircut adjusted collateral value

iri

C = Original collateral value H^{\wedge} = Hair cut applicable to the collateral H_j^{\wedge} = Hair cut on account of currency mismatch between collateral and exposure. = 0.08 in all cases where this is applicable.

Let us now determine what would be the value of the haircut-adjusted collateral after adjustment on account of maturity mismatch.

$$P = C * X - 0.25 / (r - 0.25) = 28.2 \times (2 - 0.25) / (3 - 0.25) = 28.2 \times 1.75 / 2.75 = 17.95$$

Where P = Value of credit risk mitigant adjusted for maturity mismatch

C^* = value of the collateral adjusted for any hair cut.

t = minimum of T and residual maturity of the credit protection expressed in years.

T = minimum of 5 years and residual maturity of the exposure expressed in years.

The adjusted collateral value is Rs. 17.95 lacs. The value of the exposure after risk mitigation would be $E = \text{Max} \{0, (\text{current value of exposure} - \text{value of the adjusted collateral for any hair cut and maturity mismatch})\} = \text{Max} \{0, (100 - 17.95)\} = 82.05$

Net Exposure qualifying for Capital Adequacy is Rs.82.05 lacs.

Example 2

An exposure of Rs.100 lakhs is backed by lien on fixed deposit of Rs. 30 lakhs. There is no maturity mismatch.

In this case, the credit risk mitigant is on-balance sheet netting. Hence Rs. 30 lakhs should be reported under Col. 7. The net exposure qualifying for Capital Adequacy is Rs. 70 lakhs after netting. Here hair cut for credit risk mitigant is zero.

Example 3

An exposure of Rs.100 lakhs is backed by guarantee of state Government for the full amount. There is no maturity mismatch.

As State Government is a sovereign, guarantee of state govt, is an eligible credit risk mitigant. In this case, the net exposure qualifying for capital adequacy is Rs.100 lacs as there is no maturity mismatch.

Example 4

An exposure of Rs.100 lakhs is backed by financial collateral in the form of NSCs of Rs 30 lakhs and eligible A+ debt securities issued by others of Rs. 50 lakhs. The residual tenor of the exposure is 3 years and the residual maturity of both the collaterals is 3 years. There is no maturity mismatch.

The weights of NSCs and A+ debt security in the basket of assets are 30% and 50% respectively. Based on residual maturity hair cut applicable to NSCs is 2% and that to A+ debt security is 6%.

$$H^{\wedge} = 30\% + 2\% + 50\% \times 6\% = 10.60\%$$

$$\text{The value of hair cut adjusted collaterals would be } C^* = 80 \times (1 - 10.60\%) = 80 \times 96.4\% = 77.12$$

The adjusted collateral value is Rs.77.12 lacs. Net Exposure qualifying for capital adequacy would be

$$E = \text{Max} \{0, (\text{current value of exposure} - \text{adjusted value of collaterals})\} = \text{Max} \{0, (100 - 77.12)\} = 22.88 \text{ lacs}$$

Determining Applicable Risk Weight

Applicable risk weight depends on the type of exposure. Various types of exposures and applicable risk weights are available in the RBI guidelines referred. Broadly, from the view point of risk weights, exposures may be grouped as follows:

Standard assets where risk weights assigned are independent of Rating
Standard assets where risk weights assigned are based on Rating
Non-performing assets where risk weights assigned are independent of Rating

Standard assets where risk weights assigned are independent of Rating include exposures on Central Government of India and accounts guaranteed by it, RBI, DICGC and CGTSI (risk weight is zero)

State Governments in India and accounts guaranteed by them and ECGC (risk weight is 20%)

Govts of Foreign Sovereigns of India and accounts guaranteed by it, where exposures denominated in domestic currency of the foreign country made out of resources in the same currency raised in the jurisdiction of the foreign country (risk weight is zero)
Exposures Unrated but Re-structured/Re-scheduled Exposures on Staff Members of Bank

Exposures for the purpose of acquiring residential property that is or will be occupied by borrower or that is rented and secured by Mortgage of Residential Property Exposures (both FB & NFB) secured by Mortgages on Commercial Real Estate Exposures in the Nature of Personal Loans Exposures, which are Capital Market Exposure Exposures on Venture Capital Funds

Exposures on NBFCs Regulatory Retail Exposures

Standard assets, where risk weights assigned are based on rating, include exposures on -

Exposures on Governments of Foreign Sovereigns of India and accounts guaranteed by it, which are denominated in the currency of the foreign country
Exposures on Banks

Exposures on Domestic/Foreign Public Sector Entities
Exposures on Primary Dealers
Exposures on Corporates
Securitization Exposures

Note: A transaction which meets the RBI guidelines on securitisation of standard assets qualifies for special treatment provided for capital adequacy purposes. Banks as an investor may apply rating-based risk weights for computation of RWAs. However, where banks act as an originator or credit enhancer or liquidity provider or underwriter has to assess RWAs on account of such exposures in a manner detailed in the RBI guidelines referred.

Non-performing assets, where risk weights assigned are independent of rating include exposures on

All NPAs secured by residential property with specific provision less than 20% of outstanding NPA
NPAs secured by residential property with specific provision of 20% or more but less than 50% of outstanding NPA

NPAs secured by residential property with specific provision of 50% or more of outstanding NPA
NPAs fully secured by land & building and/or plant & machinery with specific provision of 15% or more of outstanding NPA

NPAs not covered above with specific provision less than 20% of outstanding NPA

NPAs not covered above with specific provision 20% or more but less than 50% of outstanding NPA

• NPAs not covered above with specific provision 50% or more of outstanding NPA
Risk Weight on Exposures Covered under Eligible Guarantees

Applicable risk weight on exposures covered under eligible guarantees may be substituted with the risk weight of the guarantor
Accounts guaranteed by sovereigns, banks, DICGC/CGTSI, ECGC and entities rated AA(-) or better by approved rating agencies. In India, approved rating agencies are CRISIL, ICRA, FITCH and CARE. international rating agencies approved for the purpose are Standard and Poor, Moody's and FITCH.

Nominal guaranteed amount may be adjusted for maturity mismatch and currency mismatch using the following formula.

Adjusted Guaranteed Amount = $G \times (1 - Hf^A) \times Mf$

Where:

- G is nominal Guaranteed Amount
- $Hf^A = "0"$ if exposure and guaranteed amount are in same currency
- $Hfj^A = "0.08"$ where exposure and guaranteed amount are in different currencies
- $Mf =$ Maturity factor (enclosure 3)

The guaranteed portion is to be assigned risk weight in accordance with the rating of the guarantor. If the rating of the guarantor is AAA, the risk weight to be applied is 20% and if the rating of the guarantor is AA(+) or AA or AA(-), risk weight to be applied is 30%.

However, before taking the benefit of eligible guarantees, it should be ensured that terms and conditions specified in Enclosure 2 are met.

Determining RWA for the Exposure

Risk weight of an exposure on account of credit risk would equal adjusted exposure, i.e., total exposure net of allowable reductions on account of available financial collaterals multiplied by risk weight applicable to the exposure.

However, where an account is covered under eligible guarantee(s), adjusted guaranteed amount(s) would have risk weight applicable to guarantor(s) and the balance net of adjusted guaranteed amount(s) would have risk weight applicable to the exposure.

Consolidation of RWAs of all Exposures

Consolidated risk-weighted assets of a bank would be the sum total of risk weights of all its credit exposures.

Note: Computation of RWAs under revised approach is very much data intensive. A gist of account-wise data required and reference tables that need to be referred are given below.

1. Total Fund-based limit sanctioned excluding Term Loan
2. Total outstanding balance under Fund-based facilities
3. Term Loan balance outstanding
4. Undrawn portion of the Term Loan - of which
 - (i) Amount to be drawn within 1 year
 - (ii) Amount to be drawn after 1 year

Note: 1. Undrawn portion of term Loan refers to that portion of Term Loan, which is yet to be disbursed.

2. Where a Term Loan is to be disbursed in phases and subsequent phases would be disbursed only after confirmation/consent/approval to be received from sanctioning authority, loans to be disbursed under subsequent phases may not be treated as un-drawn portion of Term Loan as Bank may not disburse the Term Loan.

Non Fund-based limits and outstanding balances (facility-wise) along with margin if any, specifically prescribed to for Non Fund-based facility/facilities. Deposits under lien (see terms and conditions mentioned below): These are cash margin including certificate of deposits, fixed deposit receipts and other deposits with the bank. The following conditions are to be satisfied for applying on balance sheet netting.

- (a) There is a well-founded legal basis for netting or offsetting regardless of whether the borrower is insolvent or bankrupt.
 - (b) Bank is able at any time to determine the value of loans/advances and deposits with the same counterparty that are subject to the netting agreement.
 - (c) Bank monitors and controls the relevant exposures on a net basis.
7. Other financial collaterals if any

8. Where guaranteed by ECGC/CGTSI/Banks and amount covered under guarantee.

5.

6.

Note: Bills discounted under LC would be an exposure which is deemed to be guaranteed by banks. Consequently, any outstanding under bill discounting/negotiation under LC should be taken as exposure on banks.

9. If it is guaranteed by any other guarantor rated "AA-" or better.

Note: Guarantor's Rating Certificate issued by anyone of the 4 Rating Agencies, i.e., CRISL, ICRA, FITCH and CARE should be available in record.

In addition to the above, the following tables are to be referred to which are enclosed with this Circular:

1. Credit Conversion Factors
2. Haircut for Exposure - H^A
3. Haircut for Collateral - H^A
4. Table for Maturity Factor - (A^A)
5. Eligible Financial Collaterals
6. Risk Weight for Various Exposures

Computation of Capital Charge for Market Risk - Standardised Duration Approach

Capital for market risk is required for abnormal losses that may arise on account of adverse movement in market prices, which in turn, depends upon adverse movement in interest rates and adverse changes in the factors related to individual issuer. Consequently, capital required for market risk is made up of two components, one accounting for movement in interest rates and another accounting for factors related to individual issuer. The former is termed 'Capital for General Market Risk' and the latter is termed 'Capital for Specific Risk'. Capital for market risk is sum of both these components.

It may be noted that capital for market risk is computed in terms of capital required which is not the case with computation of capital for credit risk where risk weighted assets is computed first. In case of market risk, capital is computed directly and equivalent risk weighted assets is computed by dividing capital required by 0.09.

In terms of extant directives capital for market, risk is to be maintained for following exposures:

- Securities held for trading (HFT and AFS categories)
- Derivatives - trading and hedging positions
- Open position limits - gold and foreign exchange

It may be mentioned here that securities under HTM (Held to Maturity) category and matured securities held under HFT and AFS category are treated as banking book exposure and hence do not attract capital for market risk. Instead, they attract capital for credit risk.

Capital Charge for Specific Risk

Extant guidelines prescribe a standardised capital charge for specific risk, which depends on issuer, type of security and remaining maturity of security. This varies from 0% for central and state Government securities to 100% (full deduction) for securities, which are eligible for capital status issued by non- scheduled banks with negative CRAR and securitised debt exposures that are rated B and below or are unrated. Capital charge prescribed for various investments are available in RBI guidelines referred.

Capital Charge for General Market Risk

Capital charge for general market risk is computed under standardised duration method, using the following formula:

Capital Charge for General Market Risk of a Security = Modified Duration of the Security x Market Value of the Security x Assumed change in Yield

Where assumed change in yield is prescribed by regulator and that varies from 60 basis points to 100 basis points, depending upon remaining maturity of the security (refer table below).

Capital charge for general market risk of all the securities in a portfolio would equal sum of the change for each security computed in the manner described above.

However, where a portfolio includes derivatives, i.e., swaps, futures, FRAs and options, capital charge for general market risk of the portfolio would equal algebraic sum of capital charge for general market risk for each security computed in the manner described above but would attract certain adjustments. This is discussed have:

Derivatives create short positions in the portfolio and provide interest rate risk mitigation. Rising interest rate affects long positions in the portfolio adversely, but has favourable impact on short positions and therefore short positions reduce adverse impact of rising rate of interest on the portfolio. The reverse is also true. Short positions created on account of exposures on derivatives get netted off in the process of algebraic addition while computing capital charge for market risk. This has the effect of reducing the capital charge for the portfolio.

However, in so far as changes in interest rate for assets and that for liabilities are rarely same even for any given maturity, impact of interest rate changes is not off-set fully. This is the basis risk and is accounted for in capital computations by way of vertical disallowance of netted position. The extant guidelines provide for 5% disallowance of amount netted within a given maturity band. Various maturity band prescribed for the purpose is given Table A. 10.1.

Where the netting takes place across various maturity bands, yield curve risk arises also as changes in interest rates across various maturities are rarely same. This is accounted for in capital computations by way of horizontal disallowance of position netted across maturity bands. The extant guidelines provide for 30% to 100% disallowance of amount netted across maturity bands. Horizontal disallowances prescribed for the purpose are given in the Table A. 10.1.

The following example would clarify the adjustments required that would arise if a portfolio has short positions. Under extant regulatory directives short positions may arise only through derivatives as short sale of securities is not yet permitted in India. Let us assume that a portfolio consists of

1. Long position in securities with remaining maturity of 2 years and general market risk capital charge of Rs 100 Crores.
2. Long position in securities with remaining maturity of 5 years and general market risk capital charge of Rs 450 Crores
3. Derivatives creating short position with remaining maturity of 6 months and general market risk capital charge of Rs 100 Crores

TABLE A10.1

Assumed Change in Yield Vs Remaining Maturity Horizontal Disallowance Vs Time Band

| Zones | Time Band (Based on Remaining Maturity) | Assumed Change in Yield (Basis Points) | Horizontal Disallowance Within Zones |
|-------|---|--|--------------------------------------|
|-------|---|--|--------------------------------------|

Horizontal Disallowance between Zone 1 & 2 Horizontal Disallowance between Zone 2 & 3
Horizontal Disallowance between Zone 1 & 3

| | | |
|-------------------|-----|---------|
| 1 month or less | 100 | 40% |
| 1 to 3 months | 100 | |
| 3 to 6 months | 100 | |
| 6 to 12 months | 100 | |
| 1 to 1.9 years | 90 | 30% |
| 1.9 to 2.8 years | 80 | |
| 2.8 to 10.6 years | 75 | |
| 10.6 to 4.3 years | 75 | 40% |
| 4.3 to 5.7 years | 70 | |
| 5.7 to 7.3 years | 65 | |
| 7.3 to 9.3 years | 60 | |
| 9.3 to 10.6 years | 60 | |
| 10.6 to 12 years | 60 | |
| 12 to 20 years | 60 | |
| over 20 years | 60 | 40% 40% |
| | | 100% |

4. Derivatives creating short position with remaining maturity of 2 years and general market risk capital charge of Rs 50 Crores

Computation of Capital charge for general market risk of the portfolio would be algebraic sum of general market risk capital charge for all these items subject to adjustments required for vertical and horizontal disallowance.

Sum of general market risk capital charge for all these items equals Rs 400 crores (100+450-100-50 = 400). Vertical disallowance would equal to 5% of netting in a single maturity band. In this case items 1 & 4 fall in the maturity band of 1.9 to 2.8 years (refer table) and amount netted equals Rs 50 Crores. 5% of Rs 50 Crores i.e., Rs 2.50 Crores would be vertical disallowance. Item 3 of the portfolio creates a short position of Rs 100 Crores in the maturity band of 3 to 6 months in zone I that requires to be netted from long positions in other maturity bands. The nearest maturity band of 1.9 to 2.8 years in zone 2 has a net long position of Rs 50 Crores. Balance of Rs 50 Crores is to be netted against long position in the maturity band of 4.3 years to 5.7 years in zone 10. Horizontal disallowance between zone 1 and zone 2 is 40% of amount netted and equals 40% of Rs 50 Crores i.e., Rs 20 Crores. Further, horizontal disallowance between zone 1 and zone 3 is 100% of amount netted and equals 100% of Rs 50 Crores i.e., Rs 50 Crores. Total horizontal disallowance amounts to Rs 70 Crores.

The capital charge for general market risk of the portfolio would be algebraic sum of general market risk capital charge for all these items (Rs 400 Crores) plus adjustments required for vertical disallowance (Rs 2.50 Crores) and horizontal disallowance (Rs 70 Crores) totaling Rs 472.50 Crores.

Note:

1. In case of securities held under available for sale category capital charge for market risk computed by adding capital charge for specific risk and capital charge for general market risk is compared with capital required treating it as banking book exposure. Higher of these two is taken as capital charge for securities held under AFS category.

2. In case of shares, capital charge for specific risk is 9% of market value and capital charge for general market risk is also 9% of market value. Hence, capital charge for market risk for shares is taken @18% of market value of shares held.
3. Capital charge for market risk for open positions in foreign exchange and gold is 9% of limits or actual whichever is higher
4. Capital charge for market risk for derivatives are computed after converting into positions in the relevant underlying in the same manner as in respect of securities. Capital charge for market risk computed by adding capital charge for specific risk and capital charge for general market risk on each position. For details, reference may be made to RBI guidelines referred.

Total capital charge for market risk is assessed by consolidating capital charges for specific risk and general market risk of all the items in the portfolio. The proforma for consolidation of capital charge for market risk is given below.

Interest Rate General Market Risk

- Net position
- Vertical disallowance
- Horizontal disallowance
- Options Specific Risk Equity

General Market Risk Specific Risk

Foreign Exchange and Gold Total Capital Charge for Market Risk (1+2 + 3)

Total capital charge for market risk can be converted into equivalent risk weighted assets by dividing it by 0.09. This is required to compute total risk weighted assets.

Computation of Capital Charge for Operational Risk - Basic Indicator Approach

Capital for operational risk is required for abnormal losses that may arise on account of inadequate or failed processes, people and systems or from external events. It may be noted that capital for operational risk, as in case of market risk, is computed in terms of capital required. Capital is computed directly and equivalent risk weighted assets is computed by dividing capital required by 0.09.

In terms of extant directives capital for operational risk is computed as per following formula.

This approach for computation of capital for operational risk is called 'Basic Indicator Approach'. Capital charge for operational risk = 15% of (sum of gross income, where positive, over previous three years/number of the previous years for which gross income is positive)

Where 'Gross Income' equals

Net Profit

- + Provisions and Contingencies + Operating Expenses
- Reversal during the year in respect of provisions and write-offs made during previous year
- Income recognised from disposal of movable and immovable property
- Profits or losses from sale of securities under 'HTM' category
- Income from legal settlements in favour of the bank
- Extraordinary or irregular items of income and expenditure
- Income derived from writing insurance policies and insurance claims in favour of the bank

The above formula gives capital charge for operational risk and it, as in case of capital charge for market risk, is converted into equivalent risk weighted assets by dividing it by 0.09. This is required to compute total risk weighted assets.

Computation of CRAR

Tier-I capital funds, Tier-II capital funds, RWAs for credit risk, capital charge for market risk and capital charge for operational risk is assessed in accordance with the guidelines discussed.

Capital charge for market risk and capital charge for operational risk is converted into equivalent risk weighted assets by dividing them by 0.09 to compute RWAs for Market Risk and RWAs for Operational Risk. Tier-I CRAR and total CRAR is computed using following formulae.

Tier-I CRAR is computed as given below: (Eligible Tier I capital funds) / (RWAs for Credit Risk + RWAs for Market Risk + RWAs for Operational Risk)

Total CRAR is computed as given below: (Eligible total capital funds) / (RWAs for Credit Risk + RWAs for Market Risk + RWAs for Operational Risk)

The following example would clarify the approach further

A bank has computed its Tier I capital - Rs. 1000 Crores.

Tier-II Capital - Rs 1200 Crores

RWAs for Credit Risk - Rs 10,000 Crores Capital charge for market risk - Rs 500 Crores Capital

charge for operational risk - Rs 300 Crores

What would be the bank's Tier-I CRAR and total CRAR?

Solution

RWAs for Credit Risk = Rs 10,000 Crores

RWAs for Market Risk = Rs 500/.09 = Rs 5,556 Crores

RWAs for Operational Risk = Rs 300/.09 = Rs 3,333 Crores

Total RWAs = Rs 18,889 Crores

Tier I Capital = Rs 1,000 Crores

Tier II Capital = Rs 1,200 Crores

Total Capital = Rs 2,000 Crores

Maximum tier II capital that can be taken into account for the purpose of CRAR is 100% of tier I capital. Tier-I CRAR = (Eligible Tier I capital funds) / (Total RWAs) = 1000/18889 = 5.29%.

Total CRAR = (Eligible total capital funds) / (Total RWAs) = 2000/18889 = 10.59%. It may be noted that tier I capital of the bank is less than required level.

ENCLOSURE 1

TABLE A10.2 Credit Conversion Factors

| Sl. No | Type of Non-fund-based Exposure | Credit Conversion Factor (%) |
|--------|--|------------------------------|
| 1. | Standby LC financial guarantee acceptance i.e. general guarantees of indebtedness | 100 |
| 2. | Transaction related contingent items i.e. performance points, bid bonds, warrantees, LCs related to broad transaction | 50 |
| 3. | Documentary credit collateralized by underlying shipment - LC issuing as well as confirming | 20 |
| 4. | Sale and purchase, asset sale with recourse where credit risk remains with the Bank. | 100 |
| 5. | Forward asset purchases, forward deposits and partly paid shares and securities, which represent commitments with certain draw down. | |

(Contd...)

| Sl. No | Type of Not-fund-Based Exposure | Credit Conversion Factor (%) |
|--------|---------------------------------|------------------------------|
| 1 | | |
| 1 | | |

| | | |
|-----|---|--------|
| 6. | Note issuance facilities and revolving underwriting facilities. | 50 |
| 7. | Other commitments (e.g. formal standby facilities and credit lines) with an original maturity of over one year. | 50 |
| 8. | Similar commitments with an original maturity up to one year | 20 |
| 9. | Commitments that is unconditionally cancelable at any time by the bank without prior notice. | 0 |
| 10. | Take-out Finance in the books of taking-over institution | 100 50 |
| | (i) Unconditional take-out finance | |
| | (ii) Conditional take-out finance | |
| 11. | Foreign exchange contracts such as cross currency interest rate swap forward foreign exchange contracts, currency futures, currency options; purchased etc. | » |
| 12. | Single currency interest rate swap | ◆ ◆ |
| 13. | Interest rate contract of the type basis swap, forward rate agreement, interest rate futures, interest rate option purchased etc. | *** |

Positive value of total replacement cost (by marking to market+1% of principal amount if residual maturity is less than one year or 5% of principal amount where residual maturity is one year or more.

** Total replacement cost obtained by marking to market with positive value only. If the value is negative it is to be ignored.

*** Total replacement cost obtained by marking to market with positive value +0.5% of notional principal amount if the residual maturity is one year or more. Where residual maturity is less than one year this will be equal to replacement cost obtained by marking to market with positive value

ENCLOSURE 2

Operational Requirements - For Availing Exposure Reduction on Account of availability of collaterals, guarantees etc.

This would arise when an account is supported with credit risk mitigation by way of one or more of the following:

1. Financial collaterals
2. On balance sheet netting
3. Guarantees

However, before benefit of risk mitigation measure can be taken into account for claiming capital R;duction, conditions prescribed under the framework have to be satisfied. The minimum requirement Ihiit has to be met by a Bank before availing of the benefit are given below against type of risk mitigation.

/ Financial Collaterals Operational Requirements

- Legal certainty - All documentation used in collateralized transaction must be binding on all parties and legally enforceable in all relevant jurisdiction. Banks must have conducted sufficient legal review which should be well documented to verify this.
- It must be ensured that the Bank has the right to liquidate and take legal possession in a timely manner in the event of default, insolvency and bankruptcy and take all steps necessary to ftifill legal requirements to maintain bank's interest in the collateral (for example registering it with the register).

- Credit quality of borrower/ counter party and the value of collateral must not have a material positive correlation, (for example securities issued by counter party or by a related group entity would be ineligible).
- Banks must have clear and robust procedure for timely liquidation of collateral to ensure that any legal condition required for declaring the default of the counter party and liquidating the collateral are observed and the collateral can be liquidated promptly.
- Where collateral is held by a custodian, there should be a clear demarcation of the collateral from custodian's own asset.

2. On-balance sheet netting Operational Requirement

- Bank has a well founded legal basis for concluding that the netting or offsetting agreement is enforceable in each relevant jurisdiction regardless of whether the counterparty is insolvent or bankrupt.
- Bank is able at any time to determine the loans/advances and deposits with the same counterparty that are subject to the netting agreement; and
- Bank monitors and controls the relevant exposures on a net basis.

Loans/advances are treated as exposure and deposits as collateral. The haircuts will be zero. However, where currency mismatch exists haircut would be 0.08. Adjustment for maturity mismatch, as explained above, would also be applicable.

3. Guarantees

Operational Requirement

- Guarantees should be direct, explicit, irrevocable and unconditional.
- Substitution approach is applied. Thus only guarantees issued by entities with a lower risk weight than the counterparty will lead to reduced capital charges since the covered portion of the counterparty exposure is assigned the risk weight of guarantor, whereas the uncovered portion retains the risk weight of the underlying counterparty.
- Conditions of legal certainty must be met.
- On the qualifying default/non payment of the counterparty, the bank may in a timely manner pursue the guarantor for any monies outstanding under the documentation governing the transaction. The guarantor may make one lump sum payment of all monies under such documentation to the bank, or the guarantor may assume the future payment obligations of the counterparty covered by the guarantee. The bank must have the right to receive any such payments from the guarantor without first having to take legal actions in order to pursue the counterparty for payment.
- The guarantee is an explicitly documented obligation assumed by the guarantor
- The guarantee covers all types of payments the underlying obligor is expected to make under the documentation governing the transaction, for example notional amount, margin payments, etc. Where a guarantee covers payment of principal only, interests and other uncovered payments should be treated as an unsecured amount.

Range of eligible guarantors (counter - guarantors)

- (i) Sovereigns, sovereign entities (including BIS, IMF, European Central Bank and European Community, ECGC, CGTS1 and the Multilateral Development Banks listed below), PSEs, banks and primary dealers with a lower risk weight than the counterparty.

Multilateral Development Banks:

- World Bank Group: IBRD and IFC
 - Asian Development Bank
 - African Development Bank
-

- European Bank for Reconstruction & Development
- Inter-American Development Bank
- European Investment Bank
- European Investment Fund
- Nordic Investment Bank
- Caribbean Development Bank
- Islamic Development Bank
- Council of Europe Development Bank

(ii) Other entities rated AA or better This would include guarantee cover provided by parent, subsidiary and affiliate companies when they have a lower risk weight than the obligor

Proportional cover

Where the amount guaranteed, or against which credit protection is held, is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority, i.e. the bank and the guarantor

share losses on a pro-rata basis capital relief will be afforded on a proportional basis, i.e. the protected portion of the exposure will receive the treatment applicable to eligible guarantees, with the remainder treated as unsecured.

Guarantee cover would be adjusted for currency and maturity mismatch as explained above.

ENCLOSURE 3

Maturity Mismatch of Financial Collaterals/Guarantees - Mf

Collateral value is to be adjusted based on maturity factor. Maturity factor is to be determined in accordance with the following guidelines:

- Where remaining maturity of the deposit at the time of sanction is less than the remaining maturity of the exposure at the time of sanction and lien document does not provide for automatic renewal/adjustment, maturity mismatch exists.
- Where there is no maturity mismatch $Mf = 1$
- Where there is a maturity mismatch and maturity of collateral at the time of sanction is less than 1 year $Mj = 0$ (This implies that benefit of financial collateral for the purpose of reduction in exposure will not be available)
- Where maturity mismatch exists and remaining maturity of the collateral at the time of sanction is 1 year or more, A^i is to be taken from the "Table for Maturity Factor - (Mf)" - RBI guidelines.

ENCLOSURE 4

Eligible Financial Collaterals

The following collateral instruments are eligible for recognition in the comprehensive approach:

- Cash (as well as certificates of deposit or comparable instruments, including fixed deposit receipts, issued by the lending bank) on deposit with the bank which is incurring the counterparty exposure.
 - Gold: Gold would include both bullion and jewellery. However, the value of the collateralized jewellery should be arrived at after notionally converting these to 99.99 purity.
 - Securities issued by Central and State Governments.
 - Kisan Vikas Patra and National Savings Certificates provided no lock-in period is operational and if they can be encashed within the holding period.
 - Life insurance policies with a declared surrender value of an insurance company which is regulated by an insurance sector regulator.
-

- (vi) Debt securities rated by a chosen Credit Rating Agency in respect of which the banks should be sufficiently confident about the market liquidity where these are either:
- (a) Attracting 100% or lesser risk weight i.e., rated at least BBB (-) when issued by public sector entities and other entities (including banks and Primary Dealers): or
 - (b) Attracting 100% or lesser risk weight i.e. rated at least PR3/P3/F3 for short-term debt instruments.
- (vii) Debt securities not rated by a chosen Credit Rating Agency in respect of which the banks should be sufficiently confident about the market liquidity where these are:
- (a) issued by a bank; and
 - (b) listed on a recognized exchange; and
 - (c) classified as senior debt; and
 - (d) all rated issues of the same seniority by the issuing bank are rated at least BBB(-) or PR3/P3/F3/A3 by a chosen Credit Rating Agency; and
 - (e) the bank holding the securities as collateral has no information to suggest that the issue justifies a rating below BBB(-) or PR3/P3/F3/A3 (as applicable) and:
 - (f) Banks should be sufficiently confident about the market liquidity of the security.
- (viii) Equities (including convertible bonds) that are listed on a recognized stock exchange and are included in the following indices: 'BSE- SENSEX' and 'BSE-200' of the Bombay Stock Exchange; S&P CNX NIFTY' and 'Junior NIFTY' of the National Stock Exchange, in the jurisdiction of bank's operation.
- (ix) Units of Mutual Funds regulated by the securities regulator of the jurisdiction of the bank's operation mutual funds where:
- a price for the units is publicly quoted daily i.e., where the daily NAV is available in public domain; and
 - mutual fund is limited to investing in the instruments listed in this paragraph.

ENCLOSURE 5 Table for Haircut for Exposures (He)

Notes:

1. Haircut would depend upon counterparty, its rating and maturity of transaction.
 2. Counterparty means the party with whom the bank has entered into a transaction.
 3. Where counterparty is not rated, it should be treated as unrated.
 4. Haircut for exposure for various combinations of counterparty, rating and maturity are listed in the table below.
-

| S.No. | Counterparty /Borrower Category | Maturity (years) of Transaction | External Rating | Haircut for Exposure (%) |
|-------|--|------------------------------------|------------------|--------------------------|
| 1. | Govt. Of India /State Govts, of India, RBI, DICGC & CGTSI | Up to 1 year | Unrated | 0.5 |
| 2. | Govt. Of India /State Govts, of India, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | Unrated | 2 |
| 3. | Govt. Of India /State Govts, of India, RBI, DICGC & CGTSI | More than 5 years | Unrated | 4 |
| 4. | Other Sovereigns | Irrespective of maturity | Unrated | 25 |
| 5. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Up to 1 year | PR1/P1/F1/A1 | 0.5 |
| 6. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | AAA to AA | 2 |
| 7. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 5 years | AAA to AA | 4 |
| 8. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Up to 1 year | PR2/P2/F2/A2; | 1 |
| 9. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | A+ to BBB- | 3 |
| 10. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 5 years | A+ to BBB- | 6 |
| 11. | Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Irrespective of maturity | Rated below BBB- | 25 |
| 12. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Up to 1 year | PR1/P1/F1/A1 | 1 |

| S.No. | Counterparty/Borrower Category | Maturity (Years) of Transaction | External Rating | Haircut Exposure (%) |
|-------|---|------------------------------------|-----------------------------|----------------------|
| 13. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 1 year and up to 5 years | AAA to AA | 4 |
| 14. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 5 years | AAA to AA | 8 |
| 15. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Up to 1 year | PR2/P2/F2/A2; PR3/P3/F3/A3 | 2 |
| 16. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 1 year and up to 5 years | A+ to BBB- | 6 |
| 17. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 5 years | A+ to BBB- | 12 |
| 18. | Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Irrespective of maturity | Rated below BBB- or unrated | 25 |
| 19. | Individuals | Irrespective of maturity | Unrated | 25 |

ENCLOSURE 6

Table for Haircut for Collaterals (He)

Notes:

- Haircut would depend upon rating of security, issuer and remaining maturity of the security.
- Where a security is not rated, it should be treated as unrated.
- Haircut for collaterals of various combinations of security, security issuer and remaining maturity are listed in the table below.
- Haircuts are based on daily mark-to-market, daily remargining and a 10 day holding period.

Please refer to the note below the table for necessary adjustments, where called for

| | Security Type | Remaining Maturity of Transaction | Rating of Security | Haircut for Collateral (%) |
|----|------------------------------|-----------------------------------|--------------------|----------------------------|
| 1. | Cash | Not Applicable | Not Applicable | 0 |
| 2. | Bank's own FDRs | All Maturities | Not Applicable | 0 |
| 3. | National Savings Certificate | All Maturities | Not Applicable | 0 |
| 4. | Kisan Vikas Patras | All Maturities | Not Applicable | 0 |

| | | | | |
|-----|--|------------------------------------|----------------|-----|
| 5. | Surrender Value of life insurance policies issued by insurance company regulated by IRDA | All Maturities | Not Applicable | 0 |
| 6. | RBI Relief Bonds | Up to 1 year | Not Applicable | 0.5 |
| 7. | RBI Relief Bonds | More than 1 year and up to 5 years | Not Applicable | 2 |
| 8. | RBI Relief Bonds | More than 5 years | Not Applicable | 4 |
| 9. | Debt Securities issued by Govt, of India/State Govts, of India, RBI, DICGC & CGTSI | Up to 1 year | Unrated | 0.5 |
| 10. | Debt Securities issued by Govt, of India/State Govts. Of India, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | Unrated | 2 |
| 11. | Debt Securities issued by Govt, of India/State Govts. Of India, RBI, DICGC & CGTSI | More than 5 years | Unrated | 4 |
| 12. | Debt Securities issued by Other Sovereigns | Irrespective of maturity | Unrated | 25 |
| 13. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Up to 1 year | PRI/PI/FI/AI | 0.5 |
| 14. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | AAA to AA | 2 |

| S.No. | Security Type | Remaining Maturity Transaction | Rating of Security | Haircut 1 1 / «'• \ Collateral (%K |
|-------|--|------------------------------------|-------------------------------|---------------------------------------|
| 15. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 5 years | AAA to AA | 4 |
| 16. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Up to 1 year | PR2/P2/F2/A2; | 1 |
| 17. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 1 year and up to 5 years | A+ to BBB- | 3 |
| 18. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | More than 5 years | A+ to BBB- | 6 |
| 19. | Debt Securities issued by Govt, of India, State Govts, of India & other Sovereigns, RBI, DICGC & CGTSI | Irrespective of maturity | Rated below BBB- | 25 |
| 20. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Up to 1 year | PR1/PI/F1/A1 | 1 |
| 21. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 1 year and up to 5 years | AAA to AA | 4 |
| 22. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 5 years | AAA to AA | 8 |
| 23. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Up to I year | PR2/P2/F2/A2; PR3/P3/F3/A3 | 2 |
| 24. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Aiiy Other Entities | More than 1 year and up to 5 years | A+ to BBB- | 6 |

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| | | | | |
|-----|---|-------------------|------------|----|
| 25. | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | More than 5 years | A+ to BBB- | 12 |
|-----|---|-------------------|------------|----|

| S.No. | Security Type | Remaining Maturity Transaction | Rating of Security | Haircut for Collateral (%) |
|-------|---|--------------------------------|-----------------------------|---|
| 26 | Debt Securities issued by Bank, Corporates, PSUs, Foreign PSEs, Primary Dealers or Any Other Entities | Irrespective of maturity | Rated below BBB- or unrated | 25 |
| 27 | Shares (including Convertible Bonds) included in BSE Sensex and NSE Nifty | Not Applicable | Not Applicable | 15 |
| 28 | Other shares (including Convertible Bonds) listed in recognized exchange | Not Applicable | Not Applicable | 25 |
| 29 | Gold | Not Applicable | Not Applicable | 15 |
| 30 | Units of Eligible Mutual Funds | Not Applicable | Not Applicable | Highest haircut applicable to any security in which the fund can invest |

Notes:

(i) Where the collateral is a basket of assets, the haircut on the basket will be, $H = \sum_{j=1}^n w_j H_j$ where w_j is the weight of the asset (as measured By units of currency) in the basket and H_j the haircut applicable to that asset.

(ii) For banks using the standard supervisory haircuts, the 10-business day haircuts provided above will be the basis and this haircut will be scaled up or down depending on the type of transaction and the frequency of remargining or revaluation using the formula below:

$$H = H_0 \times \sqrt{[(A^m + \{T_m - 1\})/10]}$$

Where:

H = haircut: H_0 = 10-business day standard supervisory haircut for instrument

N = actual number of business days between remargining for capital market transactions or revaluation

for secured transactions.

minimum holding period for the type of transaction.

UNIT 11 Market Risk

STRUCTURE

- 11.0 Objectives
- 11.1 Market Risk - Concept
- 11.2 Market Risk in Banks
- 11.3 Market Risk Management Framework
- 11.4 Organisation Structure
- 11.5 Risk Identification
- 11.6 Risk Measurement
- 11.7 Risk Monitoring and Control
- 11.8 Risk Reporting
- 11.9 Managing Trading Liquidity
- 11.10 Risk Mitigation

Let Us Sum Up Keywords

Terminal Questions Answers to Terminal Questions

11.0 OBJECTIVES

This chapter will be helpful in understanding -

1. Concept of Market Risk
2. Market Risk in Banks
3. Market Risk Management Framework
4. Value at Risk
5. Back Test and Stress Test
6. General Approach to Market Risk Mitigation

11.1 MARKET RISK - CONCEPT

Best way to understand the market risk is to be in the market. Say Mr X has raised a capital of Rs 10,000 and invests in the shares of ABC Ltd. being quoted at Rs.100. He buys 100 shares. He has a portfolio valued at Rs 10,000 against his capital of Rs 10,000. Next day say there is a 5% drop in share price. The portfolio value now gets reduced to Rs. 9,500 and so does the capital, which stands reduced to Rs 9,500. The loss incurred by Mr X affects his capital directly to the extent of loss incurred by him due to movement in market price.

His capital loss would be more if he had leveraged his capital. Say he is allowed to borrow 9 times his capital. Now Mr X has Rs 10,000 as capital and Rs. 90,000 as borrowings. His total resources amount to Rs. 100,000. If he had invested in the shares of ABC Ltd. the entire resources available to him, i.e., had he purchased 1,000 shares at Rs. 100 each he would have lost Rs. 5,000 - due to adverse movement of market price and his capital would have been reduced by 50%. In other words, he would have lost half the capital. Please note that we have not taken into account any transaction costs or cost of borrowing into account. If we take these into account, Mr X would lose some more.

Actually, Mr X's problems are not over as yet since he is permitted to raise 9 times his capital as borrowings and now that his capital stands at Rs. 5,000 only. He has to liquidate his holdings by Rs. 50,000 to repay his borrowings, which is over and above his permissible limit. Now if the market, anticipating further fall in the price of shares of ABC Ltd. has become illiquid as far as this share is concerned, Mr X would be able to liquidate his holdings only at a lower price — the risk of asset liquidity. This would result in further losses that would result in further depletion of capital requiring further liquidation of his holdings to remain within the permissible borrowing

limit. He would also face the same situation, if in the meanwhile the liquidity availability in the market had undergone a change for the worse. The lack of liquidity in the market would have driven the share price further down, resulting in losses.

Mr X has in fact faces the following risks by taking an exposure on a security that are being traded in the market:

1. Risk of adverse movement in the price - Price Risk
2. Risk of reduced liquidity in the market for a specific security - Asset Liquidity Risk
3. The risk of poor market liquidity - Market Liquidity risk

Of course, Mr. X would have made profits if the price had moved favourably and that had been the motivation for him to be in the market at first place but then these are the risks that he is taking moment he invests in market traded securities. Imagine what would have happened if share prices of ABC Ltd. had fallen by 10%. Well, his entire capital would have been wiped out resulting in him being out of this business. It would be better if he had some measure of possible downside potential of the share price.

Mr. X, before he enters this business should have a framework that provides him with (a) an approach to manage the risks, and (b) a measure of risk that can tell him of possible downside potential.

11.2 MARKET RISK IN BANKS

Banks also have several activities and undertake transactions that result in market exposure. They are not immune to these risks. They face it too. All such transactions are reflected in the trading book.

1. A trading book consists bank's proprietary positions in financial instruments covering -
 - Debt Securities
 - Equity
 - Foreign Exchange
 - Commodities
 - Derivatives held for Trading
2. They also include positions in financial instruments arising from matched principal brokering and market making, or positions taken in order to hedge other elements of the trading book.

They are held with trading intent and with the intention of benefiting in the short-term, from actual and/ or expected differences between their buying and selling prices or hedging other elements in the trading book.

A bank's trading book exposure has the following risks, which arise due to adverse changes in market variables such as interest rates, currency exchange rate. Commodity prices, market liquidity, etc., and their volatilities and impact bank's earnings and capital adversely.

1. Market Risk
2. Liquidity Risk
 - (a) Asset Liquidity Risk
 - (b) Market Liquidity Risk
3. Credit and Counterparty risks

Note: The market liquidity risk is different from funding liquidity risk that arises due to asset-liability mismatch and is a subject matter of Asset Liability management.

1. Market Risk

Market risk is the risk of adverse deviations of the mark-to-market value of the trading portfolio, due to market movements, during the period required to liquidate the transactions. The period of

liquidation is critical to assess such adverse deviations. If it gets longer, so do the possibilities of larger adverse deviations from the current market value.

Earnings for the market portfolio are Profit and Loss (P&L) arising from transaction. The P&L between two dates is the variation of the market value. Any decline in value, results in a market loss.

However, it is possible to liquidate tradable instruments or to hedge their future changes of value at any time. This is the rationale for limiting market risk to the liquidation period. In general, the liquidation period varies with the type of instrument. It could be short (1 day) for foreign exchange and much longer for 'exotic' derivatives.

Note:

Market risk does not refer to market losses due to causes other than market movements, loosely defined as inclusive of liquidity risk. Any deficiency in the monitoring of the market portfolio might result in market values deviating by any magnitude until liquidation finally occurs. In the meantime, the potential deviations can exceed by far any deviation that could occur within a short liquidation period. This risk is an operational risk, not a market risk.

2. Trading Liquidity Risk

Trading liquidity is ability to freely transact in markets at reasonable prices. Trading liquidity is ability to liquidate positions without -

1. Affecting market prices
2. Attracting the attention of other market participants

Trading liquidity allows one to transact without compromising on counter-party quality.

Liquidation involves asset and market liquidity risks. Price volatility is not the same in high-liquidity and poor-liquidity situations. When liquidity is high, the adverse deviations of prices are much lower than in a poor-liquidity environment, within a given horizon. 'Pure' market risk, generated by changes of market parameters (interest rates, equity indexes, exchange rates), differs from market liquidity risk. This interaction raises important issues. What is the 'normal' volatility of market parameters under fair liquidity situations? What could it become under poorer liquidity situations? How sensitive are the prices to liquidity crises? The liquidity issue becomes critical in emerging markets. Prices in emerging markets often diverge considerably from a theoretical 'fair value'. Liquidation risk arise from lack of trading liquidity and results in

1. Adverse change in market prices
2. Inability to liquidate position at a fair market price
3. Liquidation of position cause large price change
4. Inability to liquidate position at any price

Asset liquidation risk refers to a situation where a specific asset faces lack of trading liquidity.

Market liquidation risk refers to a situation when there is a general liquidity crunch in the market and it affects trading liquidity adversely.

3. Credit and Counterparty Risks

Markets value the credit risk of issuers and borrowers and it reflects in prices. Credit risk of traded debts, such as bonds and debentures and commercial papers, etc., are indicated by 'Credit Rating' which is indicated by rating agencies. Credit rating indicates risk level associated with the instruments and is factored into as add-ons to the risk-free rate of the corresponding maturity. Lower the risk level, lower is the spread over risk-free rate.

Credit risk may arise either on account of default of the issuer/borrower or because of rating migration. When rating of a financial instrument is lowered, the spread over the risk-free rate increases as market demands higher yield on a higher risk instrument. This results in decline in

price of the instrument. Where a default, either in payment of instalment or interest, takes place, market price of the financial instrument deteriorates. Here the adverse impact on price of financial instrument arises because of deterioration of the credit quality of the instrument. Derivatives are over-the-counter instrument (interest rate swaps, currency swaps, options) not liquid as market instruments. Theoretically, banks hold these assets until maturity, and bear credit risk since they exchange flows of funds with counterparties subject to default risk. For derivatives, credit risk interacts with market risk in that the mark to market (liquidation) value depends on market movements, h is the present value of all future flows at market rates. It is interesting to note that credit risk on a derivative arises when mark to market value is negative implying a receivable from the counterparty. When mark to market value is positive, counterparty is exposed to credit risk as he carries a receivable. Under a 'hold to maturity' view, the potential future values over their life is the credit risk exposure because they are the value of all future flows that the defaulted counterparty will not pay. This risk is termed as counterparty risk.

The current credit risk exposure is the current liquidation value. There is the additional risk due to the potential upward deviations of liquidation value from the current value during the life of the instrument. Such drifts depend on the market parameter volatilities and on instrument sensitivity. In other words, as value of a financial instrument varies depending upon market factors; credit risk amount varies with the change in the value.

In market transaction, there is one party that pays money and receives a given quantity of financial paper. The other party or the counterparty does the opposite. The counterparty receives the money and parts with the given quantity of financial papers. If any one of the transacting parties defaults in completing the settlement, the other party suffers. This is known as settlement risk. This risk may lead to systemic risk and therefore monetary authorities usually take steps to put in place a risk free settlement system to obviate the risk. In India Reserve Bank of India has since put in place 'Real Time Gross Settlement System' (RTGS) for the purpose. In markets like Government securities, foreign exchange, etc., where RTGS can't be used for settlement, central counterparties such as Clearing Corporation of India, are used to mitigate settlement risk.

11.3 MARKET RISK MANAGEMENT FRAMEWORK

Market risk management involves finding answer to four key questions.

- A. What are the risks?
- B. What is the quantum? How much could the price change? What would be the effect on profit and loss?
- C. How can we monitor and control price risk?
- D. Can we reduce the risk? And, if so then how?

Management processes for market risk management are designed essentially to answer these questions. Accordingly, management processes are sub-divided into the following four parts:

1. Risk Identification
2. Risk Measurement
3. Risk Monitoring and Control
4. Risk Mitigation

An effective market risk management framework in a bank comprises risk identification, setting up of limits and triggers, risk monitoring, models of analysis that value positions or measure market risk, risk reporting, etc.

Financial instrument take their price from the market and that depends upon interaction of market variables. Hence, market risk management processes do not have a risk pricing process. But, management of market risk needs an organisation structure in place that can carry out the functions required for the purpose.

11.4 ORGANISATION STRUCTURE

Management of market risk is a major concern of top management of banks. Successful implementation of risk management process emanates from the top management in the bank. The main challenge centers on facilitating implementation of risk and business policies simultaneously in a consistent manner. Modern best practices consist of setting risk limits based on economic measures of risk while ensuring best risk adjusted return keeping in view the capital that has been invested in the business. It is a question of taking a balanced view on risks and returns and within the constraints of available capital. Usually, Market Risk Management organisation would consist:

- The Board of Directors
- The Risk Management Committee
- The Asset-Liability Management Committee (ALCO)
- The ALM Support Group/Market Risk Group
- The Middle Office

The Board of Directors has the overall responsibility for management of risks. The Board articulates market risk management policies, procedures, aggregate risk limits, review mechanisms and reporting and auditing systems. The Board should decide the risk management policy of the bank and set limits for liquidity, interest rate, foreign exchange, and equity-price risks.

The Risk Management Committee is a Board level Sub-Committee. The responsibilities of Risk Management Committee with regard to market risk management aspects include the following:

1. Setting guidelines for market risk management and reporting
2. Ensure that market risk management processes conform to the policy
3. Setting up prudential limits and its periodical review
4. Ensure robustness of measurement of risk models
5. Ensure proper manning for the processes

The Asset-Liability Management Committee (ALCO) is responsible for implementation of risk and business policies simultaneously in a consistent manner and decides on the business strategy to achieve these objectives. Its role encompasses the following:

1. Product pricing for deposits and advances
2. Maturity profile and mix of incremental assets and liabilities
3. Articulating interest rate view of the bank
4. Funding policy
5. Transfer pricing
6. Balance sheet management

It sets up operating prudential limits and is the review authority for the line management.

The ALM Support Groups analyses, monitors and reports the risk profiles to the ALCO. It also examines the effects of various possible changes in market variables and recommends the action needed.

The Middle Office is responsible for the critical functions of independent market risk monitoring, measurement, analysis, and reporting to ALCO. Middle Office provides the independent risk assessment which is critical to Alco's key-function of controlling and managing

market risks in accordance with the mandate established by the Board/Risk Management Committee. Middle Office functions independently of the treasury function. It also independently validates the prices in respect of treasury deals, more particularly in respect of structured products.

11.5 RISK IDENTIFICATION

All products and transaction should be analysed for risks associated with them. While, various risks associated with a standardised product stands analyzed, that in case of a non-standard product needs to be analysed. Therefore, approach to deal in standard and non-standard products differs. We have seen under general approach to risk management; guidance for risk taking at the transaction level comes from the corporate level. It applies to the management of market risk too.

- Usually all standard products would have 'Product Programme' for each of them. All Risk-Taking Units operate within an approved 'Product Programme'. Product programme defines procedures, limits and controls for all aspects of the product. The product programme also specifies market risk measurement at an individual product level and at aggregate portfolio level.
- New products or non-standard products may operate under a 'Product Transaction Memorandum' on a temporary basis while a full Market Risk Product programme is being prepared.

Products approved at corporate level shall provide for screening procedures, appropriate safeguards, product-wise limit on exposure, and necessary guidelines in risk taking. In fact, the guidelines help in standardising risk content in the business undertaken at the transaction level. Any new product or any deviation from the directed procedures and safeguards add to the risk content of the exposure and needs a clearance at the corporate level where risk return characteristics and risk quantification forms the basis of decision-making. Impact of risk taking at transaction level on the portfolio risk is critical issue here.

11.6 RISK MEASUREMENT

Market risk management framework is heavily dependent upon quantitative measures of risk. The market risk measures seek to capture variations in market value arising out of uncertainties associated with various risk elements. These provide an objective measure of market risk in a transaction or of a portfolio. Market risk measures are based on -

- Sensitivity
- Downside Potential

1. Sensitivity

Sensitivity, as had been stated in 'Unit-1', captures deviation of market price due to unit movement of a single market parameter. Supply-demand position, interest rate, market liquidity, inflation, exchange rate, stock prices, etc., are the market parameters, which drive market values. For example, change in interest rate would drive the market value of bonds and forward foreign exchange held in a portfolio. If liquidity in the market increases that may result in increased demand that in turn may increase market price.

Sensitivity is measured as change in market value due to unit change in the variable. For example, where market value of a portfolio changes by Rs 100,000 for 1% change in rate of interest, interest rate sensitivity of the portfolio is Rs 100,000. This gives us a measure of risk associated with the portfolio vis-a-vis change in rate of interest.

This measure suffers from the fact that it does not consider impact of other parameters, which may also change simultaneously. Secondly, the measure does not remain constant for all the values of the variable. Say, the interest rate sensitivity of a bond is Rs 100 when the yield on the

bond is 5%. If the yield on the bond rises to 8%, its interest rate sensitivity would not remain at Rs 100.

Nevertheless, sensitivity is relied upon as a measure, particularly those that are based on changes in interest rates. Two of them, Basis Point Value (BPV) and Duration that are used quite frequently, are discussed below.

2. Basis Point Value (BPV)

This is the change in value due to 1 basis point (0.01%) change in market yield. This is used as a measure of risk. The higher the BPV of a bond, higher is the risk associated with the bond.

Computation of BPV is quite simple.

For example, a 5 year 6% semi-annual bond @ market yield of 8%, has a price of Rs 92, which rises to Rs 92.10 at a yield of 7.95%. So, for one BP fall in yield, market price changes by Rs 0.02 or gains by Rs 2,000 per Rs 1 crore face value. BPV of the bond is, therefore, Rs 2,000 per crore face value.

This also helps us to quickly calculate profit or loss for a given change of yield. If the yield on a bond with BPV of 2,000 declines by 8 BPs, then that would result in a profit of $8 \times 2000 = \text{Rs } 16,000$ per crore of face value. If one is holding Rs 10,00,000 face value of this bond, he makes a profit of Rs 1,600.

BPV changes with remaining maturity. Suppose the bond described above has 5 years to mature and present BPV is 2000, the BPV will decline with time and on the day of maturity it will be zero.

3. Duration

McCauley's Duration was first proposed by Frederick McCauley in 1938 as a means of describing a bond's price sensitivity to yield change with a single number. This is equivalent to time, on average, that the holder of the bond must wait to receive the present value of the cash flows. In other words, this represents cash flow 'Centre of Gravity'. It implies that if a five-year 6% bond face value of Rs 100 with semi-annual interest has McCauley's duration say 3.7 years, then total cash flow to be received over the five year period of Rs 130 from the bond would be equivalent to receiving Rs 130 at the end of 3.7 years as a bullet payment.

Duration or Modified duration is McCauley's duration discounted by 1 period yield to maturity. The longer the duration of a security, the greater will be the price sensitivity to yield changes and higher would be the risk associated with the bond. Bond price changes can be estimated using modified duration using the following relationship.

Approx % change in price = - modified duration X yield change

4. Downside Potential

Risk materializes only when earnings deviate adversely. Downside potential only captures possible losses ignoring profit potential. Downside risk is the most comprehensive measure of risk as it integrates sensitivity and volatility with the adverse effect of uncertainty. This is the measure that is most relied upon by banking and financial service industry as also the regulators.

Value at Risk (VaR)

Management of market risk is concerned with the question - How much can we lose? The answer to it is that there is a possibility that we can lose everything, although it may have a very low probability. VaR attempts to create a more useful answer by altering the question - How much can we expect to lose? Or, what is the loss potential? The answer could be that we can lose a maximum of Rs X (the VaR) over the next week (time horizon) and may expect that with 99% confidence (i.e., it would be so 99 times out of 100).

VaR is defined as the predicted worst-case loss at a specific confidence level over a certain period of time assuming 'Normal Trading Conditions'.

A bank having 1 day VaR of Rs 10 crore with 99% confidence interval means that there is only one chance in 100 (or 2.5 days per year based on 250 working days in a year) that daily loss will be more than 10 crore under normal trading conditions. This also means that there is 1% chance that the daily loss may exceed Rs 10 crore under normal trading conditions. It does not estimate losses in abnormal situations.

VaR measures the potential loss in market value under normal circumstances of a portfolio using estimated volatility (rate or price move) and correlations (how rates or prices move in relation to each other), for a given horizon (longer the time horizon, more is the VaR) measured with a given confidence interval. In calculating VaR we consider the volatility of prices and correlation of prices with respect to all other assets/liabilities in the portfolio. Normal circumstances refer to the fact that VaR is not a measure when market is under abnormal conditions.

Yield Vs Price Volatility

Yield volatility is degree of variance in yield. This is largely unaffected by time and duration. It rises as yields fall.

Price volatility is degree of variance in price. This is largely unaffected by yield and substantially affected by time and duration.

Price Volatility = (Yield volatility X BPV X Yield)/Price

There are three main approaches to calculating value-at-risk:

1. The correlation method, also known as the variance/covariance matrix method
2. Historical simulation
3. Monte Carlo simulation

All three methods are based on three basic parameters - holding period, confidence interval and the historical time horizon over which the asset prices are observed.

Under the correlation method, the change in the value of the position is calculated by combining the sensitivity of each component to price changes in the underlying asset(s), with a variance/covariance matrix of the various components' volatilities and correlation. It is a deterministic approach.

The historical simulation approach calculates the change in the value of a position using the actual historical movements of the underlying asset(s), but starting from the current value of the asset. It does not need a variance/covariance matrix. The length of the historical period chosen does impact the results because if the period is too short, it may not capture the full variety of events and relationships between the various assets and within each asset class, and if it is too long, may be too stale to predict the future. The advantage of this method is that it does not require the user to make any explicit assumptions about correlations and the dynamics of the risk factors because the simulation follows every historical move.

The Monte Carlo simulation method calculates the change in the value of a portfolio using a sample of randomly generated price scenarios. Here the user has to make certain assumptions about market structures, correlations between risk factors and the volatility of these factors. He is essentially imposing his views and experience as opposed to the naive approach of the historical simulation method.

At the heart of all three methods is the model. The closer the models fit economic reality, the more accurate the estimated VaR numbers and therefore the better they will be at predicting the True VaR of the firm. There is no guarantee that the numbers returned by each VaR method will be anywhere near each other.

Why VaR is Useful?

1. Good tool for all banks, financial institutions, multinationals, fund managers for protection of customers, shareholders, employees and overall franchise of the business
2. Translates portfolio exposures into potential P and L impact
3. Aggregates and reports multi-product, multi-market exposures into one number
4. Meets external risk management disclosure and expectations
5. A vital component of current best practices in risk measurement
6. Embraced by practitioners, regulators and academics
7. Valuable as a probabilistic measure of potential losses

Limitation of VaR

VaR is not worst-case scenario. It does not measure losses under any particular market conditions. VaR by itself- is not sufficient for risk measurement. Measures to get over the limitation include back testing and model calibration and scenario analysis and stress testing.

Role of VaR in Control and Monitoring

VaR is used as a MIS tool in the trading portfolio in the trading portfolio to 'slice and dice' risk by levels/ products/geographic/level of organisation, etc. It is also used to set risk limits. In its strategic perspective, VaR is used for decisions as to what business to do and what not to do. However, VaR as a useful MIS tool has to be 'back tested' by comparing each day's VaR with accruals and necessary re-examination of assumptions needs to be made so as to be close to reality. VaR, therefore, cannot substitute sound management judgment, internal control and other complementary methods. It is used to measure and manage market risks in trading portfolio and investment portfolio.

Estimating Volatility

VaR uses past data to compute volatility. Different methods are employed to estimate volatility. One is arithmetic moving average from historical time series data. The other is the exponential moving average method. In the exponential moving average method, the volatility estimates rises faster to shocks and declines gradually. Further, different banks take different number of days of past data to estimate volatility. Volatility also does not capture unexpected events or "event risk". All these complicate the estimation of volatility. VaR, therefore, should be used in combination with "stress tests" to take care of event risks. Stress test takes into account the worst-case scenario.

5. Back Testing

Back testing is a process where model based VaR is compared with the actual performance of the portfolio. This is carried out for evaluating a new model or to assess the accuracy of existing models.

Back testing for evaluating a new model requires comparison with actual performance on a continuous basis for a given period.

Assessment of accuracy of an existing model needs back test on a regular basis. Banks should generally back test risk models on a monthly or quarterly basis to verify accuracy. In these tests, they should observe whether trading results fall within pre-specified confidence bands as predicted by the VaR models. If the models perform poorly, they should probe further to find the cause (e.g., check integrity of position and market data, model parameters, methodology). The BIS outlines back testing best practices in its January 1996 publication "Supervisory framework for the use of back testing" in conjunction with the internal models approach to market risk capital requirements.

6. Stress Testing

Market value of a portfolio varies due to movement of market parameters such as interest rate, market liquidity, inflation, exchange rate, stock prices, etc. Movement in market parameters, on a day-to-day basis causes the change in the market value of the portfolio. This represents the normal risk that is associated with normal day-to-day movements. There remains the risk of large non-normal movement in market parameters that signifies abnormal market conditions. Risks arising due to such movements fall beyond the day-to-day risk monitoring but that could potentially occur.

Stress testing essentially seeks to determine possible changes in the market value of a portfolio that could arise due to non-normal movement in one or more market parameters. The process involves identifying market parameters to stress, the quantum of stress and determine the time frame. Once these are determined, it is applied on the portfolio to assess the impact on it.

Market value of a portfolio varies with Stress Testing Techniques. Stress testing covers many different techniques. The four discussed here are listed here:

1. Simple Sensitivity Test
2. Scenario Analysis
3. Maximum Loss
4. Extreme Value Theory

Simple Sensitivity Test

A simple sensitivity test isolates the short-term impact on a portfolio's value of a series of predefined moves in a particular market risk factor. For example, if the risk factor is exchange rate, the shocks may be exchange rate changes of +/-2%, 4%, 6% and 10%.

Scenario Analysis

A scenario analysis specifies the shocks that might plausibly affect a number of market risk factors simultaneously if an extreme, but possible, event occurs. It seeks to assess the potential consequences for a firm of an extreme, but possible, state of the world. A scenario analysis can be based on an historical event or a hypothetical event. Historical scenarios employ shocks that occurred in specific historical episodes. Hypothetical scenarios use a structure of shocks thought to be plausible in some foreseeable, but unlikely circumstances for which there is no exact parallel in recent history. Scenario analysis is currently the leading stress testing technique.

Maximum Loss

A maximum loss approach assesses the risks of a portfolio by identifying the most potentially damaging combination of moves of market risk factors. Risk managers who use such 'maximum loss' approaches find the output of such exercises to be instructive but they tend not to rely on the results of such exercises in the setting of exposure limits in any systematic manner, an implicit recognition of the arbitrary character of the combination of shocks captured by such a measure.

Extreme Value Theory

Extreme value theory is a means to better capture the risk of loss in extreme but possible circumstances. EVT is the statistical theory on the behaviour of the 'tails' (i.e., the very high and low potential values) of probability distributions. Because it focuses only on the tail of a probability distribution, the method can be more flexible. For example, it can accommodate skewed and fat-tailed distributions. A problem with the extreme value approach is adapting it to a situation where many risk factors drive the underlying return distribution. Moreover, the usually unstated assumption that extreme events are not correlated through time is questionable. Despite these drawbacks, EVT is notable for being the only stress test technique that attempts to attach a probability to stress test results.

What Makes a Good Stress Test A good stress test should -

- Be relevant to the current position
- Consider changes in all relevant market rates
- Examine potential regime shifts (whether the current risk parameters will hold or breakdown)
- Consider market illiquidity
- Consider the interplay of market and credit risk

It should help the management to be forward looking in managing disasters mooted by market factors.

How Should Risk Managers Use Stress Test

Stress tests produce information summarising the bank's exposure to extreme, but possible, circumstances. The role of risk managers in the bank should be assembling and summarising information to enable senior management to understand the strategic relationship between the firm's risk-taking (such as the extent and character of financial leverage employed) and risk appetite. Typically the results of a small number of stress scenarios should be computed on a regular basis and monitored over time. Some of the specific ways stress tests are used to influence decision-making are to:

Manage funding risk

Provide a check on modelling assumptions Set limits for traders

Determine capital charges on trading desks' positions Limitations of Stress Tests

Stress testing can appear to be a straightforward technique. In practice, however, stress tests are often neither transparent nor straightforward. They are based on large number of practitioner choices as to what risk factors to stress, how to combine factors under stress, what range of values to consider, and what time frame to analyse. Even after such choices are made, a risk manager is faced with the considerable tasks of sifting through results and identifying what implications, if any, the stress test results might have for how the bank should manage its risk-taking activities.

A well-understood limitation of stress testing is that there are no probabilities attached to the outcomes. Stress tests help answer the question "How much could be lost?" The lack of probability measures exacerbates the issue of transparency and the seeming arbitrariness of stress test design. Systems incompatibilities across business units make frequent stress testing costly for some banks, reflecting the limited role that stress testing had played in influencing the bank's prior investments in information technology.

11.7 RISK MONITORING AND CONTROL

Risk monitoring and control calls for implementation of risk and business policies simultaneously. It consists of setting market risk limits or controlling market risk, based on economic measures of risk while ensuring best risk adjusted return. Controlling market risk means keeping the variations of the value of a given portfolio within given boundary values through actions on limits, which are upper bounds imposed on risks. This is achieved through the following:

1. Policy guidelines limiting roles and authority
 2. Limits structure and approval process
 3. System and procedures to unbundle products and transactions to capture all risks
 4. Guidelines on portfolio size and mix
 5. System for estimating portfolio risk under normal and stressed situations
 6. Defined policy for mark-to-market
 7. Limit monitoring and reporting
-

8. Performance Measurement and Resource Allocation

Risk measurement has a critical role in controlling and monitoring of market risk. Role of risk measurement in controlling and monitoring involves setting up of limits and triggers and monitoring them. Risk positions should also be reported to designated authority. Further, models are used for risk measurement, valuations and mark to market of portfolio. This calls for a system to monitor the models as well.

Limits and Triggers

Approved market risk limits for factor sensitivities and Value at Risk duly set by designated authority (usually by the Risk Policy Committee). The approval is based on unit's capacity and capability to perform within those limits, effectiveness of controls, and trading revenues.

- Sensitivity and Value at Risk limits for trading portfolios and accrual portfolios are measured daily. Where market risk is not measured daily, Risk Taking Units must have procedures that monitor activity to ensure that they remain within approved limits at all times.
- Approved management triggers or stop-loss for all mark to market risk taking activities.
- Appropriate market risk limits for basis risk for the products wherever applicable in the Market Risk Product Programme.

Risk Monitoring

- A monitoring process to ensure that all transactions are executed and revalued at prevailing market rates; rates used at inception or for periodic marking to market for risk management or accounting purposes must be independently verified.
- Financial Models used for revaluations for income recognition purposes or to measure or monitor Price Risk must be independently tested and certified.
- Stress tests must be performed preferably quarterly with predetermined changes in the underlying assumptions of the model/market conditions.

Models of Analysis

- Appropriate and duly approved (usually by Risk Policy Committee) model control and certification policy.
- Fully documented financial models.
- Duly validated by designated person, to ensure that the algorithm employed is appropriate and accurate.
- No unauthorized or unintended changes should be made in models.
- The models should also be subject to model assumption review on a periodic basis.

11.8 RISK REPORTING

Risk report should enhance risk communication across different levels of the bank, from the trading desk to the CEO. In order of importance, senior management reports should be -

- Regular and in time
- Reasonably accurate
- Highlight portfolio risk concentrations & exceptional events
- Include written commentary
- Concise.

11.9 MANAGING TRADING LIQUIDITY

Risk of trading liquidity is managed by avoiding -

- Large market share in any given type of asset
 - Infrequently traded instruments
 - Instruments with unusual tenors
 - One sided liquidity in the market
-

Risk Terminology in Risk Measurement

Say Mr. X takes a position in stock 'A' and wants to explain to his 'Boss' about the market position. He can explain the position in three possible ways:

1. He tells his Boss that he purchased 1,000 shares of stock 'A' at Rs 600 per share
2. He tells his Boss that he has taken a Rs 600,000 position in stock 'A'
3. He tells his Boss that he invested in stock 'A'. He explains that if price changes by 1%, he would have an impact of Rs 6,000. But since the price is expected to fluctuate 3% daily (daily volatility - figure estimated from past data), he estimates daily potential loss to be Rs 41,874:

Mr. X's position analysis using risk terminology will be:

1. Market factor - Stock price
2. Market Factor Sensitivity - Rs 6,000 (1% of total position)
3. Volatility (Daily)- 3%
4. Defeasance period - 1 day (i.e., to sell the stock)
5. Defeasance factor - at 3% volatility it is 3×2.326 (@ 99% Confidence level)
6. Value at Risk (VaR) - Rs 41,874 - This is also the potential loss amount under normal market conditions.

11.10 RISK MITIGATION

Market risk arises due to volatility of financial instruments. The volatility of financial instruments is instrumental for both profits and risk. Risk mitigation in market risk, i.e., reduction in market risk is achieved by adopting strategies that eliminate or reduce the volatility of the portfolio. However, there are couple of issues that are also associated with risk mitigation measures.

1. Risk mitigation measures aim to reduce downside variability in net cash flow but it also reduces upside potential or profit potential simultaneously.
2. In addition, risk mitigation strategies, which involve counterparty, will always be associated with counterparty risk. Of course, where counterparty is an established 'Exchange' or a central counterparty, counterparty risk gets reduced very substantially. In OTC deals, counterparty risk would depend upon the risk level associated with party to the contract.

Risk Mitigation Strategies

Volatility of individual instruments is market determined. But, volatility of two or more different financial instruments would have a different volatility. As a result, a portfolio of financial instruments can be created with desirable volatility characteristics. Strategies to achieve it are discussed below.

Strategies Using Sensitivity Measures

Say a portfolio has two bonds A and B with BPVs of Rs 675 and Rs 205 respectively. The BPV of the portfolio would be weighted average of BPVs of all the bonds in the portfolio. The portfolio BPV will be $(675 + 205)/2 = 440$. Now if we intend to reduce the risk of this portfolio, we may add another bond in the portfolio such that its BPV is less than 440. Say we add one more bond B in the portfolio. BPV of the portfolio will get reduced to 361.7.

Similar strategies are possible using another sensitivity measure - duration. Portfolio duration may be increased by adding higher duration instrument or by reducing low duration instruments. Similarly, portfolio duration can be reduced by selling higher duration instruments or by adding low duration instrument.

Strategies using Correlation Measures

Prices of two financial instrument that have perfect negative correlation would move exactly in opposite direction. If the financial instrument have negative correlation and it is not perfect, then also prices would move in opposite direction but it will not be exact. In such a case price volatility of the portfolio would be there but it will be considerably low.

For example, a portfolio is long on a stock A and short in stock future of stock A. If the price of stock moves up say by Rs 10, the stock future would also go up may not be exactly by Rs 10 say by Rs 9. The portfolio will gain Rs 10 on account of long position on stock A but will lose Rs 9 on account of short position in stock future. Reverse would also be true. The portfolio volatility however, stands reduced or portfolio market risk stands mitigated.

The same strategies are possible with interest rate swaps (IRS) also. An example could be a portfolio having a fixed rate bond and an IRS with long on variable rate of interest. As market interest rates move up, the portfolio will suffer losses on bond, as bond price would come down due to upward movement in interest rates. But swap valuation will increase as IRS being long on variable rate will result in higher interest receipts under the IRS and the portfolio would gain on account of that. The net impact on the portfolio will be reduction in losses (or may result in net gain also) on account of fall in the price of the bond. Or in other words, portfolio volatility stands reduced and with that the risk.

Strategies Using Market Instruments

Financial instrument such as options provide us with a method to hedge market risks.

An option provides a right and not obligation but it comes at a cost called option premium. A position that is long on call option confers a right to buy the underlying instrument at a predetermined price called strike rate. A long position on put option confers a right to sell the underlying instrument at strike rate. Both provide means to arrest downside movement and may be used for hedging a portfolio.

Essentially, risk mitigation measures involve risk return trade-off as strategies to reduce the risks also reduce upward potential.

Let Us Sum Up

A bank's trading book exposure has the following risks, which arise due to adverse changes in market variables such as interest rates, currency exchange rate, Commodity prices, market liquidity, etc., and their volatilities and impact bank's earnings and capital adversely.

1. Market Risk
2. Trading Liquidity Risk
 - (a) Asset Liquidity Risk
 - (b) Market Liquidity Risk
3. Credit and Counterparty risks

Management processes for market risk management are sub-divided into following four parts:

1. Risk Identification
2. Risk Measurement
3. Risk Monitoring and Control
4. Risk Mitigation

Market risk management framework is dependent upon quantitative measures of risk. The market risk measures seek to capture variations in market value arising out of uncertainties associated with various risk elements. These provide an objective measure of market risk in a transaction or of a portfolio. Market risk measures are based on

- Sensitivity
 - Downside Potential
-

Basis Point Value (BPV) and Duration are market risk measures based on sensitivity. VaR is a measure based on downside potential.

VaR is defined as the predicted worst-case loss at a specific confidence level over a certain period of time assuming 'Normal Trading Conditions'.

VaR measures the potential loss in market value under normal circumstances of a portfolio using estimated volatility (rate or price move) and correlations (how rates or prices move in relation to each other), for a given horizon (longer the time horizon, more is the VaR) measured with a given confidence interval. In calculating VaR we consider the volatility of prices and correlation of prices with respect of all other assets/liabilities in the portfolio. Normal circumstances refer to the fact that VaR is not a measure when market is under abnormal conditions.

VaR is not worst-case scenario. It does not measure losses under any particular market conditions. VaR by itself - is not sufficient for risk measurement. Measures to get over the limitation include back testing and model calibration and scenario analysis and stress testing. Back testing is a process where model based VaR is compared with the actual performance of the portfolio. This is carried out for evaluating a new model or to assess the accuracy of existing models.

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Manage funding risk -

- Provide a check on modelling assumptions
- Set limits for traders
- Determine capital charges on trading desks' positions

Risk monitoring and control calls for implementation of risk and business policies simultaneously. It consists of setting market risk limits or controlling market risk, based on economic measures of risk while ensuring best risk adjusted return. Controlling market risk means keeping the variations of the value of a given portfolio within given boundary values through actions on limits, which are upper bounds imposed on risks.

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- (a) Risk mitigation measures aim to reduce downside variability in net cash flow but it also reduces upside potential or profit potential simultaneously.
 - (b) In addition, risk mitigation strategies, which involve counterparty, will always be associated with counterparty risk. Of course, where counterparty is an established 'Exchange' or a central counterparty, counterparty risk gets reduced very substantially. In OTC deals, counterparty risk would depend upon the risk level associated with party to the contract.
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Keywords

Market making; Liquidation risk; Asset liquidity risk; Market liquidity risk; Credit rating; Settlement risk; Real time gross settlement system; Product programme; Basis point value; Back testing; Stress testing; Scenario analysis; Market factor; Market factor sensitivity; Volatility; Defeasance period; Defeasance factor

Terminal Questions

1.

2.

1. A bank expects fall in price of a security if it sells it in the market. What is the risk that the bank is facing?

- (a) Market risk (b) Operational risk
(c) Asset liquidation risk (d) Market liquidity risk

Asset liquidation risk

2. An 8-year 8% semi-annual bond has a BPV of Rs 125. The yield on the bond has increased by 5 basis points. What is the profit or loss suffered due to increase in yield?

- (a) A profit of Rs 1000 (c) A profit of Rs 625
(b) A loss of Rs 1000 (d) A loss of Rs 625

A loss of Rs 625

3. 1 day VaR of a portfolio is Rs 500.000 with 95% confidence level. In a period of six months (125 working days) how many times the loss on the portfolio may exceed Rs 500.000?

- (a) 4 days (c) 6 days
(b) 5 days (d) 7 days

6 days

4. A bank suffers loss due to adverse market movement of a security. The security was how ever held beyond the defeasance period. What is the type of the risk that the bank has suffered?

- (a) Market risk
(c) Market liquidation risk
(b) Operational risk (d) Credit risk

5. A bank holds a security that is rated A+. The rating of the security migrates to A. What is the risk that the bank has faced?

- (a) Market risk (c) Market liquidation risk
(b) Operational risk (d) Credit risk

Credit risk

6. A bond with remaining maturity of 5 years is presently yielding 6%. Its modified duration is 5 years. What is its McCauley's duration?

- (a) 5.05% (c) 5.30%
(b) 3.77% (d) 6.00%

5.30%

7. VaR is not enough to assess market risk of a portfolio. Stress testing is desirable because

- (a) It helps in calibrating VaR module
(b) It helps as an additional risk measure
(c) It helps in assessing risk due to abnormal movement of market parameters
(d) It is used as VaR measure is not accurate enough

It helps in assessing risk due to abnormal movement of market parameters

Answers to Terminal Questions

1. (c), 2. (d), 3. (c), 4. (b),
5. (d), 6. (c), 7. (c)
4. Rewards of proper management of operational risks are

- (a) Lesser risk capital
- (b) Cost reductions in operations
- (c) Competitive edge

Which of the following is true

- (i) All of them
- (ii) None of them
- (iii) (a), (b) and (c)
- (iv) (a) and (b)

All of them

5. Given the following

Probability of occurrence = 4

Potential financial impact = 4

Impact of internal controls = 0%

What is the estimated level of operational risk?

- (a) 3
- (b) 2
- (c) 0
- (d) 4

2

6. What is the beta factor for corporate finance under Standardised approach?

- (a) 15%
- (b) 18%
- (c) 12%
- (d) None of the above

None of the above

Answers to Terminal Questions

1. (iii), 2. (iii), 3. (i), 4. (i),
5. (d), 6. (b)

MODULE c

UNITS

- 14. Introduction to Treasury Management
 - 15. Treasury Products
 - 16. Funding and Regulatory Aspects
 - 17. Treasury Risk Management
 - 18. Derivative Products
 - 19. Treasury and Asset-Liability Management
-

UNIT 14 Introduction to Treasury Management

STRUCTURE

14.0 Objectives

14.1 The Concept

14.2 Functions of Integrated Treasury

14.3 The Process of Globalisation

14.4 Evolving Role of Treasury as Profit Centre

14.5 Organisation of Treasury

Let Us Sum Up Keywords

Multiple Choice Questions Answers to MCQs

14.0 OBJECTIVES

This chapter will help you appreciate the role and functions of Treasury, its global dimension and typical organisation of treasury activity in a bank.

14.1 THE CONCEPT

Conventionally, the Treasury function was confined to funds management - maintaining adequate cash balances to meet day-to-day requirements, deploying surplus funds generated in the operations, and sourcing funds to bridge occasional gaps in cash flow. In the context of a bank, the Treasury is also responsible to meet reserve requirements, viz. holding with Reserve Bank of India minimum cash balances required as per Cash Reserve Ratio (CRR), and investing funds in approved securities to the extent required under Statutory Liquidity Ratio (SLR). Thus, Treasury function was essentially liquidity management, and from an organizational point of view. Treasury was considered as a service centre.

To date, liquidity management continues to be an important function of Treasury. However, owing to economic reforms and deregulation of markets over the last decade, the scope of Treasury has expanded considerably. Treasury has since evolved as a profit centre, with its own trading and investment activity. Treasury connects core activity of the bank (deposit taking and lending) with the financial markets - which is also true of corporate treasuries in non-banking companies - by continuously accessing the markets for lending, borrowing, investing and trading in financial assets. And owing to the interface with markets, managing market risk for the entire bank has become an integral part of Treasury.

The Treasury plays an active role in Asset-Liability Management (ALM), and with its constant exposure to markets, is well placed to advise the management of bank in internal decisions, say in product pricing and strategic investments.

Till late 90's, investment in securities and foreign exchange business constituted two separate departments in most of the Indian banks. For reasons that we would explore later, these two functions have now become part of the integrated Treasury, thus adding a new dimension to treasury activity.

Treasury essentially deals with short-term funds-flow (i.e. with less than one year maturity), with the exception that as part of SLR requirement, investment in some securities is held to maturity exceeding one year. Risk management function, however, covers underlying assets and liabilities across short, medium and long-term maturities.

14.2 FUNCTIONS OF INTEGRATED TREASURY

Integrated Treasury, in a banking set-up, refers to integration of money market, securities market and foreign exchange operations.

Integrated Treasury, in the Indian context, is the direct result of reforms in the financial sector, the most important reforms being deregulation of interest rates and partial convertibility of Rupee. Rupee is already freely convertible on current account, and to a large extent, also convertible on capital account, owing to major relaxations allowed by the Reserve Bank, in the area of foreign direct investment (FDI), external commercial borrowings (ECB) and overseas direct investment (ODI) by Indian corporates, and foreign currency operations of resident Indians. Banks have also been allowed large limits, in proportion to their net worth, for overseas borrowing and investment.

As a result, banks look for interest arbitrage across the currency markets and are in a position to shift swiftly, say, a placement in Rupee denominated commercial paper to lending in USD in global inter-bank market. Banks can also source funds in global market and swap the funds into domestic currency, or vice versa, depending on the market opportunities. Banks have gained wider access to foreign currency funds through their off-shore operations, NRI deposits, resident foreign currency accounts such as EEFC and float funds from external commercial borrowings (ECB) of corporate customers. The banks, do no longer distinguish between Rupee cash flows and foreign currency cash flows, and an integrated cash flow has become the basis for treasury operations. The process of globalisation contributing to integration of treasuries is explained below in greater detail.

To this, we may add the development of domestic financial markets - equity as well as debt - with new institutional structure, facilitating instant payment and settlement systems. As a result, funds can be transferred with ease from long-term to short-term investments, or from securities market to money market, or from one currency to another currency. Integrated Treasury therefore is in a position to operate across the sectors and across the currency markets, either in search of higher returns, or in order to mobilize low cost funds for liquidity needs.

Just as cash flow is a cash flow irrespective of the currency in which it is denominated, the risk attached to market operations also needs a common approach cutting across different markets. When we operate in different currencies and deal with different segments of debt and equity markets, we generate currency and interest rate risks or price risk, which together are generally referred to as market risk. It is hence imperative that Integrated Treasury is also fully involved in risk management, in particular, management of market risk, often using derivative products. Derivatives help development of financial markets, as availability of a wide variety of derivative tools is key to managing currency and interest rate risks. The use of such products is a result of growing link between domestic and global markets.

The integration of market activities, with particular reference to foreign exchange and use of derivatives, has brought Treasury in direct contact with customers who regularly require such services from the bank. Large corporate clients now prefer to deal with Treasury directly, rather than through bank branches or through other functional departments. The Treasury's transactions with customers are known as merchant business, as distinct from bank's own trading and investment business. Many corporate customers have their own treasury departments, and they expect to receive an integrated service from the bank, in areas such as hedging export receivables, raising foreign currency loans and overseas investments.

We may now restate the driving force of Integrated Treasury as:

Integrated Cash Flow Management

Interest Arbitrage

Access to global resources

- Corporate demand for high-end services, and

- Risk Management

We may summarise the functions of Integrated Treasury as:

- Meeting reserve requirements (CRR and SLR)
- Global cash management
- Efficient merchant services, which include foreign exchange (forex) and advisory services
- Optimising profit by exploiting market opportunities in
 - forex market
 - money market
 - securities market (debt, equity and credit derivative markets)
- Risk management
- Assisting bank management in ALM

Treasury activity thus encompasses fund management, investment, forex operations, trading and risk management services in a multi-currency environment. To this, we may further add the evolving role of Treasury in managing the balance sheet risks, in coordination with other banking departments.

It is necessary to understand and appreciate the three distinct roles Treasury is expected to play:

- (a) Liquidity Management: Treasury is responsible for managing short-term funds across currencies, and also for complying with reserve requirements (CRR and SLR)
- (b) Proprietary Positions: Treasury may trade in currencies, securities and other financial instruments, including derivatives, in order to contribute to Bank's profits
- (c) Risk Management: Treasury will aid Management in bridging asset-liability mismatches (ALM), will provide derivative tools to manage risks in client's business, and will also manage risks inherent in its own proprietary positions.

The multiple roles necessitate Treasury to manage an ALM Book for internal risk management, a Merchant Book for client-related currency and derivative transactions, and a Trading Book for managing its proprietary positions. ALM Book also includes traditional role of Treasury in liquidity management.

Within the framework set above, we will study functions of Treasury in detail in the following chapters.

14.3 THE PROCESS OF GLOBALISATION

We mentioned globalisation as a principal factor contributing to integration of treasury activity. Globalisation refers to interaction between domestic and global markets, and may generally be defined as:

The process of integrating domestic market with global markets, characterised by free capital flows and minimum regulatory intervention

The capital flows referred to above are in addition to regular flow of foreign exchange on account of trade (exports and imports) and miscellaneous remittances by business entities and individuals. The capital flows represent direct and indirect investments, with the ultimate motive of repatriating returns on such investments. Capital flows in this sense, involve transfer of wealth, which, sovereign countries, being sensitive to uneven capital flows, tend to regulate through their central banks.

Over the last two decades, emerging market countries have realised that rapid economic growth is not possible without free capital flows, which not only supplement capital available in the domestic market, but also result in exchange of technology and human (managerial) resources. As the economies develop, capital flows are necessarily multi-dimensional, with overseas

companies investing in domestic economy and domestic companies expanding their overseas operations. Funds flow on capital account may take one or more of the following routes:

- Portfolio investment: Foreign investors investing in domestic equity and debt markets
- Direct investment: Foreign companies and foreign institutional investors investing long term funds in domestic companies, new projects, manufacturing facilities, business process outsourcing etc.
- External commercial borrowings
- Issue of equity/debt in global markets
- Mergers & acquisitions - involving domestic and foreign entities
- Payment for technology transfer, royalties, financial services etc.

All the above transactions involve payment or receipt of interest, fees, dividends and repatriation of capital denominated in foreign currency - sometimes cumulatively referred to as transfer of savings.

The capital flows impact money supply, interest rate, exchange rate, inflation expectations and balance of payment in domestic economy. Though the capital inflows supplement domestic resources, the impact is not always benign. Sudden rise or fall in portfolio investments may lead to increase in volatility of stock prices, interest rates and exchange rates - thereby increasing the risks to investors. Domestic economy becomes susceptible to systemic risks - owing to factors like inflation, change in business cycles, regulatory issues and system failures in foreign countries. The East Asian crisis - the systemic failure of financial markets and erosion of value of currencies in East Asian countries in late '90s - partly caused by massive withdrawal of funds by foreign investors, has since alerted the Governments and central banks to place some regulation on cross-border movement of capital.

The economic and financial reforms, initiated by India since the early 90's, have given impetus to capital markets and the Reserve Bank of India has been progressively relaxing the exchange controls. RBI now permits large movement of capital - both inflows and out flows - either by automatic route or by delegation of powers to commercial banks, who are authorized dealers. Foreign Exchange Management Act (FEMA) of 2000 has replaced the earlier Foreign Exchange Regulation Act (FERA) facilitating many such reforms. The Exchange Control Department of RBI was aptly renamed as Foreign Exchange Department w.e.f January 2004. Foreign currency transactions on current account, which include payment on account of export-import trade, and miscellaneous payments are fully liberalized. Government of India has largely removed sectoral caps for foreign investment, and most of the capital flows now take place by automatic route, with minimum regulatory intervention. However, recognizing the risks of uninhibited capital flows, RBI has not yet permitted full convertibility of currency on capital account.

The immediate impact of globalisation is three-fold. Firstly, the interest rates which are central to treasury activity - whether it is lending, borrowing or investment - are influenced by global interest rate trends, owing to cross border capital flows, which in turn also influence exchange rates. Though India has a managed exchange rate regime. Rupee exchange rate is effectively a free-float, with minimum intervention by the central bank. In an open economy, exchange rates are further influenced by macro-economic factors like relative inflation, GDP growth rate, stock markets and commodity markets.

Secondly, since the domestic markets need to compete with global markets, new institutional structure (resembling similar institutions in other developed markets), consisting of regulatory agencies like SEBI and IRDA on one hand, and public/private institutions like Clearing Corporation of India Ltd. (CCIL), National Securities Depository Corporation Ltd. (NSDL),

Credit Information Bureau Ltd. (CIBL) and credit rating agencies on the other hand, has come in to existence to support financial markets. Over the last five years, a number of primary dealers, mutual funds and investment institutions - both domestic and foreign - have become active players in the financial markets. The new institutions have contributed to deepening the debt and equity markets and eliminating counterparty risks in treasury dealings. Today we have a payment and settlement system - courtesy RBI, CCIL and depository institutions - comparable to any global system, which has greatly facilitated foreign exchange, money market and securities transactions of Treasury.

Thirdly, with RBI allowing Rupee derivatives in a phased manner, the range of products offered by treasury have widened, with innovative product structures. There is widespread use of swaps, forwards and options, not only to hedge currency and interest rate risks, but also for trading and generating profits in a dynamic market. Simultaneously, equity derivatives such as stock futures and options have also become popular with investors, although the bank treasuries have as yet not been permitted to use equity derivatives.

More recently, currency and interest rate futures have been introduced under the combined stewardship of RBI and SEBI. Currency futures are being traded in two major exchanges, with fairly good liquidity in 1 to 3 month contracts. Interest rate futures market is also being activated. Regulators are seriously discussing introduction of new products such as credit derivatives, exchange traded options and cross currency futures.

RBI has permitted banks to borrow and invest through their overseas correspondents, in foreign currency subject to a ceiling of 50% of their tier-1 capital, or USD 10 million, whichever amount is higher. Effectively, this relaxation has placed banks' Treasuries in command of substantial funds which are freely convertible and which can be deployed in domestic market or global markets subject to certain restrictions.

The globalisation has thus expanded the scope of Treasury and has thrown open the domestic markets, at least partially, to the winds blowing across the global currency markets. Incidentally, we may clarify that the impact of globalisation is in no way confined only to banks having overseas branches, but is equally felt by all other banks and financial institutions who are engaged in foreign currency transactions or cross-border investments, either directly or on behalf of their clients.

14.4 EVOLVING ROLE OF TREASURY AS PROFIT CENTRE

To repeat our earlier statement, by convention. Treasury was a service centre, primarily intended to attend to cash flow requirements of the bank, and hence operated only in money market. Merchant business was attended through the foreign exchange department, while bank's investment assets were managed through a separate department. Thus there were effectively three "treasuries" operating in three different markets, which have since been integrated by the process described above.

The wider scope of integrated treasury has afforded banks an opportunity to generate surpluses, to supplement profits from its core banking activity. Treasury profits have become attractive for two reasons: firstly, Treasury largely operates in inter-bank markets which are almost free of credit risk, and hence requires very little capital allocation (though this must be qualified by recent developments in global market where institutional credit risk has become quite significant). Secondly, the treasury activity is highly leveraged - the risk capital allocated to Treasury may range between 2% to 5% of the size of transactions handled, hence the return on capital is quite high. Thirdly, operational costs in Treasury are low as compared to branch banking, whether retail or wholesale. The Treasury is run by a few specialist staff, engaged in

high-value transactions, per transaction size generally not being below Rs. 50 million. The Treasury also trades in narrow spreads, hence profit is generated from high volumes of business. Treasury profits are generated from the following sources:

Conventional

Foreign Exchange Business: Buying and selling foreign currency to customers constitutes a major source of 'other income' for the banks. The difference between 'buy' 'sell' rates - known as 'spread' - is the profit for the bank. The banks buy foreign currency from customers (mainly exporters) and sell the same in inter-bank market. The banks also sell foreign currency to customers (importers), which they buy from inter-bank market. The banks may sell foreign currency, which they have bought from exporters, to importers on the same day, squaring up the residual position in the inter-bank market. Banks generally do not maintain a stock of foreign currency for the purpose of merchant business, as it is more convenient to buy and sell from inter-bank market. Any residual position of a bank at the end of day - overbought or oversold - is known as 'open' position, which involves exchange risk, as the value of foreign currency may change overnight (may in fact, change from moment to moment, hence the dealers are careful to maintain only a limited position during the day time also).

Money Market Deals: Conventional banking operation in money market was confined to lending surplus funds and borrowing funds when required. Interest on funds lent in the market is a source of income, but it can hardly be called profit - as such funds come from deposits, where interest cost is higher than the interest earned in money market. Till fairly recently, banks were circumspect in borrowing funds in inter-bank market only for the purpose of lending with a profit.

investment Activity: Banks have always been investing in Government securities to satisfy the SLR requirement, but otherwise were not very active in investing in non-Government securities. Income from risk-free investments was not considered to be significant. Banks have also been investing in strategic assets - such as subsidiary and associate companies - where returns on investment were only of secondary importance. The development of corporate debt market in fact, is a recent phenomenon, which followed removal of RBI restrictions on bank investments, and dematerialisation of securities in the late 90's.

Profits for Contemporary Treasury

Buying and selling foreign exchange to customers and interest on investments and money market lending, continues to be primary source of income for bank treasuries. However, Treasury profits are increasingly derived from market operations, involving buying and selling, or borrowing and lending, or investing in tradable assets, taking a proprietary position - not with the intention of meeting customer requirements, or for meeting Reserve requirements of the bank, but only to generate profits.

At the same time the range of services the bank offers to customers has also widened with introduction of new products. The Treasury profits arise mainly from the following sources.

Interest Arbitrage: The Treasury operates across the currency and security markets; hence is in a position to find where the interest differentials are in its favour. The Treasury may borrow in USD and lend in Rupee inter-bank market, or vice versa, depending on the domestic and foreign interest rates. Or, the Treasury may borrow in money market and invest short-term in commercial paper or T-bills. Banks with good credit standing, may borrow large amounts in money market and lend to other banks/highly rated corporates and other institutions, using market instruments, at marginally higher rates. As the futures market continues to develop.

Treasury also has the opportunity to arbitrage between OTC (over-the-counter) and futures markets.

Treasury today uses a variety of money market instruments, such as commercial paper, certificates of deposit, treasury bills and CBLO to optimize return on funds. The Treasury thus has a choice of different currencies and market segments, to borrow or lend or invest short-term funds.

Trading: Trading is a speculative activity, where profits arise out of favourable price movements during the interval between buying and selling. Currency trading since long has been at the core of forex dealing in bank treasuries. Banks holding AD 1 licence are permitted by RBI to trade in currencies within preset limits. Treasury may go long (buy currency) or short (sell currency) on currencies to profit from exchange rate movements. Treasury may also swap currencies, buying and selling currencies at different points of time, to benefit from changes in forward rate movements (which reflect changes in interest rates). Till the position is squared, the treasurer has an 'open position' value of which changes as per movement of exchange rates.

The Treasury may take similar proprietary positions in securities, where, in a rising market, securities are bought and sold with a profit when the yields fall. Bank treasuries are fairly aggressive in buying and selling Government securities (G-sec), as the banks in any case need to hold approved securities, in excess of their SLR requirement, in order to manage their liquidity. G-secs constitute the most liquid segment of debt market and are traded on wholesale debt market (WDM) of National Stock Exchange. Active treasuries deal not only in Government securities, but also in corporate bonds (non-SLR) and equity instruments so as to contribute to bank profits.

Treasuries over the last decade, have also become active in equity markets. Equity trading is highly profitable in rising stock markets, despite the volatility of equity prices, as Indian economy has been witnessing a steady growth. However, in terms of volume, banks participation in stock market is peripheral, as RBI restricts banks' direct and indirect exposure to capital markets.

Another area which is almost exclusive to banking sector is trading in credit instruments. The only instruments currently available in this segment are securitized credit receivables and other assets, commonly known as pass-through certificates, issued by special purpose vehicles floated by the banks (or other specialized institutions) for the specific purpose of securitization. Participation notes, though not traded, also fall under this category. The underlying assets are variously described as collateralized debt obligations, asset backed or mortgage backed securities (CDO, ABS, MBS) etc. While the securitized market provides for trading in credit risk, the market has not been liquid and trading takes place mostly over-the-counter RBI has since issued elaborate guidelines (most recently in March 2010) to regulate the securitisation process. RBI have also announced, in the latest review of monetary policy (April, 2010) introduction of credit default swaps, which may entirely change the shape of the market.

While trading in currencies and securities, Treasuries are open to market risk, or price risk, where they may incur a loss if price of the currency (exchange rate) or the security moves adversely. In order to minimize such losses, bank treasuries are subject to strict risk management controls, which we would study later

Banks have also been permitted to trade in some of the derivative products, and some of the larger banks have been market makers in options and interest rate swaps. Derivatives have added to the range of products available to the Treasury for trading, as well as risk management.

Treasury Products: Treasury sells, in addition to foreign exchange services, derivatives and structured products to corporate customers. Large corporates have an appetite for new products in order to hedge their currency and interest rate risks, and at times, also to reduce their interest costs. For instance, a company may buy from the Treasury a Forward Rate Agreement (FRA) to fix interest rate for commercial paper they plan to issue after 3 months. The Treasury may offer a currency swap to a corporate customer to convert their floating rate USD loan into Rupee loan carrying fixed interest rate, so that the customer no longer has currency risk or interest rate risk. The rates offered by Treasury for such products always have a built-in profit margin, or 'a buy-sell spread' in bank's favour

The significance of treasury as profit centre may be appreciated from the fact that treasury income constituted about 25% of gross income of major Indian banks for the year ending 31 March 2009.

Treasury also plays an important role in transfer pricing - i.e. allocation of costs to various departments/ branches of the bank on a rational basis. Traditionally, the cost of funds was accounted only as interest cost, ignoring the interest rate risk and maturity mismatches between sources and uses of funds. Treasury adds the cost of hedging, or cost of risk to the cost of funds and helps ascertain profitability of banking activity more accurately. In the process, a small margin is added to the Treasury profits for acting as funding centre of the bank. We would study transfer pricing in greater detail in the following chapters.

14.5 ORGANISATION OF TREASURY

The Treasury is organised either as a Department of the bank, or as a Specialised Branch under direct control of the bank's head office. In either case, the Treasury functions with a degree of autonomy, with its own accounting system. The branch status is preferred as the books of accounts of Treasury can be maintained independently (with its own F&L and GL accounts). On the other hand, the departmental form has the advantage of easier coordination with related departments at head office (such as Central Accounts and Planning Departments) in a line management.

Treasury as a specialized branch enjoys an additional advantage, as the Branch can act as Authorised Dealer for foreign exchange business and can participate in clearing and settlement systems directly, while Head Office Department can only act through a branch for its business operations. We may therefore conclude that in the context of integrated treasury operations, a Treasury Branch should be the preferred form of organisation.

The Treasury is headed by a senior management person - A General Manager, Chief Treasury Officer (CTO), Vice-President or with some such designation. Treasury being a key activity of the bank. Head of Treasury should be a person who would report direct to the CFO or CEO of the bank. However the level of reporting and delegation of powers would depend on the size of the bank and the importance attached to the treasury activity within the bank.

The Treasury is segregated into three main divisions: The Dealing Room (or. Front Office), the Back Office (or. Treasury Administration) and the Mid-office (Risk Management)).

The dealing room is headed by Chief Dealer, who is in charge of the front office. The Dealers working under him, buy and sell in the markets. Each Dealer specializes in one of the markets, i.e. foreign exchange, money market or securities market, although, in an integrated treasury, the dealers are generally familiar with all the markets. Depending on the size of operations, there may be dealers dedicated to major currencies, or dealers specializing only in forward markets or derivatives. It is also common to have a separate corporate dealer, exclusively to attend to major

corporate customers/merchant business. In larger banks, Treasury will also have a ALM desk, to exclusively manage Bank's ALM risks.

The Securities Market is normally divided into two parts: primary and secondary markets. The securities dealer deals only with secondary market, i.e. buying and selling of securities already available in the market. On behalf of the bank, the dealer may also participate in auction of Government securities and T-bills, conducted periodically by RBI. Treasuries, who are active in equities may also have a separate equity dealer who would be dealing with equity instruments in secondary markets.

The primary market comprises of new issues of non-govt. debt paper (commonly referred to as non-SLR securities), issued by corporates (mostly placed privately with qualified institutional investors). The primary market issues are subscribed by Investment Department, generally situated outside the Dealing Room, but as part of the Treasury. This is so, because primary issues need appraisal of credit risk, thorough examination of issue terms and where so stipulated, documentation for secured debt paper (through a Trustee). Often banks require inputs from market research, for which, either they may have an in-house Research Dept., or may collect it from published material.

The back-office is responsible for verification and settlement of the deals concluded by the dealers. The deals are verified on the basis of deal slips prepared by the dealers and also from the confirmation received from the counterparties. The back-office confirms the deals independently with the counterparties (banks and other institutions) over phone and verifies the authenticity of the confirmation document. The Back-office takes care of all related book-keeping and submission of periodical returns to RBI. Back-office also maintains Nostro accounts (foreign currency accounts with correspondent banks), funding and security accounts with RBI, and Demat accounts with depository participants and ensures that adequate margin money is held with Clearing Corporation of India for Rupee and dollar settlements.

Settlement refers to receipt and payment of amounts following deals made by dealers (i.e. sale and purchase of foreign currency, lending and borrowing, sale and purchase of securities etc.). Settlement is a key function of Back-office, as all payments and receipts must take place on value date. Any delay in settlement would not only result in financial loss to the bank, but delays in payment are considered as a default by the bank, severely affecting the bank's reputation. It is mandatory that Front office and Back Office are totally segregated, reporting to two different managers.

Middle office (Mid-office) is created exclusively to provide information to the management (MIS) and to implement risk management systems. Mid-office monitors exposure limits and stop loss limits of Treasury and reports to the management on key parameters of performance. Transfer Pricing Mechanism may also be implemented through Mid-office. In smaller banks, Mid-office may also function as ALM Support Group, as the balance sheet risk management is closely connected to Treasury risk management.

Mid-office may report direct to the Head of Treasury, or, independently to Chief Risk Officer (CRO) where such position exists, so as to ensure compliance of Treasury with risk management policies and processes objectively.

Investment department, as stated earlier, will deal with primary issues. Whenever a suitable offer is received, the Department would put up an investment proposal and obtain approval at appropriate level. Minimum marketable investment being Rs. 5 crore, the investment proposals are scrutinised closely and are generally considered by an Investment Committee, before the sanction is obtained at appropriate level.

The other departments in Treasury, viz. Accounts and Administration, Systems Administration, Remittances (swift/RTGS, etc.) would be mainly administrative in nature. Some banks may also prefer to have their inter-branch cash transfer department as part of Treasury, as the Treasury maintains the bank's account with RBI.

A typical organization chart of a bank treasury is attached for reference. We would examine in latter chapters the Treasury products and Risk Management Systems in more detail.

Let Us Sum Up

Funds management has been the primary activity of Treasury. With integration of markets, Treasury activity has extended to foreign exchange, money market and securities markets, linking domestic and global markets in the process. The globalisation, characterised by free capital flows, is a result of economic reforms, commenced in India in the early 90's.

Treasury is also responsible for managing market risk, and plays an active part in Asset Liability Management.

Treasury will maintain an ALM Book, a Merchant Book and a trading Book, corresponding to its role in balancesheet management, merchant services and trading, across the currency and security markets.

Globalisation has resulted in grater integration of domestic and global markets. The capital flows supplement domestic resources. However domestic markets at the same time are vulnerable to systemic risks. In India, foreign currency transactions are almost free from regulation, though the currency is not yet fully convertible.

Treasury has evolved in to a profit centre. Profits arise not only out of fee income from conventional business, but also from trading in foreign exchange, securities and derivatives markets. Over the last few years, currency and securities trading has been a major source of income for Indian banks.

General Manager/ CTO and Head Treasury

Chief Dealer - (Dealing Room)

Equity

Investment

(Primary

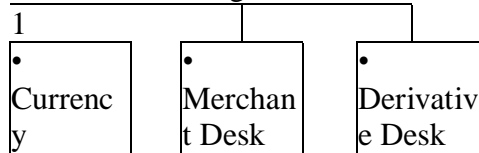
Forex

Forex

Money Market

Money Market

Securities Trading

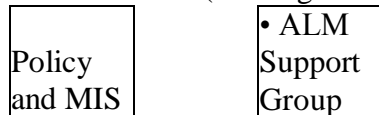


Chief Dealer - (Dealing Room)

Chief Dealer - (Dealing Room)

• Securities Trading

Chief Dealer - (Dealing Room)



Equity Trading

Accounts
 HRand Training
 Internal Audit
 Funds Transfer Inter Branch

FIGURE 14.1

Treasury Organisational Structure of a Bank

Preferred form of organization for integrated treasury is by way of a specialised branch. Treasury is organized mainly as Front Office, Back Office and Middle Office, apart from an Investment Dept. dealing in primary markets. Other Departments are mainly administrative in nature.

Keywords

Arbitrage is the benefit accruing to traders who play in different markets, simultaneously - profits accrue, as markets are imperfect.

Derivatives are financial contracts to buy or sell, or to exchange a cash flow or a series of cashflows, at a future date, the price of which is based on market price of an underlying asset, which may be financial (currency/bonds/equity shares, etc.), or a real asset (commodity/metals/oil etc.), with or without an obligation to exercise the contract.

Emerging Market Countries are countries with a fast developing economy, which are largely market driven (as against centrally planned economies), e.g. India, China, Brazil, Russia, Thailand etc.

Leveraging implies building up large volumes of business on relatively small capital - like buying and selling USD 10 million, with capital just adequate to meet possible loss on exchange, which may be, say, 3%.

Tradable assets are financial assets, such as govt, securities, bonds, commercial paper, currencies as also derivative contracts (swaps, futures, etc.) which can be bought and sold, almost entirely in demat form in the market.

Speculation is buying or selling an asset only for the purpose of making profit from movement of the asset price over a period of time.

Short sale, i.e. selling an asset which is yet to be purchased, is permitted in some markets.

Credit Default Swaps are traded credit derivatives, which offer protection against specific credit risk (default in payment obligations) to holder of a financial asset (a loan, or a bond or any other investment)

Demat accounts are maintained by depository participants, to hold securities in electronic (de-materialized) form, so that transfer of securities (purchase or sale) can be effected by debit or credit to the respective account-holders, without any physical document.

OTC and futures markets'. Over-the-counter market refers to derivative products sold by banks to meet specific requirements of the client -eg forward contracts. Futures market refers to standardized derivative contracts (e g currency futures) traded in recognized exchanges, without any counter-party risk.

Multiple Choice Questions

- What are the two reserve requirements that treasury has to comply with?
 - PLR and SLR
 - CRR and SLR
 - RepoandCRR
 - VaR and CRR
- Integrated Treasury in Banking set up refers to
 - Computerization of all bank branches
 - Computerization of all treasury operations

- (c) Centralization of all back office operations of forex branches
 - (d) Integration of money market, securities market and foreign exchange operations
- Integration of money market, securities market and foreign exchange operations
3. What is the important operational feature of integrated treasury ?
- (a) Having a common dealing room
 - (b) Having a common Mid/back offices
 - (c) Looking for interest arbitrage across currency markets and be in a position to shift swiftly, a placement in Rupee denominated commercial paper to lending in USD in global interbank market and also being to source funds in global markets and swap the funds into domestic currency or vice versa, depending on market opportunities
 - (d) All the above

All the above

4. Treasury in the normal course will manage
- (a) All funds raised through deposits
 - (b) All deployment of funds through advances
 - (c) Liquidity
 - (d) ALM book, Merchant book and Trading book
- ALM book, Merchant book and Trading book

5. Globalization refers to
- (a) Full convertibility of all currencies in the world
 - (b) Removal of all trade barriers in the world
 - (c) Fixed rate of exchange for all currencies of the world
 - (d) The process of integrating domestic market with global markets, characterized by free capital flows and minimum regulatory intervention

The process of integrating domestic market with global markets, characterized by free capital flows and minimum regulatory intervention

Answers to the MCQs

1. (b), 2. (d), 3. (d), 4. (d), 5. (d)

UNIT 15 Treasury Products

STRUCTURE

15.0 Objectives

15.1 Products in Foreign Exchange Markets

15.2 Money Market Products

15.3 Securities Market Products

15.4 Domestic and Global Markets

Let Us Sum UP Keywords

Multiple Choice Questions Answers to MCQs

15.0 OBJECTIVES

- This chapter will enable you to become familiar with the nature of treasury markets and various treasury products available in the market.
 - Treasury products refer to products available to Treasury in the financial markets for raising and deploying funds, for investment, and for trading in foreign exchange and securities markets.
-

- Treasury products which are specifically used for risk management are dealt with in a separate chapter.

15.1 PRODUCTS OF FOREIGN EXCHANGE MARKET

Foreign exchange (forex) market is the most liquid market as free currencies (major currencies which are fully convertible, e.g. USD, EURO, GBP, JPY, CHF, etc.) can be readily bought and sold. Free currencies belong to those countries, whose markets are highly developed and where exchange controls are practically dispensed with. Currencies which are not fully convertible, have limited demand and may not be traded actively, but they may also enjoy high liquidity, depending on the size and stage of development of domestic market. For instance, Indian Rupee (INR) is only partially convertible, but the market for USD/INR is fairly liquid, owing to large domestic market and high growth rate of the economy.

Foreign Exchange Market is also most transparent as most of the transactions take place 'on-line' across the time zones in electronic medium and the exchange rate movements are reflected on the screen from moment to moment, even when the trades take place in far-off markets, say in New York or Tokyo. It is a virtual market, without physical boundaries, the only limitation for currency trades being domestic regulation or convertibility. The information dissemination is very fast through electronic media - most common being the screens of information vendors, such as Reuters and Bloomberg, who also provide dealing screens where the buy / sell transactions can take place. There are also internet sites which provide trading platform. Several banks have their own sites where customers can deal in foreign exchange on-line. Worldwide networks of forex brokers also use telecommunications for instant transmission of information. In this sense, foreign exchange market may be called near perfect, with an efficient price discovery system. For most currencies, dealers in the forex market offer two-way quotes (for purchase and sale of currency), lending liquidity and transparency to the market. Narrower the buy-sell spread, more liquid is the currency market.

1. Spot Trades

Currencies are mostly bought and sold in spot trades. The spot refers to settlement - payment and receipt of funds in respective currencies. Spot settlement takes place two working days from the trade date, i.e. on the third day. Currency may also be bought and sold, with settlement on the same day, i.e. today (TOD), or, on the next day, i.e. tomorrow (TOM). All the exchange rates quoted on the screen, or in print, are for spot trade, unless otherwise mentioned. The TOD and TOM rates are generally quoted at a discount to the spot rate, i.e. the rate is less favourable to the buyer of the currency. In an integrated market, the premium or discount charged on the currency is really decided by overnight interest rate differentials of the currencies bought and sold.

2. Forward Rates

While spot trade refers to current transaction, forward trade refer to purchase or sale of a currency on a future date. The exchange rates for forward sale or forward purchase are quoted today; hence such transactions are referred to as forward contracts between the buyer and seller. Treasury may enter into forward contracts with customers (merchant business) or with banks (inter-bank market) as counterparties. Customers, i.e. importers, exporters and others who expect payments or receipts in foreign currency, cover their currency risk by entering into forward contracts with their respective banks. Treasury in-turn covers its customer exposure by taking reverse positions in the inter-bank market. Treasury may also enter into forward contracts, purely for the purpose of making profit out of price movements.

Forward exchange rates are not exchange rates forecast into the future; in other words, they do not reflect projected rate movements in the market. Forward exchange rates are arrived at on the

basis of interest rate differentials of two currencies, added or deducted from spot exchange rate. The difference between spot rate and forward rate, say, for GBP/USD therefore represents the difference in risk-free interest rates in the USA and UK. The interest rate differential is added to the spot rate for low-interest yielding currency (representing forward premium) and deducted from the spot rate for high-interest yielding currency (representing forward discount).

However, forward rates fully reflect interest rate differentials only in perfect markets, where the currencies are fully convertible and where the markets are highly liquid. Since Rupee is not yet fully convertible, the demand for forward contracts influences the forward exchange rates more than the interest rate differentials.

3. Swaps

The spot and forward transactions are the primary products in foreign exchange market. A combination of spot and forward transactions, or a combination of two forward transactions is called a swap. A swap transaction is also described as an exchange of cashflows. Buying USD (with Rupees) in the spot market and selling same amount of USD in forward market, or vice versa, constitutes a USD/INR swap. Similarly, simultaneous purchase and sale of currency on two forward dates (forward to forward) is also a swap.

The swap route is generally used for funding requirements, but there is also a profit opportunity from interest rate arbitrage. When we have USD funds, but we need Rupee funds to invest in a commercial paper for 3 months, we may enter into a USD/ INR swap deal - to sell USD at spot rate (converting into Rupee funds) and buying back the USD 3 months forward (with Rupee funds on maturity of the CP). If the interest earned on CP is higher than the cost of USD funds, the swap results in a profit. The cost of USD funds consists of interest at market rate plus forward premium for the 3-month period.

However, interest arbitrage exists only when one of the currencies exchanged is not fully convertible. There is no interest arbitrage between free currencies, as the forward premium / discount is equal to the interest rate differentials. The swap is otherwise used to eliminate currency and interest rate mismatches. The swap route is used extensively to convert cash flows arising from principal and interest payments of loans from one currency to another currency, with or without involving actual exchange of funds - such transactions are referred to as currency swaps, as distinct from short-term funding swaps, which are more common in treasury dealings. Forwards and swaps, used widely in managing foreign currency liabilities, fall under the scope of derivatives, which are more fully described in the following chapters.

4. Investment of Foreign Exchange Surpluses

Treasury is also responsible for investment of foreign exchange surpluses of the bank. The surpluses arise out of (a) profits from treasury operations (b) profits from overseas branch operations (c) Forex borrowings in overseas/ domestic market and (d) foreign currency and convertible Rupee deposits with branches (mainly from NRI depositors and exporters). Such surpluses, net of bank's lending in foreign currency to eligible borrowers, are left at the disposal of Treasury. The forex surpluses also include floating funds on account of customer transactions (e.g. balances in nostro accounts, or funds maintained in a EEFC account) and Rupee funds swapped in to foreign currency.

Banks are permitted to invest foreign exchange surpluses in global money markets/in short-term securities. Following are the avenues available to the Treasury for investment of forex surpluses:

Inter-bank Loans: Normally not exceeding one-year term, but mostly in over-night deposits with domestic and global banks, subject to pre-approved credit lines to the respective banks.

Short-term Investments Banks are permitted to invest overseas in short-term instruments of high credit quality, such as Treasury Bills / Gilts issued by foreign Governments, commercial paper and other debt instruments issued by multilateral institutions and companies with AAA credit rating, subject to appropriate policy for the investments, approved at board level.

Nostro Accounts: Where floating funds of the bank are parked, pending utilization/customer draws. Nostro accounts are current accounts denominated in foreign currency, maintained by the banks with their correspondent banks in the home country of the currency (e.g. Japan for Yen, UK for Sterling, USA for Dollars etc.). Balances held in the Nostro accounts do not earn any interest. However, many correspondent banks offer automatic investment facilities for funds held overnight, subject to a minimum balance in the account (say, USD 100,000). The correspondent banks invest the excess funds in money market on behalf of the account-holding bank, and pay in return interest at a rate normally linked to Fed rate for USD funds. Thus the Treasury is able to earn nominal interest on idle funds held in the Nostro accounts.

5. Loans and Advances

Credit is a banking function and Treasury is not involved in credit appraisals and disbursements. However clearance from Treasury is sought as to the availability of foreign currency funds and cost of funds, prior to sanction of foreign currency advances. (In fact such clearance is increasingly becoming necessary in disbursement of large domestic advances also, which we will study in later chapters, in the context of liquidity management and transfer pricing).

Banks also extend working capital denominated in foreign currency, by means of FCNR loans, PCFC and discount of foreign currency bills to select customers. Treasury is more actively involved in short-term funding, as part of its cashflow management.

6. Rediscounting of Foreign Bills

This is an inter-bank advance, where Treasury refinances the foreign currency bills purchased/negotiated by another bank. This is a Treasury product, as the bills are rediscounted with recourse to the bank (without credit risk of the client). The bill-rediscounting is priced slightly higher than market placements, as (a) the advance covers a usance period - anywhere from 15 days to 360 days, and (b) the counterparty would charge their customer commercial rate of interest for the underlying. Though it is an inter-bank exposure, RBI has allowed banks to include rediscounting of bills in their credit portfolio.

In integrated treasury, foreign exchange fund management is not really different from domestic fund management, and, as we shall see, the products and markets overlap providing a wide variety of choices to the treasurer.

15.2 MONEY MARKET PRODUCTS

Money Markets refer to raising and deploying short-term resources, with maturity of funds generally not exceeding one year.

The inter-bank market is sub-divided into call money, notice money and term money market.

Call Money: Refers to overnight placements, i.e. funds borrowed by banks need to be repaid on the next working day. Call money rates indicate liquidity available in the inter-bank market.

Overnight Mumbai Interbank Offered Rate (O/N MIBOR) is the indicative rate for call money, fixed daily in the morning, used widely as a benchmark rate for overnight interest rate swaps.

Notice Money: Refers to placement of funds beyond overnight for periods not exceeding 14 days.

Term Money: Market is for placement of funds with banks for periods in excess of 14 days, but not exceeding 1 year. Typically term money placements range from 1 month to 6 months, and placements for longer periods are not very common.

The call money market is purely an inter-bank market - non-bank players, such as financial institutions and mutual funds, were phased out of call money market wef 6 August 2005. Only banks, primary dealers and cooperative banks (other than land development banks) can participate in the call money market.

Inter-bank markets are at the forefront of financial markets and are the first to signal any changes in money supply and the resultant liquidity in the system. On any particular day the call money transactions reflect the liquidity available in the system. Inter-bank market is considered to be a risk-free market, though in reality, the banks do carry counterparty risk. However, for practical purposes, inter-bank market carries lowest risk, next only to sovereign risk; hence the interest rates prevailing in inter-bank market constitute 'benchmark' rates. The call money rate, as indicated by the overnight Mumbai Interbank Offered Rate (0/N MIBOR) is most widely accepted benchmark rate for floating rate debt paper, as also for overnight interest rate swaps (OIS).

Treasury invests surplus cash in money market, after meeting the cash Reserve Ratio (CRR) stipulated by RBI. Currently the CRR is 6% of bank's demand and time liabilities. CRR is an important monetary policy instrument of RBI to influence liquidity in the market. The RBI does not pay interest on CRR balances held by banks. The CRR and SLR concepts and restrictions on call money operations of banks are explained in the next chapter

Bank treasuries typically deal in inter-bank markets, but treasury operations now extend to short-term investment paper issued by Government, financial institutions and companies in public and private sectors. Following are the securities mainly dealt with for placement of short-term funds.
Treasury Bills

These are issued by Government of India through Reserve Bank for maturities of 91 -days, 182 days and 364-days, for pre-determined amounts. The interest is by way of discount, so the bills are priced below Rs.100 (e.g. T-bill of 91 days is priced at 99.26 yielding interest at 5.16% p.a., which is known as implicit yield). The price of T-bills is determined through an auction process where banks and primary dealers are the main participants. The auction however is open to all players in the financial markets, including financial institutions, mutual funds, corporates, other business entities, as also individuals.

T-bills are issued on fixed dates and for pre-fixed amounts. Currently, 91-day T-bill is issued weekly on each Wednesday, 182-day T-bill is issued fortnightly on Wednesday preceding non-reporting Friday, and 364-day T-bill is also issued fortnightly on Wednesday preceding reporting Friday.

For bank treasury, investment in T-bills is a convenient way of parking short-term surpluses in risk-free investment, yielding interest generally higher than the overnight call money rates. T-bills have a liquid secondary market and the T-bill yields constitute a valid benchmark rate for debt paper FIMMDA (Fixed Income Money Market and Derivatives Association of India) and Reuters collaborate to publish benchmark T-bill yields for one week to one year based on residual maturity of T-bills in circulation.

The T-bill, like other Government securities, is in electronic form and is to be held in a SGL account / constituent SGL account maintained by banks with Reserve Bank of India (though, depository participants are also now permitted to operate through SGL account to facilitate retail sales of Government securities). Secondary market settlement of T-bills takes place through Clearing Corporation of India Ltd. (CCIL).

Commercial Paper (CP)

This is a short-term debt market paper issued by corporates, with a minimum maturity of 7 days and maximum maturity of 1 year. Corporates, primary dealers and financial institutions are eligible to issue commercial paper. The issue of CP is governed by guidelines issued by RBI and market practices prescribed by FIMMDA. As per RBI guidelines, the principal requirements are: (i) the issuing company should have minimum credit rating of P2 (ii) net worth as per last balancesheet must not be below Rs. 4 cr and (iii) any advances from bank must be under standard asset classification of the bank.

The issue of CP should be for a minimum amount of Rs 5 lacs. Banks are permitted to invest in CP only if it is in demat form; hence most of the CPs are issued in demat form. CP is to be issued through an IPA (issuing and paying authority) who must be a bank. It is common practice that banks earmark part of the available working capital limits of a corporate customer, as a measure of credit enhancement, so that the company would obtain required credit rating for issue of commercial paper. Reputed companies with a sound balance sheet may obtain higher credit rating on their own, without such credit support.

The CP carries relatively low credit risk, owing to its short-term nature and minimum credit rating requirement. The CP is issued in the form of a promissory note for discounted amount, i.e. price of CP is less than the face value, and the price is quoted for face value of Rs 100. The CP is a negotiable instrument and has a fairly active market. CP is issued in Demat form, hence the purchase and sale of CP is effected through the depository participant (DP) accounts of investors. The issuers use CP as a substitute for working capital, as market rates of interest are lower than the PLR-related interest rates charged by banks on regular working capital facilities. At the same time, banks tend to invest in CPs through the treasury, as (a) credit risk is relatively low and limited to a short period (b) yield on CP is higher than inter-bank money market yield and (c) CP being a tradable instrument, there is no liquidity risk.

Secondary market for CPs is fairly active and the indexed reUim on CP is used as a benchmark rate for short-term advances.

Certificates of Deposit (CD)

This is a debt instrument similar to commercial paper, but is issued by banks against deposit of funds. Unlike a deposit receipt, CD is a negotiable instrument and generally bears interest rates higher than regular deposits of the bank. It is also more expensive to the bank, as the CD attracts stamp duty, and is generally rated by an approved credit rating agency.

CD is meant primarily for high net worth individuals, the minimum amount of the deposit being Rs 1 lac and period of maturity may range between 15 days and 1 year. CDs are issued for Rs. 1 lac and multiples thereof, either in demat form, or as promissory notes. Since CD is negotiable, it is also an investment vehicle for corporates and banks. However, secondary market for CD market is not very active and banks find it attractive, only when liquidity conditions are tight.

Repo

Repo, in fact, is a securities transaction, but is used for lending and borrowing money market funds, for terms extending from 1 day to 1 year. Repo refers to sale of securities with a commitment to repurchase the same securities at a later date. Presently, only Government securities are being dealt with under repo transactions. The bank in need of funds, and having surplus securities (in excess of its SLR requirement), can enter into a repo transaction with a counterparty who could be another bank, primary dealer, or financial institution. Mutual funds and corporates are also now permitted to take part in the Repo market. The bank sells the securities to the counterparty, with an agreement to repurchase the same securities, say after 3 months, at a predetermined price. The bank thus gets cash, in exchange of securities, and pays

back the cash after 3 months to repossess the securities. The difference in the sale price and repurchase price is akin to interest on the cash advance. The repurchase price is adjusted to any income on the securities that may accrue to the counterparty during the holding period.

The effective interest rate on repo transactions would be marginally less than corresponding money market rate, as the lending bank has securities in hand till the 'loan' is repaid. The entire transaction, however, appears as a sale and purchase of securities in the bank books.

The counterparty obviously has surplus cash which it uses for purchase of securities. The advantage to the counterparty bank is earning interest on secured lending, and at the same time holding securities which will help it to meet any shortfall in its SLR compliance. In fact, the value of securities is higher by a margin, about 5% to cover price risk, in case of a default. The margin is called 'hair cut', as the principal amount exchanged against the securities is lower than the market value of securities.

All repo settlements are routed through Clearing Corporation of India Ltd. (CCIL). Currently, Government securities are actively traded in Repo. (Permitting corporate securities for Repo trade is under active consideration of RBI and SEBI.)

However, Repo in corporate securities has also been permitted by RBI w.e.f December 2009.

The market is yet to be activated. Detailed guidelines on Repo accounting have also been issued by RBI in March 2010.

Repo, as a tool of RBI under Liquidity Adjustment facility, and Repo in the form of CBLO (collateralized borrowing and lending scheme), are explained separately.

Repo under Liquidity Adjustment Facility

Repo is used extensively by Reserve Bank of India as an instrument of monetary policy to control liquidity in the inter-bank market. In case of shortage of funds, banks and primary dealers can sell Government securities to RBI with a commitment to repurchase the securities on a specified date, and avail of liquidity. In case banks have surplus liquidity, i.e. funds in excess of demand in the money market, they can buy securities from RBI in exchange of cash deposit, with an agreement to resell the securities after a fixed period. The difference in purchase and sale prices (adjusted to the coupon accruing during the repo period, if any) constitute the interest paid or received by the banks from RBI.

RBI, having gradually withdrawn various schemes of refinancing the banks, has since adopted Repo as the main instrument for liquidity management under Liquidity Adjustment Facility (LAF) for commercial banks. Infusion of liquidity is effected through lending to banks under a Repo transaction, and absorption of liquidity is done through accepting deposits from banks, what is now known as 'Reverse Repo' transaction. Banks may submit bids to RBI, either for Repo or for Reverse Repo, as per their requirement. The bids are either accepted or rejected in an auction conducted by RBI.

Repo and Reverse Repo rates thus become policy rates of RBI at which banks may borrow from or lend to RBI, respectively, based on their liquidity position. Under the annual policy review announced by the Governor of RBI in April 2010, RBI has fixed Repo and Reverse Repo rates at 5.25% and 3.75% respectively. (The rates are revised from time to time in response to liquidity conditions and perception of inflation). It is the intention of RBI that the Repo rate would set the upper band and Reverse Repo rate would set the floor for money market, i.e. overnight inter-bank rates should normally move within the bandwidth of 150 bp, set by RBI. RBI generally conducts Repo auctions for overnight period, twice daily - but RBI has full discretion to change frequency of the auctions, period of Repo and to accept or reject banks' bids for Repo/Reverse

Repo, either in full or in part. In view of recent liquidity crisis in global markets, RBI has also conducted 3-month repo auctions to provide term money to banks.

Collateralised Borrowing and Lending Obligation (CBLO)

CBLO is a money market instrument launched by Clearing Corporation of India Ltd. (CCIL).

CBLO is essentially a Repo instrument, which is used not only by banks and primary dealers, but also by all other players like financial institutions, insurance companies, mutual funds and corporates who can not access call money market. A borrower can deposit Government securities with CCIL and borrow against such securities (sell securities) from others who have surplus liquidity, subject to repayment (repurchase of securities) after a fixed term ranging from 1 day to 1 year - the underlying securities are represented by the CBLO, which is effectively the Repo instrument. CCIL acts as an intermediary for the Repo trade, so that the lenders and borrowers do not have counterparty risk.

CBLO is actively traded in secondary market, hence the lender in case of need, readily sell and encash the CBLO without waiting till due date. The borrower can also prepay any time by purchasing the CBLO in the market. All settlements take place through CCIL.

Bill Rediscounting

It provides another avenue for investment of money market funds. Treasury will discount bills of exchange of short-term nature (3 to 6 months) which are already discounted by other banks. The rediscounting is done at around money market rate and usually negotiated between the lending (rediscounting) bank and the borrowing (original discounting) bank. The benefit to the lending bank is that their surplus funds are invested at term money rates and the credit risk is low as they have recourse to the discounting bank. The borrowing bank is able to infuse liquidity from out of existing assets and at the same time, improves its capital adequacy ratio as the bills are taken out of credit portfolio and added to the inter-bank liability.

15.3 SECURITIES MARKET PRODUCTS

Investment Business is an important part of integrated treasury and is composed of buying and selling products available in Securities Market. Investment being a subject in itself, we would outline briefly the investment products available to bank treasuries and the subject is to be studied in detail by those who would like to specialise in investment business.

Government Securities

Treasury invests primarily in Government Securities to comply with the reserve requirement of the bank, i.e. Statutory Liquidity Ratio (SLR), which is presently at 25% of bank's demand and time liabilities (DTL). RBI, at its discretion, can increase or decrease the SLR, subject to a cap of 40%, in order to control money supply in the market - in fact the SLR has been gradually reduced over the last 10 years from a high of 36%. The Banking Regulation Act of 1949 was amended in 2007 to allow RBI to stipulate SLR below 25% which was earlier minimum SLR level stipulated under the Act.

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To satisfy SLR requirement, banks can also invest in other approved securities, such as priority sector bonds issued by Small Industries Development Bank of India (SIDBI) and National Bank for Agricultural and Rural Development (NABARD). However, the number of eligible bonds for this purpose is being curtailed and banks, by and large, invest in Government securities for the purpose of SLR. Banks can also hold cash or gold to fulfill SLR requirement.

Government Securities are issued by Public Debt Office of Reserve Bank of India on behalf of Government of India. State Governments also issue State Development Bonds through RBI.

Government Securities are sold through auctions conducted by RBI. The interest is paid on face

value of the bonds (expressed as percentage; minimum value of bonds is Rs. 10000) at coupon rate, but the price of the bonds is determined in the auction conducted by RBI. RBI arrives at a cut-off price based on the bids submitted by banks and primary dealers (constituting demand for the bonds) and the price may be higher or lower than the face value of Rs.100. Government securities are actively traded in secondary market; hence the price and yield of the bonds would be constantly changing depending on the demand for bonds (which in turn depends on the liquidity available in the system). The yield on bonds is therefore different from coupon rate of interest. For instance, 10-year G-sec, maturing in January 2020 and carrying a coupon of 6.35% is currently priced at 90.60 giving a yield of 7.72%. The bond is at a discount, as risk free interest rate for 10-year period is higher than the coupon of the bond. The price of the bonds and the yield on bonds move in opposite direction.

The Government of India borrows from public by issue of securities, to finance its deficit - which is the difference between Government's income and expenses. RBI is the issuing and paying agency for Government securities. RBI also uses Government securities as a policy instrument to control liquidity in the market in order to influence the interest rates. RBI may absorb liquidity by selling the securities in the market and may infuse liquidity by buying back the securities from the public. These are known as open market operations (OMO) of the central bank.

Banks invest in Government securities not only for meeting with SLR requirement, but also to profit from price changes of the securities. Bank's investments are classified in to Held till Maturity (HTM) - consisting of securities mainly for investment purpose. Available for Sale (AFS) and Held for Trading (HFT) which consist of tradable securities. Securities under HFT are actively traded and are marked-to-market (MTM) regularly for accounting purpose.

Banks and institutional investors actively buy and sell Government securities in anticipation of price changes. The view on prices/interest rate is based on the rate of inflation, GDP growth and other economic indicators. The yields and prices of securities move in the opposite direction - prices fall when yields (interest rates) rise, and vice versa. Interest rates are also traded based on notional bond (G- sec) prices in futures market, but the interest rate futures market is yet to take-off after its reintroduction in 2009.

RBI also uses the G-sec market to develop debt markets. Since G-sec yields set benchmark rates for corporate bonds, RBI has issued bonds for various maturities ranging from 1 year to 30 years, so as to establish a market determined yield curve. RBI has also issued a variety of bonds, with step-up coupons or coupons linked to inflation index, or floating rate coupons. Current proposals include issue of STRIPS (Separate Trading of Registered Interest and Principal Securities), where the principal and interest are traded as separate zero-coupon securities.

Corporate Debt Paper

Corporate debt paper refers to medium and long-term bonds and debentures issued by corporates and financial institutions, which are tradable. They are also referred to as non-SLR securities, to distinguish the corporate debt from Government securities and other approved securities, which are eligible for meeting SLR requirement of banks. Tier-2 capital bonds issued by banks also fall under this category. Treasuries find corporate debt paper as an attractive investment, as yields on bonds and debentures are higher than the yield on Government securities. Now that most of the corporate debt paper is issued in demat form, there is fairly active secondary market and the bonds issued by top corporates are highly liquid. (Banks are allowed to invest only in demat securities.)

Yields on corporate debt differs from instrument to instrument, depending on the credit quality, that is, higher the credit risk, higher is the yield. Most of the debt issues have credit rating by one of the four credit rating agencies in the country. Global ratings are necessary if the debt paper is being issued in the international markets. Treasury can invest FCNR deposit funds and other foreign currency surpluses in global debt paper as per policy guidelines approved by the management.

Debentures and Bonds

These are debt instruments, issued by corporate bodies, literally with a charge on specific assets. The literal meaning has been lost in practice and debentures and bonds may be issued with or without security. In practice, Company Law requires that debentures issued by companies are always secured (otherwise they will be subject to regulations pertaining to public deposits); hence debentures are generally secured by mortgage or with a floating charge or a lien on assets - although the latter security is more of a technical nature to give comfort to the investors.

In India, conventionally, debentures are debt instruments issued by corporates in private sector, while bonds are issued by institutions in public sector, which distinction really has no meaning in international market. Bonds, though issued by public sector companies, do not imply guarantee by the Government, unless it is so mentioned specifically in the terms of the issue.

In domestic market, there are material differences in debentures and bonds. Debentures are governed by relevant provisions of Company Law and are transferable only by registration. Bonds on the other hand are negotiable instruments governed by law of contracts. However, currently almost all debt instruments are issued in demat form and sales/purchases or transfer of security takes place in the depository accounts, without regard to the nature of the instrument. Debenture may be convertible or non-convertible. Convertible debentures may be converted in to equity as per terms of issue. There is no practical difference between non-convertible debentures (NCD) and bonds. As a matter of convenience, we use bond as common nomenclature for non-convertible corporate debt paper, with original maturity of 1 year and above. Where the debentures and bonds are convertible in to equity, they are so mentioned specifically.

Bonds may be issued with differing structures in order to enhance the marketability of the instruments as also to reduce the cost of issue. The variations include structured obligations, with put /call or convertibility options, zero coupon bonds, floating rate bonds, deep discount bonds and instruments with step up coupons. Bonds are also issued with redemption in installments over a period (sometimes called period bonds) and also with a premium on redemption in addition to coupon rate of interest. Bonds which are not secured by mortgages, but secured by stocks or other collateral, are also referred to as collateralised obligations. Finally, there are also bonds with put call option and step up coupons, with the incentive of higher interest for non-redemption of the bonds in early stages.

The bond-holders have, like other creditors, prior legal claim over the equity and preference stockholders, on the assets of the company. The issuer appoints a Trustee, most commonly when the debentures and bonds are secured, who would act in fiduciary capacity to protect the interests of the debenture and bond-holders. The Trustee, by virtue of the Trust Deed executed by the issuer, holds charge of the security and would be instrumental in initiating legal action for recovery of principal/interest in case of any default. The Trustees, as per SEBI guidelines, are to be vested with requisite powers for protecting the rights of the debenture and bond-holders, and sometimes have a right to appoint a nominee director on the board of the issuing company.

Issue of Prospectus for public offer of debentures and bonds is governed by relevant provisions of Companies' Act, similar to the provision for offer of equity. SEBI (Securities Exchange Board

of India) has also evolved a framework of detailed guidelines for protection of investors' rights. However, most issues are placed privately with qualified institutional investors, hence attract only minimum regulation of SEBI.

Convertible Bonds

These are a mix of debt and equity, where the bond-holders are given an option to convert the debt into equity on a fixed date, or during a fixed period, and the conversion price is predetermined. If the issuer company's stock price is higher than the prefixed conversion price, the investors would prefer to convert the debt into equity. The benefit to the company is that there is no debt repayment and at the same time its equity base is strengthened. The coupon on convertible bond is generally lower than the coupon on non-convertible bond of similar credit standing. In case the bond is converted in to equity, the equity holdings of the existing shareholders get diluted.

Equities

Banks are permitted to invest in equities (shares of listed companies) subject to a limit on capital market exposure, set by RBI. Equities are traded on stock exchange and the stock prices are influenced by fundamentals (financial position) of the company as also various economic factors. In view of the risks involved in equity trading, bank treasuries are generally cautious in investing surplus funds in the stock market.

However, we must mention that Indian stock market is one of the oldest in Asia and the institutional structure is well developed, with SEBI as the Regulator Bombay Stock Exchange and National Stock Exchange are the two leading stock exchanges, where the trading is done on an electronic platform (also called screen-based trading). The derivative products available in the market, viz. index futures, index options, stock futures and stock options have since become highly popular for risk management as well as for speculation. Major investors in domestic market include foreign institutional investors, mutual funds, insurance companies and private fund managers, with a huge backdrop of retail market. Bank treasuries have not been leading investors in stock markets, as the stock prices are highly volatile, and banks prefer low risk investments. Nevertheless, equities continue to be an important part of the treasury portfolio.

15.4 DOMESTIC AND GLOBAL MARKETS

We have seen the products available in foreign exchange markets, money market and securities market. Not only these markets are overlapping (e.g. USD funds swapped into Rupees and invested in securities, or lent in the inter-bank market), but are also common to domestic and global markets. The interaction takes place wherever funds can be swapped freely from one currency to another currency, or where funds can be transferred easily from one market to another market. Most such transfers are to-day done with few restrictions, as Rupee is fully convertible on current account and is partially convertible on capital account.

We may briefly recapitulate the points of interaction of domestic and global market, confining ourselves only to treasury related business:

- FII Investments: Foreign investments flow in to India by way of foreign direct investment (long term project related investments), and portfolio investments (investment in stock market and debt market for short term gains). Foreign institutional investors who include investment banks and hedge funds invest mainly in portfolio investments. Private equity funds, corporate investors and other institutional investors with a long term view prefer direct investments in new projects / potentially profitable Indian companies. Owing to liberal policies of Government, last few years witnessed strong capital inflows by way of FDI as also FII - though the latter fluctuates with rise and fall of stock markets. Sectoral caps on

foreign investment have been either removed or raised to 74% in several industries, except in some key industries like banking and aviation.

- ADR/GDR Issues by Indian Companies: Indian companies mobilize foreign currency resources by issue of equity in global markets. The holders of ADR/GDR (foreign investors) have an option to sell their holdings in domestic markets, and receive proceeds in foreign currency.
- External Commercial Borrowings (ECB): Indian companies can borrow in global markets, from banks (syndicated loans) or issue debt paper (floating rate notes, bonds etc.) within the guidelines issued by RBI, to fund their domestic/overseas projects. Under current regulations, Indian companies can borrow up to USD 500 mn up to minimum period of 5 years and USD 20 mn up to minimum period of 3 years without prior approval of RBI. The debt can be repaid from Rupee/foreign currency resources of the borrower.
- Foreign Currency Funds of Banks: Banks can use their FCNR deposit funds for investment in overseas markets as well as for domestic lending in foreign currency. They are also permitted to borrow/invest in overseas markets within a ceiling (presently 50% of Unimpaired Tier-1 capital, minimum USD 10 million), subject to guidelines issued by RBI. Banks generally use this facility to extend short term loans (usually with 6-month rollover).
- Special Facilities to Exporters: Exporters are permitted to hold export earnings in foreign currency accounts, designated as EEFC accounts. Banks are allowed to extend pre-shipment and post-shipment finance to exporters in foreign currency (PCFC and PSFC, respectively) in four major currencies. Banks can borrow foreign currency for the specific purpose of financing export credit (including discount of export bills).
- Overseas Direct Investment (ODI): RBI allows corporates to invest in joint ventures / subsidiary units overseas, from their Rupee resources subject to a cap based on their net worth (currently 4 times their net worth). This has allowed leading Indian business groups to expand globally by establishing companies near their markets or by acquiring other companies.
- Free remittance Facility: Individuals are now permitted to remit overseas freely, without RBI approval, up to USD 200000 a year, for any purpose (with a few exceptions like gambling and margin trading). They may choose to invest the funds in global debt, equity or simply spend the money for consumption purposes.

The impact of two way capital flows, as above, is felt in domestic interest rates as also in exchange rate. For instance, FII flows peaked in 2007, resulting in appreciation of Rupee and lower interest costs. In the later half of 2008-09, owing to global recession and liquidity crisis, FII flows thinned out, stock markets crashed. Rupee depreciated sharply, crossing the historical low of 50.00 against USD, and credit became scarce, raising interest costs to corporates. Government of India and RBI have, during second and third quarters of 2009, taken policy initiatives, again in line with the Governments and central banks in developed countries, by providing stimulus to the economy and bringing down reserve ratios and policy rates, in a concerted effort.

As a result of close interaction between domestic and global markets, the scope of treasury has expanded and the financial markets have become interdependent. The 2008-09 crisis in financial markets, which originated in US and Europe, but soon got translated in to global recession, taught us that globalization is not an unmixed blessing and we need to continue to have minimum capital regulations in order to minimize systemic risks.

Let Us Sum Up

The treasury operates in exchange market, money market and securities market. The foreign exchange transactions include spot, forward and swap trades. The treasury uses the products to cover customer transactions, as also to take open positions in the market within the risk limits set by the management. Foreign exchange market may be considered to be most transparent and liquid market, and the market is spread across the time zones with instant relay of information. Primary function of Treasury is to manage liquidity and meet with CRR requirement.

Money market is used for deployment of surplus funds and also to raise short-term funds to bridge gaps in the cash flow of the bank. Money market comprises of the inter-bank call money, notice money and term money markets. Call money is overnight market and the interest rate prevailing in the market is used as a benchmark rate for bank credit, issue of debt paper, etc.

Treasury invests short term funds in money market products which include Treasury Bills (issued by Govt, of India), commercial paper, certificates of deposit, repos and CBLO. Repo is essentially a securities purchase and sale transaction, which is actively used by RBI to manage liquidity in the system. RBI operates Liquidity Adjustment Facility to inject liquidity in to banking system, or to absorb excess liquidity, by conducting Repo auctions (generally for overnight funds). Repo Rate (for lending) and Reverse RepoRate (for borrowing) constitute policy rates of RBI, which set the cap and floor for call money rates.

There is a variety of products in investment business, most prominent of them being Government securities. Treasury invests in approved securities - which include central and state Government bonds - to meet the SLR requirement. The G-sec market is highly active and the yield curve sets bench mark rates for debt market. Treasury may also trade in securities to profit from the price movements.

Other products in securities market are bonds and debentures issued by corporates and financial institutions. Depending on the credit rating of the issuer, the corporate securities have a higher yield and have a fairly active secondary market. Treasury may also invest in equities and equity derivatives. The dematerialisation of securities has contributed to liquidity in the secondary markets.

Rupee currency being largely convertible, the treasury operations are helping integration of domestic and global markets. The markets have come closer and are overlapping in several areas, on account of two-way capital flows facilitated by liberalization of exchange controls. External commercial borrowings, FII investments and overseas direct investments are some of the areas where domestic and global markets interact closely. Domestic financial markets are impacted by developments in global markets - which some times involve systemic risks.

Keywords

EEFC: Export Earners' Foreign Currency Account. Exporters are allowed to hold up to 100% of export proceeds in a current account with the bank. No interest is paid on such funds.

Gilts'. Securities issued by Governments are referred to as Gilts, or Treasuries, which do not have any credit risk.

Benchmark rates are interest rates prevailing in a liquid, risk free market which are generally accepted by lenders and borrowers as a reference rate. All floating interest rates have a clearly defined benchmark rate.

SGL account is Subsidiary General Ledger, maintained by Public Debt Office of RBI, in electronic form, where banks maintain their security accounts (exclusively for Government Securities).

Credit rating is an assessment of status by independent credit rating agencies based on the financials, industry status and economic forecasting. We have four credit rating agencies in India

(CRISIL, CARE, ICRA and Fitch - of which Fitch is Indian unit of an international agency and CRISIL is taken over by S&P). Major credit rating agencies in global markets are: Moody's and Standard and Poor.

Counterparty is the other party to a financial transaction, a bank or a corporate or any other institution (such as a Primary Dealer, Mutual fund, etc.).

Yield is internal rate of return of a investment, where it is assumed that the interest is also reinvested at the original coupon rate, and a compounded rate of return is calculated and expressed as a percentage of current market value of the investment. The yield can be different from the original coupon rate of interest. Thus a bond with a coupon rate of 7.38% maturing in 2015 and trading at Rs. 106.32 will have a yield of 6.54%.

FCNR deposit is a foreign currency deposit denominated in one of the four major currencies (USD, GBP, JPY or EUR), maintained by non-resident Indians with banks in India. The interest rates on FCNR deposits are regulated by RBI.

Marking to Market (MTM) is the process of valuing any financial asset or liability at current market rates - MTM value is current market value of a tradable instrument.

Demat or dematerialization refers to debt and equity instruments which are held in electronic form in the accounts maintained by depository institutions, resulting in paperless trade and instant settlements.

Systemic risk is the risk of any financial crisis spreading across markets globally, due to interlinking of markets.

Multiple Choice Questions

1. All the exchange rates quoted on the screen or in print are for mentioned unless otherwise
- (a) Forward transactions
 - (b) Cash transactions
 - (c) Spot transactions
 - (d) Tom transactions

Spot transactions

2. Forward rates fully reflect interest rate differentials only in
- (a) Controlled economies
 - (b) Developing economies
 - (c) Economies where interest rates are free
 - (d) In perfect markets where the currencies are fully convertible and the markets are highly liquid

In perfect markets where the currencies are fully convertible and the markets are highly liquid

3. 'Nostro' accounts are

- (a) Accounts meant for reconciliation
- (b) Accounts of foreign banks with Indian banks
- (c) Current accounts denominated in foreign currency maintained by banks with their correspondent banks in the home country of the currency
- (d) Short term investments with AAA rated foreign banks

Current accounts denominated in foreign currency maintained by banks with their correspondent banks in the home country of the currency

4. Notice money refers to

- (a) Funds placed overnight
 - (b) Funds placed after giving a notice of placement
-

- (c) Funds placed for periods in excess of 3 months but not exceeding 1 year
 - (d) Placement of funds beyond overnight but not exceeding 14 days
- Placement of funds beyond overnight but not exceeding 14 days

5. The salient feature of convertible bond is

- (a) Conversion of physical bonds into demat form
- (b) Absence of coupon
- (c) Automatic reinvestment in another bond on maturity
- (d) Option to convert the bond in to equity on a fixed date or during a fixed period and the price is pre-determined

Option to convert the bond in to equity on a fixed date or during a fixed period and the price is pre-determined

Answers to the MCQs

1. (c), 2. (d), 3. (c), 4. (d), 5. (d)

UNIT 16 Funding and Regulatory Aspects

STRUCTURE

16.0 Objectives

16.1 Reserve Assets: CRR and SLR

16.2 Liquidity Adjustment Facility (LAF)

16.3 Payment and Settlement Systems

Let Us Sum Up Keywords

Multiple Choice Questions Answers to MCQs

16.0 OBJECTIVES

You will learn in this chapter, how the Reserve Bank of India controls the liquidity in the market, its functions as lender of last resort, and the payment and settlement systems in the banking world. (As the procedural aspects and CRR and SLR requirements are subject to change, please update your knowledge by following RBI circulars from time to time.)

16.1 RESERVE ASSETS: CRR AND SLR

The Reserve Bank of India is the Note Issuing Authority, that is, the currency in circulation is directly controlled by RBI. However, the currency is only cash component of money in circulation, and in that, it is only a small part of the total money. The cash deposited in banks in turn is lent by the banks, which increases supply of money. If part of the money, so borrowed, is held in a deposit account with the bank, the chain of relending and creating new deposits will continue. It is not only cash, but near cash instruments like cheques and credit cards also add to the money supply (e.g. money spent on credit card is deposited with a bank, adding further money). Creation of money in this fashion is called multiplier effect.

The money in circulation is indicated by 'Broad Money' or M3, which includes currency in circulation, demand and time deposits with banks and post office saving deposits. The sources of M3 include credit availed by the public (commercial sector) and the Government and net foreign currency assets of RBI and the banking system. The cash component (or M1) is just around 25% of the money supply as indicated by M3. Currently, the money multiplier (which is M3 divided by M1) moves within a range of 3.5 to 4 times. As the multiplier effect reduces the importance of currency in circulation, the note issuing role of RBI becomes more a utility function (to replenish the physical stock of currency notes for public convenience), than a control function.

The monetary policy of RBI is aimed at controlling the rate of inflation (price rise) and ensuring stability of financial markets (including foreign exchange markets). In order to achieve the twin objectives, RBI must exercise full control over the money supply (M3). Reserve money is the money impounded by RBI by means of cash reserve ratio (CRR) which is intended to reduce the multiplier effect. The reserve assets enable RBI to control the liquidity in the system, though they also serve other purposes like providing a cushion to the banks.

Reserve assets refer to the cash deposited by scheduled commercial banks with RBI to comply with Cash Reserve Ratio (CRR) requirement, and funds invested in Government securities and other approved securities to comply with the Statutory Liquidity Ratio (SLR) requirement. The minimum and maximum levels of CRR were prescribed at 3% and 20% of demand and time liabilities (DTL) of the bank, respectively, under Reserve Bank of India Act of 1934. However, an amendment to the Act in 2006 removed the floor and ceiling limits w e f April 2007, enabling RBI to stipulate the CRR at its discretion. Similarly, the minimum and maximum SLR were prescribed at 25% and 40% of DTL respectively, under Banking Regulation Act of 1949. An amendment to the Act has removed the minimum requirement w e f January 2007, allowing greater flexibility to RBI.

Hypothetically, CRR and SLR prescriptions are intended to provide a cushion to the bank's operations. As a lender of last resort, the RBI would come to the rescue of a bank, if it is in distress on account of shortage of liquidity, i.e. if it does not have enough cash to repay the deposit obligations. However it is only an extreme case where the RBI has to step in, as the banks which are not solvent either go into liquidation or are taken over by a healthier bank. Liquidity refers to surplus funds available with banks, which is an indicator of money supply that has not been absorbed by the real economy. An excess of liquidity may lead to inflation, while a shortage of liquidity may result in high interest rates and depreciation of Rupee exchange rate. RBI needs to calibrate the movement of interest rates and exchange rates and adopt a policy stance, consistent with the projected growth rate of the economy. Although, with the removal of most of the exchange controls, RBI would no longer target a specific exchange rate, but would only monitor the volatility of rate movements.

The CRR and SLR are the two most important instruments in the hands of RBI to directly control money supply, in support of its monetary policy. An increase in CRR and SLR requirement (together referred to as reserve ratios) would imply impounding of cash resources, or absorption of liquidity by RBI. A decrease in CRR and SLR requirements would amount to release of part of the impounded funds, or, infiision of liquidity.

Treasury's primary responsibility is to meet the CRR and SLR requirements of the bank fully. Treasury back-office should report relevant information to RBI in the fortnightly reham (Form A), which needs to be submitted strictly within the prescribed time schedule. Any default or shortfall in meeting the requirements would not only attract serious penalties from the RBI, but would also reflect on the viability of the bank and damage its reputation.

Currently, the CRR is 6% of DTL and SLR is 25% of NDTL of banks, calculated as of the last Friday of the second preceding fortnight. Detailed instructions for calculating the DTL are contained in RBI's Master Circulars.

Main components of DTL are:

- Demand deposits (held in current and savings accounts, margin money for LCs, overdue fixed deposits etc.)
- Time deposits (in fixed deposits, recurring deposits, reinvestment deposits etc.)

- Overseas borrowings
- Foreign outward remittances in transit (FC liabilities net of FC assets)
- Other demand and time liabilities (accrued interest, credit balances in suspense account etc.)

The following are some of the exemptions from the DTL calculation:

- Net inter-bank borrowings/deposits with maturity not exceeding 14 days (call/notice money liability)
- Credit balances in ACU (US\$) Accounts.
- Transactions in Collateralized Borrowing and Lending Obligation (CBLO) with Clearing Corporation of India Ltd. (CCIL).
- Demand and Time Liabilities in respect of their Offshore Banking Units (OBUs)

The following liabilities are excluded from the CRR stipulation:

- Paid-up capital, reserves, retained profits, refinance availed from RBI, and apex financial institutions like NABARD and SIDBI.
- Excess provisions for income tax
- Claims received from DICGC, ECGC, Court Receiver etc.
- Liabilities arising on account of utilization of limits under Bankers Acceptance Facility

Facility

- Inter-bank term deposits/term borrowing liabilities of original maturity of 15 days and above and up to one year

The CRR is to be calculated on the basis of DTL, with a lag of one fortnight, i.e. on the reporting Friday, the DTL as at the end of previous fortnight will form the basis for CRR calculation. This is to allow banks enough time to collect relevant information from the branches. Banks have to maintain cash balances with RBI to meet the prescribed CRR on average during the fortnight, subject to daily cash balances not falling below 70% of the amount required for CRR. This will allow some flexibility to the banks for mobilising cash resources.

RBI does not pay interest on deposits held by banks to meet the CRR, even if the deposits are in excess of minimum required by RBI. CRR, therefore, effectively increase cost of deposits to the banking sector.

The SLR requirement is to be computed similarly, as of the last Friday of the second preceding fortnight. The procedure for arriving at NDTL for the purpose of SLR is similar to that adopted in calculating CRR, with one difference: inter-bank liabilities with maturity of 15 days and above up to 1 year are not excluded from 'liabilities to the banking system' (corresponding inter-bank exposure is also included in 'assets with the banking system') for the purpose of SLR

The SLR is to be maintained in the form of the following assets:

- Cash balances (excluding balances maintained for CRR)
- Gold (valued at price not exceeding current market price)
- Approved securities valued as per norms prescribed by RBI.

The last item above, as already explained, almost entirely consists of Government securities, including treasury bills.

RBI may, from time to time, change the components of DTL for calculation of CRR and SLR, as also securities permitted under the approved category.

Any default in maintaining CRR and SLR will, apart from attracting heavy penalties from RBI, affect reputation of the bank, hence banks are extremely cautious in complying with the reserve requirement.

As stated earlier, the CRR and SLR are the principal tools available to RBI for liquidity management. An increase in the reserve ratios will reduce money supply (excess liquidity) and reduction in the reserve ratios will increase the money supply. For instance, 0.5% reduction in CRR requirement currently results in a cash inflow of approx. Rs. 45000 crore into the money market, and the additional resources will flow into bank credit or investment in debt/equity securities. The money supply, in turn, influences the interest rates and the exchange rate of Rupee. The monetary policy of RBI is dictated by the need for maintaining price stability (control inflation) and stability of financial markets (control wild fluctuations in interest rates and exchange rates).

16.2 THE LIQUIDITY ADJUSTMENT FACILITY (LAF)

The Liquidity Adjustment Facility is the principal operating instrument of Reserve bank's monetary policy. While CRR and SLR help changes in the stance of monetary policy on a more permanent basis, LAF is used to monitor day-to-day liquidity in the market.

LAF refers to RBI lending funds to banking sector through Repo instrument. RBI also accepts deposits from banks under Reverse Repo. The process of purchase and sale of Government securities, with an agreement to sell-back or repurchase respectively, within a predetermined period, has already been referred to in the previous chapter. While banks can engage in repo transactions with other banks/ institutions, LAF refers exclusively to repo transactions with RBI. RBI, as lender of last resort, provides liquidity to the banks through Repo auction, where RBI purchases securities from banks with an agreement to sell back the securities after a fixed period. The difference in sale and purchase prices constitutes interest received by RBI. In case of excess liquidity, banks lend funds to RBI under Reverse Repo in similar manner and receive interest by way of price differentials. All the securities are held in the SGL account of the bank with RBI, hence no physical transfer of securities takes place either way.

RBI conducts Repo/reverse Repo auctions daily for overnight funds. RBI may conduct Repo auctions twice or thrice a day, as the banks need to maintain their liquidity (adequate funds to meet payment obligations) under RTGS system. In order to help banks wade through the recent crisis in global liquidity, RBI has also conducted fixed rate term repo auctions for 90 days, and extended stand-by liquidity facilities. The additional facilities are also extended at repo rate. RBI has full discretion to change the term of repo and also to accept or reject the bids received from banks in the Repo / Reverse Repo auctions.

It is the objective of RBI policy that the money market rates should normally move within the corridor of the policy rates (currently within the band of 3.75% and 5.25%). The Reverse Repo rate would lay the floor (3.75%), which is the minimum rate of interest banks can earn on excess funds, and the Repo rate would lay the upper side of the corridor (5.25%) as the maximum rate of interest at which banks can borrow overnight funds from RBI (when funds are not available in inter-bank market). By restricting the movement of overnight interest rates within the corridor, RBI is able to reduce fluctuations in the short-term interest rates. At the same time, by moving either side of the corridor, RBI achieves flexibility to increase or decrease interest rates, without directly regulating the rates. In other words, RBI uses Repo as a market based instrument to carry-out its policy objectives.

In order to further consolidate its control over the inter-bank market, with effect from first quarter of 2003, RBI has imposed ceiling over call money lending and borrowing by banks. Banks can borrow and lend overnight up to a maximum of 100% and 25% respectively of their capital funds. The limits apply to fortnightly average balances of call and notice money -

maximum borrowing on any day is limited to 125% of capital, and maximum lending is limited to 50% of capital, within the overall limits. The measure has curbed wild fluctuations in call money market and helped development of term money and repo markets.

16.3 PAYMENT AND SETTLEMENT SYSTEMS

Payment and settlement systems play a vital role in the development of financial markets. The important reforms relevant to treasury operations include the following:

Payments refer to inter-bank payments as also payments on behalf of customers. Settlement refers to payment/receipt in exchange of securities or foreign exchange. Conventionally, inter-bank payments have been handled by net settlement through the clearing house. In the past, even when transfer of securities was taking place instantly through d-mat/electronic systems, payments needed to be cleared in 1 to 3 days, and even longer if it is outstation payment, giving rise to expensive delays and counterparty risks. Operational costs were also high in paper based (cheque) clearing. The following are important developments in this regard.

- Real Time Gross Settlement System (RTGS) has been fully activated by RBI from October 2004. RTGS is a paperless clearing system, where settlements are on gross basis, rather than day-end net settlement of cheques in a clearing house. All inter-bank payments and customer remittances (currently minimum Rs. 1 lac) are settled instantly under the RTGS. Banks' accounts with all the branch offices of RBI are also integrated. Almost all the urban centres of public and private sector banks are already participating in the RTGS.

Since RTGS involves instant payments, banks need to maintain adequate funds with RBI throughout the day. To meet any shortfall in funds, RBI has put in place systems to provide intra-day liquidity through automatic repo against securities lodged by respective banks.

The Institute for Development and Research in Banking Technology (IDRBT) has developed the Indian Financial Net Work (INFINET) as a secure communication backbone for the banking and financial sectors. The INFINET has helped introduction of Structured Financial Messaging System (SFMS) which facilitates domestic transfer of funds and authenticated messages, similar to the SWIFT used by banks for international messaging.

- Negotiated Dealing System is an electronic platform for facilitating dealing in Government securities and money market instruments. RBI had introduced the NDS in February 2002, in order to achieve a) automatic electronic reporting and settlement process b) auctions on electronic platform and c) a trading platform for trading in Government securities on a negotiated basis (telephone based trading), as well as quote-driven mechanism. The NDS membership is open to banks, primary dealers, mutual funds, financial institutions and insurance companies, who maintain SGL account with RBI, and also those who have constituent SGL accounts through banks / depository institutions.

RBI launched in August 2005, NDS - OM or anonymous order matching system, as an improvement over NDS. In anonymous order matching, the identity of counter-party is not disclosed till the offered price / volume is accepted. The system is purely order driven, with all orders being matched strictly on price/time priority. The NDS - OM coexists with telephone based trading mechanism on NDS. The system allows straight-through processing (STP) and trades executed will flow straight to CCIL for settlement.

Over 80% of dealings in Govt securities now take place on NDS through screen based trading. Even deals done outside NDS are also required to be reported on NDS, with centralized clearing taking place at Clearing Corporation of India Ltd. CCIL a specialized institution promoted by major banks for clearing of securities, repo trades and trades in CBLO (securities borrowing and

lending scheme). Physical delivery of cheques and written confirmations are no longer necessary for settlement.

NDS will eventually be extended to other players in securities market, and also to cover a wider range of securities.

- FX Clear is a forex dealing system developed by CCIL for foreign exchange transactions (USD/ INR as well as cross currencies). Currently CCIL is providing straight through processing (STP) for USD/INR, and CCIL as an intermediary settles inter-bank USD/Rupee deals on net basis, so that individual banks need not exchange payments for each transaction.
- Depository Institutions like NSDL (National Securities Depository Ltd.) and CSDL (Central Securities Depository Ltd.) provide delivery vs. payment (DVP) for secondary market deals in equity and debt paper. The securities and funds are cleared by their respective clearing houses. Since the funds transfer and securities transfer takes place between the buyer and seller on the electronic platform simultaneously, the settlement risk is eliminated.
- NEFT and on-line Payments All inter-bank and intra-bank remittances can now be effected on the same day by electronic funds transfer using the National Electronic Funds transfer system introduced by RBI. RBI has developed Structured Financial Messaging System (SFMS) - similar to SWIFT adopted by banks for international funds transfer etc. - where interbank transfers are sorted out and cleared by National Clearing Cell of RBI. Banks which are fully computerized can access any account at any branch on line and debit / credit funds, instantly for inter-bank transfers, without using paper.

Banks, who have implemented core banking solutions, facilitate any time - any where funds transfer, and internal transfer of funds from one account to another account within the bank can be effected instantly, irrespective of the branch location.

In view of the growing complexities in payment systems, the RBI has constituted Board for Regulation and Supervision of Payment and Settlement Systems at the highest level, as a sub-committee of its Central Board.

India today has sophisticated payment and settlement systems comparable or even superior to the systems prevailing in developed markets.

Let Us Sum Up

The reserve assets refer to the CRR and SLR requirements prescribed by RBI from time to time, within the statutory ceiling. The reserve ratios are calculated on the basis of demand and time liabilities (DTL) of the banks. RBI has prescribed detailed procedures for calculation of DTL and submission of relevant information. Any default in meeting the CRR and SLR will be viewed seriously by RBI and the defaulting banks will attract heavy penalties. Compliance with the reserve requirements is primary responsibility of treasury.

CRR and SLR are important instruments in the hands of RBI to control liquidity in the inter-bank market. The liquidity in turn impacts overall money supply, inflation, interest rates and exchange rates.

Liquidity Adjustment Facility (LAF) is another important tool with RBI for controlling the liquidity. Under LAF, RBI absorbs excess liquidity/infuses additional liquidity through Repo system. Under Repo and reverse Repo, banks buy securities from RBI for depositing excess cash, or, borrow from RBI against securities on overnight basis. The Repo and Reverse Repo rates are prefixed and bids are invited by RBI for daily auctions. RBI is free to determine the no. of auctions and the Repo period. Currently RBI has extended fixed rate Repo of 90 days to improve liquidity of banks.

RBI has also imposed ceiling on bank's lending and borrowing in call money market.

The payment and settlement systems have improved significantly with the introduction of NDS and RTGS. All security dealings are done through NDS and settled by CCIL. RTGS has introduced instant payments, largely replacing earlier net settlements through cheque clearing. RBI is also facilitating financial messaging systems on secure basis.

Keywords

ACU: Asian Currency Unit is a mechanism for payment to/from members of Asian Clearing Union, who include Bangladesh, Iran, Pakistan, Sri Lanka and Myanmar by debit/credit to ACU Dollar account maintained with a correspondent bank (now exempt)

Collateralized Borrowing and Lending Obligation: CBLO is designed by Clearing Corporation of India Ltd. (CCIL) as a money market instrument, with original maturity of 1 day to 1 year, where members of CCIL can borrow against securities deposited with CCIL - eligible securities being Government securities including Treasury Bills, with residual maturity not less than 6 months.

Offshore Banking Units: Overseas Offices of banks, or designated domestic offices rendering special banking services only to overseas customers, with a stand-alone accounting system.

SWIFT: A secure worldwide financial messaging system exclusive to banks.

Depository: A company where securities are held in electronic form in the holders account, so that all security transactions become paperless.

Anonymous Trading - oxdcY?, are matched in screen based trading system, without revealing the identity of buyer or seller, till price is settled.

Multiple Choice Questions

1. The components of broad money(M3) are

- (a) Cash in circulation with the public
- (b) Cash in currency chests with RBI and Banks
- (c) Credit availed by Central Government from RBI
- (d) Currency in circulation, demand and time deposits with banks and post office saving deposits

Currency in circulation, demand and time deposits with banks and post office saving deposits

2. The exemptions from DTL include

- (a) Time deposits in transit
- (b) Foreign outward remittances
- (c) Transactions in CBLO with CCIL
- (d) Overseas borrowings

Transactions in CBLO with CCIL

3. The liquidity corridor that RBI uses to control short term interest rates is defined/dictated by

- (a) Repo and reverse repo rates
- (b) Call money market
- (c) Bank rate
- (d) SLR and CRR

Repo and reverse repo rates

4. RTGS has been fully activated by RBI from _____ Where the settlements are on _____ basis rather than day end _____ settle

- (a) August 2003, net, gross
- (b) October 2004, gross, net
- (c) October 2004, net, gross
- (d) August 2004, gross, net

October 2004, gross, net

5. The following institutions facilitate delivery vs. payment(DVP)for secondary market deals in equity and debt paper

- (a) IDRBT
- (b) NDS

(c) NSDL and CSDL

(d) NEFT

NSDL and CSDL

Answers to the MCQs

1. (b), 2. (c), 3. (a), 4. (b), 5. (c)

UNIT 17 Treasury Risk Management

STRUCTURE

17.0 Objectives

17.1 Supervision and Control of Treasury

17.2 Conventional Tools of Risk Management

17.3 Market Risk and Credit Risk

17.4 Risk Measures: VaR and Duration

17.5 Use of Derivatives in Risk Management

Let Us Sum UP Keywords

Multiple Choice Questions Answers to MCQs

17.0 OBJECTIVES

In this chapter you will learn some aspects of treasury risk management, including the nature of risk, conventional tools for control and management of risk, risk measures and the way they are used.

17.1 SUPERVISION AND CONTROL OF TREASURY

1. Treasury Risk Management

Treasury risk management assumes importance for two reasons: (a) the nature of treasury activity is such that profits are generated out of market opportunities and market risk is present at every step; (b) Treasury is also responsible for balance sheet management, i.e. market risk generated by other operational departments. We will deal with the first aspect a little more elaborately.

2. Concern for Treasury Risks

Bank management is highly sensitive to treasury risk, as the risk arises out of high leverage the treasury business enjoys. The risk of losing capital is much higher than, say, in the credit business. Bank's capacity to extend loans is limited by the resources at its command, that is, deposits and other borrowings. In case of a loan, the risk is limited to the principal and interest, which may be lost, fully or partly, over a period of time. Most of the loans are also secured by tangible assets. The risk is 'capped' by the amount invested in the loan asset. Potential loss in loan assets is known as credit risk.

Treasury on the other hand, has a very low funding requirement, which we call as high leverage. For instance, treasury can buy and sell foreign exchange of value Rs. 100 crore without any direct investment of funds, except for allocation of risk capital as per capital adequacy requirement of RBI. At the same time, an adverse movement of the exchange rate by Re. 1 may result in a loss of over Rs. 1 crore to the bank - which is a straight loss of capital.

A second reason for management concern is large size of transactions done at the sole discretion of the Treasurer. As we have learnt earlier, whether it is foreign exchange or money market or investment business, the value of a single transaction may range from Rs. 5 crore to Rs. 50 crore or even more in larger banks. The limits are delegated to the Treasurer in advance, and individual market deals rarely need specific approval from the management. If the Treasurer commits an error of judgment, consequent losses to the bank would be enormous.

A third factor closely connected to the above is that the losses in treasury business materialize in very short-term, and the transactions, once confirmed, are irrevocable - hence no corrective action is possible. Particularly in foreign exchange, markets react so fast that profits or losses on trade deals are almost instantaneous. Traders are generally not allowed to hold open positions for long, as the risk of loss increases with time.

The source of risk in treasury activity is variation in the market price of currency or security, when there is a gap between the buy leg and sell leg of the transaction. The risk is hence termed as market risk, as opposed to credit risk of loan assets of the bank. The variability of the price, upward or downward,

is known as volatility. In case of currency, it is known as volatility of exchange rate and in case of securities, it is volatility of interest rates (security prices have inverse relationship with interest rate movement).

Treasury also faces funding risk, or liquidity risk, as all 'settlements' need to be funded. Treasury is also required to bridge the funding gaps of the bank by borrowing funds in the market at short notice. Liquidity involves managing cashflow mismatches, and if the liquidity is not readily maintained, interest costs will go up, sometimes threatening the viability of banking operations. Liquidity and interest rate risk are two sides of the same coin, but the risks are dealt separately, as banks are highly sensitive to liquidity risk. Asset liability management (ALM) of the bank is also closely connected to market risk. We will learn more about market risk in the later part of the Section.

Treasury risks are primarily managed by conventional control and supervisory measures, mostly in the nature of preventive steps, which may be divided into three parts:

- Organisational Controls
- Exposure Ceiling
- Limits on trading positions and stop-loss limits

Organisational Controls

The organisational controls refer to the checks and balances within the system. Treasury is basically divided into three parts: the front office, back office and the Mid office.

The front office generates deals with counter-party banks (purchase and sale of foreign exchange, securities etc. & lending and borrowing operations). Treasury may enter in to currency dealings either on its own (Trading Book), or on behalf of clients (Merchant Book) or for bank's internal requirement. Security deals are either for Bank's SLR requirement, or for Treasury's own trading book. Though Treasury may also buy and sell securities on behalf of its retail clients, the activity as on date is not very significant - many banks have associate companies specializing in fund management. Treasury's money market activity is exclusively to meet bank's own requirements.

Front office is headed by Chief Dealer, assisted by other dealers in foreign exchange, securities market and money market. Larger banks may have dealers specializing in specific activities, such as corporate dealers, cross-currency dealers, equity traders etc.

The back office is responsible for confirmation, accounting and settlement of the deals. The back office obtains independent confirmation of each and every deal from the counterparty and settles the deal only if it is within the exposure limits allowed for the counterparty. Back office also verifies that the rates/ prices mentioned in the deal slips are conforming to the market at the time the deal is entered into. Such verification is done by scanning the Reuter/ Bloomberg screens and noting down the market rates at regular intervals during the day (generally every two hours or more frequently). The lending and borrowing rates are also similarly verified. The back office has the overall responsibility for compliance with exposure limits and position limits imposed by the Management and RBI, as well as for accuracy and objectivity of the transaction detail.

Banks also have a Middle Office (mid-office) which is responsible for risk management and management information system (MIS). Mid-office would ensure treasury's compliance with Board approved policies bearing upon FX risk management, investment management and liquidity management. Some of the key responsibilities of Mid-office are: monitoring compliance with risk limits set in the respective policies, ensuring compliance with regulatory requirement, daily mark-to-market (MTM) valuation of Treasury positions, verification of pricing of treasury products, including derivatives, and periodic reports to top management. Mid-office maintains the overall risk profile of Treasury and monitors the liquidity and interest rate

risks closely, in line with Asset Liability Management (ALM) guidelines. In quite a few banks, the ALM support group is a part of Mid-office, or works closely with the Mid-office. Front Office and Back Office functions need to be segregated totally, with both offices reporting independently to the Treasury Head. Mid office may report directly to the Treasury Head or to a senior executive, outside Treasury, such as Chief Risk Officer, to ensure better risk control.

Internal Controls

The most important of the internal controls are position limits and stop loss limits. The limits are imposed on the dealers who trade in foreign exchange and securities. Trading is a high risk area, vulnerable to sudden market fluctuations and the limits imposed by management are preventive measures to avoid or contain losses in adverse market conditions.

The trading limits in the context of foreign exchange are of three kinds: (i) limits on deal size (ii) limits on open positions and (iii) stop-loss limits. All limits are expressed in absolute amounts. Limits on deal size prescribe the maximum value for a buy/sell transaction. The limit is a protection against potential losses on the deal. The limit generally corresponds to the marketable size of the transaction, and applies only to trade deals (and not to merchant deals).

Open positions refer to the trading positions, where the buy/sell positions are not matched. The Treasury may buy USD 1 million, and hold on to the position with an intention to sell when the USD appreciates against the Rupee. Not only there is a potential loss if the US dollar does not appreciate, but there is also a 'carry' cost, as the Treasury loses interest on the USD funds during the holding period. Treasury may also take forward positions expecting a rise or fall in the exchange rate. The management, therefore, limits the size of open or unmatched positions. The limits in foreign exchange trade are defined as day light and over night - the day light limits pertain to the intra day positions, say if the dealer purchases currency in the morning and sells it in the afternoon. As the forex market is very active, the currency prices may move from moment to moment, the currency may lose value in the mean time. The overnight limits are smaller as the dealers may continue to hold the position for next day.

Position limits are prescribed currency-wise as also for aggregate position expressed in Rupees. For the purpose of aggregation, currency-wise net position is first translated into USD at the day-end rate and then converted into Rupees. The overnight limits are to be pre-approved by RBI, who also prescribe the method of arriving at the aggregate position.

Even when there are matching positions, there is scope for loss if the delivery is at different points of time. In a swap deal, the dealer may purchase USD at spot and sell it forward, say, after three months.

It is a matched deal as the purchase and sale prices are prefixed and hence there is no exchange risk. However, the forward prices are derived out of interest rate differentials and there is an opportunity cost if interest rates move adversely during the transaction period. The risk in forward positions is measured by 'gaps' (residual time for completion of the transaction) which are then capped with a gap limit - akin to position limits on spot trading positions. All the forwards are revalued periodically (generally monthly, but in most computer systems, daily valuations will be available) and the outstanding positions in each time bucket are subjected to gap limits. The gap limits are internally approved by the management.

Position limits and gap limits attract capital requirement, as prescribed by RBI.

Similar controls exist for securities trading, where the size of the deal, maximum value of securities held for trading and holding period are defined by the Management. For non-SLR securities, minimum credit rating requirement is also prescribed by the Management.

Stop-loss limits represent the final stage of controlling trading operations. When the market moves adversely, the open positions will result in loss. A dealer typically would like to wait till the market turns around, so that he can close the position with a profit. There is an added risk in that the market correction may not take place as anticipated, and the losses may continue to accumulate in the mean time. The stop-loss limits prevent the dealer from waiting indefinitely and limit the losses to a level which is acceptable to the management (which the bank is in a position to absorb). If the stop loss limit is USD 5000, the dealer must close his position (i.e. sell or buy at a loss). Any violation of stop-loss limit is viewed seriously by the management. The stop-loss limits are prescribed per deal, per day, per month as also an aggregate loss limit per year. Back office need to monitor all the limits meticulously. Back office is also responsible for valuation of deals, and if it is found out that the open positions upon valuation are found to be resulting in loss, the front office should be immediately informed for applying the stop-loss limits, (normally, it is front office who monitor the positions, and back office only keeps a second check). The forex trading positions need to be valued (marked to market) daily for this purpose.

Stop-loss limits are applied on securities trading in a different manner, as price movements in securities market are larger and more irregular and as the market is less liquid as compared to forex market. The market risk is controlled in terms of mark-to-market value of the trading portfolio, applying risk measures such as VaR and duration.

Exposure Ceiling Limits

Exposure limits are kept in place to protect the bank from credit risk. Credit risk in Treasury may be split into default risk and settlement risk. Default risk is typically when the bank lends in the money market (mainly to other banks), the borrowing bank may fail to repay the amount on due date. Similar risk is there in repo transactions also. Even though inter-bank market is considered to be relatively risk free, it is not uncommon that a weak bank may suddenly become bankrupt, or, there is a run on the bank squeezing its liquidity. Even assuming that there is no credit risk in short-term lending, it is not prudent that Treasury lends its entire surpluses to a single bank or to a handful of banks.

The settlement risk refers to the possible failure of the counterparty to the transaction (which is generally a bank or a financial institution) to deliver/settle their part of the transaction. While ideally all deals should take place in DvP (Delivery vs. Payment) mode, it is not always possible to achieve the standard, either for want of institutional mechanism, or due to physical barriers (such as different time zones). Delivery of Government securities is already taking place against payment, as the banks have both the securities account (SGL) and funding account with RBI, so that debit and credit can take place simultaneously. Similar sophistication is also present in exchange of non-SLR or corporate securities depository participants CCIL mechanism. On the other hand, in foreign exchange transactions, the time gap between Rupee/settlement and FC settlement is unavoidable when the FC settlement takes place in a different time zone (e.g. USD in New York). The settlement risk is bankruptcy, or inability of the counterparty for whatever reason to complete their leg of transaction.

It is for the above reasons that banks fix exposure limits for counterparties, including other banks, financial institutions, mutual funds, primary dealers, forex and security brokers etc. The exposure limits are fixed on the basis of the counterparty's net worth, market reputation, track record and/or credit rating. The limits also take into account the size of treasury's operations, so that the business is spread over several counterparties and there is no concentration of risk. The

limits vary in relation to the period of exposure, whether the obligation is for overnight, 3 months or 6 months - the longer the exposure, greater is the risk and the limits are adjusted accordingly. The exposure limits are also fixed for foreign exchange and money market brokers, in order to avoid business concentration, even though they are only intermediaries and are not counterparties. While the limits are generally left to the banks' discretion. Reserve Bank of India has imposed a ceiling of 5% of total business in a year for individual brokers, subject to exceptions being reported to the bank's management for ratification. All the limits are to be reviewed at least once in a year.

It is the responsibility of back office/Mid-office to ensure that Treasury complies with the exposure limits meticulously.

17.3 MARKET RISK AND CREDIT RISK

While describing the conventional controls above, we have frequently referred to default by a counterparty and market movements. In that we are indirectly referring to two types of risks faced by the bank in all spheres of its activity. One is credit risk, or the risk of losing funds invested together with interest, fully or partly, on account of failure of the counterparty to honour its obligations. Then there is market risk, where the price of a security, interest rates or exchange rates move in such a way that the value of an asset diminishes or the liability under an existing obligation increases.

Thus market risk is a confluence of liquidity risk, interest rate risk, exchange rate risk, equity risk and commodity risk. Considering all these factors, the Bank for International Settlements (BIS) defines market risk as "the risk that the value of on- or off-balance sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates and commodity prices". The market risk is also known as price risk.

The three main components of market risk are liquidity risk, interest rate risk and currency risk.

(a) Liquidity Risk

Liquidity risk refers to cash flow gaps which could not be bridged. Let us assume that the Treasurer has borrowed in call market and purchased a 5-year Government security, assuming the bond prices would go up next day and he can sell the security with profit. Let us further assume that the bond market collapses next day and the Treasurer could not dispose off the security. Though the bank is solvent, the treasury has faced liquidity risk, as he needs to borrow funds in the market at whatever cost, if he has to avoid default or delay in repayment of the call borrowings. Liquidity risk thus translates in to interest rate risk.

Treasury is generally prepared to meet the known events, such as due date for a money market loan, or for a deposit. However there are unforeseen events such as invocation of a guarantee or premature payment of a large deposit which would strain the bank's liquidity. The Treasury needs to have a contingency plan to meet any liquidity crisis.

(b) Interest Rate Risk

Interest rate risk refers to rise in interest costs (of a liability) or fall in interest earnings (from assets) eroding the business profits.

Treasury deals in financial assets, value of which is highly sensitive to interest rate movements. A steep rise in interest rates may cause a crash of bond market, eroding the value of securities held by Treasury. If liquidity is not planned ahead, Treasury may need to borrow at higher cost to meet its obligations.

The interest rate risk is present wherever there is a mismatch between assets (cash inflows) and liabilities (cash outflows). The incremental deposit funds of the bank, say with an average maturity of 1 year, to the extent they are not lent, are invested by Treasury, say, in 3-month T-

bills. If the yield on T-bills, which changes every three months, does not match with the cost of the deposit, the net earnings of the bank will be negative. We will study this aspect in greater detail in the last Section.

(c) Currency Risk

Currency risk or exchange rate risk is also a manifestation of interest rate risk, although for the sake of clarity, it is identified as a component of market risk. Interest rates are influenced by factors like domestic money supply, rate of inflation, activity in debt and equity markets etc. which also influence exchange rates. However, exchange rates are influenced more by External trade, global interest rates and capital flows. As globalization progresses, exchange rates and interest rates are increasingly influenced by similar factors, most prominent being GDP growth rate, global interest rates and capital flows.

To put it simply, interest rate is domestic cost of currency, while exchange rate is External cost of currency. Forward exchange rate of two currencies actually reflect interest rate differentials of respective currencies (though in India, Rupee being not fully convertible on capital account, forward rates are distorted by supply and demand for the currency). You will appreciate the relationship between interest rates and exchange rates better when you study purchasing power parity and interest rate parity theories in Foreign Exchange module.

Although bank treasuries have limited exposure to equity markets, movement of stock prices is an important factor influencing financial markets. Stock market also reflects the overall liquidity in the system, interest rates and the exchange rate movements. If the currency is convertible, the exchange rate and interest rate changes play even greater role in attracting foreign investment inflows into the secondary market.

There are also commodity markets where price movements are affected by not only supply and demand, but also by economic factors like interest rates and exchange rates. Treasuries with exposure to commodity futures and options are particularly vulnerable to changes in commodity prices. Treasurers even when they are not participating in commodity markets, can observe close linkages between, say, price changes of gold and USD/Re exchange rate.

All the free markets are highly susceptible to speculation, which in fact is the essence of Treasury's trading positions. It is therefore perception of future changes in interest rates and exchange rates, rather than the actual changes that direct the market movements.

The market risks directly affect the transaction values and thereby profits of the treasury.

Additionally Treasury also plays an important part in the risk management of the bank as a whole. Market risk translates into balance sheet risk of the bank, and treasury is closely connected with the asset - liability management. (ALM). Treasury provides inputs to ALM and is also instrumental in implementing the risk management solutions - which we will study in later chapters.

17.4 RISK MEASURES: VaR AND DURATION

The movement in currency prices or security prices cannot be accurately predicted and the uncertainty associated with their price movements gives rise to price risk. At the same time the treasurer should have some idea of the inherent risks and the way they would affect his positions. This quest for risk solutions, led to two important measures of risk, known as value at risk and duration.

1. Value at Risk (VaR)

VaR is a statistical measure indicating worst possible movement of a market rate, over given period of time, under normal market conditions, at a defined confidence level. For instance, a overnight VaR of 45 bp for USD/INR rate at 95% confidence level implies that there is only 5%

chance of the rate worsening beyond 45 bp next day. If today's spot rate is 46.00, tomorrow the worst possible rate for exports can be assumed to be 45.55, with reasonable safety - there is only 5% chance of the rate being worse than 45.55.

Similarly, if overnight VaR of 1-year G-Sec yield is 0.35%, current yield of 7.75% is expected to fall / rise by not more than 0.35% by tomorrow. In the worst-case scenario, a prospective buyer of security may therefore expect the yields to fall to $7.75\% - 0.35\% = 7.40\%$ by next day, while a seller of security may expect rise in the yield to $7.75\% + 0.35\% = 8.10\%$ by next day. At 95% confidence level, there is only 5% possibility of adverse change being higher than 0.35% (at 99% confidence level, there is only 1% possibility of loss being higher than VaR).

VaR is derived from a statistical formula based on volatility of the market. Volatility is the standard deviation from the mean of say, USD/INR exchange rates (or any other asset prices) observed over a period. Volatility assumes a normal distribution curve and the no. of standard deviations from the mean denote the probability of reaching a target level. The volatility multiplied by the no of standard deviations required for a given confidence level results in the VaR.

There are a number of ways, with technical variations, to calculate the VaR. Three popular approaches to VaR are: parametric approach, based on sensitivity of various risk components. For instance, say the price of a stock depends on its sensitivity to index changes, to interest rate changes and to changes in the exchange rates - all these components are built into a complex formula to arrive at the VaR of the stock. The second approach is based on Monte Carlo simulation, where a number of scenarios are generated at random and their impact on the subject (stock price/exchange rate etc.) is studied. The third approach is to use historical data to arrive at the probable loss. The historical data may simply be time series of data prevailing over a period (e.g. daily USD/INR exchange rate for last 90 days), or an index of changes (e.g. change in price over previous day). Progressive weights may also be assigned to the data, as more recent information has greater impact on future price movements.

While the methodology to arrive at VaR may appear to be complex, the utility lies in that the concept is easy to understand. The Management would like to know VaR of all risk positions, as it offers a single figure - an absolute amount - a potential loss which may affect bank's earnings, or, net worth. In Treasury, VaR is used to measure potential loss, or the worst case scenario, while holding a trading position either in foreign currency or in securities, i.e. VaR measure can be used to assess the currency risk as well as the interest rate and price risks. The VaR is used to measure the risk of a single investment, or more generally, a portfolio of investments.

VaR is most commonly used to measure overnight risk, or risk over short periods, say, over 1 month. VaR for longer periods is calculated as overnight VaR multiplied by $4n$ (square root of n , where n is the period for which VaR is required). However, for longer periods, VaR is not a valid measure.

2. Duration

Duration is a measure widely used in investment business, though the concept of duration is applicable to all assets and liabilities, where interest rate risk is present. To understand Duration, we need to be familiar with the concept of YTM or Yield to Maturity of a bond.

Treasury invests in Government securities and non-Government securities of various descriptions, viz. bills, bonds and debentures - hereafter referred to as bonds. The bonds carry a coupon rate of interest which is payable on 100% value of the bond (par value, as at the time of issue). However, the bonds may be traded at a discount ($<Rs. 100$) or at a premium ($>Rs. 100$),

depending on the interest rate trends in the market. The traded price is based on the market rate of interest for residual period of the bond and is constantly changing in the market.

The effective return on a bond (based on the coupon rate, market price and residual maturity) is known as yield. The yield is different from interest rate in that the yield takes into account the cash flows during the life of a bond, including interest payments (which are normally semi-annual or annual) and the

payment of principal upon redemption. All the cash flows are discounted to arrive at a present value (PV) and the rate of discount at which the present value equals the market price of a bond is known as the yield to maturity (YTM) or, simply, as yield on the bond. Conversely, it is the discount rate at which NPV (net present value = PV - market price of the bond) of the bond is zero. Yield is effective rate of return on amount invested in the bond. (The YTM is calculated on the bond calculator/built in formula in Excel/or from bond tables).

For instance, a bond carrying a coupon rate of 5% with a balance maturity of 2 years is traded at a discount of 2%, i.e. at a price of 98. This indicates that market rate of interest is higher than 5% and hence the market price is less than the par value. Interest at 5% on a unit price of 98 will work out to 5.10% which is known as current yield of the bond. The YTM of the bond works out to 6.08%.

The yield is internal rate of return reflecting the mling interest rates. Yield and price of a bond move in inverse proportion. If the yield rises, price of a bond falls. If the yield falls the bond price rises. It is the same relationship between interest rates and bond prices.

Bond yields tell us the rate of return at which the present value of cash flows equals the market price. However the YTM does not reveal how volatile are the bond prices and how they respond to changes in interest rates. The YTM of two bonds may be same, but the price risk associated with them may be different on account of maturity or frequency of coupon payments. The YTM of two bonds hence is not comparable.

Duration is a measure which helps us understand the impact of interest rate on the price, by taking into account periodicity of coupon flows.

Duration is weighted average measure of life of a bond, where the time of receipt of a cash flow is weighted by the present value of the cash flow. If the first cash flow (payment of interest) is occurring after 6 months from the date of investment, the period of 6 months is multiplied by present value of the cash flow ($0.5 \times PV$). If the second cash flow is occurring after 12 months, the period (1 year) is multiplied by present value of the cash flow. The present value of final payment of interest and redemption of principal, occurring, say, after 5 years from the date of investment is similarly used to weigh the maturity period ($5 \times PV$). The aggregate of results so obtained is divided by the total of weights (total of PV of each cash flow, which is also market price of the bond) to yield 'Duration'. It is also known as Mecauly Duration, following the originator of the concept, Frederick Mecauly.

Duration is expressed in terms of years. The longer the duration, greater is the sensitivity of bond price to changes in interest rates. The duration thus helps compare bonds with different structures to find out which bond entails greater interest rate risk.

The duration of a zero coupon bond is equal to its time to maturity, as there are no interim cashflows, and redemption value of the bond includes interest on the initial investment.

To the Treasurer, duration of a bond portfolio is more important than the duration of a single bond. The weighted average duration of a number of bonds in the portfolio can be arrived at by adding weights to the duration of individual bonds, the weight being the market price of the bond (expressed as a % to the face value of the bond). If the Treasurer has a target period of holding,

say of 2 years, he can immunize his portfolio from interest rate risk by ensuring that at any point of time the average duration of his

portfolio is equal to 2. This of course necessitates constant reshuffling of the bonds in the portfolio, as the duration changes with lapse of time (as a bond nears its maturity).

Modified Duration (MD) is a more direct method to measure the price sensitivity of a bond. The MD is arrived at by dividing the duration with the interest rate (which is actually principal plus interest for 1 year, expressed as $1+Y$, where Y is the yield). If the duration of bond yielding 5% is 2.5, the $MD = 2.5 / (1 + 0.05)$, or 2.38. Any change in yield multiplied by MD will give the likely percentage change in price of the bond. If the yield rises by 5 basis points, the change in the price of the above bond will be $2.38 * 0.05 = 12$ bp. Since prices move in inverse proportion to yields, 5 bp rise in yield causes the price of bond to fall by 12 bp. The MD thus indicates price sensitivity of a bond per unit of change in the yield levels.

There are, however, certain limitations in application of the concept of duration. The modified duration is valid only for small changes in the price, and is also not uniform at different levels of the price. A proportionate change in prices corresponding to the change in yields is possible, only when the yield curve is linear i.e. the short-term and long-term interest rates increase or decrease in a fixed proportion to the term and the yield curve is a straight line steeping upward or downward. In practice, term structure of interest rates is such that the long-term interest rates rise or fall more slowly as compared to the short-term rates and the yield curve is rarely a straight line. For the sake of greater accuracy, therefore, an adjustment is made to the duration measure for convexity of the curve.

While we have seen duration in the context of investment business, the concept is equally valid for any interest earning asset, or liability. In bank's balance sheet, duration of assets (loans) and duration of liabilities (borrowings) can be calculated to find out how sensitive are bank's earnings to changes in market rates of interest. Difference in the duration of assets and duration of liabilities is expressed as duration gap, which is useful for macro- hedging of balancesheet risk.

17.5 USE OF DERIVATIVES IN RISK MANAGEMENT

Derivatives are financial contracts which derive their value based on an underlying market for a commodity or financial product. Derivatives are used to protect treasury transactions from market risk. Derivatives are also useful in managing balance sheet risk i.e. asset liability management. For instance, if an asset is highly sensitive to interest rate changes, and if we have a view that the rates are likely to rise, we can swap fixed rate of interest into floating rate by entering into a interest rate swap. Similarly exchange rate risk can be avoided by entering into a forward rate contract or option contract. We will study derivatives in the next chapter in greater detail.

Let Us Sum Up

Treasury risk management is considered very important as adverse market movements may result in instant losses. Treasury transactions are of high value needing relatively low capital. High leverage means that the losses can be disproportionate to capital employed in treasury. Conventional tools for management control include (a) checking accuracy of transactions based on deal confirmation (b) compliance with the risk limits set by the management, (b) exposure limits for

counterparties, avoiding concentration of risk, and (c) intra-day and overnight ceiling on open positions (trading positions in forex) and stop loss limits. Limits on open position need prior approval of RBI.

Treasury needs to deal with market risk, which is distinct from credit risk or counterparty risk. Market risk broadly consists of liquidity risk and interest rate risk, which are like two sides of a coin. Exchange rate risk, equity and commodity price risks are also identified separately, though they are all influenced by interest rate movements either directly or indirectly. Market movements are mainly due to speculation, hence perception of future changes in interest rates and exchange rates is more important than actual changes that have taken place.

Market risk is measured by VaR and duration. VaR is the maximum loss that may take place within a time horizon, at a given confidence level. Duration and modified duration measure the interest rate sensitivity of bond prices and the concept is also useful to measure the duration of assets and liabilities in bank's balance sheet.

The market risks faced by a bank can be effectively managed by use of various derivative instruments.

Keywords

Leverage: It refers to the ability of a business concern to borrow or build up assets, on the basis of a given capital. In case of companies it is expressed as debt/equity ratio; in case of banks it conforms to capital adequacy as expressed by CRAR (capital to risk weighted asset ratio).

Confirmation: Treasury deals are normally done over phone or over a dealing screen. The Deal terms are confirmed in writing from back office to back office of counterparties, to facilitate verification.

DvP: Delivery versus payment means one account is debited and another account is credited at the same time, one of the accounts necessarily being a funding account. In case of a securities purchase, funding account is debited and securities account is credited simultaneously.

RTGS: Real Time Gross Settlements, where inter-bank payments are effected instantly by debit and credit to respective accounts of the banks with RBI, on RTGS platform.

Cany: It refers to interest cost of funds locked in a trading position.

Marked to Market: It is valuation of trading positions applying current market value (exchange rates or security prices) as at the end of the day. Often the valuation rates are provided by FEDAI/FIMMDA.

Mismatch: It refers to differences in duration of assets and liabilities, or, sources and uses of funds with different payment terms

Off-balance sheet: Items such as interest rate swaps and guarantees which may not appear on balance sheet.

Speculation: Purchase or sale of an asset or a currency, not for an end-use but only for resale or repurchase of the same asset with a profit - all trading is speculative activity.

Volatility: It refers to degree of fluctuation of markets, with reference to variables such as interest rates and exchange rates; measured as standard deviation from mean of the variable.

Yield curve: It is a line where yields of risk-free securities for different maturities at a given point of time are graphically plotted.

Swap: It refers to exchange of an asset or cash flows at preset points of time.

Macro-hedging: hedging duration gap (difference between aggregate assets and aggregate liabilities of a Bank (instead of hedging individual assets and liabilities)

Multiple Choice Questions

1. For ensuring effective risk control, RBI expects banks to facilitate functional segregation between (a) Their Head office branches (b) Treasury and Head office
(c) Front office and IT department (d) Front office, Mid office and back office
Front office, Mid office and back office
2. The most important and well pronounced risk in treasury is
(a) Credit risk (b) Liquidity risk
(c) Market risk (d) Embedded option risk
Market risk
3. The following limits in treasury are meant for controlling market risk
(a) Counter party interbank exposure limits
(b) Settlement and pre-settlement limits
(c) Intra-day, overnight open position limit and stop loss limits
(d) Overseas borrowing limit prescribed by RBI
Intra-day, overnight open position limit and stop loss limits
4. Value at risk(VaR) is a statistical measure to capture
(a) Actual loss in portfolio
(b) Probable loss in a portfolio within a time horizon at a given confidence level
(c) Loss or profit in a trading activity
(d) Operational risk in treasury
Probable loss in a portfolio within a time horizon at a given confidence level
5. Yield and price of a bond move
(a) In inverse proportion (c) In unrelated fashion
(b) In direct proportion
(d) As determined by bond issuer
In inverse proportion

Answers to the MCQs

1. (d), 2. (c), 3. (c), 4. (b), 5. (a)
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UNIT 18 Derivative Products

STRUCTURE

18.0 Objectives

18.1 Derivatives and the Treasury

18.2 OTC and Exchange Traded Products

18.3 Options, Futures and Swaps

18.4 Interest Rate and Currency Swaps

18.5 Developments in Indian Markets, and RBI Guidelines on Risk Exposure

Let Us Sum UP Keywords

Multiple Choice Questions Answers to MCQs

18.0 OBJECTIVES

In this chapter you will understand the meaning of derivatives, various derivative products and their uses.

18.1 DERIVATIVES AND THE TREASURY

Derivatives are market products widely used by bank treasuries. Treasury uses derivatives chiefly (a) to manage risk, including ALM risks, (b) to cater to the requirements of the corporate customers and (c) to trade, i.e. to take a trading position in derivative products. While cross currency derivatives existed for long, Rupee derivatives are of fairly recent origin, and use of certain derivative products is still regulated by RBI.

Derivative Products

A derivative, as its name suggests, does not have an independent value. The value of a derivative is derived from an underlying market. The market may be financial market, or commodity market, or an index of market prices. Financial markets relate to products such as foreign exchange, bonds and equities. Commodity markets may cover any commercial product, ranging from oil and gold to cotton and wheat. Of late, derivative products have been developed relating to events such as rain fall or weather, as they in turn affect demand for say, agro-products and utilities such as air-conditioners respectively. Forward contracts for exchange rates, conventionally used by exporters, importers, traders and banks are also part of derivative family. A derivative is a financial contract, specifying an underlying which is a price or rate or an index related to a financial product or market, based on a notional amount and/or specific payment provisions, with clear settlement terms. By definition, derivatives always refer to a future price and the value of derivative depends on spot market.

18.2 OTC AND EXCHANGE TRADED PRODUCTS

Banks may structure a derivative product to suit the requirement of an individual client - based on his risk appetite, size of transaction and maturity requirements. For instance, a bank may offer to a client a forward contract or option for sale of USD on a future date, for whatever period or amount desired by the client. The derivative products that can be directly negotiated and obtained from banks and investment institutions are known as Over-the-Counter (OTC) products. There are also standardized derivative contracts, for a specified sum and for specified period, which are purchased or sold on a exchange. These are exchange traded derivatives, traded on a futures exchange. A forward contract traded on a futures exchange is called a futures contract. Exchange traded derivatives include currency futures, interest rate futures, commodity futures, stock and index futures, as well as options. Some of the futures exchanges are organized

independently (e.g. Chicago Mercantile Exchange, Eurex, London Financial Futures and Options Exchange - now Euronext.Liffe, MCX of India), or at times associated/ or merged with stock exchange (e.g. Hong Kong Exchanges & Clearing, SGX of Singapore, NSE in India).

OTC products are different from exchange traded products in the following respects:

OTC products are offered by banks and financial institutions (need to be authorized banks in India)

Contract date, amount and terms as desired by the client

Price is quoted by the Bank, adding a margin to market quote

Security (cash margin, charge on assets etc.), at bank's discretion, based on client status

Counter-party risk (bank risk is present.)

Settlement is mostly by physical delivery (net settlement only in trading positions/cancellations)

Mostly used for hedging underlying risk

Exchange Traded

Futures contracts are traded only on organized futures exchanges

Size of contract is standardized, with pre-set settlement dates for specific terms (e.g. one month, \$1000 contract settled last Wednesday of every month against INR)

Transparent pricing, based on screen-based order matching system

The Exchange collects daily cash margin based on MTM value of the contract

No counter-party risk, as Exchange is the counter part - who manages the risk by margining system

Mostly net settlement by cash (physical delivery may be insisted upon in commodity futures)

Mostly used for trading and speculation.

Bank Treasuries and corporate customers of the bank mostly use OTC products such as forward contracts, options and swaps. Only larger banks, who are market makers, cover their residual position in Futures traded in the exchanges. Where futures exchange is active, OTC derivative products largely reflect exchange traded prices, even though the volume of trade in OTC products is much larger than that of the Exchange Traded Products.

18.3 FORWARDS, OPTIONS, FUTURES AND SWAPS

In India, derivatives are used for hedging underlying currency, interest rate and commodity risks. Trading in currency and interest rate derivatives is restricted to authorized banks, except in futures market, where individuals, corporates and other entities can freely participate (subject to restrictions on non-resident entities). We shall confine this discussion to currency and interest rate derivatives only.

Derivatives are basically of three kinds;

- Forward contracts,
- Options and
- Swaps

Futures are part of forwards, where execution of contract at a fixed rate is obligatory. We will study futures later in the section.

1. Forward Contract

Forward contract is a contract to deliver foreign currency on a future date at a fixed exchange rate. This is an OTC product where the counterparty is always a bank. An exporter enters into a forward sale contract of his export proceeds denominated in USD. A 3-month forward sale contract at 49.00 implies that on expiry date, the exporter can sell the contracted amount to the bank at Rs. 49 per dollar, irrespective of prevailing market rate. The exporter is protected from

the exchange risk, even if, Rupee in the meantime appreciated to say, Rs. 45. Similarly, a forward purchase contract protects importers from depreciation of Rupee. Forward purchase or sale contracts can be used to hedge currency risks in cross-currency deals also, as forward contract being simplest of the derivatives, is available in most currencies.

Delivery of currency must be given or taken, as per contract terms, on the expiry date of the contract, otherwise the contract will be cancelled and the difference between spot rate and forward rate will be credited to or recovered from the counterparty. On request banks may allow delivery to take place within a month before the expiry date. This facility is known as forward option, where bank would quote forward premium (discount) applicable to either start date or end date of the option period, whichever is worse to the client.

Forward rate, as we stated earlier, represents interest rate differential of the two currencies. The forward rate is either at premium or discount to the spot rate. The currency carrying higher rate of interest is always at a discount. For instance, domestic interest rate of Rupee is generally higher than interest rate of USD, hence Rupee is at a discount to Dollar, or Dollar is at premium vis-a-vis rupee. By implication, forward rate of USD/INR is higher than spot rate, or, dollar on a forward date is worth more rupees than today. Same is case with Euro/USD - interest rate of EURO is higher than interest rate of USD, hence forward EURO is at a discount to USD.

In case of free currencies, forward premium or discount is exactly equal to the difference between risk-free interest rates of the two currencies. However, in case of USD/INR, it is not always so, as Rupee is not yet fully convertible. The forward exchange rate of USD/INR, therefore is also affected by supply and demand for forward dollars.

Forward contract is ideal as a hedging instrument to achieve zero risk, as the contracted rate fixes the value of forward dollars, irrespective of market movement. However, the holder of a forward contract can not get the benefit of market rate, if it is better than the contracted rate, on the date of utilization - which is a disadvantage known as opportunity cost.

2. Options

Options refer to contracts where the buyer of an option has a right but no obligation to exercise the contract. Options are either put options or call options. Call option gives a right to the holder to buy an underlying product (currency/bonds/commodities) at a prefixed rate on a specified future date. Put option gives a similar right to the holder to sell the underlying at a prefixed rate on a specified future date or during a specified period. The prefixed rate is known as the strike price. The specified time is known as expiry date.

Options are divided into two types according to their mode of settlement. An American type option can be exercised any time before the expiry date. European type option can be exercised only on the expiry date. In India we use only European type of options.

A currency option gives the holder option to buy or sell a currency at strike price on expiry date. Put option is a right to sell the currency at strike price, and call option is a right to purchase the currency at strike price, the options being exercisable on their expiry date. A Dollar put / JPY call option, for USD 1 million with strike price at 105 and expiry after 3 months, gives the holder right to sell USD or purchase JPY, at the rate of 105 JPY per dollar, on expiry date. If on expiry date market rate is 108, the optionholder will not exercise put option, as he can get more yen per dollar in the open market. If the exchange rate on the expiry date is 100, the option buyer will definitely exercise the option on the expiry date, as the strike price is better than market price. In the latter case, the option will be net settled, i.e., the counter-party pays the holder 5 yen per dollar, being the difference between strike price and spot rate.

The option is known to be at-the-money (ATM) if the strike price is same as the spot price of the currency. In the context of European option, the spot rate is the rate prevailing on the maturity date, hence it is actually forward rate as on the date of buying the option. The option is at-the-money, therefore, when the strike price is same as forward rate on the start date. The option is in-the-money (ITM), if the strike price is less than the forward rate in case of a call option, or, if the strike price is more than forward rate in case of a put option. The option is out-of-the-money (OTM), if the strike price is more than the forward rate in case of a call option, or, if the strike price is less than forward rate in case of a put option. To put simply, ITM is when the strike price is better than the market price, and OTM is when the strike price is worse than the market price. Premium is the price of an option payable upfront. Option premium has two components. Intrinsic value of an ITM option is the difference between the strike price and current forward rate of the currency, or zero whichever is less. Intrinsic value can not be negative. The ATM and OTM options do not have any intrinsic value. The option price less the intrinsic value is time value of the option. The time value is maximum for an ATM option, and decreases with the option becoming more and more ITM or OTM, as the expiry date approaches.

Some of the important features of options are:

- The buyer of an option has the right (but no obligation) to exercise the option at strike price, irrespective of market price prevailing on the expiry date. Hence his profit potential is unlimited. The seller of the option is obliged to buy/sell to the holder of the option at the strike price, irrespective of market price; the option-seller's potential loss is therefore unlimited.
- The option is based on an amount which is only notional, as only difference in rates is exchanged in net settlement. The price of an option is much smaller than the notional value; the traders and speculators therefore do not require large investments to trade in options (known as high leverage)
- The buyer of an option pays premium to the seller for purchase of the option. Option premium is the price of the option, payable to the option-seller upfront. The premium depends on the volatility of the underlying market, the expiry date (maturity), interest rates and the strike price - the factors that determine the risk to the seller. Option premium increases with the volatility of the markets, maturity and intrinsic value of the option.
- Option premium or the price of option is higher or lower based on intrinsic value and time value of the option. In the money options are costlier than out-of-the money options. Time value is linked to residual maturity - longer the maturity, costlier is the option.
- The option always has two legs. A put option on USD at USD/JPY strike (right to sell USD against JPY at rate X) is also a call option on JPY (right to buy JPY against USD payment at X rate). The option may thus be described as USD put or Yen call at, say, 105.
- In financial markets, the underlying product may relate to currency, bonds or equity. A call option on a bond gives right to buy the bond at a prefixed price (strike price). Since the price of a risk-free bond reflects the prevailing interest rate, the bond option also becomes an interest rate option - just as currency option is in effect, an exchange rate option.
- Options are primarily used as a hedge against price fluctuations. It is similar to insurance against adverse movement of prices, where the risk is transferred to others who are more tolerant of the risk or who have an opposite kind of risk to mitigate. For instance, an exporter would like Rupee to depreciate so that his Rupee income would increase; while the importer would benefit from appreciation of Rupee so as to reduce his Rupee cost. A bank as an intermediary sells a USD put option to the exporter, and a USD call option to the importer,

fully or partially mitigating the risk. Forex traders who have USD/ Rupee payment obligations, or who have taken positions in the exchange market may likewise buy protection through options.

- A stock option is the right to buy or sell equity of a company at the strike price. For instance, a put option on 1000 Maruti equity shares at Rs. 500 with expiry on 30th June 2010, means if the stock is trading below Rs. 500 on the expiry date, the option-holder can still sell his Marud shares to the seller of the option, at Rs. 500 per share. If the price on the expiry date is above the strike price of Rs. 500, the option-holder would naturally prefer to sell his shares in the open market and does not exercise the option. Options are also available on the stock index. A put option on BSE SENSEX offers protection to the holder against a fall in the index. A call option on the index, on the other hand, protects a potential buyer of stocks, from rise in the index.
- An option without any conditionalities is called plain vanilla option, which is ideal for hedging. However, there are various combination of options (option products), which effectively reduce the premium by sacrificing some upside benefit, or by adding an element of market risk acceptable to the holder. Some of the basic structures are zero cost options, where there is no premium payable, but there is a corresponding risk, e g the holder (importer) agrees to pay at higher rate if market rate rises beyond a specified level (range forwards), or the option protection is lost if market moves in a specific direction (barrier options).

There are complex structured products making use of different types of options, often combining with other derivatives, and covering different markets simultaneously, to suit requirements of some customers.

Such products, often called exotics as they bundle together different risks, are highly risky and are generally not suitable for hedging market risk.

As a hedge, currency options are similar to forward contracts. While exchange risk is protected in both cases, there are material differences between options and forwards;

Forward Contract

The contract must be executed at contracted rate on the expiry date.

The rate is fixed at current market quote.

There is no fee payable, the quoted rate includes bank margin.

Forward premium is the interest rate differential of the two currencies involved.

Forward contract is a simple contract for purchase or sale of currency - there are no variations.

Buyers and sellers have only counter-party risk, and there is no market risk to either of them, so long as the market is liquid.

Option Contract

The holder has a right to exercise the option, but has no obligation.

Holder may choose strike price (contracted rate) or market rate whichever is better for him.

Option premium is payable front-end.

Option premium is determined by several factors, including strike price, volatility of exchange rates and interest rates.

Various types of options are available, and simple to complex structures, with varying elements of risk, are possible by combining purchased and written options.

(1) The writer of an option (option seller) has unlimited risk, while the buyer of an option has full upside benefit, with no risk in a plain vanilla option. (2) There is no market risk in plain

vanilla options; however structured products may expose the holder to huge risks, which he may or may not be aware of.

Apart from hedging, the options are also used in structuring credit products. A 5-year bond may be issued with 3 year put option - which means the investor has the option to sell back the bond at the end of 3rd year to the issuer and redeem his investment, before final maturity of the bond. A bond with call option gives the issuer similar right to prepay the debt on the specified date. A convertible option may give the bond-holder option of converting the debt into equity on specified terms. Such options are called embedded options and have a direct effect on pricing of the bond.

2. Futures

Futures are forward contracts traded in a futures exchange. Under a futures contract the seller agrees to deliver to the buyer a specified security/currency or commodity on a specified date, at a fixed price. Futures relating to exchange rates (currency futures), Interest rates (bond futures) and equity prices (stock/index futures) are known as financial futures, as distinct from commodity futures (oil/metal/ agro-products etc.). Futures contracts are of standard sizes with prefixed settlement dates, as explained in the earlier part of this section.

Currency futures are traded for major currencies (EURO, GBP, JPY, CHF, AUD and CAD) in terms of USD. A contract of GBP 25000 is traded at LIFFE for delivery on 28 March, say at 1.6650, as against spot exchange rate of 1.60. The contract implies that on 28th March the seller would deliver to the holder of the contract, GBP 25000 against payment of equivalent USD at the rate of 1.6650. On the settlement date, if the market rate of GBP is 1.70, the seller will pay to the holder the difference in contracted price and spot price on that date ($1.70 - 1.6650 = \text{USD } .035$ per Pound). If the market price is less than the contracted price, the buyer of the contract will bear the loss. Unlike in options, the contract must be executed by both the parties.

While the futures contract works like a forward contract, there are three important differences:

- (i) The buyer and seller of the contract do not deal with each other but they deal with the Futures Exchange as counter party - the Exchange guarantees performance of the contract
- (ii) Technically, the contract is settled each day, in the sense the contract is marked-to-market daily, and losses if any are recovered from the holder by way of margin. Gains if any are also credited to the margin account.
- (iii) Unlike forwards, futures contracts are actively traded on the exchange, the contracts are bought and sold several times during the day.

In India, futures market for USD/INR commenced in August 2008. The contract size is USD 1000 and all settlements take place in Rupees. Trading in cross-currency - Rupee contracts (Euro/INR, GBP/ INR and JPY/INR) has also commenced from last quarter of 2009. Currency futures are traded actively in the futures segment of NSE, and in the MCX-SX (promoted by the commodity exchange, MCX), with aggregate daily turnover exceeding USD 7 bn (March 2010). However, there is little liquidity in contracts maturing beyond 3 months.

Interest rate futures are contracts written on fixed income securities (Treasury bills, bonds etc.) of specified size. Contracts written on treasury bills trade in short-term interest rates, while contracts on treasury bonds or corporate bonds deal in medium and long-term interest rates. Interest rate futures are most popular instruments to hedge interest rate risk. Treasuries, being risk free instruments, indicate movement in market rate of interest. The Treasuries are traded at a discount, the discount being equal to interest rate for the period. A futures contract of USD 1 million, for 1 year on a Treasury bond trades at 96 if the expected interest rate at the end of the

period is 4% (i.e. $100-4 = 96$, futures price). The price of the contract fluctuates daily according to the perception of interest rates for the residual maturity. T- bill futures are traded with US treasury bills and notes as underlying instruments, while Euro Dollar bonds are traded on the basis of LIBOR, or inter-bank deposit rates outside USA. The contract size, delivery terms and trading practices differ from exchange to exchange.

Interest rate futures help hedge interest rate risk. The hedge is based on the inverse relationship between the interest rates and bond prices, i.e. if the interest rate goes up, bond prices come down, and bond prices would move up if interest rates decline. If a corporate expects to borrow USD after 3 months, but would like to lock into the current interest rate, the corporate will short sell the 90-day treasury futures contract of comparable size. If the interest rates rise on the date of availing the loan, the bond price would have correspondingly fallen, and the profit earned on the T-bill futures would compensate for the higher interest on loan amount.

Rupee interest rate futures market in India was originally launched in 2003, but the attempt failed for various reasons. With the initiative of RBI and SEBI, the interest rate futures market was relaunched in Aug 2009. The contract size is Rs. 2 lacs and is based on a 7% synthetic 10-year Government security. However, liquidity continues to be low and the market is yet to take off, mainly on account of delivery related problems.

All futures contracts are of standardized size, hence several contracts need to be purchased to hedge an underlying exposure fully. If an exporter needs to hedge receivables of USD 560,700, he would need to buy 561 forward sale contracts of USD 1000 each, aggregating to USD 561,000. The small difference between the face value of the contracts and the exposure constitutes what is called 'a basis risk'.

18.4 INTEREST RATE AND CURRENCY SWAPS

1. Interest Rate Swaps

A swap is an exchange of cash flow. An interest rate swap is an exchange of interest flows on an underlying asset or liability, the value of which is the notional amount of the swap. In a swap, basis for calculation of interest is changed according to the requirement of the borrower (or, lender).

An interest rate swap is shifting of basis of interest rate calculation, from fixed rate to floating rate, floating rate to fixed rate or floating rate to floating rate (based on a different benchmark rate). The cash flows representing the interest payments during the swap period are exchanged accordingly.

To illustrate, assume a company is paying a fixed rate of interest at 7% on its 5-year debenture. As the interest rates are on a declining trend, the company would benefit if the interest rate is linked to market rate of interest. The company enters into a interest rate swap with their bankers exchanging the fixed rate with floating rate, with 3 month T-bill rate as benchmark rate. If the swap equivalent of 3-month bill rate is 5%, the fixed rate will be swapped into floating rate based interest of T-bill + 2%. Every three months bank pays the company interest at 7% (which neutralizes the interest payable on the debenture) and the company pays back to the Bank interest at T-bill + 2% (which will henceforth be actual cost to the company). Assuming that the 90-day T-bill rate next quarter is 4%, the company will pay to the bank 6% (= 4 + 2), and receives from the bank 7%. The saving to the company is 1%, reflecting the fall in the market rate of interest. The T-bill is a risk-free instrument, issued by Government of India and is widely quoted; hence is accepted as a bench mark for pricing corporate debt instruments. When we say T-bill + 2%, the T-bill is the risk-free market rate and 2% is the credit premium added to it, to make it equal to the fixed rate of 7% originally committed by the company on the debentures.

The interest rates are calculated on a notional amount, which in the above case is equal to face value of the debenture. The bank pays fixed rate as if it has borrowed the notional amount from the company; similarly company pays floating rate as if it has borrowed from the bank, thus the notional amount is never exchanged. The actual payment of the interest is also netted out on interest payment date. If the T- bill rate is higher than 5% at any point of time, the net cash flow would be negative and the Company would be paying the difference to the bank.

If the company already has a floating rate payment, say a 3-month LIBOR related loan, and has a view that the interest rates are going to rise, it would buy a swap paying fixed rate equivalent of 3-month LIBOR for the loan period, and the swap works in the same way illustrated above.

Conventionally, the fixed ratepayer is known as the buyer of swap and the fixed rate receiver is the seller of the swap.

The floating rate of interest is always linked to a benchmark rate. A benchmark rate is a risk free interest rate determined by the market, and is widely accepted by market players for its objectivity and transparency. The issuers of debt paper and the lending banks link the interest rate to a benchmark rate acceptable to investors/borrowers, so that the actual interest paid by them reflect the market trends.

For USD, the benchmark rates are generally LIBOR (London Inter-bank Offered Rate) for term lending and Fed Rate (rate charged by US Federal Reserve for lending to banks) for overnight lending. In Indian Rupee market, the most popular benchmark rate is O/N MIBOR (overnight Mumbai Inter-bank Offered Rate) which is the one-day money market rate in the inter-bank market. The MIBOR is announced daily at around 9.50 a.m. by NSE, who poll the rate from several banks and take an average rate, after deleting extreme top and bottom rates. Though O/N MIBOR is an overnight rate, it is used as a base rate for short-term and medium-term lending also.

In term lending, constant maturity swaps (CMU) based on G-sec yields are also popular. The INBMK swap rates are available on Reuter screen. Other benchmark rates used in Indian markets are, 90 day T-bill and CP rate index. Market practices on adopting different benchmark rates are standardized by FIMMDA (Fixed Income, Money Market and Derivatives Association) which is a self-regulatory agency for debt market.

MIFOR for 3 months/6 months is also a benchmark rate, announced daily by Reuters, for term lending. MIFOR is a combination of LIBOR and forward premium of USD/INR, and is particularly suitable for foreign currency borrowings swapped into Rupees. However, RBI has permitted MIFOR to be used as a benchmark rate only for inter-bank dealings. Corporates are not permitted to use MIFOR as benchmark rate.

A floating to floating rate swap (also known as basis swap) involves change of benchmark rate. If a company, having opted for a T-bill linked rate, later prefers to have a base rate of MIBOR, they can enter into a swap whereby they receive T-bill rate and pay MIBOR linked equivalent rate.

Interest Rate Swap (IRS) is an OTC instrument normally issued by a bank. There is a variety of interest rate swaps and swap structures. Quanto swaps refer to paying interest in home currency at rates applicable to a foreign currency (now prohibited in India). Coupon swaps refer to floating rate in one currency exchanged to fixed rate in another currency. There are also swaps which collapse at a knockout level of market rates and swaps with built-in options, known as swaptions. In Indian Rupee market only plain vanilla type swaps are permitted.

The type of IRS depends on the client's requirement - if they have to pay a fixed rate on a long-term borrowing, which funds are used to meet working capital requirement, the working capital typically being a 3 month cycle, they may need to convert fixed rate borrowing into floating rate. There may be other clients who have opposite requirement, i.e. to convert floating rate into fixed rate. The Treasury also uses IRS for the internal requirement of the Bank, to bridge asset-liability mismatches, which we would examine in the next chapter. The Treasury hedges the residual risk, that is, net position after entering into various swaps, through futures market.

A product closely linked with IRS is forward rate agreement (FRA), where the interest payable for a future period is committed under the agreement. While IRS covers a series of periodical interest payments, FRA is for a single payment in future. If a loan carries interest rate linked to LIBOR, and the interest for next half year is due to be fixed on 29th June, we run a risk that the LIBOR in June may be much higher than today's LIBOR. We would hence like to fix the interest rate for 29th June now, based on today's

rate. For this purpose, we need to buy a 6/12 FRA (i.e. to fix interest rate 6 months hence, for the next 6-month period). It is normal practice that the floating rate (LIBOR) for an interest rate payment period is decided in advance, on the last day of the previous period/or (one day before last day, as in the case of LIBOR), but interest is paid at the end of the interest payment period. In case of FRA, the market convention is, the interest settlement takes place at the beginning of

the period on 1 st July in the above illustration. The interest is duly discounted for the period, and hence the effective rate remains same.

The LIBOR swap rates and rates for FRAs are derived from the risk free Treasury yield curve (G-sec yield curve in India) by interpolation. As the swap market becomes liquid, swap curves based on traded market rates are used for swap valuation.

2. Currency Swap

A Currency Swap is an exchange of cash flow in one currency, with that of another currency. The cash flow may relate to repayment of principal and/or interest under a loan obligation where the lender or the borrower intends to eliminate currency risk. If only currency is hedged, it will be Principal only Swap (PoS); if only interest rate is hedged, it would be Coupon only Swap (CoS). It is left to the discretion of the client to hedge currency and interest rate risks together, or separately.

The need for a swap arises when there is a currency mismatch. For instance, if a loan is denominated in a currency different from the currency in which revenue is accruing, there is a currency mismatch. Let us assume that an investor in Germany intends to invest in Indian market and hence is in need of Rupee funds. At the same time there is a well rated Indian company needing Euro funds for taking over a company in, say, France. The German investor is in a strong position to raise Euro funds, at a relatively low rate, as compared to the Indian company seeking to raise a Euro loan. The position is reversed in case of a Rupee loan, where the Indian company, with a good domestic rating, is in a position to raise Rupee funds at a lower rate. It is hence logical that the two parties raise the loans in domestic currencies and swap the loans to serve their respective objectives.

However, it would be a great coincidence if the two parties with complementary requirements (in terms of amount and period of loan) meet each other to derive the advantage of lower rates of interest rates. Banks, as financial intermediaries, are well placed to offer currency swaps to interested clients, without waiting for a matching demand. Banks' treasuries may also have their own requirement for currency swaps, either for investment or for trading.

Although interest rate advantage of a domestic company has been historically the logic behind currency swaps, lenders/borrowers enter into such swaps also to derive the benefits of interest rate arbitrage. Several Indian companies have been raising ECB (External Commercial Borrowings) in USD, Euro or JPY, only to swap the loans in to Rupees, the effective cost of loan being much less expensive as compared to a regular Rupee loan. However there is no arbitrage between major currencies, as the swap cost represents the interest rate differential of currencies. That is because, a swap is a series of currency forwards (forward exchange contracts) and interest rate forwards (FRAs) corresponding to the payment dates. Net interest benefit accrues only if there is difference in credit spread (spread over the risk-free rate, e g 6-M LIBOR) of the borrower in the two currencies.

Operationally the three variants of currency swap function as under:

- **Principal Only Swap:** The borrower continues to pay interest in USD terms, but has the benefit of using the principal amount in home currency, without exchange risk. The repayment takes place in domestic currency, at a fixed rate of exchange, hence there is no exchange risk.
- **Coupon Only Swap:** The USD loan is utilized in the same currency, but interest on USD loan is swapped into Rupee interest - the borrower has to pay interest in Rupees at swap rate; principal repayment is as per original loan terms. Such strategy is useful, if principal amount

is hedged by using other derivative instruments (e.g. options), or if the borrower prefers to leave the position

Bank A

Loan USD 100 mn @ 6m L + 200 bps Bullet Payment after 5 years

T"

| | | |
|----------|--|-------|
| 0 | Phase 1: Initial Exchange (Principal Amount) | |
| Customer | USD 100 mn | BankB |
| | | |
| | INR 4,400 mn | |

Phase 2: Interim Exchange Half Yearly Interest Payment

Phase 3: Final Exchange INR 4,400 mn + Fixed Interest Rate

Customer

@ 6.50% pa for last half year

-B»

6m L + 200 bps on USD 100 mn

USD100mn + 6mL + 200 bps for last fialf year

BankB

FIGURE 18.1

Fised Rate 6.50% pa on INR a 4P0

I

open, in anticipation of appreciation of paying currency (If Rupee appreciates, USD borrows will effectively pay fewer Rupees to settle the debt).

- P-t-/ swap: Without initial exchange - where the borrower has eliminated the currency risk and interest rate risk completely (zero risk) and will pay principal and interest in domestic currency (Rupees) to settle the foreign currency borrowing. The swap cost is included in the rupee interest rate.

If we look closely we find that the currency swap only combines the currency forward rates and interest swap rates for the relevant period, in a structure easily understood by the buyer of the swap.

(A chart describing the cashflows in a currency & interest rate swap is attached for reference)

18.5 DEVELOPMENTS IN INDIAN MARKETS, AND RBI GUIDELINES ON RISK EXPOSURE

Till 1998, conventional forward contracts in foreign exchange were the only derivative product available in Indian markets - although cross-currency products, without involving Rupee payments, were freely allowed for hedging purpose.

The interest rate swaps (IRS) and forward rate agreements (FRA) were first allowed by RBI in 1998. Indian banks are permitted by RBI to enter into only plain vanilla type interest rate swaps, i.e. without any exotic structures. Corporate clients of bank can use IRS only for hedging purpose. Banks, Primary Dealers, Financial Institutions and Mutual funds can use IRS for

hedging, as also for their balance sheet management and market making. RBI has issued detailed guidelines for capital adequacy requirement for derivatives.

Banks and counterparties (other banks/clients) need to execute ISDA Master Agreement before entering into any derivative contracts. ISDA Master Agreement is standardized by the International Swap and Derivatives Association, which lays down various terms of the contract, including jurisdiction, valuation norms, netting out, credit enhancement, cross-default etc. The Agreement has been cleared for use by Indian banks by FIMMDA and FEDAI, with the concurrence of RBI. The Master Agreement covers all the transactions between two counterparties globally, and there is no need for any other transaction wise agreement, except for the exchange of usual deal confirmation, specifying the terms of the transaction.

While introducing IRS, RBI has taken some bold steps to encourage the derivative market, including:

- (a) Banks have been allowed to use the IRS not only for hedging, but also for trading (market making) purpose - which provision has boosted the treasury activity.
- (b) RBI had earlier restricted benchmarks only to domestic markets - where only 0/N MIBOR was widely used. Upon representation from banks, RBI allowed MIFOR as a benchmark for interest rate swaps, but later restricted the use of MIFOR only for inter-bank dealings. MIFOR combines LIBOR and forward premium, and is based on active forex market dealings.
- (c) RBI has permitted banks under ISDA Agreement, to opt for dual jurisdiction, i.e. under Indian as well as common law jurisdiction. This provision is important for global banks to engage with Indian banks.

USD Rupee options were allowed in Indian market only from June 2003. Banks and corporates can use Rupee/USD options, as also cross currency options only as a hedge for underlying transactions. Banks who intend to trade in option products should meet with the minimum requirements prescribed by RBI (in terms of capital, NPA etc.) and should seek prior permission of RBI. Banks may however use options for their own balance sheet management without any restrictions.

RBI guidelines for use of options are on the same lines as their earlier guidelines for use of forward contracts. Exporters and importers can book, cancel and rebook options and forward contracts for their trade transactions. They are also permitted to book the contracts with the bank on declaration basis (without underlying) subject to a ceiling. Presently, the ceiling is 100% of previous year's exports (or average of last 3 years whichever is higher) in case of designated exporters and 50% of such turnover in case of others. However options and forwards booked to hedge loans and other term liabilities, once cancelled, can not be rebooked.

All trading positions in forwards, options and interest rate swaps must be marked to market daily and those hedging trading positions must be marked to market at the same frequency as the underlying position. Use of all derivatives is subject to internal policies of the bank approved at Board level.

During the period 2005-08, banks aggressively marketed structured products, which combined different kinds of options (barrier options, leveraged options, digital options etc.), currency and interest rate benchmarks and cross-currency derivatives. Corporates who could not appreciate huge risks present in these structures, lost heavily over the period. In order to avoid misuse of derivatives, RBI issued detailed guidelines for managing derivative risks, in April 2008. RBI in particular stipulated that

- (a) derivative products can be offered only to those corporates who have clearly laid down risk management policy approved at the Board level, and
- (b) banks must have a suitability & appropriateness policy so that they would avoid misselling of derivative products.

RBI has also permitted banks to use exchange traded derivatives (viz. currency and interest rate futures) and several banks are already active in the futures market.

Let Us Sum Up

Derivatives are financial contracts based on an underlying market - which may be financial or commodity markets. There are material differences between OTC and Exchange Traded derivatives. Bank treasuries are mostly concerned with OTC products based on financial markets.

Forwards, options, futures and swaps are the derivative products available for trading/ hedging currency and interest rate risks. Forward contracts are OTC products, and are used to fix forward exchange rates for purchase or sale of currency. Options offer a right to buy (call options) or sell (put options) an underlying product (Currency, equity/or securities), without any obligation to exercise the contract. An option-holder therefore, unlike a holder of forward contract, can buy/sell at the strike price or market price, whichever is more favourable to him.

Futures are forward contracts traded on an exchange. Futures are standardized products, with specified volumes and delivery dates. Unlike options, futures have a definite delivery. Futures can be traded only through members of an exchange and have daily margin requirements.

Currency and bond futures help hedge exchange rate and interest rate risks, but may not suitable to bank's clients who need customized risk protection.

Interest rate swaps involve exchange of cash flows, to shift basis of interest rate calculation - from fixed to floating or from floating to fixed, as also floating to floating. Bank's clients and treasury use the swaps frequently, based on their interest rate outlook, to seek protection from market movements. FRAs are used to fix interest rate for a single interest payment period, while IRS covers a series of payments.

Currency swaps are for exchange of cash flows in one currency with that of another currency.

Swaps are used to hedge currency and interest rate risks in foreign currency loans and also to benefit from interest rate differentials of currencies. Swaps can be of principal and interest payments, or, only principal or only interest payments over a period. Currency swaps combine forward exchange rates and interest rate swaps.

RBI has permitted use of derivatives including IRS and USD/Rupee options subject to certain restrictions. The most popular benchmarks for interest rate swaps are LIBOR and Fed rates for USD and O/N MIBOR and G-sec yields for Rupee borrowings. 90 Day T-bills and index of commercial paper are also used as benchmark rates. USD /INR contracts, as also more recently introduces EUR/INR, GBP/INR and JPY/INR contracts are being traded actively on the futures market of NSE and MCX-SX. Interest rate futures are traded thinly and the market has yet to develop in India.

Keywords

Hedge: It refers to protection of risk in a transaction, usually obtained from derivative products.

Embedded Options: Options inbuilt in a product, e.g. a bond with put option which can be sold back to the issuer at specified time, fixed deposit which can be drawn before maturity; a term loan where prepayment is permitted subject to a charge

LIBOR: London Interbank Offered Rate.

Margin: A portion of underlying principal amount - notional or actual - which needs to be maintained in cash or near-cash instruments under lien to the bank / exchange, as security for the credit risk.

Plain Vanilla type Swaps: Currency and interest rate swaps with basic structure, without inbuilt options or knock-out levels.

Balance Sheet Management: Managing the market risk inherent in the assets and liabilities of a bank.

Multiple Choice Questions

1. The value of a derivative is determined by

- (a) The value of the underlying (c) FIMMDA
- (b) Notional principal amount (d) FEDAI

The value of the underlying

2. One of the essential differences between an OTC and an Exchange traded derivative is

- (a) OTC derivatives are cheaper while Exchange traded derivatives are costly
- (b) OTC derivatives are for customers while Exchange traded derivatives are for banks
- (c) In OTC derivatives, counter party risk is prominent, whereas in exchange traded derivatives, counter party risk is totally absent
- (d) OTC derivatives are for hedging risks whereas Exchange traded derivatives are used for speculation

In OTC derivatives, counter party risk is prominent, whereas in exchange traded derivatives, counter party risk is totally absent

3. In case of free currencies, forward premium or discount is exactly equal to the difference between

- (a) Risk-free interest rates of the two currencies
- (b) Inflation rates in both the countries
- (c) Spot rate and Tom rate
- (d) LIBOR and RBI reference rate

Risk-free interest rates of the two currencies

4. A put option is in the money (ITM) if

- (a) the strike price is less than market price
 - (b) the strike price is more than the market price
 - (c) the market price is equal to the strike price
 - (d) a put option can never be in the money
- the strike price is more than the market price

5. In India, market for currency futures commenced in

- (a) August 2008
 - (b) August 1993
 - (c) The market yet to commence operations
 - (d) The currency futures markets were existing for a long time but were lying dormant
- August 2008

Answers to the MCQs

1. (a), 2. (c), 3. (a), 4. (b), 5. (a)
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UNIT 19 Treasury and Asset- Liability Management

STRUCTURE

- 19.0 Objectives
- 19.1 Meaning of Asset-Liability Management (ALM)
- 19.2 Liquidity Risk vs Interest Rate Sensitivity Risk
- 19.3 Role of Treasury in ALM
- 19.4 Use of Derivatives in ALM
- 19.5 Treasury and Credit Risk and Credit Derivatives
- 19.6 Transfer Pricing
- 19.7 Policy Environment: Integrated Risk Management

Let Us Sum UP Keywords

Multiple Choice Questions Answers to MCQs

19.0 OBJECTIVES

In this chapter you will study the meaning of ALM, role of Treasury in ALM, how Treasury is instrumental in managing ALM risks, the evolution of credit derivatives, transfer pricing and the importance of an integrated risk management policy. (The mechanics of ALM as per RBI guidelines has not been elaborated here, as the student will be studying the topic in detail, in another module.)

19.1 MEANING OF ASSET-LIABILITY MANAGEMENT (ALM)

Modern banking may be defined as maturity intermediation or risk intermediation. Bank collects deposits from customers with various maturities ranging from 7 days to 5 years (though there is no bar on longer-term deposits, major banks discourage deposits for longer-terms in order to avoid interest rate risk). The funds so collected along with capital funds and call borrowings are lent to borrowers with varying maturities, ranging from an overdraft for a few days to mortgage loans of, say 15 years. Thus the bank modifies and extends maturities which the retail depositors themselves could not afford to. Similarly while the depositors have assured safety of funds together with interest, the bank does not have the same comfort while lending or investing funds in various avenues fraught with market risk and credit risk - thus the bank also absorbs risk which individual depositors could not on their own do.

While credit risk of a bank is obvious and is managed conventionally through effective credit supervision, what is not so obvious is the market risk, which is manifest as liquidity risk and interest rate risk in banking operations.

The risk is spread all over the balance sheet of a bank. To illustrate, assume that the bank has accepted a deposit of 3 years at 8% p.a. and has been using funds to provide a 90-day bill discounting facility to a borrower company. Over the first year interest rates start declining and by second year let us say the bank is no longer able to charge over 7% on the working capital loan. Clearly there is a negative earning for the bank as the deposit has a fixed rate of interest, while the bill discounting facility is to be repriced every 90 days (effectively, floating rate of interest). In another context, assume that the average deposits of the bank are of one year maturity, while they have extended quite a few mortgage loans with average maturity exceeding over 5 years at a fixed rate. Firstly the bank will face a liquidity problem when large deposits are to be paid out and secondly, the bank would have to accept fresh deposits or borrow from inter-bank market at current rates to meet such obligations. If current interest rates are higher than the contracted rates on mortgage advances, the mismatch in interest rates leads to negative spread, or reduction in net interest income (Nil).

The risks arise out of mismatch of assets and liabilities of the bank and asset-liability management is managing such balance sheet risks. The risks, if not controlled, may result in negative spreads or in erosion of net worth. ALM is therefore defined as protection of net worth of the bank.

19.2 LIQUIDITY RISK AND INTEREST RATE RISK

1. Liquidity

As we have seen earlier, liquidity and interest rate are two sides of the same coin, as the liquidity risk translates into interest rate risk, when the bank has to recycle the deposit funds or rollover a credit on market determined terms.

However banks are extra sensitive to liquidity risks, as they can not afford to default or delay meeting their obligations to depositors and other lenders. Even suspicion of pressure over a bank's liquidity may prompt a run on the bank, or indeed, threaten the very survival of the bank. Hence special attention is paid to liquidity, in particular short-term liquidity (intra-day to one month) to ensure funds are promptly made available when they are needed.

In ALM, assets yield income, hence are shown as cash inflows, while liabilities need to be repaid, hence are shown as cash outflows. Asset-liability mismatch is therefore, a cashflow mismatch, with excess inflow or outflow of funds. If part of inflow or outflow is denominated in foreign currency, there is also currency mismatch which needs to be managed by the Treasury. Liquidity implies a positive cash flow. It is not only cash surpluses retained by the bank, but also other sources where cash can be readily drawn, such as committed credit lines from other banks, liquefiable securities and nostro balances. The available cash resources are compared with immediate liabilities of the bank in the given time range and the net liquidity is worked out. In different time bands, the loans falling due for repayment constitute main source of funds, while the deposits and other obligations maturing during the same time band constitute uses of funds. (In both cases interest flows are also considered as and when they arise.) The difference between sources and uses of funds in specific time bands is known as liquidity gap which may be positive or negative. The liquidity gap arises out of mismatch of assets and liabilities of the bank.

RBI has prescribed time bands (1 to 14 days, 14 to 29 days, 1 month to 3 months etc.) for measuring and monitoring liquidity gaps. ALM process involves plotting of assets and liabilities maturity wise in time buckets and measuring the gap between assets and liabilities maturing in a specific time period. Liquidity risk is reflected as maturity mismatch - which is the gap in cash inflow and outflow. The risk is not being able to find enough cash, or cash at acceptable rate of interest, to fund the gap.

Liquidity risk will also arise if the liquidity in market dries up and the bank is not able to dispose off its liquid securities without suffering a loss, or if the liquefiable securities suddenly become 'illiquid'. The Bank should hence take in to account, the marketability of securities, while classifying them as liquid instruments in the nearest time buckets.

RBI from time to time issues detailed guidelines for managing ALM risks. RBI is more particular about short-term liquidity, ranging from intra-day to one month. Current guidelines stipulate that the net cumulative negative mismatches during the Next day, 2-7 days, 8-14 days and 15-28 days buckets should not exceed 5 % ,10%, 15 % and 20 % of the cumulative cash outflows in the respective time buckets. Banks are required to provide in their Liquidity Management Policy, contingency measures to meet any shortfall in liquidity. The contingency measures may include stand-by credit lines from other banks, liquid investments and maintenance of adequate securities (in excess of minimum requirement) to facilitate borrowing under Liquidity Adjustment Facility of RBI/ or under CBLO.

2. Interest Rate

Interest rate risk arises when interest earnings are not adequate to set off interest payments due in a given period, even if the book value of the asset equals that of the liability, owing to a change in market rates of interest.

Net interest income (Nil) of the bank is the difference between interest earnings and interest payments in a given accounting period. Hence interest rate risk may be defined as the risk of erosion of Nil, on account of interest rate movements in the market.

In a hypothetical situation, let us assume that the Bank has mobilized deposits of Rs. 100 cr., with average maturity of 6 months, at 5% interest. Let us also assume that the bank invested the amount in a fixed interest loan payable after 5 years at 7% p a. the Nil is a clear 2% or Rs. 2 cr. per year.

The deposits mature after 6 months and need to be replaced or recycled at current market rate, say, at 6% as interest rates have risen by that time. The interest on loan continues to be 7%, hence Nil for second half of the year is reduced by 1%. If we assume that the deposits become even costlier after next 6 months, demanding renewal at market rate of say, 8%, the Nil actually becomes negative by 1%. However, if deposit rates fall by 2%, the Nil correspondingly rises for the specific period.

In a reverse situation, a deposit for 5 years may have a fixed interest, while the deposit funds are deployed, say, in discounting 3-month usance bills, to start with, with a positive spread. If the interest rates fall, subsequent discounting of bills may earn lower rate of interest, in line with market rates, while cost of deposit remains fixed, thereby adversely impacting the NIL

The risk of erosion of Nil is on account of deposit rates being floating (repriced every 6 months), while the loan interest is fixed (repriced only after 5 years when the funds are available for fresh lending, on repayment of the loan), or vice versa. The interest rate mismatch is therefore also known as repricing risk.

Repricing risk exists where, in a given time bucket, say 6 months to 1 year, the assets and liabilities which are due for repricing are not equal. A tier-2 bond maturing after 7 years with fixed interest rate of 7%, is not due for repricing during 6m - 1 yr time bucket, hence is not sensitive to changes in market price. However a loan getting repaid during this period is due for repricing, as fresh lending can take place only at market rates. The bond amount appears in the 5-7 year time bucket, while the loan amount appears in the 6M - 1 yr time bucket, revealing a interest rate mismatch in both cases.

For the purpose of ALM, all assets and liabilities are placed in time buckets, based on their repricing dates (i.e. when the interest rate is due for a change). The mismatch in each time bucket is measured as a gap between rate sensitive assets and rate sensitive liabilities. The mismatch may be measured either in absolute amounts, or as sensitivity ratio, or as a % of rate sensitive assets to rate sensitive liabilities. The mismatch presents a risk to the Nil, hence is to be monitored regularly, with pre-set limits.

It is possible to reduce the mismatch by swapping floating rate to fixed rate or fixed rate to floating rate, that is, by using derivative instruments.

RBI stipulates capital adequacy requirement for market risk, which includes interest rate mismatches. Capital is also to be provided for any derivatives (forwards, options and swaps) used to bridge such mismatches. RBI is recommending simplified approach under Basel 2, for determining the capital requirement for derivative instruments.

The gap management is only one way of monitoring ALM. There are other methods for measuring asset-liability mismatches, using VaR, Present Value, duration and simulations which

would make ALM more effective. You will study how the ALM risk is measured and managed in a separate module. For the present, we will see how treasury is related to ALM.

19.3 ROLE OF TREASURY IN ALM

As stated earlier, the core function of Treasury is fund management. It automatically engulfs liquidity and interest rate risks, as the treasury maintains the pool of bank's funds. We may briefly explain the relationship between Treasury and ALM as under:

- As we have illustrated above, the balance sheet of a bank carries enormous market risk (in addition to credit risk), but the banking operation itself is confined to accepting deposits, and extending credit to needy borrowers, besides miscellaneous payment services. It is Treasury which operates in financial markets directly, establishing a link between core banking functions and market operations. Hence the market risk is identified and monitored through Treasury.
- The asset-liability mismatches cannot be ironed out as the assets or liabilities can not be physically moved across the time bands. It may also be noted that bank earns profits out of mismatches and it is not really advisable to remove the mismatches completely from the balance sheet. Treasury uses derivatives and other means, including new product structures to bridge the liquidity and rate sensitivity gaps.
- Treasury, while taking trading positions in forex and securities markets, is also exposed to market risk on its own creation. Sometimes the risks are compensatory in nature and help bridge the mismatches on banking side. The Treasury may therefore hedge only residual risk.
- As the markets develop, many credit products are being substituted by treasury products. For instance, bank may subscribe to commercial purpose, instead of extending working capital to an entity. Treasury products are marketable and hence liquidity can be infused in times of need. Treasury also monitors exchange rate and interest rate movements in the markets, and hence it is much easier to administer such risks through treasury operations.

It is for the above reasons that operations relating to market risk management have become an integral part of treasury. In many banks, either ALM desk is part of dealing room, or, ALCO support group is part of treasury team. The Treasury head is always an important member of ALCO, contributing not only to risk management but also to product pricing and other policy issues.

19.4 USE OF DERIVATIVES IN ALM

Derivative instruments are useful in managing the liquidity and interest rate risks, as also in structuring new products which help overcome market risk to a large extent. Derivatives replicate market movements, and hence can be used to counter the risks inherent in regular transactions. For instance, if we are buying a stock which is highly sensitive to market movements, we can sell index futures as an insurance against fall in stock prices. The advantage in derivatives is that the requirement of capital is very small, and largely there is no deployment of funds (except in case of exchange traded instruments, where there is a margin requirement - but it is only a fraction of notional amount).

Derivatives can be used to hedge high value individual transactions, or aggregate risks as reflected in the asset-liability mismatches. In the latter case a dynamic management of hedge is necessary as the composition of assets and liabilities is always changing. The following illustrations show how derivatives can be used to manage ALM risks.

Assume that the bank is funding a medium-term loan of 3 years with deposits having average maturity of 3 months. A short-term deposit or borrowing in inter-bank market is much cheaper than a 3-year deposit, hence many banks have resorted to funding their regular loans from short-

term resources in order to increase their spreads. There is however, liquidity risk as the bank needs to payback the short-term deposits much earlier to repayment of the 3-year loan. There is also interest rate risk as the deposits will be repriced 12 times during the life of the loan.

The interest rate on the deposit is akin to a floating rate, as the bank has to pay the market rate of interest whenever the deposit is recycled (repriced). Market rates can be benchmarked to risk-free interest rates, say, 91-day T-bill rate in the above case. The bank may therefore swap the 3-month interest rate into a fixed rate for 3 years, so that its interest cost is also fixed and the spread over the loan is protected.

Note that the derivative transaction is independent of the banking transaction. Under the swap the bank is receiving floating rate linked to T-bill, which meets the (basic) cost of the deposit. The bank is paying fixed rate under the swap which now is effectively the cost of the deposit. The 3-month deposit is now as good as a 3-year deposit. Fixed interest income from the loan less the swap cost of deposit, is gross margin (spread, or net interest income) which is now protected from market risk.

As an alternative, the bank may swap fixed interest rate on the loan into floating rate linked to T-bill rate. Assume that Alco prices the three month deposit at 91 day T-bill + 1% and the swap rate of the loan yields T+3%. There is a clear spread of 2% in bank's favour protected throughout the life of the loan.

Treasury often arbitrages in foreign currencies. The bank may borrow, say for 6 months, in USD and lend equivalent Rupee funds in domestic market. USD funds cost around 3% while the Rupee loan yields, say, 6.5% for the same period. The spread is a clear 3.5% for the bank. The Treasury takes care of exchange risk by paying a forward premium of 1.5%. The bank then earns a spread of 2% ($= 3.5 - 1.5$) without any exchange risk. The forward premium is the cost of hedge against the currency risk. Treasury can thus supplement domestic liquidity and also ensure a positive spread for the bank.

Treasury may also hedge currency mismatches resulting from foreign currency operations of the bank. For instance, Treasury may buy call options to meet repayment of FC loans, or buy put options to protect value of foreign currency receivables in domestic terms.

Treasury enables the bank in structuring new products which help reduce the mismatches in the balance sheet. Floating rate deposits and floating rate loans, where the interest rates are linked to a benchmark rate have become fairly popular. In securities market, we have govt, securities where interest rate is linked to rate of inflation. Protection against rate rise is inbuilt in the index-linked bonds. Corporate debt paper is also issued with call and put options, to suit the risk appetite of individual investors. The embedded options are also useful to improve the liquidity of the investment. For instance, a 7-year bond issue with a put option at the end of 3rd year is as good as a 3-year investment.

Use of derivatives however is subject to certain limitations. It is assumed that the bank's products are priced rationally. If the interest rates on deposits and loans are not based on benchmark rates, interest rate swaps may not be really helpful. Even when the interest rates are fairly aligned, the product prices may not exactly move in line with market rates, hence the Treasury may not be able to provide a perfect hedge.

ALM uses broad time bands, hence even after using appropriate hedges, the market risk may not be completely mitigated - the residual risk is called basis risk. There are embedded options in certain bank products - for instance, a fixed deposit or a term loan can be prepaid, and such prepayment escapes ALM analysis and cannot be fully hedged. Finally, the preconditions for

efficient use of derivatives is that the derivative market should be well developed; and the dealers in treasury should have adequate skills in using and pricing derivatives.

19.5 CREDIT RISK AND CREDIT DERIVATIVES

Treasury and Credit Risk

As we have seen, Treasury is mostly concerned with market risk. Credit risk in treasury business is only with respect to counterparty dealings, contained by exposure limits and risk management norms. In normal course, treasury operations are untouched by the credit risk present in bank's lending business.

However, there are two ways in which Treasury may get intertwined with banking operations in the credit area. Firstly there are several treasury products, or more correctly debt-market products, such as commercial paper and bonds, which are credit substitutes. Highly rated companies prefer issue of debt paper to bank credit, as cost of credit (interest rate) is relatively lower in the debt market - where in addition to banks, there are other investors (insurance companies, mutual funds etc.) who may invest in debt instruments. Instead of lending to a company, the bank may also prefer to invest in corporate bonds through the Treasury. While credit risk in a loan and bond is similar, unlike a loan, bond is tradable and hence is a more liquid asset. The bank has an easy exit in that the bond can be sold at a discount if the credit status of the issuer deteriorates.

While a loan is normally with a fixed rate of interest or interest linked to PLR of the bank, the bond is priced in the market on the basis of credit quality and interest rate movements - hence, the bond can be marked-to-market as frequently as required, for assessing potential gain / or loss. The non-SLR investment portfolio of treasury, which supplements bank's credit portfolio, is therefore more flexible and ideal from ALM point of view.

Secondly, there are new products which convert conventional credit into tradable treasury assets. The process is called securitisation, whereby credit receivables of the bank can be converted into units or bonds (often called pass-through certificates - PTCs) that can be traded in the market. For instance, the mortgage loans of a bank can be securitised and issued in the form of PTCs through a special purpose vehicle (SPV) - which amounts to sale of bank's loan assets.

Securitisation infuses liquidity into the issuing bank, and frees capital blocked in such assets for fresh lending. Several banks have used the securitisation route to encash their future receivables, not only in respect of long-term loan assets, but also of medium-term retail assets such as consumer loans. Banks with surplus funds can also invest in such PTCs, through their Treasury, as a means to expand their credit portfolio indirectly.

Credit derivatives have come into vogue only in the last 10 years. Credit derivatives segregate credit risk from loan/investment assets. The instruments, known as credit default swap or credit linked certificate, transfer the credit risk from owner of the asset to another person who is in a position to absorb the credit risk, for a fee. There is a protection buyer, say a bank, a protection seller who may be another bank or an investor, and a reference asset - which may be a large corporate loan or a bond or any other

debt obligation. The protection seller guarantees payment of principal or interest or both, of the reference asset owned by the protection buyer, in case of credit default (or, a credit event defined in the contract). In consideration of the protection, the protection buyer pays a premium (akin to a guarantee fee) to the protection seller.

Credit derivatives (CD) help the issuer diversify the credit risk and use the capital more efficiently. The CD is a transferable instrument, though the market for CDs is not very liquid.

The CD products are still emerging and various covenants related to the transaction are incorporated in the ISDA Master Agreement for Credit Derivatives.

The global financial crisis (2008-2009) brought out some negative aspects of credit derivatives, which in fact, aggravated the crisis. Following two aspects have been of prime concern to the regulators as well as market payers:

- Banks and investment institutions (in particular, in US, U K and Europe) have rather been negligent in assessing the credit quality of the assets, as they could securitise the assets as soon as they are acquired, or transfer the credit risk to a third party who would sell them credit default protection (by issuing credit default notes or credit linked notes) for a small fee. The protection however is not perfect, as there is a counter party risk (the credit status of protection provider), which replaces the underlying credit risk of the loan. The lending bank (or the institution originating the loan) also needs to provide credit enhancement, by retaining part of the underlying risk. During the crisis period, credit quality of the assets (mainly home loan mortgages) as well as credit status of the protection providers deteriorated very fast, threatening the survival of some large commercial and investment banks. Finally the Governments / central banks had to come to rescue by lending against weak assets (troubled assets) to infuse liquidity and support shrinking capital of the banks.
- Credit Derivatives are highly leveraged as the protection fee or the credit default spread is a tiny portion of notional value of the underlying credit. As there is no initial investment, credit derivatives are highly profitable so long as credit default does not take place. Trading in credit derivatives became very active, particularly as some of the investment institutions and fund managers created credit default swaps based on synthetic assets (virtually, without underlying credit). Once the mortgage crisis hit the underlying credit market, the protection value offered by these institutions almost disappeared, further spreading the crisis to protection sellers like investment banks and insurance companies. This necessitated huge bail-outs from Governments, as the entire financial system was at risk if some of these large institutions were to go into bankruptcy.

For the above reasons. Reserve Bank of India has been very cautious in introducing credit derivatives in India. Recently RBI has circulated draft guidelines for credit derivatives, and would take a decision in due course based on responses from banks and other market players.

9.6 TRANSFER PRICING

Transfer pricing is an integral function of asset-liability management and is in the domain of bank's treasury. Transfer pricing refers to fixing the cost of resources and return on assets of the bank in a rational manner. The treasury notionally buys and sells the deposits and loans of the bank, and the price at which the treasury buys and sells forms the basis for assessing profitability of banking activity.

The treasury determines the buy/sell prices on the basis of market rates of interest, the cost of hedging market risk and the cost of maintaining reserve assets of the bank. For instance, the banking department may procure a deposit at 7% but the treasury buys the deposit only at its market cost, after adjusting to hedging and liquidity, say at 6% - the difference being the cost exclusively borne by the banking department. Similarly the bank may lend at 10% and sell the loan to Treasury at transfer cost, say, 7% - the balance being risk premium earned by the banking section. The prices vary according to the tenor/maturity of the loan/deposit. There are of course different ways of arriving at transfer pricing and the bank has to formulate a conscious policy in this regard.

Once transfer pricing is implemented, treasury takes care of the liquidity and interest rate risks of the entire bank, and profits of credit department reflect only the credit risk, net of all mismatches of sources and uses of funds. In a multi-branch environment, transfer pricing is particularly useful to assess the branch profitability.

19.7 POLICY ENVIRONMENT

The asset-liability management will be effective, only if there is a strong policy foundation.

Though in general we describe it as ALM Policy, the policy should aim at aggregate risk of the bank and should achieve coordination between different departments of the bank and treasury.

An Integrated Risk Management Policy, bearing upon Market Risk of the Bank, should ideally have the following components:

- ALM /oZ/cv prescribes the composition of Asset Liability Management Committee (ALCO) and operational aspects of ALM, including risk measures, monitoring of risks, risk neutralization, product pricing, management information systems etc.
- Liquidity Policy prescribes minimum liquidity to be maintained, funding of reserve assets, limits on exposure to money market, contingent funding, inter-bank committed credit lines etc.
- Derivatives Policy prescribes norms for use of derivatives, capital allocation, restrictions on derivative trading, valuation norms, exposure limits etc.
- Investment Policy prescribes the permissible investments, norms re- credit rating and listing, SLR and Non-SLR investments, private placement, trading in securities and repos, classification and valuation of investments, accounting policy etc.
- Composite Risk Policy for Foreign Exchange and Treasury prescribes norms for merchant and trading positions, securities trading, exposure limits, limits on intra-day and overnight positions, stop-loss limits, periodical valuation of trading positions etc.
- Transfer Pricing Policy prescribes the methodology, spreads to be retained by treasury, segregation of administrative costs and hedging costs, allocation of costs to branches/other departments of the bank etc.

As per RBI requirements, the above policies are also to be supplemented with Prevention of Money Laundering Policy and Hedging Policy for customer risks, both of which will have impact on bank's treasury activity.

The Policies quoted above exclude Risk Management Policies for Credit Risk and Operational Risk, which are not in the purview of ALCO.

Essential requirements of all the above policies are: (a) the policies are to be approved at the highest level, either by the Board or by a Board committee, (b) the policies should comply with the extant regulations of RBI and other regulatory bodies such as SEBI, and (c) the policies should also comply with the current market practices and code of conduct as evolved by SROs like FIMMDA and FEDAI. There should also be a monitoring committee, comprising of senior executives of the bank, to ensure compliance with the Policy provisions. All the policies should be subject to annual review, and in most cases, there is a requirement to file a copy of the policy with RBI.

Let Us Sum Up

Modern banking may be defined as risk intermediation, as the bank absorbs the credit risk and market risks while assuring safety of depositor's funds.

Market risk comprises of liquidity and interest rate risks. Banks are highly sensitive to liquidity risks, as they can not afford to default or delay in meeting their obligations to depositors and other lenders.

Liquidity and interest rate sensitivity gaps arise out of mismatch of bank's assets and liabilities, and are measured in specific time bands. The market value of bank's assets and liabilities may be entirely different from the historical values reflected in the balance sheet. The risks if not monitored, may result in erosion of bank's net worth.

Treasury is instrumental in implementing the ALM policy of the bank, as treasury connects core banking activity of the bank with financial markets. Derivatives, such as swaps and options are extensively used in managing the mismatches in bank's balance sheet.

Treasury is also responsible for transfer pricing, whereby market risk is removed from the banking assets and liabilities and cost of funds and return on assets is arrived at on a rational basis.

It is important that the ALM is founded on a strong policy base. The Integrated Risk Management Policy has various policy components, such as ALM policy, Investment Policy, Composite Treasury Risk management policy etc. All the policies need to be approved at the highest level and need to strictly comply with regulatory provisions.

Keywords

Ri/fi on the Bank: A situation where depositors of a bank lose confidence in the bank and withdraw their balances immediately.

Liquefiable Securities: Securities that can be readily sold for cash in secondary markets.

Sensitivity Ratio: Ratio of interest rate sensitive assets to rate sensitive liabilities.

Risk Appetite: Capacity and willingness to absorb losses on account of market risk.

SPV: Special Purpose Vehicle formed exclusively to handle securities paper, on behalf of the sponsoring bank - also known as fire-proof company, as it exists independent of parent company.

Hedging Policy: Policy of the bank/client company, as to the extent of coverage of currency and interest rate risks, using forwards, options and swaps.

SROs: Self-Regulatory Organisations, such as FIMMDA and FEDAI, representing the market players in specific segments (debt market, foreign exchange, mutual funds etc.) for determining market related code of conduct, and other standard practices.

Credit default Spread (CDS): is the annual fee the credit protection buyer must pay the protection seller over the length of the contract, expressed as a percentage of the notional amount.

Multiple Choice Questions

which is the gap in

1. Liquidity risk is reflected as ____

- (a) Maturity mismatch, cash inflow and outflow
- (b) Total cash held, receipts and payments
- (c) Committed lines, lines utilized and unutilized
- (d) NPAs, total assets and performing loans

Maturity mismatch, cash inflow and outflow

2. In a rising interest rate scenario, the risk of erosion of Nil is on account of

- (a) Advances with floating rate of interest and deposits with fixed rate of interest
- (b) Deposits with floating rates and advances with fixed rates
- (c) Deposits with floating rates and advances with floating rates
- (d) Deposits with fixed rates and advances with fixed rates

Deposits with floating rates and advances with fixed rates

3. Derivatives can be used to hedge aggregate risks as reflected in the asset-liability mismatches. In this case a dynamic management of hedge is necessary' because

- (a) The risks are dynamic
- (b) New hedging tools arrive in the market
- (c) The composition of assets and liabilities is always changing
- (d) A close monitoring of hedge is an RBI requirement

The composition of assets and liabilities is always changing

4. The participants in the derivatives market generally exchange the following agreement

- (a) IFEMA (b) ICON
- (c) ISDA
- (d) A stamped agreement devised by respective banks

ISDA

5. Credit derivatives segregate from the assets through instruments known as and transfer the risk from the owner to another person who is in a position to absorb the credit risk for _____

- (a) The bad assets, NPAs, commission
- (b) The credit risk, credit default swaps, a fee
- (c) Income, warrants, consideration (d) Good assets, securitization, discount

The credit risk, credit default swaps, a fee

Answers to the MCQs

1. (a), 2. (b), 3. (c), 4. (c), 5. (b)

MODULE D

UNITS

20. Components of Assets and Liabilities in Bank's Balance Sheet and their Management

21. Banking Regulation and Capital

22. Capital Adequacy - The Basel-II Overview

23. Supervisory Review

24. Pillar 3 - Market Discipline

25. Asset Classification and Provisioning Norms

26. Liquidity Management

27. Interest Rate Risk Management

28. RAROC and Profit Planning

UNIT 20 Components of Assets and Liabilities in Bank's Balance Sheet and their Management

STRUCTURE

20.0 Objectives

20.1 Introduction

20.2 Components of a Bank's Balance Sheet

20.3 What is Asset Liability Management?

20.4 Significance of Asset Liability Management

20.5 Purpose and Objectives of Asset Liability Management

20.6 ALM as Co-ordinated Balance Sheet Management

Let Us Sum Up Keywords

Check Your Progress Terminal Questions Answers to Check Your Progress

20.0 OBJECTIVES

In this chapter, we will understand following areas under asset liability management in banks:

- Components of Bank's balance sheet
- What is asset liability management?
- Significance of asset liability management
- Purpose and objectives of asset liability management
- ALM as coordinated balance sheet management

20.1 INTRODUCTION

Assets and Liability Management has today become the most typical subject of any financial institution. It encompasses the analysis and development of goals and objectives, the development of long-term strategic plans, periodic profit plans and rate sensitivity management. In one way or another, it has always been the function or responsibility of Treasury and other financial/strategic departments. However, of late Asset Liability Management departments are being established and asset and liability committees are being formed within financial institutions. These committees are often given extraordinary powers regarding the mix and match of assets and liabilities and have large influence in winding up activities which do not fit business strategy.

Before proceeding to understand asset liability management and its significance, it is necessary to become familiar with the components of assets and liabilities in a bank's balance sheet.

Understanding of such components will enable a better understanding of various aspects of Asset Liability Management detailed in this and the subsequent chapters.

20.2 COMPONENTS OF A BANK'S BALANCE SHEET

Like any balance sheet of any other firm, the bank's balance sheet also comprises of sources and uses of funds. Liabilities and net worth form the sources of the bank funds, whereas assets represent uses of funds to generate revenue for the bank.

The summarised form and its components are: TABLE 20.1

Sources of Funds

Capital Reserves Deposits Borrowings
Other Liabilities and provisions TOTAL

Application of Funds

Cash In Hand and Balance with RBI
Balances with Banks and Money at Call and Short Notice
Investments
Advance
Fixed Assets
Other Assets
TOTAL

20.2.1 Components of Liabilities

Capital

Capital represents the owners stake in the bank and it serves as a cushion for depositors and creditors to fall back in case of losses. It is considered to be a long-term source of funds.

Minimum capital requirement for the domestic and foreign banks is prescribed by Reserve Bank of India.

Reserve and Surplus

The components under this item include statutory reserves, capital reserves, share premium, revenue and other reserves and balance in profit and loss account.

Deposits: Main source of funds for the banks is the deposits. The deposits are broadly classified as deposits payable on demand which includes current deposits, overdue deposits, call deposits, etc. Second category is savings bank deposits and lastly the term deposits which are repayable after a specified period, known as fixed deposits, short deposits and recurring deposits.

Borrowings: Borrowings in India consist of borrowings/refinance obtained from the RBI, other commercial banks and other institutions and agencies like IDBI, EXIM Bank of India, NABARD, etc.

Other Liabilities and Provisions: The other liabilities of the bank are grouped into the following categories:

- **Bills Payable:** This includes drafts, telegraphic transfers, travellers cheques, mail transfers payable, payslips, bankers' cheques and other miscellaneous items.
- **Inter-Office Adjustments:** The credit balance of the net inter-office adjustments.
- **Interest Accrued:** The interest accrued but not due on deposits and borrowings.
- **Others:** All other liability items like provision for income tax, tax deducted at source, interest tax, provisions, etc.

20.2.2 Components of Assets

Cash and Balances with RBI!

All cash assets of the banks are listed under this account and it forms the most liquid account held by any bank. The cash assets consist of the following:

- **Cash in Hand:** This asset item includes cash in hand, including foreign currency notes and cash balances in the overseas branches of the bank.
- **Balances With RBI Cash account** also includes the balances held by each bank with RBI in order to meet statutory cash reserve requirements (CRR).
- **Balances with Banks and Money at Call and Short Notice:** The bank balances include the amount held by the bank in the current accounts and term deposit accounts with other banks. Money at Call and Short Notice includes all loans made in the interbank call money market that are repayable within 15 days notice.

A major asset item in the balance sheet of a bank is investments in various kinds of securities. These include, Government securities, approved securities, shares, debentures and bonds, subsidiaries and/or joint ventures, other investments.

Advances

The most important of the asset items on the bank's balance sheet are advances. These advances which represent the credit extended by the bank to its customers, forms a major part of the assets for all the banks.

Cash credits. Overdrafts and Loans Repayable on Demand: Items under this category represent advances - which are repayable on demand though they may have a specific due date. Term

Loans: All term loans extended by the bank are included here. These advances also have a specific due date, but they will not become payable on demand.

Bills Purchased and Discounted: This item includes the bills discounted/purchased by banks from the client irrespective of whether they are clean/documentary or domestic/foreign.

Secured/unsecured Advances: Based on the underlying security, advances are classified into the following categories:

- **Secured by Tangible Assets:** All advances or part of advances, within/outside India, which are secured by tangible assets will be considered as secured assets.
-

- Covered by Bank/Government Guarantees: Advances in India and outside India to the extent they are covered by guarantees of Indian and foreign Governments/banks and DICGC and ECGC will be included here.

Unsecured Advances: All advances that do not have any security and which do not appear in the above two categories will come under this category.

Fixed Assets: All fixed assets of the bank, e.g., immovable properties, premises, furniture and fixtures, hardware, motor vehicles are classified into fixed assets.

Other Assets: The remainder of the items on the asset side of the bank's balance sheet are categorised as other assets. The miscellaneous assets that appear are:

Inter-office Adjustments: Debit balance of the net position or the interoffice accounts, domestic as well as overseas.

Interest Accrued: This will be the interest accrued, but not due on investments and advances and interest due, but not collected on investments.

Tax Paid in Advance/tax Deducted at Source: This includes amount of tax deducted at source on securities and the advance tax paid to the extent that they are not set-off against relative tax provisions.

Stationery and Stamps: Stock on hand of stationery is considered under this head of account.

Non-Banking Assets Acquired in Satisfaction of Claims: Items under this account include immovable properties/tangible assets which are acquired by the bank in satisfaction of bank's claims on others. Others: Other items primarily include claims that are in the form of clearing items, unadjusted debit balances representing additions to assets and deductions from liabilities and advances provided to the employees of the bank.

Contingent Liabilities

Bank's obligations under issuance of letter of credit, guarantees and acceptances on behalf of constituents and bills accepted by the bank on behalf of its customers are reflected under contingent liabilities. Other contingent liabilities include claims against the bank not acknowledged as debts, liability for partly paid-up investments, liability on account of outstanding forward exchange contracts and other items like arrears of cumulative dividends, bills rediscounted, underwriting, commitments, estimated amount of contracts remaining to be executed on capital account and not provided for, etc.

20.2.3 Bank's Profit and Loss Account

A bank's profit and loss account has following components:

- Income: which includes Interest income and other income
- Expenses: which includes Interest expended. Operating expenses and Provisions and Contingencies. These components are explained hereunder:

(a) Income

The bank's income is broadly classified as interest income and other income. A detailed break up is provided below:

Interest income

Interest income forms the major and most important revenue for the bank. The bank thrives on this income as spreads are essentially generated out of this income.

- Interest/Discount on Advances/Bills: This item includes interest and discount on all types of loans and advances like, cash credit demand loans, overdraft, term loans, export advances, domestic and foreign bills purchased and discounted/rediscounted, overdue interest and interest subsidy, if any relating to such advances/bills.
 - Income on Investments: The dividend and interest income earned on investment portfolio of the bank is entered under this head.
-

- Interest on Balances with RBI and Other Interbank Funds: This item includes the interest earned by the bank on balances with RBI and other banks, call loans, money market placements, etc.
- Others: All other types of interest discount income that not included above will appear in this head of income.

Other Income: Apart from the interest income, banks have certain income in the form of fees, commission, exchange, etc., derived in the following ways:

- Commission, Exchange and Brokerage: Charges of services such as commission on collections, letters of credit and guarantees, Government business and other permitted agency business including consultancy and, other services. It also includes rent on lockers, commission/exchange on remittances and transfers, brokerage, etc., on securities.

Profit on Sale or Investments: The items that are included here are profit/ loss on sale of securities, furniture, land and buildings, motor, vehicles, gold, silver, etc.

Profit on Revaluation of Investment: The net position that appears after the revaluation of investments will be considered here. In case there is a loss after netting the profits against the losses, it will be shown as a deduction.

Profit on Sale of Land, Building and Other Assets: The net profit-loss on revaluation of assets will also be included under this head.

Profit on Exchange Transactions: This includes profit/loss on dealings in foreign exchange, all income earned by way of foreign exchange, commission and charges on foreign exchange transactions, excluding interest which will be shown under interest income. Income Earned by Way of Dividends, etc.: This will include the dividends from subsidiaries/companies and/or joint ventures abroad or in India.

Miscellaneous Income: The miscellaneous income comprises of recoveries from constituents for godown rents, income from bank's properties, security charges, insurance, etc.

(b) Expenses

The expenses of the bank can be broadly classified into interest expenses, other operating expenses and provisions and contingencies. The detailed break up of these expenses is provided below.

Interest Expended: Since bank's will have to mobilise funds regularly to meet the credit demands, the major expenses of the bank arise from the interest expended on deposits and borrowings.

- Interest on Deposits: Interest paid on all types of deposits raised by the bank, from banks, institutions and others will appear under this head.
- Interest on RBI/Interbank Borrowings: This includes the discount/interest on all borrowings/refinance from RBI and other banks.
- Others: Discount/Interest on all borrowings/refinance from FIs and other payments like interest on participation certificates, penal interest, etc., are included here.

Operating Expenses: The operating expenses will generally include the cost of running the bank. Components of operating expenses are listed below:

- Payments to and Provisions for Employees: Staff salaries/wages, allowances, plus, other staff benefits like provident fund, gratuity, liveries to staff, leave fare concession, staff welfare, medical and house rent allowance to staff, etc.
 - Rent, Taxes and Lighting: Rent paid by the bank on building and vehicles, municipal taxes and other taxes (excluding income tax and interest tax) and other charges on electricity, etc.
-

- **Printing and Stationery:** Books and forms and stationery used by the bank and other printing charges which are not incurred by way of publicity expenditure are included here.
- **Advertisement and Publicity:** All expenditures incurred by a bank for advertisement and publicity and the related printing charges.
- **Depreciation on Bank's Property:** Includes depreciation on bank's own property, motor cars and other vehicles, furniture, electric fittings, vaults, lifts, leasehold properties, non-banking assets, etc.

Director 'sfees. Allowances and Expenses: Expenses relating to sitting fees and all other expenditure incurred on behalf of directors.

Auditors' Fees and Expenses: Fees paid to the statutory/branch auditors for their professional services and all expenses incurred in this regard.

Law Charges: All legal expenses and reimbursement of related expenses are reflected under this heading.

Postage: Postal charges like stamps, telegrams, telephones, etc., will be the expenses appearing under this head.

Repairs and Maintenance: Repairs to bank's property, their maintenance charges, etc., are included here.

Insurance: This includes insurance charges on bank's property, insurance premium paid, to Deposit Insurance and Credit Guarantee Corporation (DICGC), etc.

Other Expenditure: Other expenses like License fees, donations, subscriptions to papers, periodicals, entertainment expenses, travel expenses, etc., are all included here.

Provisions and Contingencies: Provisions made for bad and doubtful debts, taxation, diminution in the value of investments, transfers to contingencies and other similar items will appear under this category of expenses.

20.3 WHAT IS ASSET LIABILITY MANAGEMENT?

Because the business of banking involves the identifying, measuring, accepting and managing the risk, the heart of bank financial management is risk management. One of the most important risk-management functions in banking is Asset Liability Management (ALM).

Traditionally, administered interest rates were used to price the assets and liabilities of banks. However, in the deregulated environment, competition has narrowed the spreads of banks. This not only has led to the introduction of discriminate pricing policies, but has also highlighted the need to match the maturities of the assets and liabilities. The changes in the profile of the sources and uses of funds are reflected in the borrowers' profile, the industry profile and the exposure limits for the same, interest rate structure for deposits and advances, etc. The developments that have taken place since liberalisation have led to a remarkable transition in the risk profile of the bank.

Asset Liability Management is concerned with strategic balance sheet management involving risks caused by changes in interest rates, exchange rate, credit risk and the liquidity position of bank. With profit becoming a key-factor, it has now become imperative for a bank to move away from partial asset management (Credit and Non Performing Asset) and partial liability management, towards an integrated balance sheet management where all the components of balance sheet and its different maturity mix will be looked at profit angle of the bank.

Asset Liability Management (ALM) is the act of planning, acquiring, and directing the flow of funds through an organisation. The ultimate objective of this process is to generate adequate/stable earnings and to steadily build an organisation's equity over time, while taking reasonable and measured business risks.

ALM is therefore, the management of the Net Interest Margin (NIM) to ensure that its level and riskiness are compatible with risk/return objectives of the bank. So ALM is more than just managing individual assets and liabilities categories well. It is an integrated approach to Bank Financial Management requiring simultaneous decision about the types and amount of financial assets and liabilities it holds or its mix and volume. In addition ALM requires an understanding of the market area in which the bank operates.

The strategy of actively managing the composition and mix of assets and liabilities portfolios is called balance sheet restructuring. In this approach, bank managers make efforts to adjust and readjust their portfolios in response to corporate objectives, economic conditions and future interest rate scenario to prevent undesirable imbalance between asset and liability maturities. Asset Liability Management can hence be broadly defined as co-ordinated management of a bank's balance sheet to allow for alternative interest rate, liquidity and prepayment summaries. It is a flexible methodology that allows the bank to test inter-relationships between a wide variety of risk factors including market risks, liquidity risk, management decisions, uncertain product cycles, etc.

20.4 SIGNIFICANCE OF ASSET LIABILITY MANAGEMENT

Why do we need asset liability management? In simple terms - a financial institution may have enough assets to pay off its liabilities. But what if 50% of the liabilities are maturing within 1 year but only 10% of the assets are maturing within the same period. Though the financial institution has enough assets, it may become temporarily insolvent due to a severe liquidity crisis.

Thus, ALM is required to match the assets and liabilities and minimise liquidity as well as market risk. Asset-liability management can be performed on a per-liability basis by matching a specific asset to support each liability. Here you ensure that for every liability, there is an equivalent tenure and amount matching asset.

Again even if the assets and liabilities maturity is matched to a large extent, the interest rates can change during the period thereby affecting the interest income from assets and interest expenses on liabilities. Depending upon the movement of interest rates the net interest margin may increase or decrease resulting in corresponding increase or decrease in profit during a certain period.

Asset liability management views the financial institutions as a set of interrelationships that must be identified, coordinated and managed as an integral system. The primary management goal is the control of interest income and expenses and the resulting net interest margins on an ongoing basis.

Some of the reasons for growing significance of Asset Liability Management are:

20.4.1 Volatility

Deregulation of financial system changed the dynamics of financial markets. The vagaries of such free economic environment are reflected in interest rate structures, money supply and the overall credit position of the market, the exchange rates and price levels. For a business, which involves trading in money, rate fluctuations invariably affect the market value, yields/costs of assets and liabilities, which further affect the market value of the bank and its Net Interest Income (Nil).

20.4.2 Product Innovation

The second reason for growing importance of ALM is the rapid innovations taking place in the financial products of the bank. While there were some innovations that came as passing fads, others have received tremendous response. In several cases, the same product has been repeated with certain differences and offered by various banks. Whatever may be features of the products, most of them have an impact on the risk profile of the bank thereby enhancing the need for ALM. For example, Flexi- deposit facility.

20.4.3 Regulatory Environment

At the international level, Bank for International Settlements (BIS) provides a framework for banks to tackle the market risks that may arise due to rate fluctuations and excessive credit risk. Central Bank in various countries (including Reserve Bank of India) have issued frameworks and guidelines for banks to develop Asset Liability Management policies.

20.4.4 Management Recognition

All the above-mentioned aspects forced bank managements to give a serious thought to effective management of assets and liabilities. The management have realised that it is just not sufficient to have a very good franchise for credit disbursement, nor is it enough to have just a very good retail deposit base. In addition to these, a bank should be in a position to relate and link the asset side with liability side. And this calls for efficient asset-liability management.

There is increasing awareness in the top management that banking is now a different game altogether since all risks of the game have since changed.

20.5 PURPOSE AND OBJECTIVES OF ASSET LIABILITY MANAGEMENT

An effective Asset Liability Management technique aims to manage the volume, mix, maturity, rate sensitivity, quality and liquidity of assets and liabilities as a whole so as to attain a predetermined acceptable risk/reward ratio. Thus, purpose of Asset Liability Management is to enhance the asset quality; quantify risks associated with the assets and liabilities and further manage them. Such a process will involve the following steps:

- Review the interest rate structure and compare the same to the interest/product pricing of both assets and liabilities.
- Examine the loan and investment portfolios in the light of the foreign exchange risk and liquidity risk that might arise.
- Examine the credit risk and contingency risk that may originate either due to rate fluctuations or otherwise and assess the quality of assets.
- Review the actual performance against the projections made and analyse the reasons for any effect on the spreads.

The Asset Liability Management technique so designed to manage various risks primarily aim to stabilise the short-term profits, long-term earnings and long-term substance of the bank. The parameters that are selected for the purpose of stabilising Asset Liability Management of banks are:

- Net Interest Income (NII)
- Net Interest Margin (NIM)
- Economic Equity Ratio

A brief description of these parameters is given below:

20.5.1 Net Interest Income (NII)

The impact of volatility on the short-term profit is measured by Net Interest Income.

Net Interest Income = Interest Income - Interest Expenses. In order to stabilise short-term profits; banks have to minimise fluctuation in the NII

20.5.2 Net Interest Margin (NIM)

Net Interest Margin is defined as net interest income divided by average total assets. Net Interest Margin (NIM) = Net Interest Income/Average total Assets. Net Interest Margin can be viewed as the 'Spread' on earning assets.

The net income of banks comes mostly from the spreads maintained between total interest income and total interest expense. The higher the spread the more will be the NIM. There exists a direct correlation between risks and return. As a result, greater spreads only imply enhanced risk exposure. But since any business is conducted with the objective of making profits and

achieving higher profitability is the target, it is the management of risks that holds key to success and not risk elimination.

20.5.3 Economic Equity Ratio

The ratio of the shareholders funds to the total assets measures the shifts in the ratio of owned funds to total funds. This fact assesses the sustenance capacity of the bank.

20.5.4 Objectives of ALM

At macro-level. Asset Liability Management leads to the formulation of critical business policies, efficient allocation of capital and designing of products with appropriate pricing strategies. And at micro-level the objectives of Asset Liability Management are two folds. It aims at profitability through price matching while ensuring liquidity by means of maturity matching.

- Price Matching basically aims to maintain spreads by ensuring that deployment of liabilities will be at a rate higher than the costs. This exercise would indicate whether the institution is in a position to benefit from rising interest rates by having a positive gap (assets > liabilities) or whether it is in a position to benefit from declining interest rates by a negative gap (liabilities > assets).
- Liquidity is ensured by grouping the assets/liabilities based on their maturing profiles. The gap is then assessed to identify future financing requirements. However, there are often maturity mismatches, which may to a certain extent affect the expected results.

20.6 ALM AS CO-ORDINATED BALANCE SHEET MANAGEMENT

The asset liability management function can be viewed in terms of two-stage approach to balance sheet financial management as follows:

20.6.1 Stage 1

Specific Balance Sheet Management Functions Asset side Management will include:

- Reserve position management
- Liquidity management
- Investment/Security Management
- Loan Management
- Fixed-Assets Management

Liability side Management will include:

- Liability Management
- Reserve Position Management
- Long-Term Management (Notes and Debentures)
- Capital Management

20.6.2 Stage 2

Income-Expense Functions

Profit = Interest Income - Interest expense - provision for loan loss + non-interest revenue - non-interest expense - taxes

Banks are required to formulate policies to achieve following objectives of Asset Liability Management:

- Spread Management
- Loan Quality Generating fee income and service charges Control of non-interest operating expenses Tax Management Capital Adequacy

Let Us Sum Up

- The bank's balance sheet comprises of sources and uses of funds. Liabilities and net worth form the sources of the bank funds, whereas assets represent uses of funds to generate revenue for the bank.
- Asset Liability Management (ALM) is the act of planning, acquiring, and directing the flow of funds through an organisation. The ultimate objective of this process is to generate adequate/stable earnings and to steadily build an organisation's equity over time, while taking reasonable and measured business risks.
- It is an integrated approach to Bank Financial Management requiring simultaneous decision about the types and amount of financial assets and liabilities it holds or its mix and volume.
- ALM involves balance sheet restructuring wherein bank managers make efforts to adjust and readjust their portfolios in response to corporate objectives, economic conditions and future interest rate scenario to prevent undesirable imbalance between asset and liability maturities.
- Some of the reasons for growing significance of Asset Liability Management are:
 - Volatility due to deregulation of financial system, interest rates and price levels.
 - Rapid innovation of financial products of banks.
 - Requirement under the Regulatory Environment.
 - Increasing awareness among the Top Management.
- At macro-level. Asset Liability Management involves the formulation of critical business policies, efficient allocation of capital and designing of products with appropriate pricing strategies.
- At micro-level the Asset Liability Management aims at achieving profitability through price matching while ensuring liquidity by means of maturity matching.
- The Asset Liability Management technique so designed to manage various risks will primarily aim to stabilise the short-term profits, long-term earnings and long-term substance of the bank. The parameter that is selected for the purpose of stabilising are:
 - Net Interest Income (Nil)
 - Net Interest Margin (NIM)
 - Economic Equity Ratio

Keywords

Asset Liability- Management: The act of planning, acquiring, and directing the flow of funds through an organisation.

Net Interest Income (Nil): $\text{Net Interest Income} = \text{Interest Income} - \text{Interest Expenses}$.

Net Interest Margin (NIM): $\text{Net Interest Margin (NIM)} = \frac{\text{Net Interest Income}}{\text{Average total Assets}}$.

Economic Equity Ratio: The ratio of the shareholders funds to the total assets measures the shifts in the ratio of owned funds to total funds.

Check Your Progress

A. State Whether Following Statements are True or False.

- (a) Assets represent source of funds whereas liabilities denote the use of funds in a balance sheet. False
- (b) Deregulated environment has narrowed spreads of the banks. True
- (c) Asset liability management is only management of maturity mismatch and has no bearing on profit augmentation. False
- (d) Net Interest margin is also known as 'Spread'. True

B. Fill in the blanks.

2.

- 3.
- 4.
- 5.

ALM is required to match the assets and liabilities to _____ risk. {minimize}

Net Interest Margin is defined as net interest income divided by {Average total Assets}

The ratio of the shareholders funds to the total assets is called {economic equity ratio}

liquidity risk as well as market

Liquidity is ensured by grouping the assets/liabilities based on their {maturities} .

The institution is in a position to benefit from rising interest rates when assets are than liabilities. {greater}

Terminal Questions

What are the components of bank's balance sheet?

What are the components which appear on the assets side of bank's balance sheet? What are the components which appear on the liabilities side of bank's balance sheet? What do you understand by asset liability management? Why is asset liability management important?

What are the factors which have made asset liability management necessary for every bank?

What are the benefits of asset liability management?

Answers to Check Your Progress

A. (a) False, (b) True, (c) False, (d) True

B. 1. Minimise, 2. Average total assets, 3. Economic equity ratio, 4. Maturities, 5. Greater

UNIT 21 Banking Regulation and Capital

STRUCTURE

21.0 Objectives

21.1 Capital and Banking Regulation Keywords

Terminal Questions

21.0 OBJECTIVES

In this chapter, we will understand following areas

- Banking regulations and Capital
- The BIS Accord
- Components of Tier-I and Tier-II Capital

21.1 CAPITAL AND BANKING REGULATION

Capital

Maximisation of return is one of the key objectives of business. Anybody would like to do business with minimum capital and earn maximum returns. However, other entities such as vendors, customers, lenders, employees that deal with such a business venture would like to deal with a strong business unit. A lender would like to ensure that the debt equity ratio is reasonable. A vendor would like to get paid in time and he would therefore look at the financial position of the company. One of the important parameters of financial strength is capital or net worth. Thus it becomes important to have adequate capital and demonstrate that the owners have good stakes in the business. A banking business is no exception to this.

In case of financial institutions the capital required should not only be sufficient to cover the difference between expected losses and 'worst-case losses', (as the expected losses - Provision for NPAs, are usually covered by the way the financial institution prices its products) but also provide adequate return to their share holders. Capital is a cushion to protect the bank from an extremely unfavorable outcome.

Systemic Risk and Banking Regulation

Systemic risk is the risk that a default by one financial institution will create a 'ripple effect' that leads to defaults by other financial institutions and threatens the stability of the financial system. There are huge numbers of over-the-counter transactions between banks. If Bank A fails, Bank B may take a huge loss on the transactions it has with Bank A. This in turn could lead to Bank B failing. Bank C that has many outstanding transactions with both Bank A and Bank B might then take a large loss and experience severe financial difficulties, and so on.

If markets operated totally without regulator/Government intervention, banks that took risks by keeping low levels of equity capital would find it difficult to attract deposits and might experience a 'run on deposits'. This may lead to systemic risk. Most of the countries do have some type of deposit insurance with an object to maintain the confidence of depositors in banking system. However, deposit insurance system encourages the banks to reduce equity capital to improve its return. Hence, it is necessary to combine deposit insurance with regulations on the capital banks must hold.

The 1988 BIS Accord

The 1988 BIS Accord was the first attempt to set international risk-based standards for capital adequacy. It has been subject to much criticism as being too simple and somewhat arbitrary. It was signed by all

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12 members of the BASEL Committee and paved the way for significant increase in the resources banks devote to measuring, understanding, and managing risks.

The Cooke Ratio

The Basel-I accord of 1988 addressed the requirement of standardisation in terms of capital adequacy and benchmark of 8% of CRAR was prescribed for international banks. Thus a relationship of risk-weighted assets to capital was put in place. In India Banks are required to maintain minimum 9% CRAR.

CRAR = Capital/Risk Weighted Assets.

In calculating the Cooke ratio both on-balance-sheet and off-balance-sheet items are considered. They are used to calculate bank's total risk-weighted assets. It is a measure of the bank's total credit exposure.

Capital and its Components

The basic approach of capital adequacy framework is that a bank should have sufficient capital to provide a stable resource to absorb any losses arising from the risks in its business. Capital is divided into tiers according to the characteristics/qualities of each qualifying instrument. For supervisory purposes capital is split into two categories: Tier-I and Tier-II. These categories represent different instruments' quality as capital. Tier-I capital consists mainly of share capital and disclosed reserves and it is a bank's highest quality capital because it is fully available to cover losses. Tier-II capital on the other hand consists of certain reserves and certain types of subordinated debt. The loss absorption capacity of Tier-II capital is lower than that of Tier-I capital.

Elements of Tier-I Capital: The elements of Tier-I capital include:

- Paid-up capital (ordinary shares), statutory reserves, and other disclosed free reserves
- Perpetual Non-cumulative Preference Shares (PNCPS)
- Innovative Perpetual Debt Instruments (IPDI)
- Capital reserves representing surplus arising out of sale proceeds of assets
- Perpetual Non-Cumulative Preference Shares (PNCPS) and Innovative Perpetual Debt Instruments (IPDI) eligible for inclusion as Tier-I capital are subject to laws in force from time to time

Elements of Tier-II capital: The elements of Tier-II capital include: undisclosed reserves, revaluation reserves, general provisions and loss reserves, hybrid capital instruments, subordinated debt and investment reserve account.

- Revaluation Reserves: Revaluation reserve, as reflected on the face of the Balance sheet, at a discount of 55% while determining their value for inclusion in Tier-II capital.
- General Provisions and Loss Reserves: General provisions/loss including floating provision, which in general nature and not made against any identified assets, will be admitted up to a maximum of 1.25% of total risk weighted assets. The excess provision on account of sale of NPAs, can also be included under General provision, subject to the maximum of 1.25% of RWAs.

(Further, excess provision on account of depreciation in the 'Available for Sale' or 'Held for Trading' securities, then the excess amount, subject to tax, would also be eligible for inclusion under Tier-II

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capital within the overall ceiling of 1.25% of total risk weighted assets prescribed for General Provisions/Loss Reserves.) • Hybrid Debt capital instruments: These instruments are of close similarities to equity, in particular when they are able to support losses on an ongoing basis without triggering liquidation, may be included in Tier-II capital. At present, the following instrument have been recognised and placed under this category:

Debt capital instruments eligible for inclusion as Upper Tier II capital; and
Perpetual Cumulative Preference Shares (PCPS)/Redeemable Non-Cumulative Preference Shares

(RNCPS)/Redeemable Cumulative Preference Shares (RCPS) as part of Upper Tier-II Capital
Subordinated Debt: Banks can raise, with the approval of their Boards, rupee-subordinated debt as Tier-II capital. However, only 50% of Tier-I capital can be considered as Tier-II Capital.

Deduction from Tier-I and Tier-II Capital

(a) Equity/Non-Equity Investments in Subsidiaries

The investments of a bank in the equity as well as non-equity capital instruments issued by a subsidiary,

should be deducted at 50% each, from Tier-I and Tier-II capital of the bank,

(b) Credit Enhancements Pertaining to Securitisation of Standard Assets

(i) Treatment of First Loss Facility: The first loss credit enhancement provided by the originator shall be reduced from capital funds and the deduction shall be capped at the amount of capital that the bank would have been required to hold for the full value of the assets, had they not been securitised. The deduction shall be made at 50% from Tier-I and 50% from Tier-II capital.

(ii) Treatment of Second Loss Facility: The second loss credit enhancement provided by the originator shall be reduced from capital funds to the full extent. The deduction shall be made 50% from Tier-I and 50% from Tier-II capital.

(iii) Treatment of Credit Enhancements Provided by Third Party: In case, the bank is acting as a third party service provider, the first loss credit enhancement provided by it shall be reduced from capital to the full extent as in case of treatment of first loss facility.

(iv) Underwriting by an Originator: Securities issued by the SPVs and devolved/held by the banks in excess of 10 per cent of the original amount of issue, including secondary market purchases, shall be deducted 50% from Tier-I capital and 50% from Tier-II capital.

(v) Underwriting by Third Party Service Providers: If the bank has underwritten securities issued by SPVs devolved and held by banks, which are below investment grade the same will be deducted from capital at 50% from Tier-I and 50% from Tier-II.

C. Limit for Tier // Elements

Tier-II elements should be limited to a maximum of 100% of total Tier-I elements for the purpose of compliance with the norms.

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Keywords

Banking Regulation; Cooke Ratio; Systemic Risk; Deposit Insurance; Risk Weighted Assets; Expected Losses; First Loss Facility; Second Loss Facility; SPV

Terminal Questions

1. Describe ripple effect?
2. Write brief note on banking regulation and systemic Risk.
3. List out the factors for computing the Cooke Ratio?
4. What were the main objectives of Basel-I accord?
5. What are the different components of Tier-II capital?
6. What are the limits prescribed for different types of capital instruments?

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UNIT 22 Capital Adequacy - The Basel-II Overview

STRUCTURE

22.1 Introduction

22.2 Basel-II - Revised Frame Work

22.3 Scope of Application

22.4 Pillar 1: Minimum Capital Requirements

Let Us Sum Up Keywords

Terminal Questions

22.1 INTRODUCTION

Central Bank Governors of the Group of Ten Countries formed a Committee of banking supervisory authorities in 1975. This Committee usually meets at the Bank of International Settlement (BIS) in Basel, Switzerland. Hence it has come to be known as the Basel Committee. The Basel Committee provided the framework for capital adequacy in 1988, which is known as the Basel-I accord.

The 1988 Basel Accord led to significant increases in the capital held by banks over the following 10 years. It deserves a great deal of credit for improving the stability of the global banking system. However, it does have significant weakness. The Basel-1 norms for risk weights were more of a straightjacket nature. For example, all exposures to sovereigns were given 0% risk weight. All bank exposures had a risk weight of 20%. Corporate advances had a risk weight of 100%. Such rigid approach without any consideration for the strengths or weaknesses of individual entities was the main shortcoming of the Basel-I accord, e.g., all loans by a bank to a corporation have a risk weight of 100% and require the same amount of capital, e.g., a loan to a corporation with a AAA credit rating is treated in the same way as one to a corporation with a B credit rating.

The BCBS released the "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" on June 26, 2004. The Revised Framework was updated in November 2005 to include trading activities and the treatment of double default effects and a comprehensive version of the framework was issued in June 2006 incorporating the constituents of capital and the 1996 Amendment to the Capital Accord to incorporate Market Risk. The Revised Framework seeks to arrive at significantly more risk-sensitive approaches to capital requirements. The Revised Framework provides a range of options for determining the capital requirements for credit risk and operational risk to allow banks and supervisors to select approaches that are most appropriate for their operations and financial markets. The Revised Framework consists of three-mutually reinforcing pillars, viz., minimum capital requirements, supervisory review of capital adequacy, and market discipline.

The Basel II capital requirements apply to 'Internationally active' banks. In the United States, there are many small regional banks and the US regulatory authorities have decided that Basel II will not apply to them. (These banks will be regulated under what is termed Basel IA, which is similar to Basel I). It is likely that some of the larger banks may manage risks in a sophisticated way. In Europe all banks, large or small, will be regulated under Basel II. In addition, the European Union requires the Basel II rules to be applied to securities companies as well as banks.

22.2 BASEL-II - REVISED FRAME WORK

The Revised Framework consists of three-mutually reinforcing, Pillars, viz., minimum capital requirements, supervisory review of capital adequacy, and market discipline. Under Pillar 1, the

Framework offers three distinct options for computing capital requirement for credit risk and three other options for computing capital requirement for operational risk. These options for credit and operational risks are based on increasing risk-sensitivity and allow banks to select an approach that is most appropriate to the stage of development of bank's operations.

The options available for computing capital for credit risk are Standardised Approach, Foundation Internal Rating Based Approach and Advanced Internal Rating Based Approach.

The options available for computing Market risk is standardized approach (based on maturity ladder and duration based) and advanced approach, i.e., internal models such as VAR.

The options available for computing capital for operational risk are Basic Indicator Approach, Standardised Approach and Advanced Measurement Approach.

22.3 SCOPE OF APPLICATION

The revised capital adequacy norms shall be applicable uniformly to all Commercial Banks (except Local Area Banks and Regional Rural Banks), both at the solo level (global position) as well as at the consolidated level. A Consolidated bank is defined as a group of entities where a licensed bank is the controlling entity. A consolidated bank will include all group entities under its control, except the exempted entities. A consolidated bank may exclude group companies, which are engaged in insurance business and businesses not pertaining to financial services. A consolidated bank should maintain a minimum Capital to Risk-weighted Assets Ratio (CRAR) as applicable to a bank on an ongoing basis.

Keeping in view Reserve Bank's goal to have consistency and harmony with international standards, it has been decided that all commercial banks in India (excluding Local Area Banks and Regional Rural Banks) shall adopt Standardised Approach (SA) for credit risk and Basic Indicator Approach (BIA) for operational risk. Banks shall continue to apply the Standardised Duration Approach (SDA) for computing capital requirement for market risks.

Three Pillars of Basel-II

The fundamental objective of the Committee was to revise the 1988 accord and strengthen the soundness and stability of the banking system. The revised framework would promote the adoption of stronger risk management practices by banks. The revised framework provides greater use of assessment of risk provided by Banks' internal systems as inputs to capital calculations. It demands capital allocation for operational risk for the first time. It provides a range of options for determining capital requirements for credit risk and operational risk. It also emphasises the need for consistency in approach.

The Basel-II accord is expected to establish a minimum level of capital for internationally active banks. National regulators are free to set higher standards for minimum capital. The revised framework is perceived as more forward-looking approach and has a capacity to evolve with time.

The new capital accord will require banks to manage risks by not only allocating regulatory capital but also by disclosing greater risk information and setting standards for risk management processes. Basel-II provides incentives for banks to invest and increase the sophistication of their internal risk management capabilities in order to gain reductions in capital. This will help them to increase a bank's lending which in turn will give higher returns and value to its shareholders.

Generally, banks consider a regulatory requirement as an administrative burden with little or no benefit to their bottom line. However, the Basel capital requirements are viewed as an opportunity to demonstrate their credentials. The reputation of a bank is very important. Banks

would ensure compliance with the Basel standards to show themselves as good practitioners in risk management.

The Basel-II accord aligns regulatory capital with the banks' risk profits. The Basel Committee recognises that home country supervisors have an important role in leading the enhanced cooperation between home and host country supervisors that will be required for the effective implementation. The Basel-II accord rests on three pillars:

THREE PILLARS OF BASEL-II

Pillar 2: Supervisory Review

1. Evaluate risk assessment
2. Ensure soundness and integrity of bank's internal processes to assess the adequacy of capital
3. Ensure maintenance of minimum capital with PCA for shortfall
4. Prescribe differential capital, where necessary i.e. where the internal processes are slack.

Pillar 3: Market Discipline

1. Enhance disclosures
2. Core disclosures and supplementary disclosures
3. Disclosures should be made on half yearly basis.

Thus the Basel-II accord does not merely prescribe minimum capital requirement, but envisages processes of supervisory review and market discipline. The revised framework is more risk sensitive than the 1988 accord. There are incentives for those banks, which have better risk management capabilities. We shall discuss all the three pillars in more detail in the following sections/units.

Pillar- / - Minimum Capital Requirements

The capital ratio continues to be calculated using the definition of regulatory capital and risk-weighted assets. The definition of eligible regulatory capital largely continues to be as defined in the earlier accord

of 1988 and amended to include Tier-III capital as prescribed in January 96 and September 97.

Thus the term capital would include Tier-I or core capital, Tier-II or supplemental capital, and Tier-III capital. The total capital ratio must not be lower than 8%. Core capital consists of paid up capital, free reserves and unallocated surpluses, less specified deductions.

Supplementary capital comprises subordinated debt of more than five years' maturity, loan loss reserves, revaluation reserves, investment fluctuation reserves, and limited life preference shares. Tier-II capital is restricted to 100% of Tier-I capital as before and long-term subordinated debt may not exceed 50% of Tier-I capital.

Tier-III (Presently not allowed by RBI) capital consists of short-term subordinated debt for the sole purpose of meeting a proportion of the capital requirement for market risk. Short-term bond must have an original maturity of at least two years. Tier-III capital will be limited to 250% of a bank's Tier-1 capital that is required to support market risk. This means that a minimum of about 28.5% of market risk needs to be supported by Tier-I capital. Any capital requirement arising in respect of credit and counter-party risk needs to be met by Tier-I and Tier-II capital.

The scope of risk weighted assets is expanded to include certain additional aspects of market risk and also operational risk. The area of operational risk is brought under the ambit of risk-weighted assets for the first time. Total risk weighted assets include the capital requirement for market risk and operational risk multiplied by 12.5 (i.e. reciprocal of the minimum capital requirement of 8%) along with risk weighted assets for credit risk. Thus -

Total Risk weighted assets = Risk weighted assets for credit risk + 12.5 * Capital requirement for market risk + 12.5 * Capital requirement for operational risk

The individual component of risk-weighted assets are dealt with in detail in Module B, (Risk Management).

Let Us Sum Up

The Basel-I accord provided global standards for minimum capital requirements for banks. Capital requirement is based on the value and nature of assets. This accord was made in 1988 and has been in vogue for about 15 years.

Limitations in the accord were noticed over a period of time. A revision exercise began in June 1999. After the exhaustive consultative process, a revised framework was finalised in June 2004. The revised framework promotes the adoption of stronger risk management practices by banks. It also introduces capital allocation for operational risks.

Basel-II accord rests on three pillars, viz. minimum capital requirement, supervisory review process, and market discipline. The accord provides various options to work out the minimum capital for credit, market and operational risks.

The capital ratio continues to be calculated using regulatory capital and risk weighted assets for credit, market and operational risks. Regulatory capital consists of Tier 1, 2, and 3 capital.

Capital adequacy ratio = Regulatory capital/Total risk weighted assets.

Total risk weighted assets = Risk weighted assets for credit risk + 12.5*Capital for Market risk + 12.5*Capital for Operational risk.

Keywords

Basel-II accord; Regulatory Capital; Three Pillars of Basel Accord; Minimum Capital requirement; Supervisory review; Market discipline; Total Risk weighted assets

Terminal Questions

1. List out the three pillars of Basel-II accord?
2. Write a brief note on Regulatory Capital?
3. How to compute Total Risk weighted assets under Basel-II?
4. What were the objectives for revision of Basel-I accord?
5. Write a short note on different approaches for computation of capital charge under Basel-II.

UNIT 23 Supervisory Review

STRUCTURE

23.1 Introduction

23.2 Pillar 2 - Supervisory Review Process

Let Us Sum Up Keywords

Terminal Questions

23.1 INTRODUCTION

The Basel-II Framework has three components or three Pillars. The Pillar I is the Minimum Capital Ratio while the Pillar 2 and Pillar 3 are the Supervisory Review Process (SRP) and Market Discipline, respectively.

The objective of the SRP is to ensure that the banks have adequate capital to support all the risks in their business as also to encourage them to develop and use better risk management techniques for monitoring and managing their risks.

The main aspects to be addressed under the SRP, and therefore, under the ICAAP, would include:

- (a) the risks that are not fully captured by the minimum capital ratio prescribed under Pillar 1
- (b) the risks that are not at all taken into account by the Pillar 1
- (c) the factors external to the bank

Since the capital adequacy ratio prescribed by the RBI under the Pillar 1 of the Framework is only the regulatory minimum level, addressing only the three specified risks (viz., credit, market and operational risks), holding additional capital might be necessary for the banks, on account of both - the possibility of some underestimation of risks under the Pillar 1 and the actual risk exposure of a bank vis-a-vis the quality of its risk management architecture. Illustratively, some of the risks that the banks are generally exposed to but which are not captured or not fully captured in the regulatory CRAR would include:

- (a) Interest rate risk in the banking book
- (b) Credit concentration risk
- (c) Liquidity risk
- (d) Settlement risk
- (e) Reputational risk
- (f) Strategic risk
- (g) Risk of under-estimation of credit risk under the Standardised approach
- (h) "Model risk" i.e., the risk of under-estimation of credit risk under the IRB approaches

(i) Risk of weakness in the credit-risk mitigants (j) Residual risk of securitisation, etc.

It is therefore, only appropriate that the banks make their own assessment of their various risk exposures, through a well-defined internal process, and maintain an adequate capital cushion for such risks. Further it is recognised that there is no one single approach for conducting the ICAAP and the market consensus in regard to the best practice for undertaking ICAAP is yet to emerge. The ICAAP document should include the capital adequacy assessment and projections of capital requirement for the ensuing year, along with the plans and strategies for meeting the capital requirement and should also be approved by the Board.

23.2 PILLAR 2 - SUPERVISORY REVIEW PROCESS

Guidelines for the SREP of the RBI and the ICAAP of the Banks

While the Basel-I framework was confined to the prescription of only minimum capital requirements for banks, the Basel-II framework expands this approach not only to capture certain additional risks in the minimum capital ratio, but also includes two additional areas - the Supervisory Review Process and Market Discipline through increased disclosure requirements for banks. Thus, the Basel-II framework rests on the following three mutually-reinforcing pillars: Pillar I: Minimum Capital Requirements - which prescribes a risk-sensitive calculation of capital requirements that, for the first time, explicitly includes operational risk in addition to market and credit risk.

Pillar 2: Supervisory Review Process (SRP) - which envisages the establishment of suitable risk management systems in banks and their review by the supervisory authority.

Pillar 3: Market Discipline - which seeks to achieve increased transparency through expanded disclosure requirements for banks.

The Basel-II document of the Basel Committee also lays down the following four key principles in regard to the SRP envisaged under Pillar 2:

Principle 1: Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

Principle 2: Supervisors should review and evaluate the banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with the regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.

Principle 3: Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require the banks to hold capital in excess of the minimum.

Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

Banks' Responsibilities

(a) Banks should have in place a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels (Principle 1)

(b) Banks should operate above the minimum regulatory capital ratios (Principle 3)

Supervisors' Responsibilities

(a) Supervisors should review and evaluate a bank's ICAAP. (Principle 2)

(b) Supervisors should take appropriate action if they are not satisfied with the results of this process

(Principle 2)

(c) Supervisors should review and evaluate a bank's compliance with the regulatory capital ratios.

(Principle 2)

(d) Supervisors should have the ability to require banks to hold capital in excess of the minimum.

(Principle 3)

(e) Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels.

(Principle 4)

(f) Supervisors should require rapid remedial action if capital is not maintained or restored.

(Principle 4)

Thus, the ICAAP and SREP are the two important components of Pillar 2 and could be broadly defined as follows:

The ICAAP comprises a bank's procedures and measures designed to ensure the following:

- (a) An appropriate identification and measurement of risks
- (b) An appropriate level of internal capital in relation to the bank's risk profile
- (c) Application and further development of suitable risk management systems in the bank

The SREP consists of a review and evaluation process adopted by the supervisor, which covers all the processes and measures defined in the principles listed above. Essentially, these include the review and evaluation of the bank's ICAAP, conducting an independent assessment of the bank's risk profile, and if necessary, taking appropriate prudential measures and other supervisory actions.

The Structural Aspects of the ICAAP

The broad parameters of the ICAAP that the banks are required to comply with in designing and implementing their ICAAP are:

E\ cry bank to have an ICAAP: The ICAAP should be prepared, on a solo basis, at every tier for each banking entity within the banking group, as also at the level of the consolidated bank (i.e., a group of entities where the licensed bank is the controlling entity).

ICAAP to be a Board-Approved Process: The ultimate responsibility for designing and implementation of the ICAAP lies with the bank's board of directors. The structure, design and contents of a bank's ICAAP should be approved by the board of directors to ensure that the ICAAP forms an integral part of the management process and decision making culture of the bank. Since a sound risk management process provides the basis for ensuring that a bank maintains adequate capital, the board of directors of a bank shall:

- set the tolerance level for risk
- ensure that the senior management of the bank:
- establishes a risk framework in order to assess and appropriately manage the various risk exposures of the bank
- develops a system to monitor the bank's risk exposures and to relate them to the bank's capital and reserve funds
- establishes a method to monitor the bank's compliance with internal policies, particularly in regard to risk management and effectively communicates all relevant policies and procedures throughout the bank
- adopt and support strong internal controls
- ensure that the bank has appropriate written policies and procedures in place
- ensure that the bank has an appropriate strategic plan in place, which, as a minimum, shall duly outline
 - the bank's current and future capital needs
 - the bank's anticipated capital expenditure
 - the bank's desired level of capital

Review of the ICAAP Outcomes: The board of directors shall, at least once a year, assess and document whether the processes relating the ICAAP implemented by the bank successfully achieve the objectives envisaged by the board. In the light of such an assessment, appropriate

changes in the ICAAP should be instituted to ensure that the underlying objectives are effectively achieved.

ICAAP to be an Integral part of the management and decision-making culture. This integration could range from using the ICAAP to internally allocate capital to various business units, to having it play a role in the individual credit decision process and pricing of products or more general business decisions such as expansion plans and budgets.

The Principle of Proportionality: The implementation of ICAAP should be guided by the principle of proportionality. Though the banks are encouraged to migrate to and adopt progressively sophisticated approaches in designing their ICAAP, the RBI would expect the degree of sophistication adopted in the ICAAP in regard to risk measurement and management to be commensurate with the nature, scope, scale and the degree of complexity in the bank's business operations.

(A) In relation to a bank that defines its activities and risk management practices as simple, in carrying out its ICAAP, that bank could:

- Identify and consider that bank's largest losses over the last 3-5 years and whether those losses are likely to recur
- Prepare a short list of the most significant risks to which that bank is exposed
- Consider how that bank would act, and the amount of capital that would be absorbed in the event that each of the risks identified were to materialize
- Consider how that bank's capital requirement might alter under the scenarios in (c) and how its capital requirement might alter in line with its business plans for the next 3 to 5 years
- Document the ranges of capital required in the scenarios identified above and form an overall view on the amount and quality of capital which that bank should hold, ensuring that its senior management is involved in arriving at that view

(B) In relation to a bank that define its activities and risk management practices as moderately complex, in carrying out its ICAAP, that bank could:

- (a) having consulted the operational management in each major business line, prepare a comprehensive list of the major risks to which the business is exposed
- (b) estimate, with the aid of historical data, where available, the range and distribution of possible losses which might arise from each of those risks and consider using shock stress tests to provide risk estimates

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- (c) consider the extent to which that bank's capital requirement adequately captures the risks identified in (a) and (b)
 - (d) for areas in which the capital requirements either inadequate or does not address a risk, estimate the additional capital needed to protect that bank and its customers, in addition to any other risk mitigation action that bank plans to take
 - (e) consider the risk that the bank's own analyses of capital adequacy may be inaccurate and that it may suffer from management weaknesses, which affect the effectiveness of its risk management and mitigation
 - (f) project that bank's business activities forward in detail for one year and in less detail for the next 3 - 5 years, and estimate how that bank's capital and capital requirement would alter, assuming that business develops as expected
 - (g) assume that business does not develop as expected and consider how that bank's capital and capital requirement would alter and what that bank's reaction to a range of adverse economic scenarios might be
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- (h) document the results obtained from the analyses in (b), (d), (f), and (g) above in a detailed report for that bank's top management/board of directors; and (i) ensure that systems and processes are in place to review the accuracy of the estimates made in (b), (d), (f) and (g) (i.e., systems for back testing) vis-a-vis the performance/actual.

Regular independent review and validation: The ICAAP should be subject to regular and independent review through an internal or external audit process, to ensure that the ICAAP is comprehensive and proportionate to the nature, scope, scale and level of complexity of the bank's activities so that it accurately reflects the major sources of risk that the bank is exposed to. As a minimum, a bank shall conduct periodic reviews of its risk management processes, which should ensure:

- (i) the integrity, accuracy, and reasonableness of the processes
- (ii) the appropriateness of the bank's capital assessment process based on the nature, scope, scale and complexity of the bank's activities
- (iii) the timely identification of any concentration risk
- (iv) the accuracy and completeness of any data inputs into the bank's capital assessment process
- (v) the reasonableness and validity of any assumptions and scenarios used in the capital assessment process
- (vi) that the bank conducts appropriate stress testing

ICAAP TO BE A FORWARD-LOOKING PROCESS

The ICAAP should be forward looking in nature, and thus, should take into account the expected/ estimated future developments such as strategic plans, macro economic factors, etc., including the likely future constraints in the availability and use of capital. As a minimum, the management of a bank shall develop and maintain an appropriate strategy that would ensure that the bank maintains adequate capital commensurate with the nature, scope, scale, complexity and risks inherent in the bank's on- balance-sheet and off-balance-sheet activities, and should demonstrate as to how the strategy dovetails with the macro-economic factors.

Thus, the banks shall have an explicit. Board-approved capital plan which should spell out the institution's objectives in regard to level of capital, the time horizon for achieving those objectives, and in broad terms, the capital planning process and the allocate responsibilities for that process. The plan shall outline:

- (a) the bank's capital needs
- (b) the bank's anticipated capital utilisation
- (c) the bank's desired level of capital
- (d) limits related to capital
- (e) a general contingency plan for dealing with divergences and unexpected events ICAAP to be a Risk-based Process

The adequacy of a bank's capital is a function of its risk profile. Banks shall, therefore, set their capital targets, which are consistent with their risk profile and operating environment. As a minimum, a bank shall have in place a sound ICAAP, which shall include all material risk exposures incurred by the bank. There are some types of risks (such as reputation risk and strategic risk) which are less readily quantifiable; for such risks, the focus of the ICAAP should be more on qualitative assessment, risk management and mitigation than on quantification of such risks. Banks' ICAAP document shall clearly indicate for which risks a quantitative measure is considered warranted, and for which risks a qualitative measure is considered to be the correct approach.

ICAAP to Include Stress Tests and Scenario Analyses

As part of the ICAAP, the management of a bank shall, as a minimum, conduct relevant stress tests periodically, particularly in respect of the bank's material risk exposures, in order to evaluate the potential vulnerability of the bank to some unlikely but plausible events or movements in the market conditions that could have an adverse impact on the bank. The use of stress testing framework can provide a bank's management a better understanding of the bank's likely exposure in extreme circumstances.

Substantive Operational Aspects of the ICAAP

This Section outlines in somewhat greater detail the scope of the risk universe expected to (be normally captured by the banks in their ICAAP.

Identifying and Measuring material Risks in ICAAP: The first objective of an ICAAP is to identify all material risks. Such as Credit risk: Market risk: Operational risk: Interest rate risk in the banking book (IRRBB): Credit concentration risk: Liquidity risk: Risks that can be reliably measured and quantified should be treated as rigorously as data and methods allow. The appropriate means and methods to measure and quantify those material risks are likely to vary across banks.

Quantitative and Qualitative Approaches in ICAAP

- (a) All measurements of risk incorporate both quantitative and qualitative elements, but to the extent possible, a quantitative approach should form the foundation of a bank's measurement framework. In general, an increase in uncertainty related to modelling and business complexity should result in a larger capital cushion.

(b) Quantitative approaches that focus on most likely outcomes for budgeting, forecasting, or performance measurement purposes may not be fully applicable for capital adequacy because the ICAAP should also take less likely events into account.

Stress testing and scenario analysis can be effective in gauging the consequences of outcomes that are unlikely but would have a considerable impact on safety and soundness.

Risk Aggregation and Diversification Effects: An effective ICAAP should assess the risks across the entire bank. A bank choosing to conduct risk aggregation among various risk types or business lines should understand the challenges in such aggregation.

While considering the possible effects of diversification, management should be systematic and rigorous in documenting decisions, and in identifying assumptions used in each level of risk aggregation.

The bank should have systems capable of aggregating risks based on the bank's selected framework. For example, a bank calculating correlations within or among risk types should consider data quality and consistency, and the volatility of correlations over time and under stressed market conditions.

Let Us Sum Up

The supervisory review process is required to ensure capital adequacy as well as to ensure integrity of the risk management processes. The Basel Committee has stated four key principles of supervisory review. The review should assess bank's internal capital, capital adequacy assessments & strategy. The review should also assess bank's ability to monitor and ensure their compliance with regulatory capital ratios. The supervisors also stipulate buffers for systemic as well as bank specific uncertainties.

Keywords

ICAAP; Supervisory Review Process (SRP)

Terminal Questions

- 1.
- 2.
- 3.
- 4.
- 5.

Why ICCAP?

What are Principles of ICAAP?

What should be included in ICAAP by the Bank?

List down the quantitative and qualitative approaches in ICAAP.

What are the two issues dealt with by supervisory review process?

UNIT 24 Pillar 3 - Market Discipline

STRUCTURE

24.1 Introduction

24.2 Pillar 3 —Market Discipline

Let Us Sum Up Keywords

Terminal Questions

24.1 INTRODUCTION

The Purpose of Pillar 3: Market Discipline is to compliment the minimum capital requirements (Pillar 1) and the supervisory review process (Pillar 2). Pillar 3 provides disclosure requirements for banks using Basel-II framework. These disclosures will allow market participants to assess key information and thereby make 'informed' decision about a bank. Market discipline can contribute to a safe and sound banking environment.

In principle, banks' disclosures should be consistent with how senior management and the Board of directors assess and manage the risks of the bank. Under Pillar 1, banks use specified approaches/ methodologies for measuring the various risks they face and the resulting capital requirements. Market discipline can contribute to a safe and sound banking environment.

24.2 PILLAR 3 - MARKET DISCIPLINE Scope and Frequency of Disclosures

Banks, including consolidated banks, should provide all Pillar 3 disclosures, both qualitative and quantitative, as at end-March each year along with the annual financial statements. With a view to enhance the ease of access to the Pillar 3 disclosures, banks may make their annual disclosures both in their annual reports as well as their respective websites. Banks with capital funds of Rs. 100 crore or more should make interim disclosures on the quantitative aspects, on a stand alone basis, on their respective websites as at end September each year. However, banks with capital funds of Rs. 500 crore or more, and their significant bank subsidiaries, must disclose their Tier-1 capital, total capital, total required capital and Tier-I ratio and total capital adequacy ratio, on a quarterly basis on their respective websites.

Validation

The disclosures should be subjected to adequate validation. Since information in the annual financial statements would generally be audited, the additional material published with such statements must be consistent with the audited statements. In addition, supplementary material (such as Management's Discussion and Analysis) that is published should also be subjected to sufficient scrutiny (e.g., internal control assessments, etc.) to satisfy the validation issue.

Presently, Pillar 3 disclosures will not be required to be audited by an external auditor, unless specified.

Materiality

A bank should decide which disclosures are relevant for it based on the materiality concept. Information would be regarded as material if its omission or misstatement could change or influence the assessment or decision of a user relying on that information for the purpose of making economic decisions.

Proprietary and Confidential Information

Proprietary information encompasses information (for example on products or systems), that if shared with competitors would render a bank's investment in these products/systems less valuable, and hence would undermine its competitive position. Information about customers is often confidential, in that it is provided under the terms of a legal agreement or counterparty relationship.

General Disclosure Principle

A formal disclosure policy approved by the Board of Directors that addresses the bank's approach for determining what disclosures it will make, the internal controls over the disclosure process, process for assessing the appropriateness of their disclosures, validation and frequency. Banks should have a formal disclosure policy approved by the Board of Directors. The policy should state the Bank's approach to determining what disclosures it will make and the internal controls over the disclosure process.

Pillar 3

Pillar 3 prescribes qualitative and quantitative disclosures under the following 13 areas:

1. Scope of application
2. Capital structure
3. Capital adequacy
4. Credit Risk - general disclosures
5. Credit Risk - disclosures for portfolios, under standardised approach
6. Credit Risk - disclosures for portfolios, under IRB approaches
7. Credit Risk mitigation - disclosures for standardised & IRB approaches
8. Securitisation - disclosures for standardised & IRB approaches
9. Market Risk - disclosures under standardised approach
10. Market Risk - disclosures under internal models approach
11. Operational risk
12. Equities - disclosures for banking book positions
13. Internal rate risk in the banking book

Disclosures as Prescribed by RBI

TABLE 24.1

Scope of Application

Qualitative Disclosures (a) The name of the top bank in the group to which the Framework applies.(b) An outline of differences in the basis of consolidation for accounting and regulatory purposes, with a brief description of the entities within the group (i) that are fully consolidated; (ii) that are pro-rata consolidated;(iii) that are given a deduction treatment; and (iv) that are neither consolidated nor deducted (e.g., where the investment is risk-weighted).

Quantitative-Disclosures

(c) The aggregate amount of capital deficiencies in all subsidiaries not included in the consolidation i.e. that are deducted and the name(s) of such subsidiaries, (d) The aggregate amounts (e.g., current book value) of the bank's total interests in insurance entities, which are risk-weighted as well as their name, their country of incorporation or residence, the proportion of ownership interest and, if different, the proportion of voting power in these entities. In addition, indicate the quantitative impact on regulatory capital of using this method versus using the deduction.

TABLE 24.2

Capital Structure

(a) Summary information on the terms and conditions of the main features of all capital instruments, especially in the case of capital instruments eligible for inclusion in Tier-I or in Upper Tier-II.

Quantitative Disclosures

- (b) The amount of Tier-I capital, with separate disclosure of paid-up share capital; reserves; innovative instruments; other capital instruments; amounts deducted from Tier-I capital, including goodwill and investments.
- (c) The total amount of Tier-II capital (net of deductions from Tier-II capital).
- (d) Debt capital instruments eligible for inclusion in Upper Tier-II capital Total amount outstanding; Of which amount raised during the current year Amount eligible to be reckoned as capital funds
- (e) Subordinated debt eligible for inclusion in Lower Tier-II capital Total amount outstanding; of which amount raised during the current year amount eligible to be reckoned as capital funds
- (f) Other deductions from capital, if any.
- (g) Total eligible capital.

TABLE 24.3

Capital Adequacy

Qualitative Disclosures

- (a) A summary discussion of the bank's approach to assessing the adequacy of its capital to support current and future activities.

Quantitative disclosures

- (b) Capital requirements for credit risk: Portfolios subject to standardised approach, Securitisation exposures.
- (c) Capital requirements for market risk: Standardised duration approach; Interest rate risk Foreign exchange risk (including gold) Equity risk
- (d) Capital requirements for operational risk: Basic indicator approach;
- (e) Total and Tier-1 capital ratio: For the top consolidated group; and For significant bank subsidiaries (stand alone or sub-consolidated depending on how the Framework is applied).

TABLE 24.4

Credit Risk : General Disclosures for All Banks

Qualitative Disclosures

- (a) The general qualitative disclosure requirement with respect to credit risk, including: Definitions of past due and impaired (for accounting purpose); Discussion of the bank's credit risk management policy;

Quantitative Disclosures

- (b) Total gross credit risk exposures. Fund-based and Non-fund based separately.
- (c) Geographic distribution of exposures. Fund based and Non-fund based separately Overseas Domestic
- (d) Industry type distribution of exposures, fund based and non-fund based separately (e) Residual contractual maturity breakdown of assets, (g) Amount of NPAs (Gross)

Substandard

Doubtful 1 ,Doubtful 2 ,Doubtful 3 ,Loss Net NPAs NPA Ratios,Gross NPAs to gross advances ,Net NPAs to net advances, Movement of NPAs (Gross), Movement of provisions for NPAs, Amount of Non-Performing Investments, Amount of provisions held for non-performing investments, Movement of provisions for depreciation on investments.

TABLE 24.5

Credit Risk: Disclosures for Portfolios Subject to the Standardised Approach

Qualitative Disclosures

- (a) For portfolios under the standardised approach: Names of credit rating agencies used, plus reasons for any changes; Types of exposure for which each agency is used; and A description
-

of the process used to transfer public issue ratings onto comparable assets in the banking book;

Quantitative Disclosures

- (b) For exposure amounts after risk mitigation subject to the standardised approach, amount of a bank's outstandings (rated and unrated) in the following three major risk buckets as well as those that are deducted;

Below 100% risk weight

100% risk weight

More than 100% risk weight

Deducted

TABLE 24.6

Credit Risk Mitigation: Disclosures for Standardised Approaches

Qualitative Disclosures

- (a) The general qualitative disclosure requirement (Paragraph 10.13) with respect to credit risk mitigation including: policies and processes for collateral valuation and management; a description of the main types of collateral taken by the bank; the main types of guarantor counterparty and their creditworthiness; and information about (market or credit) risk concentrations within the mitigation taken

Quantitative Disclosures

- (b) For disclosed credit risk portfolio under the standardised approach, the total exposure that is covered by: eligible financial collateral; after the application of haircuts.

TABLE 24.7

Securitisation : Disclosure for Standardised Approach

Qualitative Disclosures

- (a) The general qualitative disclosure requirement (Unit 10.13) with respect to securitisation, including a discussion of: the bank's objectives in relation to securitisation activity, including the extent to which these activities transfer credit risk of the underlying securitised exposures away from the bank to other entities; the roles played by the bank in the securitisation process and an indication of the extent of the bank's involvement in each of them; and the regulatory capital approach that the bank follows for its securitisation activities.
- (b) Summary of the bank's accounting policies for securitisation activities, including: recognition of gain on sale; and key assumptions for valuing retained interests, including any significant changes since the last reporting period and the impact of such changes;
- (c) Names of ECAs used for securitisations and the types of securitisation exposure for which each agency is used.

Quantitative Disclosures

- (d) The total outstanding exposures securitised by the bank and subject to the securitisation framework by exposure type.
- (e) For exposures securitised by the bank and subject to the securitisation framework: amount of impaired/ past due assets securitised; and losses recognised by the bank during the current period broken down by exposure type.
- (f) Aggregate amount of securitisation exposures retained or purchased broken down by exposure type.
- (g) Aggregate amount of securitisation exposures retained or purchased broken down into a meaningful number of risk weight bands. Exposures that have been deducted entirely from Tier-II capital, credit enhancing I/Os deducted from Total Capital, and other exposures
-

deducted from total capital should be disclosed separately by type of underlying exposure type.

- (h) Summary of securitisation activity presenting a comparative position for two years, as a part of the Notes on Accounts to the balance sheet: total number and book value of loan assets securitised - by type of underlying assets; sale consideration received for the securitised assets and gain/loss on sale on account of securitisation; and form and quantum (outstanding value) of services provided by way of credit enhancement, liquidity support, post-securitisation asset servicing, etc.

TABLE 24.8

Market Risk in Trading Book

Qualitative Disclosures

- (a) The general qualitative disclosure requirement (Unit 10.13) for market risk including the portfolios covered by the standardised approach.

Quantitative Disclosures

- (b) The capital requirements for: interest rate risk; equity position risk; and foreign exchange risk

TABLE 24.9

Operational Risk

Qualitative Disclosures

In addition to the general qualitative disclosure requirement, the approach(es) for operational risk capital assessment for which the bank qualifies.

TABLE 24.10

Interest Rate Risk in the Banking Book (IRRBB)

Qualitative Disclosures

- (a) The general qualitative disclosure requirement (Unit 10.13), including the nature of IRRBB and key assumptions, including assumptions regarding loan prepayments and behaviour of non-maturity deposits, and frequency of IRRBB measurement.

Quantitative Disclosures

- (b) The increase (decline) in earnings and economic value (or relevant measure used by management) for upward and downward rate shocks according to management's method for measuring IRRBB, broken down by currency (where the mmover is more than 5% of the total turnover).

The Committee provides guidelines about the disclosures to be made under the mentioned 13 areas. Full details in terms of qualitative and quantitative norms are provided in 13 Tables in the Basel-II revised framework published in June, 2004.

Let Us Sum Up

The third pillar deals with market discipline. Market participants need plethora of information to make proper assessment and information is required to be consistently available. Basel Committee prescribes qualitative and quantitative disclosures in the important 13 areas. The information which is not of mandatory nature should also be consistent with audited returns. Proprietary & confidential information may not be disclosed. However, non-disclosure should be specifically mentioned with reasons thereof

Keywords

Market discipline; Disclosure policy; Validation; Materiality; Proprietary and confidential information

Terminal Questions

1. Write a short note on pillar 3, viz. Market discipline.
2. Please state atleast five areas of disclosure which are prescribed by Pillar 3 of Basel-II framework.

UNIT 25 Asset Classification and Provisioning Norms

STRUCTURE

25.0 Objectives

25.1 Introduction

25.2 Asset Classification

25.3 Provisioning Norms

Let Us Sum Up Keywords

Terminal Questions

25.0 OBJECTIVES

The objectives of this unit is to understand:

Classification of assets in four main categories, viz., standard, sub-standard, doubtful and loss

When an asset is termed as a non-performing one. Principle of recognition of income

Provisioning norms for different categories of assets

25.1 INTRODUCTION

Banks derive their major source of income by way of interest on advances and investment.

Interest is charged to the asset and then recovered from the party/borrower concerned. Thus, income is booked initially on accrual basis. However, if the bank is not able to get/recover interest from the counterparty within reasonable time, then the income should not be accounted for or recognised, till it is actually received. Thus, accounting for interest is changed to a mercantile one. The asset in this situation becomes a non-performing one.

In this unit, we are going to see the classification of assets into four main categories and their subgroups. We shall then proceed to discuss the provisioning norms, based on the classification of assets. The norms for classification as well as provisioning have been made fairly objective over a period of time.

25.2 ASSET CLASSIFICATION

In August 1991, a high-level committee, headed by M. Narsimham was appointed to examine various aspects of financial system. One of the important recommendations of the Narsimham Committee was that balance sheets of the banks should be transparent and comply with international accounting standards. The Committee recommended that banks should adopt uniform accounting practices in regard to income recognition and bad debts provisioning. In

particular, income recognition of non-performing assets should not be on accrual basis but on record of recovery. The Committee also suggested that provisioning should depend upon a proper classification of assets, which in turn should be based on objective criteria.

In line with the international practices and as per the recommendations made by the Committee on the Financial System (Chairman M. Narasimham), the Reserve Bank of India has introduced, in a phased manner, prudential norms for income recognition, asset classification and provisioning for the advances portfolio of the banks so as to move towards greater consistency and transparency in the Published accounts also the policy of income recognition should be objective and based on record of recovery rather than on any subjective considerations. Likewise, the classification of assets of banks has to be done on the basis of objective criteria which would ensure a uniform and consistent application of the norms.

Definitions: Non-performing Assets

An asset, including a leased asset, becomes nonperforming when it ceases to generate income for the bank. A nonperforming asset (NPA) is a loan or an advance where;

- (i) interest and/or installment of principal remain overdue for a period of more than 90 days in respect of a term loan
- (ii) the account remains 'out of order' in respect of an Overdraft/Cash Credit (OD/CC)
- (iii) the bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted
- (iv) the installment of principal or interest thereon remains overdue for two crop seasons for short duration crops
- (v) the installment of principal or interest thereon remains overdue for one crop season for long duration crops

Banks should classify an account as NPA only if the interest charged during any quarter is not serviced fully within 90 days from the end of the quarter

'Out of Order' Status

An account should be treated as 'out of order' if the outstanding balance remains continuously in excess of the sanctioned limit/drawing power. In cases where the outstanding balance in the principal operating account is less than the sanctioned limit/drawing power, but there are no credits continuously for 90 days as on the date of Balance Sheet or credits are not enough to cover the interest debited during the same period, these accounts should be treated as 'out of order'.

'Overdue'

Any amount due to the bank under any credit facility is 'overdue' if it is not paid on the due date fixed by the bank.

Income Recognition

The policy of income recognition has to be objective and based on the record of recovery.

Internationally income from nonperforming assets (NPA) is not recognised on accrual basis but is booked as income only when it is actually received. Therefore, the banks should not charge and take to income account interest on any NPA.

However, interest on advances against term deposits, NSCs, IVPs, KVPs and life policies may be taken to income account on the due date, provided adequate margin is available in the accounts.

Fees and commissions earned by the banks as a result of renegotiations or rescheduling of outstanding debts should be recognised on an accrual basis over the period of time covered by the renegotiated or rescheduled extension of credit.

In case of Government guaranteed, advances become NPA, the interest on such advances should not be taken to income account unless the interest has been realised.

Reversal of income

If any advance, including bills purchased and discounted, becomes NPA as at the close of any year.

interest accrued and credited to income account in the corresponding previous year, should be reversed or provided for if the same is not realised. This will apply to Government guaranteed accounts too.

In respect of NPAs, fees, commission and similar income that have accrued should cease to accrue in the current period and should be reversed or provided for with respect to past periods, if uncollected.

Leased Assets

The finance charge component of finance income [as defined in 'AS 19 Leases' issued by the Council of the Institute of Chartered Accountants of India (ICAI)] on the leased asset which has accrued and was credited to income account before the asset became nonperforming, and remaining unrealised, should be reversed or provided for in the current accounting period.

Appropriation of recovery in ISPA's

Interest realised on NPAs may be taken to income account provided the credits in the accounts towards interest are not out of fresh/additional credit facilities sanctioned to the borrower concerned.

In the absence of a clear agreement between the bank and the borrower for the purpose of appropriation of recoveries in NPAs (i.e., towards principal or interest due), banks should adopt an accounting principle and exercise the right of appropriation of recoveries in a uniform and consistent manner.

Asset Classification

Categories of NPAs

Banks are required to classify nonperforming assets further into the following three categories, based on the period for which the asset has remained nonperforming and the realisability of the dues:

- (a) Substandard Assets
- (b) Doubtful Assets
- (c) Loss Assets

(a) Substandard Assets

With effect from 31 March 2005, a substandard asset would be one, which has remained NPA for a period less than or equal to 12 months. In such cases, the current net worth of the borrower/guarantor or the current market value of the security charged is not enough to ensure recovery of the dues to the banks in full. In other words, such an asset will have well-defined credit weaknesses that jeopardise the liquidation of the debt and are characterised by the distinct possibility that the banks will sustain some loss, if deficiencies are not corrected.

(b) Doubtful Assets

With effect from March 31, 2005, an asset would be classified as doubtful if it has remained in the substandard category for a period of 12 months. A loan classified as doubtful has all the weaknesses inherent in assets that were classified as substandard, with the added characteristic that the weaknesses make collection or liquidation in full - on the basis of currently known facts, conditions and values - highly questionable and improbable.

(c) Loss Assets

A loss asset is one where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted although there may be some salvage or recovery value.

Accounts with Temporary Deficiencies

The classification of an asset as NPA should be based on the record of recovery. Bank should not classify an advance account as NPA merely due to the existence of some deficiencies, which are temporary in nature, such as non-availability of adequate drawing power, based on the latest available stock statement, balance outstanding exceeding the limit temporarily, non-submission of stock statements and non-renewal of the limits on the due date, etc.

Upgradation of Loan Accounts Classified as NPAs

If arrears of interest and principal are paid by the borrower in the case of loan accounts classified as NPAs, the account should no longer be treated as nonperforming and may be classified as 'standard' accounts.

Accounts Regularised near about the Balance Sheet Date

The asset classification of borrowal accounts where a solitary or a few credits are recorded before the balance sheet date should be handled with care and without scope for subjectivity. Where the account indicates inherent weakness on the basis of the data available, the account should be deemed as a NPA. In other genuine cases, the banks must furnish satisfactory evidence to the Statutory Auditors/Inspecting Officers about the manner of regularisation of the account to eliminate doubts on their performing status.

Asset Classification to be Borrower-wise and not Facility-wise

- (i) It is difficult to envisage a situation when only one facility to a borrower/one investment in any of the securities issued by the borrower becomes a problem credit/investment and not others. Therefore, all the facilities granted by a bank to a borrower and investment in all the securities issued by the borrower will have to be treated as NPA/NPI and not the particular facility/ investment or part thereof which has become irregular.
- (ii) If the debits arising out of devolvement of letters of credit or invoked guarantees are parked in a separate account, the balance outstanding in that account also should be treated as a part of the borrower's principal operating account for the purpose of application of prudential norms on income recognition, asset classification and provisioning.

Advances under Consortium Arrangements

Asset classification of accounts under consortium should be based on the record of recovery of the individual member banks and other aspects having a bearing on the recoverability of the advances.

Accounts where there is erosion in the value of security/frauds committed by borrowers in respect of accounts where there are potential threats for recovery on account of erosion in the value of security or non-availability of security and existence of other factors such as frauds committed by borrowers it will not be prudent that such accounts should go through various stages of asset classification. In cases of such serious credit impairment, the asset should be straightaway classified as doubtful or loss asset as appropriate.

Advances against Term Deposits, NSCs, KVP/IVP, etc, need not be treated as NPAs. Advances against gold ornaments, Government securities and all other securities are not covered by this exemption.

Loans with Moratorium for Payment of Interest

- (i) In the case of bank finance given for industrial projects or for agricultural plantations, etc. where moratorium is available for payment of interest, payment of interest becomes 'due' only after the moratorium or gestation period is over. Therefore, such amounts of interest do not become overdue and hence do not become NPA, with reference to the date of debit of interest. They become overdue after due date for payment of interest, if uncollected.
- (ii) In the case of housing loan or similar advances granted to staff members where interest is payable, asset classification status as on the date of approval of the restructured package by the competent authority would be relevant to decide the asset classification status of the account after restructuring/rescheduling/renegotiation.

Treatment of 'funded interest' recognised as income and 'conversion into equity, debentures or any other instrument' banks should adopt the following:

- (i) **Funded Interest:** Income recognition in respect of the NPAs, regardless of whether these are or are not subjected to restructuring/rescheduling/renegotiation of terms of the loan agreement, should be done strictly on cash basis, only on realisation and not if the amount of interest overdue has been funded. If however, the amount of funded interest is recognised as income, a provision for an equal amount should also be made simultaneously. In other words, any funding of interest in respect of NPAs, if recognised as income, should be fully provided for
 - (ii) **Conversion into Equity, Debentures or Any Other Instrument:** The amount outstanding converted into other instruments would normally comprise principal and the interest components. If the amount of interest dues is converted into equity or any other instrument, and income is recognised in consequence, full provision should be made for the amount of income so recognised to offset the effect of such income recognition. Such provision would be in addition to the amount of provision that may be necessary for the depreciation in the value of the equity or other instruments, as per the investment valuation norms. However, if the conversion of interest is into equity which is quoted, interest income can be recognised at market value of equity, as on the date of conversion, not exceeding the amount of interest converted to equity. Such equity must thereafter be classified in the "available for sale" category and valued at lower of cost or market value.
-

In case of conversion of principal and/or interest in respect of NPAs into debentures, such debentures should be treated as NPA, ab initio, in the same asset classification as was applicable to loan just before conversion and provision made as per norms. This norm would also apply to zero coupon bonds or other instrument which seek to defer the liability of the issuer. On such debentures, income should be recognised only on realisation basis. The income in respect of unrealised interest, which is converted into debentures or any other fixed maturity instrument should be recognised only on redemption of such instrument. Subject to this the equity shares or other instrument arising from conversion of the principal amount of loan would also be subject to the usual prudential valuation norms as applicable to such instrument.

25.3 PROVISIONING NORMS

A non-performing asset (NPA) causes two fold impact on the profitability of a bank. On one hand, the bank ceases to earn interest on this asset and thus is deprived of its legitimate income from the asset. On the other hand, the bank is required to make provisions for this asset, depending on the classification/ category of the asset and value of security, if any. This makes a further dent in the profitability of the bank. The Reserve Bank of India introduced the system of asset classification and provisioning in line with international practices for the first time in 1993. The norms underwent several changes during the last 16 years.

In conformity with the prudential norms, provisions should be made on the non-performing assets on the basis of classification of assets, taking into account the time lag between an account becoming doubtful of recovery, its recognition as such, the realisation of the security and the erosion over time in the value of security charged to the bank, the banks should make provision against substandard assets, doubtful assets and loss assets as mentioned here:

Loss Assets

Loss assets should be written off. If loss assets are permitted to remain in the books for any reason, 100% of the outstanding should be provided for.

Doubtful Assets

- (i) 100% of the extent to which the advance is not covered by the realisable value of the security to which the bank has a valid recourse and the realisable value is estimated on a realistic basis.
- (ii) In regard to the secured portion, provision may be made on the following basis, at the rates ranging from 20% to 100% of the secured portion depending upon the period for which the asset has remained doubtful:

| Period for which the advance has remained in 'doubtful' category | Provision Requirement |
|--|-----------------------|
|--|-----------------------|

| | |
|-----------------------|------|
| Up to one year | 20% |
| One to three years | 30% |
| More than three years | 100% |

Substandard Assets

A general provision of 10% on total outstanding should be made without making any allowance for ECGC guarantee cover and securities available. The 'unsecured exposures' which are identified as substandard would attract additional provision of 10%, i.e., a total of 20% on the outstanding balance. The provisioning requirement for unsecured 'doubtful' assets is 100%.

Let Us Sum Up

In this unit, we discussed the norms for asset classification and provisioning. In India, the process of liberalisation, globalisation and deregulation commenced in the early 90s. In the banking arena, this process was initiated with the report of Narsimham committee. The Reserve Bank of India adopted the suggestions of this committee and recommended objective norms for asset classification, income recognition, and provisioning in line with international practices. An asset was classified as non-performing one based on the sole criterion of non recovery of installment/interest within stipulated time. Subjective factors such as health of the borrower, potential of recovery, perception about the activity, etc, are not given consideration. Similarly, asset classification is based on the age of the asset in NPA category. We discussed four categories of assets, viz., standard, sub-standard, doubtful and loss. The provisioning is again based on the category, and sub-category of the asset and the value of realisable security. Value of security would play some part in the determination of provision, in Doubtful-I and Doubtful-II categories. The exercise of asset classification and provisioning is largely made objective and arithmetical now.

Keywords

Narsimham committee; Non-performing assets; Assets classification; Standard; Sub-standard; Doubtful and Loss assets; Income recognition; Provisioning norms; Funded Interest.

Terminal Questions

1. Discuss the concepts of non-performing assets and income recognition.
2. State the four main categories of assets classification and their definitions.
3. State the provisioning norms for sub-standard assets.
4. Discuss the provisioning norms for doubtful assets and provide illustrations.
5. State the NPA norms for agricultural advances.

UNIT 26 Liquidity Management

STRUCTURE

26.0 Objectives

26.1 Introduction

26.2 Definition

26.3 Dimensions and Role of Liquidity Risk Management

26.4 Measuring and Managing Liquidity Risk

Let Us Sum Up Keywords

Check Your Progress Terminal Questions Answers to Check Your Progress

26.0 OBJECTIVES

In this chapter, we will understand the following aspects of liquidity management:

- Definition of Liquidity
 - Dimensions and Role of Liquidity Risk Management
 - Measuring and Managing Liquidity Risk
 - Measurement of Liquidity Risk through Ratio Analysis
-

26.1 INTRODUCTION

The objectives of asset liability management is two-fold: ensuring profitability and ensuring liquidity. Liquidity, which is represented by the quality and marketability of assets and liabilities exposes the organisation to liquidity risk. Unlike other risks like interest rate risk, market risk, operational and technology risks and foreign exchange risks that can threaten the very solvency of the bank, liquidity risk is a normal aspect of everyday management of a financial institution. Only in extreme cases do liquidity risk problems translate into solvency risk problems. The numerous bank failures and a couple of liquidity crises at major banks during 1980s and 90s have made bankers in the US more and more aware of the need for bank liquidity.

26.2 DEFINITION

Banks need liquidity to meet deposit withdrawals and to fund loan demands. The variability of loan demand and variability of deposit determine a bank's liquidity needs.

Liquidity represent the ability to accommodate decreases in liability and to fund increases in assets. A bank has adequate liquidity when it can obtain sufficient funds either by increasing liabilities or by converting assets, promptly and at a reasonable cost. Liquidity is essential in all banks to compensate for expected and unexpected balance sheet fluctuations and to provide funds for growth. The price of liquidity is a function of market conditions and market perceptions of the risks, both interest rate and credit risks, reflected in the bank's balance sheet and off balance sheet activities. If liquidity needs are not met through liquid assets holdings, bank may be forced to restructure or acquire additional liabilities under adverse market conditions.

26.3 DIMENSIONS AND ROLE OF LIQUIDITY RISK MANAGEMENT

Bank's liquidity management is the process of generating funds to meet contractual or relationship obligations at reasonable prices at all times. New loan demand, existing loan commitments, and deposit withdrawals are the basic contractual or relationship obligations that bank must meet. Effective liquidity management by bank serves five important functions:

- (a) It demonstrates the market place that the bank is safe and therefore capable of repaying its borrowings.
- (b) It enables bank to meet its prior loan commitments, whether formal or informal.
- (c) It enables the bank to avoid unprofitable sale of assets. This function permits the bank to avoid sale of assets at fire sale prices, as opposed to going concern values to generate funds.
- (d) It lowers the size of the default risk premium the bank must pay for funds. This function focusses on the reasonable price aspects of the defmidon of liquidity management. Bank's with strong balance sheets will be perceived by the market place as being liquid and safe. Such banks will be able to buy funds at risk premium reflecting their perceived creditworthiness.

Adequacy of a bank's liquidity position depends upon an analysis of the following factors:
Historical funding requirements
Current liquidity position
Anticipated future funding needs
Sources of funds

Options for reducing funding needs
Present and anticipated asset quality
Present and future earnings capacity
Present and planned capital position

As all banks are affected by changes in the economic climate, the monitoring of economic and money market trends is key to liquidity planning. Sound financial management can minimise the negative effects of these trends while accentuating the posidve ones.

Some factors that may affect a bank's liquidity, include:

A decline in earnings An increase in non-performing assets Deposit concentrations Downgrading by rating agencies Expanded business opportunities Acquisitions New tax initiatives
To provide funds to satisfy funding needs, a bank must perform one or a combination of the following:

Dispose of liquid assets Increase short-term borrowings Decrease holdings of less liquid assets Increase liabilities of a term nature Increase capital hands

As such, liquidity management and its associated risks assume paramount importance under the overall asset liability management strategies.

Types of Liquidity Risks

Liquidity exposure can stem from both internally (institution specific) and externally generated factors. External liquidity risks can be geographic, systemic or instrument-specific. Internal liquidity risk relates largely to perceptions of an institution in its various markets: local, regional, national or international. Other categories of liquidity risk are:

- > **Funding Risk:** Need to replace net outflows due to unanticipated withdrawal/non-renewal of deposits (wholesale and retail) arises due to:
 - Fraud causing substantial loss
 - Systemic risk
 - Loss of confidence
 - Liabilities in foreign currencies
- > **Time Risk:** Need to compensate for non-receipt of expected inflows of funds, arises due to:
 - Severe deterioration in the asset quality
 - Standard assets turning into non-performing assets
 - Temporary problems in recovery
 - Time involved in managing liquidity
- > **Call Risk:** Crystallisation of contingent liabilities and inability to undertake profitable business opportunities when desirable, arises due to:
 - Conversion of non-fund based limit into fund-based
 - Swaps and options

Many times more than one factor manifest and make the liquidity situation worse. For example, a big fraud can tighten the position of a bank along with loss of confidence of the public resulting a mn on the bank. In addition to mn, there may be inter-bank dealings and in turn, other banks may also be affected in the process. If a bank fails to honour its commitments to the market participants, it can cause the other participant not honouring its commitments based on the expected inflow of funds from the failed institution. Sometimes foreign currencies create complexity to liquidity management because real strength of the bank may not be known to the foreign creditors. They may not be in a position to distinguish between the mmour and the reality of crisis. In certain circumstances, a bank may not be able to mobilise domestic funds to meet foreign currency liabilities.

26.4 MEASURING AND MANAGING LIQUIDITY RISK

Measuring and managing liquidity are among the most vital activities of commercial banks. By assuring a bank's ability to meet its liabilities as they come due, liquidity management can reduce the probability of an irreversible adverse situation developing. Even in cases where crisis develops because of a problem elsewhere at a bank, such as a severe deterioration in asset quality or the uncovering of fraud, or where a crisis reflects a generalised loss of confidence in financial institutions, the time available to a bank to address the problem will be determined by its liquidity. Indeed, the importance of liquidity transcends the individual institution, since a

liquidity shortfall at a single institution can have system-wide repercussions. For this reason, the analysis of liquidity requires bank managements to measure not only the liquidity positions of banks on an ongoing basis but also to examine how funding requirements are likely to evolve under crisis scenarios.

In particular, good management information systems, central liquidity control, analysis of net funding requirements under alternative scenarios, diversification of funding sources, and contingency planning are crucial elements of strong liquidity management at a bank of any size or scope of operations.

Following steps are necessary for managing liquidity risk in banks:

1. Developing a structure for managing liquidity risk
2. Setting tolerance level and limit for liquidity risk
3. Measuring and managing liquidity risk

1. Developing a Structure for Managing Liquidity Risk

Sound liquidity risk management involves setting a strategy for the bank ensuring effective board and senior management oversight as well as operating under a sound process for measuring, monitoring and controlling liquidity risk.

Virtually every financial transactions or commitment has implications for a bank's liquidity. Moreover, the transformation of illiquid into more liquid ones is a key activity of banks. Thus, a bank's liquidity policies and liquidity management approach should form key elements of a bank's general business strategy. Understanding the context of liquidity management involves examining a bank's managerial approach to funding and liquidity operations and its liquidity planning under alternative scenarios.

- The liquidity strategy should set out the general approach the bank will have to liquidity including various quantitative and qualitative targets.
- The strategy should also address the bank's goal of protecting financial strategy and the ability to withstand stressful events in the market place.
- It should enunciate specific policies on particular aspects of liquidity management like composition of assets and liabilities, maintain cumulative gaps over certain period and approach to managing liquidity in different currencies and from one country to another
- The strategy of managing liquidity risk should be communicated through out the organisation. All business units within the bank that conduct activities having an impact on liquidity should be fully aware of the liquidity strategy and operate under the approved policies and procedures.
- The Board should monitor the performance and liquidity risk profile of the bank and periodically review information that is timely and sufficiently detailed to allow them to understand and assess the liquidity risk facing the bank's key portfolios and the bank as a whole.
- Bank should have a liquidity management structure in place to execute effectively the liquidity strategy, policies and procedures. The responsibility of managing the overall liquidity of the bank should be placed with a specific identified group within the bank. This might be in the form of an Asset Liability Committee comprised of senior management, the treasury function or a risk management department.

Treatment of Foreign Currencies

For banks with an international presence, the treatment of assets and liabilities in multiple currencies adds a layer of complexity to liquidity management for two reasons. First, banks are often less well-known to liability holders in foreign currency markets. In the event of market

concerns, especially if they relate to a bank's domestic operating environment, these liability holders may not be able to distinguish rumours from fact as well or as quickly as domestic currency customers.

Second, in the event of a disturbance, a bank may not always be able to mobilise domestic liquidity to meet foreign currency funding requirements.

Hence, when a bank conducts its business in multiple currencies, its management must make two key decisions.

The first decision concerns management structure. A Bank with funding requirements in foreign currencies will generally use one of three approaches.

- It may completely centralise liquidity management (the head office managing liquidity for the whole bank in every currency).
- Alternatively, it may decentralise by assigning operating divisions responsibility for their own liquidity, but subject to limits imposed by the head office or frequent, routine reporting to the head office. For example, a non-European bank might assign its London office responsibility for the liquidity management for its European operations in all currencies.
- As a third approach, a bank may assign responsibility for liquidity in the home currency and for overall coordination to the home office, and responsibility for the bank's global liquidity in each major foreign currency to the management of the foreign office in the country issuing that currency. For example, the treasurer in the Tokyo office of a non-Japanese bank could be responsible for the bank's global liquidity needs in yen. All of these approaches, however, provide head office management with the opportunity to monitor and control worldwide liquidity.

The second decision concerns the liquidity strategy in each currency. In the ordinary course of business, a bank must decide how foreign currency funding needs will be met. To what extent, for example, will a bank fund foreign currency needs in domestic currency and convert the proceeds to foreign currency through the foreign exchange market or currency swaps? How will a bank manage the associated risk if exchange markets cease to be available? A bank's assessment will depend on the size of its funding needs, its access to foreign currency funding market, and its capacity to rely on off-balance-sheet instruments (e.g., standby lines of credit, swap facilities, etc.).

A bank must also develop a back-up liquidity strategy for circumstances in which its normal approach to funding foreign currency operations is disrupted. Such a strategy will call for drawing either on home currency sources and converting them to foreign currency through the exchange markets or drawing on back-up sources in particular foreign currencies. For example, back-up liquidity for all currencies may be provided by the head office using the home currency, based on an assessment of the bank's access to the foreign exchange market and the derivative markets under the conditions in which the original liquidity disturbance is likely to occur.

Alternatively, a bank's management may decide that certain foreign currencies make up a sufficient part of its liquidity needs to warrant separate liquidity back-up. In that case, either the home office or the regional treasurer for each specific currency would develop a contingency strategy and negotiate liquidity back-up facilities for those currencies.

2. Setting Tolerance Level and Limit for Liquidity Risk

Bank's management should set limits to ensure liquidity and these limits should be reviewed by supervisors.

Alternatively supervisors may set the limits. Limits could be set on the following:

1. The cumulative cash flow mismatches (i.e., the cumulative net funding requirement as a percentage of total liabilities) over particular periods - next day, next week, next fortnight, next month, next year These mismatches should be calculated by taking a conservative view of marketability of liquid assets, with a discount to cover price volatility and any drop in price in the event of a forced sale, and should include likely outflows as a result of draw-down of commitments, etc.
2. Liquid assets as a percentage of short-term liabilities. The assets included in this category should be those which are highly liquid, i.e., only those which are judged to be having a ready market even in periods of stress.
3. A limit on loan to deposit ratio.
4. A limit on loan to capital ratio.
5. A general limit on the relationship between anticipated funding needs and available sources for meeting those needs.
6. Primary sources for meeting funding needs should be quantified.
7. Flexible limits on the percentage reliance on a particular liability category, (e.g., certificates of deposits should not account for more than certain per cent of total liabilities).
8. Limits on the dependence on individual customers or market segments for funds in liquidity position calculations.
9. Flexible limits on the minimum/maximum average maturity of different categories of liabilities.
10. Minimum liquidity provision to be maintained to sustain operations.

An example of setting tolerance level for a bank:

1. To manage the mismatch levels so as to avert wide liquidity gaps - The residual maturity profile of assets and liabilities will be such that mismatch level for time bucket of 1-14 days and 15-88 days remains around 80% of cash outflows in each time bucket.
2. To manage liquidity and remain solvent by maintaining short-term cumulative gap up to one year (short-term liabilities - short-term assets) at 15% of total out flow of funds.

Banks should analyse the likely impact of different stress scenarios on their liquidity position and set their limits accordingly. Limits should be appropriate to the size complexity and financial condition of the bank. Management should define the specific procedures and approval necessary for exceptions to policies and limits.

3. Measuring and Managing Liquidity Risk

Measuring and managing funding requirement can be done through two approaches.

- (i) Stock approach
 - (ii) Flow approach
- (i) Stock Approach (to Measuring and Managing Liquidity)

Stock approach is based on the level of assets and liabilities as well as off-balance sheet exposures on a particular date. The following ratios are calculated to assess the liquidity position of a bank.

- (a) Ratio of Core Deposit to Total Assets - Core Deposit/Total Assets: More the ratio, better it is because core deposits are treated to be the stable source of liquidity. Core deposit will constitute deposits from the public in the normal course of business.
 - (b) Net Loans to Totals Deposits Ratio - Net Loans/Total Deposits: It reflects the ratio of loans to public deposits or core deposits. Total loans in this ratio represent net advances after deduction of provision for loan losses and interest suspense account. Loan is treated to be less liquid asset and therefore lower the ratio, better it is.
-

- (c) Ratio of Time Deposits to Total Deposits - $\text{Time Deposits}/\text{Total Deposits}$: Time deposits provide stable level of liquidity and negligible volatility. Therefore, higher the ratio better it is.
- (d) Ratio of Volatile Liabilities to Total Assets - $\text{Volatile Liabilities}/\text{Total Assets}$: Volatile liabilities like market borrowings are to be assessed and compared with the total assets. Higher portion of volatile assets will pose higher problems of liquidity. Therefore, lower the ratio better it is.
- (e) Ratio of Short-Term Liabilities to Liquid Assets - $\text{Short-term Liabilities}/\text{Liquid Assets}$: Short-term liabilities are required to be redeemed at the earliest. Therefore, they will require ready liquid assets to meet the liability. It is expected to be lower in the interest of liquidity.
- (f) Ratio of Liquid Assets to Total Assets - $\text{Liquid Assets}/\text{Total Assets}$: Higher level of liquid assets in total assets will ensure better liquidity. Therefore, higher the ratio, better it is. Liquid assets may include bank balances, money at call and short notice, inter bank placements due within one month, securities held for trading and available for sale having ready market.
- (g) Ratio of Short-Term Liabilities to Total Assets - $\text{Short-term Liabilities}/\text{Total Assets}$: Short-term liabilities may include balances in current account, volatile portion of savings accounts leaving behind core portion of saving which is constantly maintained. Maturing deposits within a short period of one month. A lower ratio is desirable.
- (h) Ratio of Prime Asset to Total Asset - $\text{Prime Asset}/\text{Total Assets}$: Prime assets may include cash balances with the bank and balances with banks including central bank which can be withdrawn at any time without any notice. More or higher the, ratio better it is.
- (i) Ratio of Market Liabilities to Total Assets - $\text{Market Liabilities}/\text{Total Assets}$: Market liabilities may include money market borrowings, inter-bank liabilities repayable within a short period. Lower the ratio, better it is.

(ii) Flow Approach (to Measuring and Managing Liquidity)

The framework for assessing and managing bank liquidity through flow approach has three major dimensions:

- (a) Measuring and managing net funding requirements
- (b) Managing market access
- (c) Contingency planning

(a) Measuring and Managing Net Funding Requirements

Flow approach is the basic approach being followed by Indian banks. It is called gap method of measuring and managing liquidity. It requires the preparation of structural liquidity gap report. In this method, net funding requirement is calculated on the basis of residual maturities of assets and liabilities. These residual maturities will represent the net cash flow, i.e., difference of outflow and inflow of cash in the future time buckets. These calculations are based on the past behaviour pattern of assets and liabilities as well as off-balance sheet exposures. Cumulative gap is calculated at various time buckets. It shows that at a particular time after week/fortnight/month/quarter/half year/year cash outflow and inflow difference will be represented by gap. In case the gap is negative, the bank will have to manage the shortfall through various sources according to the liquidity policy and strategy of the bank.

The analysis of net funding requirements involves the construction of a maturity ladder and the calculation of a cumulative net excess or deficit of funds at selected maturity dates. A bank's net funding requirements are determined by analysing its future cash flows, based on assumptions of the future behaviour or assets, liabilities and off-balance-sheet items, and then calculating the

cumulative net excess over the time frame for the liquidity assessment. These aspects will be elaborated under the following heads:

- (i) The Maturity Ladder
- (ii) Alternative Scenarios
- (iii) Measuring Liquidity Over the Chosen Time-frame
- (iv) Assumptions used in Determining Cash Flows

(i) The Maturity Ladder: A maturity ladder should be used to compare a bank's future cash inflows to its future cash outflows over a series of specified time periods. Cash inflows arise from maturing assets, saleable non-maturing assets and established credit lines that can be trapped. Cash outflows include liabilities falling due and contingent liabilities, especially committed lines of credit that can be drawn down. In Table 26.1, the maturity ladder is represented by placing sources and amounts of cash inflows on one side of the page and sources and amounts of outflows on the other

In constructing the maturity ladder, a bank has to allocate each cash inflow or outflow to a given calendar date from a starting point, usually the next day. As a preliminary step to constructing the maturity ladder, cash inflows can be ranked by the date on which assets mature or a conservative estimate of when credit lines can be drawn down. Similarly, cash outflows can be ranked by the date on which liabilities fall due, the earliest date a liability holder could exercise an early repayment option, or the earliest date contingencies can be called. Significant interest and other cash flows should also be included. The difference between cash inflows and cash outflows in each period, the excess or deficit of funds, becomes a starting-point for a measure of a bank's future liquidity excess or shortfall at a series of points in time.

It is this net funding requirement that requires management. Typically, a bank may find substantial funding gaps in distant periods and will endeavor to fill these gaps by influencing the maturity of transactions so as to offset the gap. For example, if there is a significant funding requirement 30 days hence, a bank may choose to acquire an asset maturing on that day, or seek to renew or roll over the liability. The closer a large gap gets, the more difficult it is to offset. Thus, banks will typically collect data on relatively distant period so as to maximise the opportunities to close the gap before it gets too

TABLE 26.1 The Maturity Ladder Based on Contractual Maturities

| DAY-I | Amount | | Amount | Excess/ (Shortfall) |
|--------------|--------|---------------|--------|------------------------|
| Cash Inflows | | Cash Outflows | | |
| | 100 | | 50 | |
| | 80 | | 10 | |
| | 50 | | 30 | |
| | 10 | | 10 | |
| | 180 | | 100 | 80 |
| DAY-8 | Amount | | Amount | Excess/ (Shortfall) |
| Cash Inflows | | Cash Outflows | | |
| | 100 | | 70 | |
| | 85 | | 80 | |
| | 55 | | 40 | |
| | 10 | | 50 | |
| | 190 | | 180 | 10 |
| DAY-3 | Amount | | Amount | Excess/ (Shortfall) |
| DAY-15 | | Cash Outflows | | |

| | Amount | Cash Outflows | Amount | Excess/ (Shortfall) |
|--------|--------|---------------|--------|------------------------|
| | 130 | | 90 | |
| | 50 | | 30 | |
| | 60 | | 40 | |
| | 860 | | 880 | 40 |
| DAY-16 | 160 | | 130 | |
| DAY-30 | 80 | | 60 | |
| | 90 | | 80 | |
| | 40 | | | |
| | 80 | | | |
| | 370 | | 350 | 80 |

close. Most bank would regard it important that any remaining borrowing requirement should be limited to an amount which experience suggests is comfortably within the bank's capacity to fund in the market.

(ii) Alternative Scenarios: This involves evaluating whether a bank has sufficient liquidity depends in large measure on the behaviour of cash flows under the different conditions.

Analysing liquidity thus entails laying out 'what if scenarios.'

There may be three scenarios for a bank in connection with management of liquidity which provide useful benchmarks:

- (a) General Market Conditions
- (b) Bank-specific Crisis
- (c) General Market Crisis

Under each scenario, a bank should try to account for any significant positive or negative liquidity swings that could occur

- (a) General Market Conditions: The general market conditions or going-concern scenario establishes a benchmark for the 'normal business' behaviour of balance sheet - related cash flows in the ordinary course of business at a bank. This scenario is useful in managing a bank's use of deposit and other debt markets. By establishing such a benchmark, a bank can manage its net funding requirements so that is not faced with very large needs on any given day, so avoiding the impact of temporary constraints on its ability to roll over liabilities because of market disruptions or concerns about its condition.
- (b) Bank-specific Crisis: Assessing liquidity under the second scenario, a liquidity crisis at an individual bank that remains confined to that bank, provides one type of 'worst-case' benchmark. The key underlying assumption in this scenario is that many of the bank's liabilities could not be rolled over or replaced and would have to be repaid at maturity so that the bank would have to wind down its books to some degree. This is the scenario implicit in many existing bank supervisory liquidity measures. While a severe liquidity crisis at an individual bank usually stems from a fundamental, bank-specific problem not related to its liquidity, a bank's ability to honour its deposit maturities under such conditions can provide the time that the bank would need to address the underlying problem. If a bank can weather such a 'worst-case' scenario, it can almost certainly survive less drastic firm-specific problems.

(c) General Market Crisis: The last scenario is some form of general market crisis where liquidity is affecting all banks in one or more markets. The key underlying assumption that banks need to make in this scenario is that severe tiering by perceived credit quality would occur, so that differences in funding access among banks or among classes of financial institutions would widen, benefiting some and harming others. Although some banks may believe that central banks would ensure that key markets would continue to function in some form, severe market disruption would not necessarily be prevented. For bank management, this represents a second type of 'worst-case' scenario that a bank would wish to weather. A supervisor or central bank may find this scenario to be of particular interest when surveying the liquidity profile of the entire banking sector. The collective results would suggest the size of the total liquidity buffer in the banking system and the likely distribution of liquidity problems among large institutions if the banking system as a whole experiences a shortage of liquidity.

The bank's historical experience of the pattern of flows and a knowledge of market conventions could guide a bank's decisions, but judgement often plays a large role, especially in crisis scenarios. Uncertainty is an inevitable element in choosing between possible behaviour patterns, and that dictates a conservation approach that would bias a bank toward assigning later dates to cash inflows and earlier dates to cash outflows.

Hence, the timing of cash inflows and outflows on the maturity ladder can differ between the normal business approach and the two crisis scenarios, as shown in Table 26.2. In constructing the going

LIQUIDITY MANAGEMENT

TABLE 26.2

Day 1 of the Maturity Ladder under Alternative Scenarios

| Cash Inflows | | |
|----------------------------|-----------------------------|-----------------------|
| Normal Business Conditions | Institution Specific Crisis | General Market Crisis |
| (1) | (8) | (3) |
| 800 | 800 | 180 |
| 40 | 40 | 80 |
| 100 | 180 | 0 |
| 80 | 0 | 10 |
| 360 | 360 | 810 |
| 100 | 100 | 100 |
| 80 | 80 | 80 |
| 60 | 800 | 180 |
| 100 | 180 | 150 |
| 880 | 440 | 390 |
| 80 | (80) | (180) |

concern maturity ladder, conservative assumptions need to be made about the behaviour of cash flows that can replace the contractual cash flows. For example, many maturing loans would be rolled over in the normal course of business and some proportion of transactions and savings deposit would also be rolled over or could be easily replaced.

In a bank-specific crisis scenario it is assumed that a bank will be unable to roll over or replaced many or most of its liabilities, and that it may have to wind down its books to some degree. The assumptions under the third scenario, a general market crisis, may differ quite sharply from the assumptions made for a bank-specific crisis. For example, a bank may believe, based upon its historical experience, that its ability to control the level and timing of future cash flows from a stock of saleable assets in a bank specific funding crisis would deteriorate little from normal conditions. However, in a general market crisis, this capacity may fall off sharply if few institutions are willing or able to make cash purchase of less liquidity assets. On the other hand, a bank that has a high reputation in the market may actually benefit from a flight to quality as potential depositors seek out the safest home for their funds. Banks may also anticipate the central banks would ensure that key markets continue to function but not necessarily without significant disruption.

(iii) Measuring Liquidity Over the Chosen Timeframe: The evolution of a bank's liquidity profile under one or more scenarios can be tabulated or portrayed graphically, by cumulating the balance of expected cash inflows and cash outflows at several time points. A stylised liquidity graph can be constructed, enabling the evolution of the cumulative net excess or deficit of funds to be compared under the three scenarios in order to provide further insights into a bank's liquidity and to check how consistent and realistic the assumptions are for the individual bank. For example, a high-quality institution may look very liquid in a going-concern scenario, marginally liquid in a bank-specific crisis and quite

liquid in a general market crisis. In contrast, a weaker institution might be far less liquid in the general crisis than it would in a bank-specific crisis.

It is important to note that the relevant time frame for active liquidity management is short, generally extending out to more than a few weeks. While most banks would not actively manage their net funding requirements over a period much longer than four or five weeks, management may consider information on requirements beyond that time frame to be useful. Clearly, banks active in markets for longer term assets and liabilities will need to use a longer time frame than banks which are active in short-term money markets and which are in a better position to fill funding gaps as short notice. However, even this latter category of banks may find it worthwhile to tailor the maturity of new transactions to offset gaps some time off

A longer time horizon may also generate useful information on which to base more strategic decisions on the extent to which a bank may rely on particular markets.

(iv) Assumptions used in Determining Cash Flows: Liquidity risk planning is done for the future scenarios and therefore it is not always possible to predict with certainty as to what will happen in future. It all depends upon certain assumptions which require to be reviewed frequently to determine their continuing validity for making predictions for liquidity risk management. The total number of major liquidity assumptions to be made, however, is fairly limited and fall under categories of (a) assets, (b) liabilities, (c) off-balance-sheet activities (d) others.

(a) Assumptions regarding assets: Assumptions about a bank's future stock of assets include their potential marketability and use as collateral of existing assets which could increase cash inflows, and the extent to which maturing assets will be renewed, and new assets acquired, thus reducing contractual cash inflows.

Determining the level of a bank's potential assets involves answering three questions:

- What proportion of maturing assets will a bank be able and willing to roll over or renew?
- What is the expected level of new loan requests that will be accepted?
- What is the expected level of drawdowns of commitments to lend that a bank will need to fund?

In estimating its normal funding needs, some banks use historical patterns of roll-overs, drawdowns and new requests for loans; others conduct a statistical analysis taking account of seasonal and other effects believed to determine loan demand (e.g. for consumer loans).

Alternatively, a bank may make judgemental business projections, or undertake a customer-by-customer assessment for its larger customer and apply historical relationship to the remainder.

Roll-overs, drawdowns and new loan requests all represent potential cash drains for a bank.

Nevertheless, a bank has some leeway to control many of these items depending on the assumed scenario. In a crisis situation, for example, a bank might decide to risk damaging some business relationships by refusing to roll-over loans that it would make under normal conditions, or it might refuse to honour lending commitments that are not binding.

In determining the marketability of assets, the approach segregates the assets into three categories by their degree of relative liquidity:

- The most liquid category includes components such as cash, securities, and interbank loans. Some of these assets may be immediately convertible into cash at prevailing market values under almost any scenario (either by outright sale, or for sale and repurchase, or as collateral for secured financing), while others, such as interbank loans or some securities, may lose liquidity in a general crisis
-

- A less liquid category comprise a bank's saleable loan portfolio. The task here is to develop assumptions about a reasonable schedule for the disposal of a bank's assets. Some assets, while marketable, may be viewed as unsaleable within the time frame of liquidity analysis
- The least liquid category includes essentially unmarketable assets such as loans not capable of being readily sold, bank premises and investments in subsidiaries, as well as, possibly, severely trouble credits

- Assets pledged to third parties are deducted from each category

The view underlying the classification process is that different banks could assign the same asset to different categories on the maturing ladder because of differences in their internal asset-liability management. For example, a loan categorised by one bank as a moderately liquid asset saleable only late in the liquidity analysis time frame may be considered a candidate for fairly quick and certain liquidation at a bank that operates in a market where loans are frequently transferred, that routinely include loan - sale clauses in all loan documentation and that has developed a network of customers with whom it has concluded loan-purchase agreement. In categorising assets, a bank would also have to decide how an asset's liquidity would be affected under different scenarios. Some assets that may be very liquid during times of normal business conditions may be less so during a time of crisis. Consequently, a bank may place an asset in different categories depending on the type of scenario it is forecasting.

(b) Assumptions Regarding Liabilities: To evaluate the cash flows arising from a bank's liabilities, a bank would first examine the behaviour of its liabilities under the normal business conditions. This would include establishing:

- The normal level of roll-overs of deposits and other liabilities
- The effective maturity of deposits with non-contractual maturities, such as demand deposits and many types of saving accounts
- The normal growth in new deposit accounts

As in assessing roll-overs and new requests for loans, a bank could use several possible techniques to establish the effective maturities of its liabilities, such as using historical patterns of deposit behaviour. For sight deposits, whether of individuals or business, many banks conduct a statistical analysis that takes account of seasonal factors, interest rate sensitivities, and other macroeconomic factors. For some large wholesale depositors, a bank may undertake a customer-by-customer assessment of the probability of roll-over.

In examining the cash flows arising from a bank's liabilities in the two crisis scenarios, a bank would examine the following basic questions:

- Which sources of funding are likely to stay with a bank under any circumstances, and can these be increased?
- Which sources of funding can be expected to run off gradually if problems arise and at what rate? Is deposit pricing a means of controlling the rate of run off?
- Which maturing liabilities or liabilities with non-contractual maturities can be expected to run off immediately at the first sign of trouble? Are these liabilities with early withdrawal options that are likely to be exercised?
- Does the bank have back-up facilities that it can drawdown?

The first two categories represent cash-flows developments that tend to reduce the cash outflows project directly from contractual maturities. In addition to the liabilities identified above, a bank's capital and term liabilities not maturing within the horizon of the liquidity analysis provide a liquidity buffer

The liabilities that make up the first category may be thought to stay with a bank, even under a 'worse- case' projection. Some core deposits generally stay with a bank because retail and small business depositors may rely on the public sector safety net to shield them from loss, or because the cost of switching banks, especially for some business services such as transactions accounts, is prohibitive in the very short run.

The second category- liabilities that are likely to stay with a bank during periods of mild difficulties and to run off relatively slowly in a crisis, include core deposits that are not already included in the first category. In addition to core deposits, in some countries. Some level of particular types of interbank and Government funding may remain with a bank during such periods, although interbank and Governments deposits are often viewed as volatile. A bank's own liability roll-over experience as well as the experiences of other troubled institutions should help in developing a timetable for these cash flows.

The third category comprises the remainder of the maturing liabilities, including some without contractual maturities, such as wholesale deposits. Under each scenario, this approach adopts a conservative stance and assumes that these remaining liabilities are repaid at the earliest possible maturity, especially in crisis scenario, because such money may flow to Government securities and other safe havens. Factors such as diversification and relationship building are seen as especially important in evaluating the extent of liability mn-off" and a bank's capacity to replace funds. Nevertheless, in a general market crisis, some high quality institution may find that they receive larger-than-usual wholesale deposit inflows, even as funding inflows dry up for other market participations.

Some banks, for example, smaller banks in regional markets, may also have credit lines that they can drawdown to offset cash outflows. While these sorts of facility are somewhat rare among larger banks, the possible use of such lines could be addressed with a bank's liability assumptions. Where such facilities are subject to material adverse change clause, of course they may be of limited value, especially in a bank specific crisis.

(c) Off-balance sheet activities: A bank should also examine the potential for substantial cash flows from its off-balance sheet activities (other than the loan commitments already considered), even if such cash flows are not always a part of bank's current liquidity analysis.

Contingent liabilities, such as letters of credit and financial guarantees, represent potentially significant cash drains for a bank, but are usually not dependent on a bank's condition. A bank may be able to ascertain a 'normal' level of cash outflows on an ongoing concern basis, and then estimate the scope for an increase in these flows during periods of stress. However, a general market crisis may trigger a substantial increase in the amount of draw-downs of letters of credit because of an increase in defaults and bankmptcies in the market.

Other potential sources of cash outflows includes swaps, written over-the-counter (OTC) options, and other interest rate and forward foreign rate contracts. If a bank has a large swap book, for example, then it would want to consider the circumstances under which the bank could become a net payer, and whether or not the potential net pay out is significant. For example, if a bank is a swap market-maker, the possibility exists that in a bank-specific or general market crisis, customers with in-the-money swaps (or a net in-the-money swap position) would seek to reduce their credit exposure to the bank by asking the bank to buy outstanding warrants, together with any hedges against these positions, since certain types of crisis may simulate an increase in early exercise (for American style options) or requests that the bank repurchase options. These exercise and repurchase requests could result in an unforeseen cash drain, if hedges either be quickly liquidated to generate cash or provide insufficient cash.

(d) Other assumption: The discussion has centered so far on assumptions concerning the behaviour of specific instrument under various scenarios. Looking solely at instruments, however, may ignore some factors that may have significant impact a bank's cash flows. Besides the liquidity needs arising from business activities, banks also require excess funds to support other operations. For example, many large banks provide clearing services to correspondent banks and financial institutions that generate significant and not always easily predictable cash inflows and outflows, the amounts of which depend on the clearing column, of the correspondent banks. Unforeseen fluctuations in these volumes can deplete a bank of needed funds.

Net overhead expenses, such as rent and salary, although generally not significant enough to be considered in bank's liquidity analyses, can in some cases also be sources of cash outflows.

(b) Managing Market Access

Some liquidity management techniques are viewed not only for their influence on the assumptions used in constructing maturity ladders, but also for their direct contribution to enhancing a bank's liquidity. Thus, it is important for a bank to review periodically its efforts to maintain the diversification of liabilities, to establish relationships with liability holders and to develop asset-sales markets.

As a check for adequate diversification of liabilities, a bank needs to examine the level of reliance on individual funding sources, by instrument type, nature of the provider of funds, and geographic market. In addition, a bank should strive to understand and evaluate the use of inter-company financing for its individual business officers.

Building strong relationships with some providers of funding can provide line of defence in a liquidity problem and form an integral part of a bank's liquidity management. The frequency of contract and the frequency of use of funding source are two possible indicators of the strength of a funding relationship.

Developing markets for asset sales or exploring arrangements under which a bank can borrow against assets is the third element of managing market access. The inclusion of loan-sale clauses in loan documentation and the frequency of use of some asset-sales markets are two possible indicators of a bank's ability to execute asset sales under adverse scenarios.

(c) Contingency Planning

A bank's ability to withstand a net funding requirement in a bank-specific or general market liquidity crisis can also depend on the caliber of its formal contingency plans. Effective contingency plans should address two major questions:

- Does management have a strategy for handling a crisis?
- Does management have procedures in place for accessing cash in emergency?

The degree to which a bank has addressed these questions realistically, provides management with additional insight as to how a bank may fare in a crisis.

Strategy for Handling a Crisis: A game plan for dealing with a crisis should consist several components. Most important are those that involve managerial coordination. A contingency plan needs to spell out procedures to ensure that information flows remain timely and uninterrupted, and that the information flows provide senior management with the precise information it needs in order to make quick decisions. A clear division of responsibility must be set out so that all personnels understand what is expected of them during a crisis. Confusion in this area can waste resources on certain issues and omit coverage on others.

Another major element in the plan should be a strategy for taking certain actions to alter asset and liability behaviours. While assumptions can be made as to how an asset or liability will

behave under certain conditions (as discussed above), a bank may have the ability to change these characteristics. For example, a bank may conclude that it will suffer a liquidity deficit in a crisis, based on its assumptions regarding the amount of future cash inflows from saleable assets and outflows from deposit run-offs. During such a crisis, however, a bank may be able to market assets more aggressively, or sell assets that it would not have sold under normal conditions and thus augment its cash inflows from asset sales. Alternatively, it may try to reduce cash outflows by raising its deposit rates to retain deposits that might otherwise have moved elsewhere. Other components of the game plan involve maintaining customer relationships with borrowers, trading and off-balance-sheet counter parties, and liability holders. As the intensity of a crisis increases, banks must often trade off relationships with some customer for liquidity in order to survive. By classifying borrowers and trading customers according to their importance to the bank, a bank can determine which relationship it may need to forgo at different points in a crisis. At the same time, relationship with lenders become more important in a crisis. If a bank's strategy requires liability managers to maintain strong ongoing links with lenders and large liability holders during periods of relative calm, the bank will be better positioned to secure sources of funds during emergencies.

An additional pragmatic element that may be important is how a bank deals with the press and broadcast media. Astute public relations management can help a bank avoid the spread of public rumors that can result in significant run-offs by retail depositors and institutional investors. **Back up Liquidity for Emergency Situations:** Contingency plans should also include procedures for making up cash flow shortfalls in emergency situations. Banks have available to them several sources of such funds, including previously unused credit facilities and the domestic central bank. Depending on the severity of a crisis, a bank may choose - or be forced - to use one or more of these sources. The plan should spell out as clearly as possible the amount of funds a bank has available from these sources, and under what scenarios a bank could use them.

Reserve Bank of India Guidelines for Maturity Buckets: Reserve Bank of India has given a framework for bucket-wise classification of assets and liabilities to be followed by Indian banks. These are the guiding factors for the banks. All the assets and liabilities are classified into ten time buckets as given below:

- Tomorrow
- 2-7 days
- 8-14 days
- 15-28 days
- 29 days and up to 3 months
- Over 3 months and up to 6 months
- Over 6 months and up to 1 year
- Over 1 year and up to 3 year
- Over 3 years and up to 5 years
- Over 5 years

For details refer to Module B.

Let Us Sum Up

Liquidity represents the ability to accommodate decreases in liability and to fund increases in assets. A bank has adequate liquidity when it can obtain sufficient funds either by increasing liabilities or by converting assets, promptly and at a reasonable cost.

Bank's liquidity management is the process of generating funds to meet contractual or relationship obligations at reasonable prices at all times. New loan demand, existing loan

commitments, and deposit withdrawals are the basic contractual or relationship obligations that bank must meet. r- Liquidity exposure can stem from both internally (institution specific) and externally generated factors. Categories are - Funding Risk, Time Risk, Call Risk. Measuring and managing liquidity are among the most vital activities of commercial banks. > Following three steps are necessary for managing liquidity risk in banks:

- Developing a structure for managing liquidity risk
- Setting tolerance level and limit for liquidity risk
- Measuring and managing liquidity risk

The framework for assessing and managing bank liquidity presented here has three major dimensions:

- (a) Measuring and managing net funding requirements
- (b) Managing market access
- (c) Contingency planning.

(a) Measuring and managing net funding requirements through:

- The maturity ladder
- Alternative scenarios
- Measuring liquidity over the chosen time-frame
- Assumptions used in determining cash flows

(b) Managing market Access: Through understanding and evaluating the use of inter company financing for its individual business offices, building strong relationships with some providers, and developing markets for asset sales or exploring arrangements under which a bank can borrow against assets.

(c) Contingency Planning: Spelling out procedures to ensure that information flows remain timely and uninterrupted, and provide senior management with the precise information it needs on asset and liability behaviours, in order to make quick decisions. Contingency plans should also include procedures for making up cash flow shortfalls in emergency situations.

Keywords

Liquidity: Ability to accommodate decreases in liability and to fund increases in assets.

The maturity ladder: Comparison of future cash inflows to its future cash outflows over a series of specified time periods.

Alternative scenarios: Evaluating whether a bank has sufficient liquid funds based on the behaviour of cash flows under the different "what if scenarios."

Check Your Progress

A. Choose the correct answer

1. Objective of liquidity management is to:

- (a) Ensure profitability
- (b) Ensure liquidity
- (c) Either of two
- (d) Both

Both

2. Banks need liquidity to:

- (a) Meet deposit withdrawal
- (b) Fund loan demands
- (c) Both of them
- (d) None of them

Both of them

3. Adequacy of a bank's liquidity position depends upon:

- (a) Sources of funds
- (b) Anticipated future funding needs
- (c) Present and future earnings capacity
- (d) All of above

All of above

B. Fill in the blanks.

1. The need to replace net outflows due to unanticipated withdrawal of deposits is known as risk.

Funding Risk

2. The need to compensate for non-receipt of expected inflows of funds is classified as risk.

Time Risk

3. Call risk arises due to crystallisation of _.

Contingent liabilities

4. Maturity ladders enables the bank to estimate the difference between and predetermined periods.

Cash inflows, cash outflows

5. Liquidity management methodology of evaluating whether a bank has sufficient liquid funds based on the behaviour of cash flows under the different 'what if scenarios is known as

Alternative Scenarios

6. The capability of bank to withstand a net funding requirement in a bank specific or general market liquidity crisis is denoted as .

Contingency planning

Terminal Questions

1. What do you understand by the term 'liquidity of a bank'?

2. What is the meaning of liquidity risk?

3. Why is management of liquidity risk important?

4. What are the factors which give rise to liquidity risk?

5. Explain the dimensions of liquidity and associated risks.

6. What do you understand by liquidity management?

7. What are the steps necessary for managing liquidity?

8. What are the methods for measuring and managing liquidity?

9. Explain the concept of maturity ladder under liquidity management.

10. What do you understand by the concept of alternative scenarios?

11. Explain briefly the categories under which assumptions required to be made for liquidity management.

12. What do you understand by contingency planning?

Answer to Check Your Progress

A. 1. (d), 2. (c), 3. (d)

B. 1. Funding Risk, 2. Time Risk, 3. Contingent liabilities, 4. Cash inflows, cash outflows, 5. Alternative Scenarios, 6. Contingency planning.

UNIT 27 Interest Rate Risk Management

STRUCTURE

- 27.0 Objectives
- 27.1 Introduction
- 27.2 Essentials of Interest Rate Risk
- 27.3 Sources of Interest Rate Risk
- 27.4 Effects of Interest Rate Risk
- 27.5 Measurement of Interest Rate Risk
- 27.6 Interest Rate Risk Measurement Techniques
- 27.7 Strategies for Controlling Interest Rate Risk
- 27.8 Controls and Supervision of Interest Rate Risk Management
- 27.9 Sound Interest Rate Risk Management Practices

Let Us Sum Up Keywords

Check Your Progress Terminal Questions Answers to Check Your Progress

27.0 OBJECTIVES

In this chapter, we will understand the following aspects of interest rate sensitivity and risk involved in asset liability management:

Essentials of Interest Rate Risk Management Sources of Interest Rate Risks Effects of Interest Rate Risks Measurement of Interest Rate Risk Strategies for controlling Interest Rate Risk Controls and Supervision of Interest Rate Risk Sound Interest Rate Risk Management Practices

27.1 INTRODUCTION

Till 1970, the regulatory restrictions on banks greatly reduced many of the risks in the financial system. The deposits were taken in at mandatory rates and loaned out at legally established rates. Interest rates therefore remained unaffected by market pressures. The phrase '3-6-3' i.e., bankers bring in short-term deposits at 3%, lend long at 6% and be home for the day by 3 p.m. became a common reference about the bankers. In the 50s and 60s, banks considered only the credit and liquidity risks as major constraints on profitability. Deregulation of the banking system in the 70s, however, got many bankers unprepared to manage interest rate risk to which their institutions were suddenly exposed. Many bank failures in the world during 70s, 80s and 90s were triggered out of poorly managed interest rate risks. Many financial institutions funded their long-term fixed assets with short-term volatile liabilities. So long as deposits and lending rates remained regulated, such funding mismatches were not at all a problem. However, today insulating interest spread against frequent interest rate changes has become the major strategic objective of banks' management.

The deregulation of the financial system in India has put in place a lot of operational freedom to the financial institutions and the pricing of various assets and liabilities has been left to their commercial judgement. The earning of assets and the cost of liabilities are therefore closely related to interest rate volatility. Thus, interest rate risk, a term totally unknown to the banking industry in India has suddenly becomes relevant.

27.2 ESSENTIALS OF INTEREST RATE RISK

Interest rate risk is the exposure of a bank's financial condition to adverse movements in interest rates. Accepting this risk is a normal part of banking and can be an important source of profitability and shareholder value. However, excessive interest rate risk can pose a significant threat to a bank's earnings and capital base. Changes in interest rates affect a bank's earnings by changing its net interest income and the level of other interest sensitive income and operating

expenses. Changes in interest rates also affect the underlying value of the bank's assets, liabilities, and off-balance-sheet (OBS) instruments because the present value of future cash flows (and in some cases, the cash flows themselves) change when interest rates change. Market value of an asset or liability is conceptually equal to the present value of current and future cash flows from that asset and liability. Therefore, the rising interest rates increases the discount rate on those cash flows and decreases the market value of that asset or liability. Conversely falling interest rates increase the market value of assets or liabilities. Moreover, mismatching maturities by holding longer term assets than liabilities means that when interest rates rise, the market value of assets falls by greater amount than liabilities. This exposes the bank to the risk of economic loss and potentially the risk of insolvency.

Interest rate risk refers to volatility in Net Interest Income (Nil) or in variations in Net Interest Margin (NIM), i.e., Nil divided by Earning Assets due to changes in interest rates. In other words, interest rate risk arises from holding assets and liabilities with different principal amounts, maturity dates or repricing dates, i.e., 'rollover rates'.

Accordingly, an effective risk management process that maintains interest rate risk within prudent levels is essential to the safety and soundness of banks. Most of the banks have already identified interest rate risk as a drag on their profitability and have started assessing the magnitude of interest rate risk embedded in their balance sheets.

Interest rate risk is broadly classified into mismatch or gap risk, basis risk, net interest position risk, embedded option risk, yield curve risk, price risk and reinvestment risk.

27.3 SOURCES OF INTEREST RATE RISK

1. Gap or Mismatch Risk

A gap or mismatch risk arises from holding assets and liabilities with different principal amounts, maturity dates or repricing dates, thereby creating exposure to changes in the level of interest rate. The gap is the difference between the amount of assets and liabilities on which the interest rates are reset during a given period. In other words, when assets and liabilities fall due to repricing in different periods, they can create a mismatch. Such a mismatch or gap may lead to gain or loss depending upon how interest rate in the market tend to move.

Example 1

- A bank holds Rs 100 crore liabilities at 9% of one year maturity to fund assets of Rs 100 crore at 10% with two year maturity. Over the first year, bank is getting a profit spread of 1% amounting to Rs 1 crore. However, its profits for second year are not certain. If interest rate remains unchanged, the profits will continue to be the same. However, since the liabilities are for one year and need to be rolled over for second year, bank is exposed to interest rate risk.
- If the interest rate on liabilities increase to 11% in second year, bank would be incurring a loss of 1%, i.e., Rs 1 crore in the second year. Conversely bank is again exposed to interest rate risk if it holds shorter term assets relative to liabilities, i.e., liabilities maturing in two years against assets maturing in one year. It then faces the uncertainty of interest rate at which it can reinvest funds after the first year for further one year matching the liabilities maturity.

Example 2

- Consider that a bank has invested the proceeds of a 91 days 8% deposit in 91 days T-Bill earning 10% and maturing on the same day as the deposit, the bank will have a matched gap, and there would be no interest rate risk. If the interest rate rises by 100 basis points during

the 91-days term of the deposit, the deposit will be renewed at 9% and T-Bill will also mature and the proceeds can be reinvested at the new yield of 11%.

- Thus, the 200 basis points Nil will be preserved.
- If the proceeds of the 91 days deposit are reinvested in a floating rate loan (repriced at every monthly intervals) with an initial rate of 10%), the interest rate earned on the loan will change twice during 91 days, while deposit rate remains unchanged. Since the assets is repriced much more rapidly than the liability during this period, the bank is asset sensitive. The asset sensitive bank can produce a large Nil if the interest rate rises in the market because interest rate on floating rate loan moves higher during the 91 days period, while interest being paid on the deposit remains at 8%. Conversely asset sensitive gap position would cause compression in the Nil as interest rates decline.
- If bank uses a 91 days 8% term deposit to fund a 5 year fixed rate mortgage loan at 10%, the loan will continue to earn 10%, while the deposit gets repriced at every 91 days interval. The bank is now liability sensitive because the interest paid on its deposit is reset more rapidly than the rate being charged on the loan. A rise or fall in interest rate in a liability sensitive situation has the opposite effect on the Nil than on an asset sensitive bank. Any increase in interest rate will cause an erosion in the liability sensitive bank's Nil.

Mismatched repricing periods of assets and liabilities is only one form of interest rate risk. There are other forms of interest rate risk, which are inherent in every bank's balance sheet that can severely affect their earnings.

2. Basis Risk

In a perfectly matched gap position there is no timing difference between the repricing dates; the magnitude of change in the deposit rates would be exactly matched by the magnitude of change in the loan rate. However, interest rate of two different instruments will seldom change by the same degree during the same period of time. The risk that the interest rate of different assets and liabilities may change in different magnitudes is called basis risk. The under noted table shows how the basis risk occurs.

Gap Statement of XYZ Bank (Amt. in Crore of Rs)

Repricing Assets

Repricing Liabilities

Call Money Cash credit

Gap (-)

50 40 90 10

Savings Deposit Fixed Deposits

50 50 100

The bank has now a negative gap of Rs 10 crore. In case the interest rate falls by which traditional

gap management (assuming rates on all assets and liabilities change by 1%) indicates should improve the bank's Nil by Rs 1 crore. Instead of falling in the same magnitude, assume that when the rate on call money lending falls 1%, the rate on cash credit falls 0.7%, the rate on savings deposit falls by 0.5% and rate on fixed deposits falls by 0.4%. The undemoted calculations indicates that the bank's Nil would deteriorates rather than improving in terms of the assumption of gap management.

Call Money Cash Credit

A. Decrease in interest income Savings deposit , Fixed deposit

B. Decrease in interest expenses Loss in Net Intt.Income: A - B

In case the bank believes that the magnitude of change in the interest rate of various assets and liabilities as shown above will be more representative of the future reality than equal changes in all the rates, then it should standardise the gap by multiplying the rupee amount by how much they will change for a given percentage change in one rate. The standardised gap of XYZ Bank can be reworked as under:

| Fall in Rates | Fall in Amount |
|---------------|----------------|
| 50 X 1.0% | Rs 0.50 crore |
| 40 X 0.7% | Rs 0.28 crore |
| (-) | Rs 0.78 crore |
| 50 X 0.5% | Rs 0.25 crore |
| 50 X 0.4% | Rs 0.20 crore |
| (+) | Rs 0.45 crore |
| (-) | Rs 0.33 crore |

| | | |
|-----------------------------|----------|-------------|
| Call Money | 50 X 1 | Rs 50 crore |
| Cash Credit | 40 X 0.7 | Rs 28 crore |
| A. Repricing Assets | | Rs 78 crore |
| Savings deposit | 50x0.5 | Rs 25 crore |
| Fixed deposit | 50x0.4 | Rs 20 crore |
| B. Repricing liabilities | | Rs 45 crore |
| Standardised Gap: A - B (+) | | Rs 33 crore |

Thus, the adjusted gap has turned into a positive gap of Rs 33 crore, against a negative gap of Rs 10 crore under the traditional gap model. Thus, one or several assumptions of standardised gaps seems more consistent with the real world than the traditional gap.

The degree of basis risk is fairly high in respect of banks that create composite assets out of composite liabilities. The Loan book in India is funded out of a composite liability portfolio and is exposed to a considerable degree of basis risk. The basis risk is quite visible in volatile interest rate scenarios. When the variation in market interest rate causes the Nil to expand, the banks have experienced a favourable basis shift and if the interest rate movement causes the Nil to contract, the basis has moved against the bank.

3. Net Interest Position Risk

The bank's net interest position also exposes the bank to an additional interest rate risk. If a bank has more assets on which it earns interest than its liabilities on which it pays interest, interest rate risk arises

when interest rate earned on assets changes while the cost of funding of the liabilities remained the same.

Thus, the bank with a positive net interest position will experience a reduction in Nil as interest rate declines and an expansion in Nil as interest rate rises.

A large positive net interest position accounts for most of the profit generated by many financial institutions.

4. Embedded Option Risk

Large changes in the level of market interest rates create another source of risk to banks profit by prepayment of loans and bonds (with put or call options) and/or premature withdrawal of deposits before their stated maturity dates. In cases where no penalty for prepayment of loans, the borrowers have a natural tendency to pay off their loans when a decline in interest rate occurs. In such cases, the bank will receive only a lower NIL

Example

Take the case of a bank which has disbursed a 90 days loan at the rate of 10% which is funded through a 90-day CD at the rate of 8%.

In case the rate of interest decline to 9% after 30 days and the borrower prepays his loan immediately and the bank receives only 200 basis points Nil for 30 days rather than the anticipated 90 days. In the remaining 60 days of the 90 days term, the Nil will be only 100 basis points.

The embedded option risk is becoming a reality in India and is experienced in volatile situations. The faster and higher the magnitude of changes in the interest rate, the greater will be the embedded options risk to the bank's NIL

5. Yield Curve Risk

An yield curve is a line on a graph plotting the yield of all maturities of a particular instrument. Yield curve changes its slope and shape from time to time depending upon repricing and various other factors. As the economy moves through business cycle, the yield curve changes rather frequently. At the intervention of Reserve Bank of India, the yield curve can be twisted to the desired direction by altering the yields on Government stocks or different maturities.

Example

- To illustrate how a change in the shape of yield curve affect the banks Nil, let us assume that XYZ Bank, used 3 years floating rate fixed deposits for funding 3 year floating rate loans (the deposits and loans are repriced at quarterly intervals). If the bank pays 100 basis point above the 12.50% (91 days Treasury Bills rate), i.e. 13.5% to fixed deposits and charges 300 basis point, above the 364 days Treasury Bills rate of 13%, i.e., 16% on its loans, a Nil of 250 basis points is produced.
- If the yield curve turns inverted during the next repricing date with the 91 days TBs rate increasing to 14% and 364 days TBs rate remaining at 13%) and the spread relationship or deposits and loans to TBs remains constant, the Nil will be reduced to 100 basis points.

6. Price Risk

Price risk occurs when assets are sold before their maturity dates. In the financial market, bond prices and bond yields are inversely related. For example, the price of 10-year 14% Government of India stock will receive only lower price than originally paid for, when coupon or stocks of similar maturity has gone upto 15% in the market. The price risk is closely associated with the trading book which is created for making profit out of short-term movements in interest rates.

7. Reinvestment Risk

Uncertainty with regard to interest rate at which the future cash flows can be reinvested is called reinvestment risk.

Example

- Suppose, XYZ Bank has a zero coupon deposit of Rs 10,000 and it promises to double the amount with 7 years and uses the funds for investing in a 7-year bonds at an annual coupon of 12%.
- In case, the interest rate falls to 5% after one year, the bank could reinvest the coupon cash flows only at 5% against the anticipation of reinvesting the coupon at a fixed rate of 12%. Due to this reinvestment risk, the bank will not be able to repay the entire amount of deposits on maturity.

The bond pricing formula assumes that all coupon payments are reinvested at the bond's Yield to Maturity (YTM). If the interest rate increases over the life of a bond, coupons will be reinvested at higher yields thereby increasing the reinvestment income. The increase in reinvestment income will increase the realised yield of the bond. When the interest rate goes up, the bond price decreases but the bond's realised compound yield will increase due to higher coupon reinvestment income. On the other hand, when the interest rate declines the bond price increases resulting in a capital gain but the realised compound yield decreases because of lower coupon reinvestment income. Thus, price risk and reinvestment risk partially off-set one another. The short-term bonds have more investment risk since proceeds of the bonds must be reinvested more and more times. Alternatively, long-term bonds have more price risk. In order to reduce reinvestment risk, banks try to match the duration of their assets and liabilities and not their maturities.

27.4 EFFECTS OF INTEREST RATE RISK

As the discussion above suggests, changes in interest rates can have adverse effects both on a bank's earnings and its economic value. This has given rise to two separate, but complementary, perspectives for assessing a bank's interest rate risk exposure, i.e.,

- Earnings perspective
- Economic perspective
- Embedded losses

1. Earnings Perspective

In the earnings perspective, the focus of analysis is the impact of changes in interest rates on accrual or reported earnings. This is the traditional approach to interest rate risk assessment taken by many banks. Variation in earnings is an important focal point for interest rate risk analysis because reduced earnings or outright losses can threaten the financial stability of an institution by undermining its capital adequacy and by reducing market confidence.

In this regard, the component of earnings that has traditionally received the most attention is net interest income (i.e., the difference between total interest income and total interest expense). This focus reflects both the importance of net interest income in banks' overall earnings and its direct and easily understood link to changes in interest rates. However, as banks have expanded increasingly into activities that generate fee-based and other non-interest income, a broader focus on overall net income - incorporating both interest and non-interest income and expenses - has become more common.

Non-interest income arising from many activities, such as loan servicing and various asset securitisation programmes, can be highly sensitive to, and have complex relationships with market interest rates. For example, some banks provide the servicing and loan administration function for mortgage loan pools in return for a fee based on the volume of assets it administers.

When interest rates fall, the servicing bank may experience a decline in its fee income as the underlying mortgages prepay. In addition, even traditional sources of non-interest income such as transaction processing fees are becoming more interest rate-sensitive. This increased sensitivity has led both bank management and supervisors to take a broader view of the potential effects of changes in market interest rates on bank earnings and to increasingly factor these broader effects into their estimated earnings under different interest rate environments.

2. Economic Value Perspective

Variation in market interest rates can also affect the economic value of a bank's assets, liabilities and off-balance-sheet (OBS) positions. Thus, the sensitivity of a bank's economic value to fluctuations in interest rates is a particularly important consideration of shareholders, management and supervisors alike.

The economic value of an instrument represents an assessment of the present value of its expected net cash flows, discounted to reflect market rates. By extension, the economic value of a bank can be viewed as the present value of the bank's expected net cash flows, defined as the expected cash flows on assets minus the expected cash flows on liabilities plus the expected net cash flows on OBS positions. In this sense, the economic value perspective reflects one view of the sensitivity of the net worth of the bank to fluctuations in interest rates.

Since the economic value perspective considers the potential impact of interest rate changes on the present value of all future cash flows, it provides a more comprehensive view of the potential long-term effects of changes in interest rates than is offered by the earnings perspective. This comprehensive view is important since changes in near-term earnings - the typical focus of the earnings perspective - may not provide an accurate indication of the impact of interest rate movements on the bank's overall positions. Increase in the rate of interest on assets like bonds will reduce the market price of the bonds

and when marked to market, its value will be reduced resulting in depreciation in investment. In this way, ultimately net worth of the bank will be reduced resulting in loss of economic perspective. For example, a 5-year Government bond of 10% is held by the bank and now market rate of interest is increased to 12%. It will result in the price of the existing bond on discount, i.e., a Rs 100 bond may fetch a price of Rs 95 only, causing a loss of Rs 5.

3. Embedded Losses

The earnings and economic value perspectives discussed thus far focus on how future changes in interest rates may affect a bank's financial performance. When evaluating the level of interest rate risk, it is willing and able to assume, a bank should also consider the impact that past interest rates may have on future performance. In particular, instrument that are not marked to market may already contain embedded gains or losses due to past rate movements. These gains or losses may be reflected over time in the bank's earnings.

For example, a long-term, fixed-rate loan entered into when interest rates were low and refunded more recently with liabilities bearing a higher rate of interest will, over its remaining life, represent a drain on the bank's resources.

27.5 MEASUREMENT OF INTEREST RATE RISK

Before risk can be managed, it must be identified and quantified. Unless the quantum of risk inherent in a bank's balance sheet is measured, it is impossible to measure the degree of risk to which bank is exposed. It is also equally impossible to develop effective risk management strategies/techniques without being able to understand the correct risk position of the bank.

In general, but depending on the complexity and range of activities of the individual bank, banks should have interest rate risk measurement systems that capture all material sources of interest

rate risk and that assess the effects of rate changes on both earnings and economic value.

Measurement systems should:

- Assess all material interest rate risk associated with a bank's assets, liabilities, and OBS positions
- Utilise generally accepted financial concepts and risk measurement techniques
- Have well-documented assumptions and parameters

A number of techniques are available for measuring the interest rate risk exposure of both earnings and economic value. Their complexity ranges from simple calculations to static simulations using current holdings to highly sophisticated dynamic modelling techniques based on potential future business activities.

27.6 INTEREST RATE RISK MEASUREMENT TECHNIQUES

Banks use various techniques to measure the exposure of earnings and of economic value to changes in interest rates. The variety of techniques ranges from calculations that rely on simple maturity and repricing tables, to static simulations based on current on- and off-balance-sheet positions, to highly sophisticated dynamic modelling techniques that incorporate assumptions about the behaviour of the

bank and its customers in response to changes in the interest rate environment. Some of these general approaches can be used to measure interest rate risk exposure from both an earnings and an economic value perspective, while others are more typically associated with only one of these two perspectives. In addition, the methods vary in their ability to capture the different forms of interest rate exposure: the simplest methods are intended primarily to capture the risks arising from maturity and repricing mismatches, while the more sophisticated methods can more easily capture the full range of risk exposures.

1. Repricing Schedules

The simplest techniques for measuring a bank's interest rate risk exposure begin with a maturity/ repricing schedule that distributes interest-sensitive assets, liabilities, and OBS positions into a certain number of predefined time bands according to their maturity (if fixed-rate) or time remaining to their next repricing (if floating-rate). Those assets and liabilities lacking definitive repricing intervals (e.g., sight deposits or savings accounts) or actual maturities that could vary from contractual maturities (e.g., mortgages with an option for early repayment) are assigned to repricing time bands according to the judgement and past experience of the bank.

2. Gap Analysis

Simple maturity/repricing schedules can be used to generate simple indicators of the interest rate risk sensitivity of both earnings and economic value to changing interest rates. When this approach is used to assess the interest rate risk of current earnings, it is typically referred to as gap analysis. Gap analysis was one of the first methods developed to measure a bank's interest rate risk exposure, and continues to be widely used by banks. To evaluate earnings exposure, interest rate-sensitive liabilities in each time band are subtracted from the corresponding interest rate-sensitive assets to produce a repricing 'gap' for that time band. This gap can be multiplied by an assumed change in interest rates to yield an approximation of the change in net interest income that would result from such an interest rate movement. The size of the interest rate movement used in the analysis can be based on a variety of factors, including historical experience, simulation of potential future interest rate movements, and the judgement of bank management.

- A negative or liability-sensitive gap occurs when liabilities exceed assets (including OBS positions) in a given time band. This means that an increase in market interest rates could cause a decline in net interest income.
- Conversely, a positive or asset-sensitive gap occurs when assets exceed liabilities. This means that a decrease in market interest rates could cause a decline in net interest income.

Although gap analysis is a very commonly used approach to assessing interest rate risk exposure, it has a number of shortcomings.

- First, gap analysis does not take account of variation in the characteristics of different positions within a time band. In particular, all positions within a given time band are assumed to mature or reprice simultaneously, a simplification that is likely to have greater impact on the precision of the estimates as the degree of aggregation within a time band increases.

Moreover, gap analysis ignores differences in spreads between interest rates that could arise as the level of market interest rates changes (basis risk).

In addition, it does not take into account any changes in the timing to payments that might occur as a result of changes in the interest rate environment. Thus, it fails to account for differences in the sensitivity of income that may arise from option-related positions.

For these reasons, gap analysis provides only a rough approximation of the actual change in net interest income which would result from the chosen change in the pattern of interest rates.

Finally, most gap analyses fail to capture variability in non-interest revenue and expenses, a potentially important source of risk to current income.

3. Duration

A maturity/repricing schedule can also be used to evaluate the effects of changing interest rates on a bank's economic value by applying sensitivity weights to each time band. Typically, such weights are based on estimates of the duration of the assets and liabilities that fall into each time band.

Duration is a measure of the percentage change in the economic value of a position that will occur, given a small change in the level of interest rates. It reflects the timing and size of cash flows that occur before the instrument's contractual maturity. Generally, the longer the maturity or next repricing date of the instrument and the smaller the payments that occur before maturity (e.g., coupon payments), the higher the duration (in absolute value). Higher duration implies that a given change in the level of interest rates will have a larger impact on economic value.

Duration-based weights can be used in combination with a maturity/repricing schedule to provide a rough approximation of the change in a bank's economic value that would occur given a particular change in the level of market interest rates.

- Specifically, an 'average' duration is assumed for the positions that fall into each time band
- The average durations are then multiplied by an assumed change in interest rates to construct a weight for each time band
- In some cases, different weights are used for different positions that fall within a time band, reflecting broad differences in the coupon rates and maturities (for instance, one weight for assets and another for liabilities).
- In addition, different interest rate changes are sometimes used for different time bands, generally to reflect differences in the volatility of interest rates along the yield curve.
- The weighted gaps are then aggregated across time bands to produce an estimate of the change in economic value of the bank that would, result from the assumed changes in interest rates.

Alternatively, an institution could estimate the effect of changing market rates by calculating the precise duration of each asset, liability and OBS position and then deriving the net position for the bank based on these more accurate measures, rather than by applying an estimated average duration weight to all positions in a given time band. This would eliminate potential errors occurring when aggregating positions/ cash flows.

As another variation, risk weights could also be designed for each time band on the basis of actual, percentage changes in market values of hypothetical instrument that would result from a specific scenario of changing market rates. That approach - which is sometimes referred to as effective duration - would better capture the non-linearity of price movements arising from significant changes in market interest rates and thereby, would avoid an important limitation of duration.

Limitations of duration approach are:

- Estimates derived from a standard duration approach may provide an acceptable approximation of a bank's exposure to changes in economic value for relatively non-complex banks. Such estimates, however, generally focus on just one form of interest rate risk exposure - repricing risk. As a result, they may not reflect interest rate risk arising, for instance, from changes in the relationship among interest rates within a time band (basis risk).
- In addition, because such approaches typically use an average duration for each time-band, the estimates will not reflect differences in the actual sensitivity of positions that can arise from differences in coupon rates and the timing of payments.
- Finally, the simplifying assumptions that underlie the calculation of standard duration means that the risk of options may not be adequately captured.

4. Simulation Approaches

Many banks (especially those using complex financial instruments or otherwise having complex risk profiles) employ more sophisticated interest rate risk measurement systems than those based on simple maturity/repricing schedules. These simulation techniques typically involve detailed assessments of the potential effects of changes in interest rates on earnings and economic value by simulating the future path of interest rates and their impact on cash flows.

In some sense, simulation techniques can be seen as an extension and refinement of the simple analysis based on maturity/repricing schedules. However, simulation approaches typically involve a more detailed breakdown of various categories of on- and off-balance-sheet positions, so that specific assumptions about the interest and principal payments and non-interest income and expense arising from each type of position can be incorporated. In addition, simulation techniques can incorporate more varied and refined changes in the interest rate environment, ranging from changes in the slope and shape of the yield curve to interest rate scenarios derived from Monte Carlo simulations. Simulation techniques could be static or dynamic.

(a) Static Simulation

In static simulations, the cash flows arising solely from the bank's current on- and off-balance-sheet positions are assessed. For assessing the exposure of earnings, simulations estimating the cash flows and resulting earnings streams over a specific period are conducted based on one or more assumed interest rate scenarios. Typically, although not always, these simulations entail relatively straightforward shifts or tilts of the yield curve, or changes of spreads between different interest rates. When the resulting cash flows are simulated over the entire expected lives of the bank's holdings and discounted back to their present values, an estimate of the change in the bank's economic value can be calculated.

(b) Dynamic Simulation

In a dynamic simulation approach, the simulation builds in more detailed assumptions about the future course of interest rates and the expected changes in a bank's business activity over that time. For instance, the simulation could involve assumptions about a bank's strategy for changing

administered interest rates (on savings deposits, for example), about the behaviour of the bank's customers (e.g., withdrawals from sight and savings deposits), and/or about the future stream of business (new loans or other transactions) that the bank will encounter. Such simulations use these assumptions about future activities and reinvestment strategies to project expected cash flows and estimate dynamic earnings and economic value outcomes. These more sophisticated techniques allow for dynamic interaction of payments streams and interest rates, and better capture the effect of embedded or explicit options.

- As with other approaches, the usefulness of simulation-based interest rate risk measurement techniques depends on the validity of the underlying assumptions about future interest rates and the behaviour of the bank and its customers, and the accuracy of the basic methodology.
- One of the primary concerns that arises is that such simulations do not become 'black boxes' that lead to false confidence in the precision of the estimates.

(c) Additional Issues

One of the most difficult tasks when measuring interest rate risk is how to deal with those positions where behavioural maturity differs from contractual maturity (or where there is no stated contractual maturity).

On the asset side of the balance sheet, such positions may include mortgages and mortgage-related securities, which can be subject to prepayment. In some countries, borrowers have the discretion to prepay their mortgages with little or no penalty, which creates uncertainty about the timing of the cash flows associated with these instruments. Although there is always some volatility in prepayments resulting from demographic factors (such as death, divorce, or job transfers) and macroeconomic conditions, most of the uncertainty surrounding prepayments arises from the response of borrowers to movements in interest rates. In general, declines in interest rates result in increasing levels of prepayments as borrowers refinance their loans at lower yields. In contrast, when interest rates rise unexpectedly, prepayment rates tend to slow, leaving the bank with a larger than anticipated volume of mortgages paying below current market rates.

On the liability side, such positions include so-called non-maturity deposits such as sight deposits and savings deposits, which can be withdrawn, often without penalty, at the discretion of the depositor. The treatment of such deposits is further complicated by the fact that the rates received by depositors tend not to move in close correlation with changes in the general level of market interest rates.

The treatment of positions with embedded options is an issue of special concern in measuring the exposure of both current earnings and economic value to interest rate changes.

As with other elements of interest rate risk measurement, the quality of the estimates of interest rate risk exposure depends on the quality of the assumptions about the future cash flows on the positions with uncertain maturities. Banks typically look to the past behaviour of such positions for guidance about these assumptions.

For instance, econometric or statistical analysis can be used to analyse the behaviour of a bank's holdings in response to past interest rate movements. Such analysis is particularly useful to assess the likely behaviour of non-maturity deposits, which can be influenced by bank-specific factors, such as the nature of the bank's customers and local or regional market conditions.

In the same vein, banks may use statistical prepayment models either models developed internally by the bank or models purchased from outside developers - to generate expectations about mortgage-related cash flows.

Finally, input from managerial and business units within the bank could have an important influence, since these areas may be aware of planned changes to business or repricing strategies that could affect the behaviour of the future cash flows of positions with uncertain maturities.

27.7 STRATEGIES FOR CONTROLLING INTEREST RATE RISK

Interest rate risk management process should begin with strategies which change the bank's interest rate sensitivity by altering various components of the balance sheet. The actual management of banks' assets and liabilities focusses on controlling the gap between Rate Sensitive Assets and Rate Sensitive Liabilities. Some banks pursue a strategy of matching assets and liabilities maturities as closely as possible to reduce the gap to zero and insulate the Nil from the volatility of interest rate. Aggressive bankers, however, vary the gap in tune with their interest rate forecasts. If they expect interest rate should increase, they widen the gap by repricing the assets more frequently than their liabilities.

The banks have been following various balance sheet, etc., strategies to limit the shocks of interest rate volatility. The basic strategy of the banks is focussed on bridging the gap position.

The strategy for reducing the assets and liabilities sensitivity are:

Reduce Asset Sensitivity

- Extend investment portfolio maturities
- Increase floating rate deposits
- Increase fixed rate lending
- Sell floating rate loans
- Increase short-term borrowings
- Increase long-term lendings

Reduce Liability Sensitivity

- Reducing investment portfolio maturities
- Increase floating rate lendings
- Increase long-term deposits
- Increase short-term lendings

The basic balance sheet strategy to alter banks interest rate exposure is to effect changes in the portfolio composition. Any variation in portfolio potentially alters NIL The liability sensitivity situation can be tackled by pricing more loans on floating rate basis or shortening maturities of investment securities.

The banks can also consider selling fixed income securities and reinvest the proceeds in securities with short-term maturity.

The other options available to the banks for managing interest rate risks are:

- Match long-term assets preferably with non-interest bearing liabilities
- Match repriceable assets with a similar repriceable liabilities
- Use Forward Rate Agreements, Swaps, Options and Financial Futures to construct synthetic securities and thus hedge against any exposure to interest rate risk
- Maturity mismatch is accentuated by proliferation of Performing Assets (NPAs) and loan re-negotiations. Sound loaning policies and effective post-sanction monitoring and recovery steps can contain the volume of NPAs. Large volume of NPA in the balance sheet entail carrying of non- interest earning assets, funded out of voladle liabilities.

Risk averse banks management would always endeavour for a matched book. However, full match in repricing assets and liabilities is neither feasible nor prudent. The adverse impact on Nil due to mismatches can be minimised by fixing appropriate tolerance limits on interest rate sensitivity gaps. The tolerance limit should be relatively smaller in the shorter end or proximate

time bands. Thus, the banks should constantly review the repricing structure of all the new debts raised or new assets financed with a view to protecting the interest rate margins. The banks should also evolve suitable in-house expertise for forecasting of interest rates so as to place the banks in a situation whereby it can exploit the advantages of favourable movements in interest rate.

27.8 CONTROLS AND SUPERVISION OF INTEREST RATE RISK MANAGEMENT

Banks are required to have adequate internal controls to ensure the integrity of their interest rate risk management process. These internal controls should be an integral part of the institution's overall system of internal control. They should promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations, and institutional policies. An effective system of internal control for interest rate risk includes:

- A strong control environment
- -An adequate process for identifying and evaluating risk
- The establishment of control activities such as policies, procedures, and methodologies
- Adequate information systems
- Continual review of adherence to established policies and procedures

With regard to control policies and procedures, attention should be given to appropriate approval processes, exposure limits, reconciliations, reviews, and other mechanisms designed to provide a reasonable assurance that the institution's interest rate risk management objectives are achieved. Many attributes of a sound risk management process, including risk measurement, monitoring and control functions are key aspects of an effective system of internal control.

In addition, an important element of a bank's internal control system over its interest, rate risk management process is regular evaluation and review. This includes ensuring that personnel are following established

policies and procedures, as well as ensuring that the procedures that were established actually accomplish the intended objectives.

Management should ensure that all such reviews and evaluations are conducted regularly by individuals who are independent of the function they are assigned to review.

Banks, particularly those with complex risk exposures, should have their measurement, monitoring, and control functions reviewed on a regular basis by an independent party (such as an internal or external auditor).

27.9 SOUND INTEREST RATE RISK MANAGEMENT PRACTICES

Sound interest rate risk management involves the application of four basic elements in the management of assets, liabilities and OBS instruments:

- Appropriate board and senior management oversight
- Adequate risk management policies and procedures
- Appropriate risk measurement, monitoring, and control functions
- Comprehensive internal controls and independent audits

1. Board and Senior Management Oversight of Interest Rate Risk

Effective oversight by a bank's board of directors and senior management is critical to a sound interest rate risk management process. It is essential that these individuals are aware of their responsibilities with regard to interest rate risk management and that they adequately perform their roles in overseeing and managing interest rate risk.

2. Board of Directors

In order to carry out its responsibilities, the board of directors in a bank should approve strategies and policies with respect to interest rate risk management and ensure that senior management

takes the steps necessary to monitor and control these risks consistent with the approved strategies and policies. The board of directors should be informed regularly of the interest rate risk exposure of the bank in order to assess the monitoring and controlling of such risk against the board's guidance on the levels of risk that are acceptable to the bank.

3. Senior Management

Senior management must ensure that the structure of the bank's business and the level of interest rate risk it assumes are effectively managed, that appropriate policies and procedures are established to control and limit these risks, and that resources are available for evaluating and controlling interest rate risk.

Management is also responsible for maintaining:

Appropriate limits on risk taking
Adequate systems and standards for measuring risk
Standards for valuing positions and measuring performance
A comprehensive interest rate risk reporting and interest rate risk management Review process
Effective internal controls

Interest rate risk reports to senior management should provide aggregate information as well as sufficient supporting detail to enable management to assess the sensitivity of the institution to changes in market conditions and other important risk factors.

Senior management should also review periodically the organisation's interest rate risk management policies and procedures to ensure that they remain appropriate and sound.

4. Lines of Responsibility and Authority for Managing Interest Rate Risk

Banks should clearly define the individuals and/or committees responsible for managing interest rate risk and should ensure that there is adequate separation of duties in key elements of the risk management process to avoid potential conflicts of interest.

Banks should have risk measurement, monitoring, and control functions with clearly defined duties that are sufficiently independent from position-taking functions of the bank and which report risk exposures directly to senior management and the board of directors. Larger or more complex banks should have a designated independent unit responsible for the design and administration of the bank's interest rate risk measurement, monitoring and control functions. Senior management should define lines of authority and responsibility for developing strategies, implementing tactics, and conducting the risk measurement and reporting functions of the interest rate risk management process.

Let Us Sum Up

- The deregulation of the financial system in India has put in place a lot of operational freedom to the financial institutions and the pricing of various assets and liabilities has been left to their commercial judgement. Thus, interest rate risk, a term totally unknown to the banking industry in India, has suddenly become relevant.
- There are several sources which give rise to interest rate risk:
 - Gap or Mismatch Risk
 - Basis Risk
 - Net Interest Position Risk
 - Embedded Option Risk
 - Yield Curve Risk
 - Price Risk
 - Reinvestment Risk

Interest rate risk measurement techniques include:

- Repricing schedules
 - Gap analysis
-

- Duration
- Simulation approaches

Strategies generally employed for controlling Interest Rate Risk:

Reducing Asset Sensitivity

- Extend investment portfolio maturities
- Increase floating rate deposits
- Increase fixed rate lending
- Sell floating rate loans
- Increase short-term borrowings
- Increase long-term lendings

Reducing Liability Sensitivity

- Reducing investment portfolio maturities
- Increase floating rate lendings
- Increase long-term deposits
- Increase short-term lendings
- The other options available to the banks for managing interest rate risks are:
 - Match long-term assets preferably with non-interest bearing liabilities
 - Match repriceable assets with a similar repriceable liabilities
 - Use Forward Rate Agreements, Swaps, Options and Financial Futures to construct synthetic securities and thus hedge against any exposure to interest rate risk
 - Contain volumes of NPA which accentuate maturity mismatch.

An effective system of internal control for interest rate risk includes: A strong control environment

An adequate process for identifying and evaluating risk

The establishment of control activities such as policies, procedures, and methodologies Adequate information systems

Continual review of adherence to established policies and procedures

Sound interest rate risk management involves the application of four basic elements in the management of assets, liabilities, and OBS instruments:

- Appropriate board and senior management oversight
- Adequate risk management policies and procedures
- Appropriate risk measurement, monitoring, and control functions
- Comprehensive internal controls and independent audits

Keywords

Interest Rate Risk: Volatility in Net Interest Income (Nil) or in variations in Net Interest Margin (NIM).

Gap: The gap is the difference between the amount of assets and liabilities on which the interest rates are reset during a given period.

Basis Risk: The risk that the interest rate of different assets and liabilities may change in different magnitudes is called basis risk.

Embedded Option: Prepayment of loans and bonds (with put or call options) and/or premature withdrawal of deposits before their stated maturity dates.

Yield Curve: A yield curve is a line on a graph plotting the yield of all maturities of a particular instrument.

Embedded Losses: Instrument that are not marked to market containing embedded gains or losses due to past rate movements.

Check Your Progress

Fill in the blanks:

1. Changes in interest rates also affect the underlying value of the bank's
2. Rise in interest rates
Conversely falling interest rates
the market value of that asset or liability.
the market value of assets or liabilities.
3. The gap is the difference between the amount of assets and liabilities on which the interest rates are during a given period.
4. Mismatch occurs when assets and liabilities fall due for ___ in different periods.
5. The economic value of a bank can be viewed as the present value of the bank's expected _____.
6. A negative, or liability-sensitive gap occurs when liabilities assets (including OBS positions) in a given time band.
7. Estimates derived from a standard duration generally focus on just one form of interest rate risk exposure, i.e. _____.
8. Interest rate risk can be managed by matching repricable assets with .
9. Proliferation of NPA results in increasing _.
10. The adverse impact on Nil due to mismatches can be minimised by fixing appropriate on interest rate sensitivity gaps.

Terminal Questions

1. What do you understand from interest rate risk?
 2. What are the sources of interest rate risks?
 3. Explain the broad categories of interest rate risk.
 4. What is a mismatch risk?
 5. What is a basis risk?
 6. What is a net position risk?
 7. What is embedded options risk?
 8. What is a yield curve risk?
 9. What is a price risk?
 10. What is a reinvestment risk?
 11. What are the effects of interest rate risks on asset liability management?
 12. What are the techniques for measurement of Interest Rate Risk?
 13. What do you understand by repricing schedules?
 14. What do you understand by gap analysis ?
 15. What do you understand by duration analysis?
 16. What do you understand by simulation approaches?
 17. Describe briefly some strategies for controlling interest rate risk.
-

18. Describe briefly sound interest rate risk management practices.

Answers to Check Your Progress

1. assets, liabilities; 2. decreases, increases; 3. reset; 4. repricing; 5. net cash flows; 6. exceed; 7. repricing risk; 8. repriceable liabilities; 9. maturity mismatch; 10. tolerance limits.

SUPPLEMENT MATERIAL

Re-pricing Gap

Assets and Liabilities are classified under different buckets. Gap is measured taking the difference between assets and liabilities within a bucket.

Interest Rate Sensitive Gap: Interest Rate Sensitive Assets(RSA) - Interest Rate Sensitive Liabilities (RSL).

- Positive Gap or Asset Sensitive Gap - $RSA - RSL > 0$
- Negative Gap or Liability Sensitive - $RSA - RSL < 0$

| Rs in crore | Assets | Liabilities | GAP | Cumulative Gap |
|-----------------------|--------|-------------|------|----------------|
| 1 day | 500 | 550 | -50 | -50 |
| >1 day to 3 months | 400 | 600 | -200 | -250 |
| >3 months to 6 months | 700 | 800 | -100 | -350 |
| >6 months to 12 m | 850 | 1050 | -200 | -550 |
| >12 months to 3 year | 1200 | 1500 | -300 | -850 |
| >3 year to 5 year | 1500 | 1300 | 200 | -650 |
| >5 year | 2500 | 1850 | 650 | 0 |

The above table indicates that the bank have short term negative gap and long term positive Gap. Considering the cumulative Gap of one year i.e Rs 550 crore. If the short term interest rate increase by 1% , the NIM of the Bank will reduced by Rs 5.50 crore.

Eliminating Bank's Interest sensitive Gap:

$RSA - RSL > 0$ (Re-investment Risk)

$RSA - RSL < 0$ (Refinancing Gap)

In case the interest rate falls, as the $RSA > RSL$, the NIM will reduced, being the Assets mature will need to be reinvested at lower rates

Losses, if the interest rate increase (refer the above example.)

Extend the Assets maturity or shorten the liability maturities.

Shorten the Assets maturity or Extend the liability maturities.

Methodology for Computing Modified Duration Gaps

The step-by-step approach for computing modified duration gap is as follows:

1. Identify variables such as principal amount, maturity date/re-pricing date, coupon rate, yield, frequency and basis of interest calculation for each item/category of asset/liability.
2. Generate the bucket-wise cash flows for each item/category of asset/liability/off-balance sheet item.
3. Determine the yield curve for arriving at the yields based on current market yields/current replacement cost for each item/category of asset/liability/off-balance sheet item as proposed in the framework above.
4. The mid-point of each time bucket may be taken as a proxy for the maturity of all assets and liabilities in that time bucket.
5. Calculate the Modified Duration of each category of asset/liability/off balance sheet item using the maturity date, yield, coupon rate, frequency, yield, basis for interest calculation for each category of asset/liability/off balance sheet item.

6. Determine the weighted average Modified Duration of all the assets (DA) and similarly for all the liabilities (DL), including off balance sheet items.

7. The Modified Duration Gap is derived by the equation:

$$DGAP = \text{Modified DA} - W \times \text{Modified DL}$$

where

$W = RSL/RSA$ (Rate Sensitive Liabilities/Rate Sensitive Assets).

DA = Weighted average Modified Duration of assets and

DL = Weighted average Modified Duration of liabilities.

Calculation of Modified Duration of Equity

Along with Modified Duration Gap, banks may also compute Modified Duration of Equity to enable

easier comparison of IRR amongst banks. The same may be computed as per the framework given

below:

(Note: Equity in this example refers to capital funds)

Modified Duration of Equity = DGAP x Leverage

Leverage = $RSA/Equity$ (which indicates extent to which equity has been leveraged to create assets)

Illustration:

Economic Value of Equity

Net worth

RSA

RSL

Modified Duration of Gap

DA (Weighted Modified Duration of Assets)

DL (Weighted Modified Duration of Liabilities)

Weight = RSL/RSA

$DGAP = DA - W \times DL$

Leverage Ratio = $RSA / (\text{Tier 1} + \text{Tier 2})$

Modified Duration of Equity = DGAP x Leverage Ratio

For a 200 bp

Rate shock the drop in equity value is

(Rs. in crore)

Amount

1350.00 18251.00 18590.00

1.96 1.25 1.02 0.69 13.52 9.34

18.68% (9.34x2)

The following approach for calculation of modified duration may be adopted by banks:

Sr. No. Balance Sheet and Off-balance Sheet Items

1. Investments
2. Assets/liabilities in foreign currency
3. Derivative instruments (other than options)

Approach for Modified Duration

Compute the actual Modified Duration for each item of the bank's investment portfolio.

The assets and liabilities in foreign currency will be converted into Indian Rupees using the relevant spot closing rates as published by FEDAI.

Modified duration for each item of assets and liabilities will be computed using the yields as appropriate. Banks may use their own methodologies for computing the modified duration of their derivatives portfolio. One possible method for computing modified duration for the derivatives portfolio could be as follows:

All derivatives which have a forward component should be considered as a combination of two positions in bonds. Accordingly, banks should compute the actual modified duration for each item of the derivatives portfolio and plot them as assets (receivables) or liabilities (payables) in the appropriate time buckets.

Contd..

Sr. No. Balance Sheet and Off-balance Sheet Items

4. Derivatives - Options

5. All other items

Approach for Modified Duration

Interest Rate Swaps could be considered as a combination of a short position and long position. The notional of the fixed and floating leg of an Interest Rate Swap could be shown in the respective maturity bucket based on the maturity date for the fixed leg and the reset date for the floating leg. Suppose, a bank receives 5-year fixed and pays floating MIBOR, then the fixed leg of the swap could be shown as positive in the '5-7 year' bucket and the floating leg would be shown as a negative in '<1 month' bucket.

Forward rate agreements could also be considered as a combination of a short position and long position. For instance, a long position in a September three month FRA (taken on June 1), can be bucketed as a long position, with a maturity of six months and a short position with maturity of three months. The amount to be shown in the Statement of interest rate sensitivity is the notional of the FRA.

Interest Rate Futures could be treated in a similar manner as a Forward Rate Agreement. Thus, the notional of the interest rate future should be shown in the relevant buckets in the Statement of Interest Rate Sensitivity.

FC - INR options: The 'delta' times the notional value amount (based on the strike price) could be shown in the respective maturity bucket as an outflow / inflow based on the option. For instance, if a bank has a USD 1 mio. long call Rupee dollar option (where in the bank buys the USD against INR) at a strike price of Rs.44.00 at the end of 2 months and say the delta of this option is 0.45. For the purpose of bucketing in the Statement of Interest Rate Sensitivity, the bank may take Rs 1.98 crore (viz. $1 \text{ mio} * 44 * 0.45$) as an outflow in the 1-3 month time bucket. For the purpose of computing the modified duration, the bank may use the MIFOR curve for the discounting rate. Cross currency options : Adopt the same methodology as for FC - INR options except that the relevant conversion rate (using the FEDAI closing rate) and the appropriate yield curve should be used.

Each bank will have to decide either to have an individual account-wise approach to calculation of Modified Duration or aggregate various items of assets and liabilities (in groups) in the respective time buckets as indicated in paragraph 5 above and thereafter work out the Modified Duration taking mid-points of the time buckets as the maturity date, and apply the relevant coupon and yields.

UNIT 28 RAROC and Profit Planning

STRUCTURE

28.0 Objectives

28.1 Introduction

28.2 Profit Planning

28.3 Risk Aggregation and Capital Allocation

28.4 Economic Capital and RAROC

Let Us Sum Up Keywords

Terminal Questions

28.0 OBJECTIVES

The objectives of this unit is to peruse and review:

- Various components of income and expenditure of a bank
- How different mix of assets portfolio affect profitability and capital requirement for a bank
- How NPAs affect the profitability
- Profitability in some Indian banks

28.1 INTRODUCTION

We started by discussing the Basel-II norms for capital adequacy, supervisory review and market discipline. We then moved to income recognition and provisioning requirements. In this unit, we shall see the factors affecting profitability of banks. Banks are required to maintain a certain minimum amount of capital based on their risk profiles. We shall look at the various options for deployment of funds and their impact on the bottom line and capital requirement. The traditional approach of reduction of expenditure and increase in fee, based income will also be touched upon.

We shall thereafter proceed to review profitability position of some Indian banks. We shall take a sample of some of the prominent public sector and private sector banks. We shall then examine the relationship between their owned funds and net profits as well as between total assets and profit before depreciation, interest and tax. This should give you some idea about the present trends in profitability.

28.2 PROFIT PLANNING

Banks are commercial organisations. They are there to earn profits and provide good returns on the equity. However, they have the role of a financial intermediary. Banks accept deposits and lend monies to industry, trade, agriculture, consumption, housing, etc. They are the trustees for the deposits kept with them and have to perform the sacred duty of protecting the depositors' funds. They are also expected to give some fixed returns to the depositors. In this capacity as a trustee for the depositors, a Bank's role may have variance with its responsibility to maximise the profits for its owners. Banks are, therefore, required to be cautious in their dealings and manage the risks in a prudent manner

Profit planning in a bank essentially involves balance sheet management; covering credit, investment and non-fund based income. Banks' income arises from three sources, viz. interest income, fee-based income and treasury income. Interest income is derived from lending as well as investments in securities, bonds etc. In most of the countries, there are norms that a certain percentage of deposits is mandatorily required to be kept in Government securities. In our country, statutory liquidity ratio (SLR) takes care of this aspect. Though, the investments in Government securities are practically risk-free, the yield on such investments is lower. Similarly, the interest incomes on highly rated corporates are much lower as compared to the income on

lower rated corporates. Banks are required to have a proper blending of investment in Government securities and credit portfolios to maximise the profits for a given level of risk appetite. Let us take one example of various combinations. Suppose, a bank has Rs 1,000 to invest or lend. We look at four different scenarios as follows:

TABLE 28.1

Investment in Govt. Securities with yield

| | | | | |
|--|------|-------|-------|-------|
| 6% and risk weight of 0%. | 1000 | 400 | 300 | 300 |
| Lending to AAA rated customers with yield 8% p.a. & risk weight of 20% | 0 | 600 | 300 | 300 |
| Lending to AA rated customers with Yield of 10% p.a. & risk weight of 50%. | 0 | 0 | 400 | 200 |
| Lending to A rated customers with yield | | | | |
| of 12% p.a. and risk weight of 100% | 0 | 0 | 0 | 200 |
| Total Investment | 1000 | 1000 | 1000 | 1000 |
| \TELD | | | | |
| TOTAL (Amount X Yield) | 60 | 72 | 82 | 86 |
| Yield % | 6% | 7.20% | 8.20% | 8.60% |
| Risk Weight Assets# | 0 | 120 | 260 | 360 |
| Capital Required (@8%) | 0 | 9.60 | 20.8 | 28.8 |

Thus, you would observe that risk would increase for lending to lower rated customers resulting in an increased need for capital and also improved yield on the assets. Banks need to optimise the investment and lending portfolio to earn the best possible returns for a given capital level.

Banks have to take into account the effect of NPA on the interest income and thereby on the profitability. NPAs do not generate income and therefore bring down the yield on advances.

Also, under Basel-II regime, the risk weightage of such assets is higher, thereby forcing a bank to maintain higher capital. Thus, NPAs have two-fold effects, reduction in income and need for additional capital. Hence, return on capital or profitability gets further deteriorated.

The second major source of income is derived from fee-based activities. The traditional activities such as demand drafts, remittances, safe custody, guarantees, letters of credits, bills, etc., continue to be prevalent. However, with technological changes, some of the services such as demand drafts, remittances, bills handling may reduce drastically. Some new services like depository services, internet banking, e-commerce have appeared on the scene. These services have given a boost to the fee income or else have resulted in a higher minimum balance requirements. The banks have been introducing several innovative products and services with the advent of technology. Banks have also ventured into cross selling of other financial products such as insurance policies, mutual funds, etc., with established network and position of trusted entity for its customers, a bank can make logical and natural entry in the selling of such third party products. Banks thus tend to become financial super markets and such measures help increase the fee-based income. Banks are required to keep in mind the operational risks associated with these new services.

The last and most important component of income is treasury income, which is derived by trading in securities, foreign exchange, equities, bullion, commodities and derivatives. This is largely a speculative activity, which banks undertake with stringent internal controls and checks

in place. Regulators also prescribe various measures in this regard. Banks put in place several risk management measures such as caps on open positions, mark to market valuations, capital provisioning based on value of risk etc.

Trading activities may provide large incomes to banks. This has been the case with many Indian banks during the last three years. These activities may result in large amounts of losses as well. If a bank is not adequately capitalised, such losses can cause serious problems for it. In the 90s, Barings Bank, a very old British Bank, collapsed due to very large losses on the Exchange. It is important to undertake trading activity within one's means and exploit the potential to earn more income for a bank.

We have so far seen the income side. On the expenses side, there are two major expenses, viz., interest expenses and operating expenses. There are three major parts of the deposit portfolio. Current Deposits which are interest free. Savings Deposits - which get a regulated interest rate of 3.5% in our country and Term (short & long) Deposits - for which interest rates are deregulated in India. Thus, a bank has to find ways and means to improve the share of low cost deposits such as Current and Savings Bank. This helps them to lower interest costs. Interest rates of term deposits are largely decided by market forces. A bank keeps such interest rates at a level, at which it can garner requisite deposits in competition with other banks. These interest rates are also influenced by other instruments such as debentures, postal deposits, Government securities, provident fund, etc.

The second factor of expenditure is operating costs which consists of staff costs and other costs. Banks try to improve productivity and also link up some of the staff costs to productivity by providing incentive based packages. Thus, every effort is made to maintain and reduce the percentage of staff costs to the income level. Other cost comprises depreciation, rent, utilities, legal expenses, travelling expenses, postages, telecommunication charges, stationery, etc. Banks like any other commercial organisations would ensure that wasteful expenditures are avoided, and best possible deals are achieved wherever possible. Cost benefit aspects are looked into and alternatives are explored. Thus, every effort to rationalise this segment of expenditure is made. In a nutshell, profitability is a function of six variables:

Interest income, Fee-based income, Trading income, Interest expenses, Staff expenses, Other operating expenses.

Maximisation of the first three variables and minimisation of the last three variables are the requisites to maximise profitability. All the six factors are dependent on each other and achieving the optimum level is the requirement here.

28.3 RISK AGGREGATION AND CAPITAL ALLOCATION

Most of internally active banks have developed internal processes and techniques to assess and evaluate their own capital needs in the light of their risk profiles and business plans. Such banks take into account both qualitative and quantitative factors to assess economic capital. The Basel Committee now recognises that capital adequacy in relation to economic risk is a necessary condition for the long-term soundness of banks. Thus, in addition to complying with the established minimum regulatory capital requirements, banks should critically assess their internal capital adequacy and future capital needs on the basis of risks assumed by individual lines of business, product, etc. As a part of the process for evaluating internal capital adequacy, a bank should be able to identify and evaluate its risks across all its activities to determine whether its capital levels are appropriate.

Thus, at the bank's Head Office level, aggregate risk exposure should receive increased scrutiny. To do so, however, it requires the summation of the different types of risks. Banks, across the

world, use different ways to estimate the aggregate risk exposures. The most commonly used approach is the Risk Adjusted Return on Capital (RAROC).

The RAROC is designed to allow all the business streams of a financial institution to be evaluated on an equal footing. Each type of risks is measured to determine both the expected and unexpected losses using VaR or worst-case type analytical model. Key to RAROC is the matching of revenues, costs and risks on transaction or portfolio basis over a defined time period. This begins with a clear differentiation between expected and unexpected losses. Expected losses are covered by reserves and provisions and unexpected losses require capital allocation which is determined on the principles of confidence levels, time horizon, diversification and correlation. In this approach, risk is measured in terms of variability of income. Under this framework, the frequency distribution of return, wherever possible is estimated and the Standard Deviation (SD) of this distribution is also estimated. Capital is thereafter allocated to activities as a function of this risk or volatility measure. Then, the risky position is required to carry an expected rate of return on allocated capital, which compensates the bank for the associated incremental risk. By dimensioning all risks in terms of loss distribution and allocating capital by the volatility of the new activity, risk is aggregated and priced.

The second approach is similar to the RAROC, but depends less on capital allocation and more on cash flows or variability in earnings. This is referred to as EaR, when employed to analyse interest rate risk. Under this analytical framework also frequency distribution of returns for any one type of risk can be estimated from historical data. Extreme outcome can be estimated from the tail of the distribution. Either a worst-case scenario could be used or Standard Deviation $1/2/2.69$ could also be considered. Accordingly, each bank can restrict the maximum potential loss to certain percentage of past/current income or market value. Thereafter, rather than moving from volatility of value through capital, this approach goes directly to current earnings implications from a risky position. This approach, however, is based on cash flows and ignores the value changes in assets and liabilities due to changes in market interest rates. It also depends upon a subjectively-specified range of the risky environments to drive the worst-case scenario.

28.4 ECONOMIC CAPITAL AND RAROC

The expected loss is a measure of the reserves necessary to guard against future losses. The pricing of products should provide a buffer against expected losses and the the unexpected loss is a measure of the amount of economic capital required to support the banks financial risk. This capital, also called risk capital.

Some activities may require large amounts of risk capital, which in turn requires higher returns. This is the essence of risk adjusted return on capital (RAROC) measures. The central objective is to establish benchmarks to evaluate the economic return of business activities. This includes transactions, products, customer trades, and business lines, as well as the entire business.

RAROC is also related to concepts such as shareholder value analysis and economic value added. In the past, performance was measured by yardsticks such as return on assets (ROA), which adjusts profits for the associated book value of assets, or return on equity (ROE), which adjusts profits for the associated book value of equity. None of these measures is satisfactory for evaluating the performance of business lines, however, as they ignore risks.

Risk Capital

RAROC is a part of the family of the risk-adjusted performance measures (RAPM). Consider, for instance, two traders such that each returned a profit of \$10 million over the last year The first is a foreign currency trader, and second a bond trader. The question is, how do we compare

their performance? This is important in providing appropriate compensation as well as deciding which line of activity to expand.

Assume the FX and bond traders have notional amount and volatility as described below. The bond trader deals in larger amounts, \$200 million, but in a market with lower volatility, at 4% per annum, against \$ 100 million and 12% for the FX trader. The risk capital can be computed as a VAR measure, say at the 99% level over a year, as Bankers Trust did. Assuming normal distributions, this translates into a risk capital of

$RC = VAR = \$100,000,000 \times .12 \times 2.33 = \28 million The risk adjusted performance is then measured as the profit divided by the risk capital,
 $RAPM = \text{Profit}/RC$

Thus the bond trader is actually performing better as the FX trader, as the activity requires less risk capital. More generally, risk capital should account for credit risk, operational risk, and any interaction.

RAROC Methodology

Risk Management: Includes the measurement of portfolio exposure, the volatility and correlations of the risks factors.

Capital Allocation: This requires the choice of a confidence level and horizon for the VAR measure, which translates into an economic capital.

Performance Measurement: This requires the adjustment of performance for the risk capital.

Performance measurement can be based on RAPM method. For instance, Economic Value Added (EVA) focuses on the creation of value during a particular period in excess of required return on capital. EVA measures the residual economic profit as

$$EVA = \text{Profit} - (\text{Capital} \times k)$$

Where profits are adjusted for the cost of economic capital, with k defined as a discount rate.

Assuming the whole worth is captured by the EVA, the higher the EVA, the better the product or project.

Banking Industry in India

The past decade or so has been historically momentous for the banking industry in India. Starting with Narsimham committee report of 1991, Indian banking has seen a total change in the scenario during the last 18 years. The process of deregulation which was set in motion has brought in sea change in Indian banking. Regulated interest rates, directed investment/credit have become thing of the past. The Reserve Bank of India has been more concerned about prudential norms and disclosure requirements.

During the last decade, several new private sector banks have come into existence. They have diverse ownership patterns. Similarly foreign banks have been given clearances for expansion. These measures have resulted in a keen competition in the banking sector. The new entrants have brought modern technology, new products, and aggressive marketing. Public sector banks and old private sector banks had to take cognizance of these developments and change their ways. Profitability has become the most important parameter in banks' functioning.

Indian banks have shown that they are alive to the changing environment and have geared up to face the new challenges. They have realised that the bottom-line is very critical and demonstrated their will and skills in changing colours.

Let Us Sum Up

In this last unit, we have dealt with the most important issue, viz., profitability. Profitability for banks depend on six factors, viz., interest income, fee-based income, trading income, interest expenses, staff expenses and other operating expenses. The banks also need to take care of

capital adequacy. Basel committee norms have brought in standardisation in the norms for capital adequacy and provided benchmarks in this area. Banks have to keep the balance of capital requirement and profitability.

Banks have to optimise the allocation of funds amongst securities, credit portfolios, forex/bullion positions to achieve the best possible results in terms of profitability and capital adequacy. Fee based income areas have to be reworked with the introduction of new products and phasing out of outdated processes, if any.

Banking in India has changed considerably over the last 14-15 years. Competition, technology and deregulation have brought out fundamental changes in the banking scenario. Profitability and capital adequacy have become the most important parameters for banks. Risk management processes have attained a key position in the banking arena.

Keywords

ROA, ROE; Risk aggregation; Capital Allocation; RORAC; EVA; Risk Capital

Terminal Questions

1. Write a short note on RORAC.
2. Discuss the impact of allocation of funds in different categories of assets on the profitability and capital requirement of a bank.
3. Discuss the factors responsible for profitability of banks.
4. Discuss the effects of NPAs on the profitability of banks.

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