

# Theory and Practice of Forex and Treasury Management

Module - II



**Committee on Capital Market & Investors Protection**  
**The Institute of Chartered Accountants of India**

*(Set up by an Act of Parliament)*

New Delhi

# **Certificate Course on Forex and Treasury Management**

## **Module-II**



**The Institute of Chartered Accountants of India**  
(Set up by an Act of Parliament)  
New Delhi

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## Foreword to the Second Edition

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By definition, Treasury is a depository where wealth and precious objects can be stored safely. However, in business parlance the term is much broader to cover different aspects of funds management. In view of functional importance, even governments of various countries have segregated treasury management as a separate specialised activity. In business, main treasury management function is related to managing funds in most optimum manner and covers activities such as raising of long-term capital, raising working capital and investing surplus funds. The treasury function has been a challenging area to everybody connected with it as it is important to take quick decisions to mitigate the risks, optimize returns and at the same to ensure adequate financial liquidity for normal functioning of organisation.

Historically, large banks have the stronghold on the provision of treasury management products and services banks and have dedicated departments of treasury management for supporting their clients' needs in this area. Now, smaller banks are also increasingly launching and expanding their treasury management functions and offerings. All this is possible in view of the market opportunities accorded by the recent economic environment, availability of highly seasoned treasury management professionals, access to industry standard, third-party technology providers', products and services made according to the needs of smaller clients, and investment in education and other best practices.

I am glad that the Committee on Capital Market & Investors' Protection of the Institute of Chartered Accounts of India is bringing out the second edition of the 'Theory and Practice of Forex and Treasury Management'. This publication covers various facets of Treasury Management in three modules. I take this opportunity to congratulate CA. Rajesh Sharma, Chairman, CA. Sushil Kumar Goyal, Vice Chairman and the entire team of the Committee on Capital Market & Investors Protection for their initiatives and endeavours.

Date: 05. 02.2019

Place: New Delhi

**CA. Naveen ND Gupta**

President, ICAI



## Preface to the Second Edition

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Treasury department of an organization is a subset of broader financial system of an organization. Treasury management is an important function in big size corporate houses, banks and organizations which is why we have a separate treasury department in such entities.

The strategic importance of the treasury organization has increased steadily over the past few years and has impacted their structure and scope. Treasury organizations have become more important reflecting the increasing complexity of business strategies and are expected to continue to respond to the increasing pace of change. Finding the right response to the right questions on the treasurer's and CFO's agenda can make the difference between a thriving company with a solid credit rating and an organization struggling with liquidity and credit downgrades. Therefore, having a scalable and clearly defined target treasury organization, as well as a forward-looking governance structure, is crucial.

Companies have also come under increased pressure from shareholders and regulators to increase transparency and improve financial performance. These expectations are leading to a significant change to the treasury function as activities are increasingly being centralized. Many organizations have just begun designing future target operating models for their treasury organization.

In any department or function which requires specialized skills and knowledge in that area, we need to be an expert of that particular area. To understand the complex treasury system in financial market we come across treasury functions. We have tried to cover most of the treasury functions into this background material that it will cater in understanding the treasury functions.

I wish to place on record my sincere gratitude to CA. Naveen N D Gupta, President, ICAI and CA. CA. Prafulla Premsukh Chhajed, Vice-President, ICAI for their vision and support to the Committee on Capital Market and Investors Protection.

I would like to thank CA. Sushil Kumar Goyal, Vice Chairman and all the members of the Committee on Capital Market and Investors Protection, CA. Anil Satyanarayan Bhandari, CA. Dhiraj Kumar Khandelwal, CA. Shiwaji Bhikaji Zaware, CA. M. Devaraja Reddy, CA. G Sekar, CA. K Sripriya, CA. Ranjeet Kumar Agarwal, CA. Kemisha Soni, CA. Atul Kumar Gupta who have extended their support and encourage in all committee activities.

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Date: 06.02.2019

Place: New Delhi

**CA. Rajesh Sharma**

Chairman,  
Committee on Capital Market & Investors Protection,  
ICAI

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## Treasury – Accounting

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### Integrated Treasury Accounting Units

To provide information on integrated treasury operations, other activities like risk management, transfer pricing, devising and dealing in derivative products, utilizing arbitrage opportunities and maintain capital adequacy etc., integrated Treasury Accounting Unit is required.

Integrated treasury is a holistic approach to funding the balance sheet and deploying funds across the domestic as well as global money and forex markets. This approach enables banks to optimize their asset-liability management and also to capitalize on arbitrage opportunities.

Traditionally, the forex dealing room of a bank managed the foreign exchange dealings that arise mainly out of merchant transactions (forex buying from and selling to customers) and consequent cover operations in interbank markets. The domestic treasury / investment operations were independent of such dealings. The treasury operations were treated as a cost center specifically devoted to reserve management (CRR and SLR) and consequent fund management. The treasury also undertook investments in government and non-government securities.

The need for the integration of forex dealing and domestic treasury operations has arisen on account of interest rate deregulations, liberalization of exchange control, development of forex market, introduction of derivative products and technological advancement in settlement systems and dealing environment. The integrated treasury performs not only the traditional roles of forex dealing room and treasury unit but also many other functions.

**Function of Integrated Treasury:** Treasury management has been categorized on the basis treasury functions of banks and that of corporates. The treasury functions of banks mainly involve:

1. Reserve Management: It involves maintenance of Cash Reserve Ratio and Statutory Liquidity Ratio.
2. Funds Management and Liquidity Management: Funds are key to banking operations, and involve large scale receipts and payments of cash. The funds management and liquidity management at Treasury involves not only arranging and managing aggregation of cash function at the branches of a bank, but also managing its CRR, which involves lending of money to interbank market participants / RBI and also borrowing of money from interbank participants / RBI.

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3. Investment and optimizing return on bank funds: The treasury function involves investment of a bank's fund not only as a part of the investment requirement in Government securities due to SLR, but also investments over and above the SLR requirement, in non-SLR bonds and debentures, in equity shares, in venture funds, in mutual funds, etc.
4. Trading of investment products for trading profit: Trading function is the key to treasury functions. Banks are the most active traders in markets with an eye on earning profit, which involves same day trading or holding the investment for a longer term and then off-loading the same in a market.
5. FX Treasury Operation: The treasury function of banks also involves trading in Foreign Exchange markets both in the capacity of proprietary trading (trading on its own behalf) or on behalf of the corporates as part of merchant activities for a margin.
6. Derivative Transactions: The treasury function of a bank also involves derivative transactions to hedge its own book or on behalf of its clients or corporates.

### **Corporate Treasury Management functions:**

1. Cash management: Cash management clearly forms a part of the treasury's core functions. In addition to dealing with payment transactions, cash management also includes planning, account organization, cash flow monitoring, managing bank accounts, electronic banking, pooling and netting as well as performing the function of an in-house bank.
2. Liquidity planning and control: Liquidity planning and control are closely linked to cash management.
3. Management of interest, currency and commodity risks: .One of the important functions of treasury involves managing interest and currency risks, as well as commodity risks. This involves control of these risks, as well as the documentation of hedging transactions.
4. Procurement of finance and financial Investments: The duties of the treasury also comprise the procurement of finance and financial investments, and dealing with products such as term loans, working capital finance and factoring.
5. The corporate finance functions of treasury comprise medium and long term financing, particularly capital market instruments, group financing, credit, leasing, and also negotiating with banks and financiers for terms and condition of lending, hedging, etc. Corporate finance is thus dealt with in Treasury, which deals in finance of the firm with the sources of funding and the capital structure of the firm and the actions that managers take to increase the value of the firm to the shareholders, as well as the tools and analysis used to allocate financial resources.

## Treasury — Accounting

6. Contacts with banks and rating agencies: The corporate treasury function also involves intensive contacts with banks and other financial institutions and also rating agencies for corporate rating.

Integration of treasury can take many shapes. To start with, there is geographical and infrastructural integration, in which forex dealing rooms are merged with the domestic treasury unit, and located in the same premises.

Under horizontal integration the dealing / trading rooms engaged in the same trading activity are brought under the same policies, hierarchy, and technological and accounting platform.

In vertical integration all existing and diverse trading and arbitrage activities are brought under one control with a common pool of funding and contributions. The impact of transactions of all units on rupee funds is merged. There is computerized linking of transactions.

<b>Independent Forex Role</b>	<b>Independent Investment Treasury Role</b>	<b>Integrated Role</b>
Merchant Dealing	Funds Management	ALM in INR and FOREX
Corporate FX Trading	Liquidity / CRR / SLR Management	FCNR SWAP Management
Proprietary Trading	SLR / Non SLR Investments	Overseas Borrowing
Non-INR Dealing	Trading in Securities	Investment in Derivatives
	Trading in Equities	Arbitrage
		Derivatives INR

### Benefits of Integration

The basic objective of integration is to improve portfolio profitability and risk-insulation and synergize banking assets with trading assets. Banking assets are held basically for client relationship / steady income / statutory obligations and are generally held till maturity, whereas trading assets are held primarily for generating profits on short-term differences in prices / yields. The purpose is achieved through efficient utilization of funds, cost effective sourcing of liability, proper transfer pricing, availing arbitrage opportunities, online and offline exchange of information between the money and forex dealers, single window service to customers, effective MIS, improved internal control, minimization of risks and better regulatory compliance. An integrated treasury acts as a center of arbitrage and hedging activities. It seeks to maximize its currency portfolio and free transfer of funds from one currency to another in order to remain a proactive profit center. With phased liberalization on capital account convertibility, there will be scope for banks with integrated treasury to structure multi-currency balance sheets and take advantage of strategic positioning.

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### Accounting Valuation and Elimination of Exposures

The investment portfolio of a bank will include marketable debt, equity and quasi-debt / equity instruments. Its investments in subsidiaries and joint ventures also form a part of its investment portfolio.

The RBI stipulates that the investment portfolio of a bank should be classified into the following three categories:

- (a) Held to Maturity (HTM)
- (b) Held for Trading (HFT)
- (c) Available for Sale (AFS)

This Classification is required only for profit accounting and valuation purposes. Balance sheet classification and disclosures will be governed by existing practices, wherein all investments will be shown at cost or market price, whichever is lower. In order that the approach to valuation is consistent and to ensure that banks do not change the category on the face of adversity, it has been stipulated that a bank should decide which of the three categories a security belongs to at the time of its acquisition.

### Valuation

Valuation Principles (enunciated by the RBI and operationalized by FIMMDA) of securities are as under. Under these guidelines, banks have to classify their investments into:

Held to Maturity,  
AFS (Available for Sale), and  
HFT (Held for Sale).

This classification is important for valuation of securities. Normally, once a security is classified under one of these categories, banks / institutions are not permitted to change it. This is because the valuation norms should not be used to artificially enhance profits.

**(a) HTM (Held till/to Maturity):** All investments in the HTM category will be valued at acquisition cost (unless the asset requires provisioning because of interest and / or principal arrears, in which case the RBI's provisioning and valuation norms will apply). If the redemption value is less than the acquisition cost, the difference must be amortized over the years remaining to maturity.

HTM investments need not be marked- to- market.

Marked to market indicates that if the current market price of a security is lower than the acquisition price, banks should make appropriate provisioning in their books of account.

(b) **HFT:** Individual securities in the HFT category must be compulsorily marked-to-market, appreciation will be ignored while depreciation will flow straight to the profit and loss account. However, the book values of these securities will not change. Valuation should be done on a monthly basis or at more frequent intervals.

(c) **AFS:** AFS will also be marked-to-market, as in the case of HFT. Depreciation should be charged to P&L. It can be absorbed by transfer to P&L from Investment Fluctuation Reserve (IFR). In case, depreciation provision is no longer necessary, it is credited to “Provisions and Contingencies” and an equivalent amount is appropriated to IFR.

For both HFT and AFS, a portfolio approach to provisioning may be adopted. This means that the appreciation / depreciation of each security in the category is calculated. If the overall effect is positive, it is to be ignored but if it is negative, it must be charged to P & L.

### **Need for Exposures**

As the volatility in prices / rates leads to market risk, it is essential to contain the risk within acceptable limits having regard to the risk appetite and culture of the organizations by putting in place various limits. Exposure limits help control / contain the credit risk, the concentration risk by stipulating monetary limits on various aspects. These limits help the organization to control the risk and probable loss. The limits also will take away unbridled freedom from the dealers, which may lead to financial losses that an organization may find difficult to absorb.

### **Accounting of Treasury Instruments**

The accounting template depicts the correct accounting and debit and credit configuration for a given treasury transaction and business event. For example, the purchase of a U.S. treasury bond may involve the construction of two debit lines, viz., Bonds Receivable and Unamortized Bond Discount, as well as one credit line, Cash. The accounting template for this type of transaction would include three predefined records to depict this particular debit or credit configuration.

The accounting template contains the following characteristics:

- A unique template ID.
- Options that determine how the correct Chart Field combination is selected.
- An attribute (calculation type) that describes how the accounting monetary amount is calculated or derived.
- An attribute that designates whether the accounting build requires review.

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### **Accounting Events**

An accounting event describes an event in the treasury business process that triggers the construction of a pending accounting build.

The following treasury accounting event types with the system are:

- Deal transactions.
- Facility, deal, wire, and letter of credit fees.
- Bank transfers.
- Bank statement processing transactions.
- Hedges.
- Electronic File Transfer (EFT) requests.
- Internal account interest.
- Investment pool transactions.

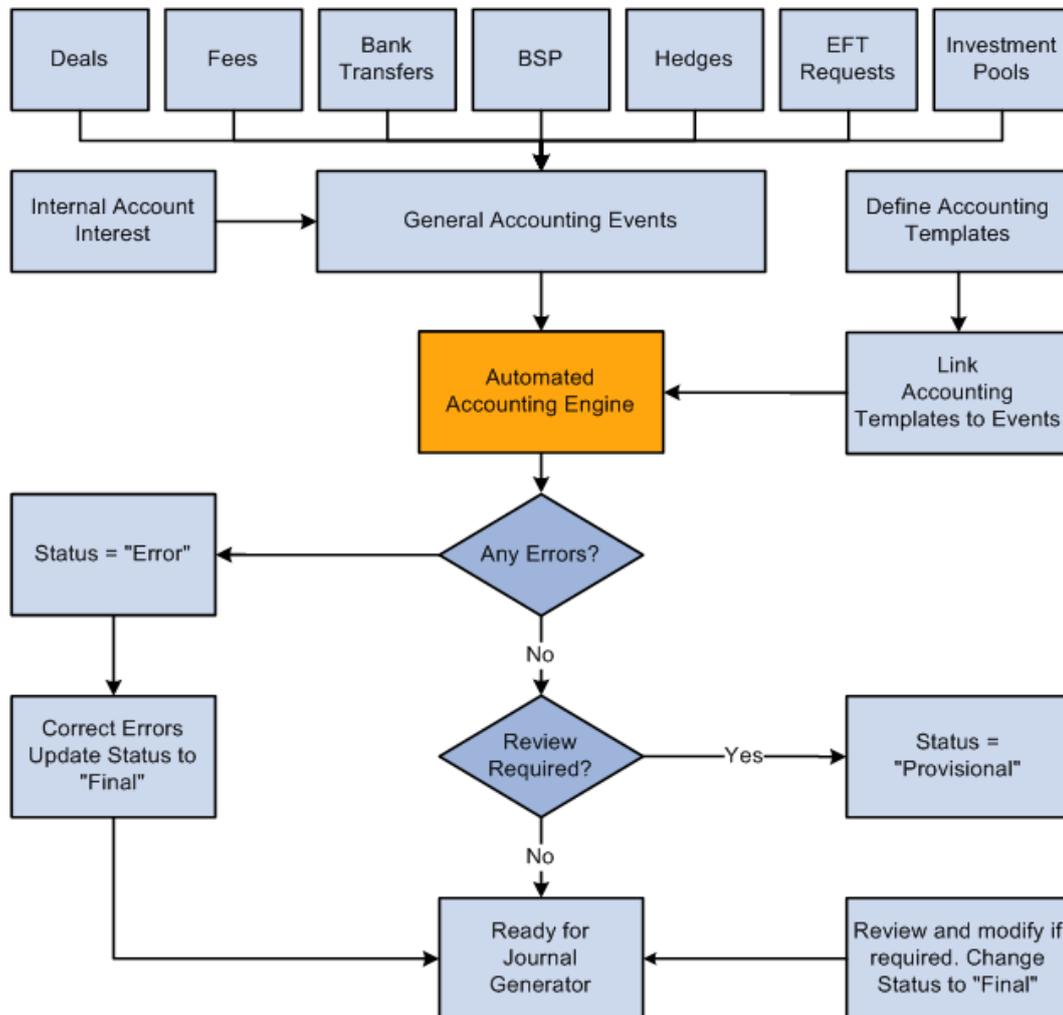
To automate accounting entries, each accounting event type has to be assigned to a corresponding accounting template for all accounting events except bank transfers. Bank transfers do not have accounting templates because the accounting is derived from a bank and its business unit. For treasury deals, the accounting event at the instrument level has to be defined. You associate each instrument with various accounting events, depending on the instrument base type.

In addition, each accounting event is defined based on the accounting treatment (Held to Maturity, Available for Sale, Trading, or Other) and each accounting template assigned to the appropriate accounting treatment. At deal entry, the appropriate accounting treatment is to be selected. The system then automatically associates the appropriate accounting template, based on the accounting treatment of the instrument type.

The following diagram illustrates the process flow:

### **Process flow for treasury accounting**

Process flow for treasury accounting from general accounting event to Journal Generator



### Inter unit and Intra-unit Balancing Methods

*Inter-unit* refers to balancing transactions that involve two general ledger business units, and to balancing transactions within the same general ledger business unit in which the transaction involves more than one value on the lower level balancing. For all transactions that Treasury Management generates, the system obtains ChartFields from either the bank account or from an accounting template. Inherited Chart Fields obtain their values from the corresponding Chart Field on the offsetting entry.

### Treasury System Transaction Definitions

To facilitate inter-unit and intra-unit processing, segregate inter-unit and intra-unit payable and

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receivable accounts by the type of transaction. These inter-unit and intra-unit system transactions are a predefined list of transactions, with one system transaction for each major type of Treasury transaction that generates inter-unit and intra-unit entries. By defining transaction codes and associating them with system transactions, you control the level by which segregate Inter-unit and intra-unit balances.

### Classification & accounting treatment

- **Trading securities:** These are securities held by a company that it intends to buy and sell for a short-term profit. They are reported at their fair market value. Gains and losses are included on the income statement. They are classified as unrealized holding gains or losses on the income statement, and the counter account on the balance sheet is allowance for adjusted short-term investments to market.
- **Available for sale:** This is generally a default category. The accountings for available-for-sale securities look quite similar to the accounting-for-trading securities. But there is one big difference between the two, which pertains to the recognition of changes in value. For trading securities, changes in value are recorded in operating income, but for available-for-sale securities changes in value go into a special account, which is called "unrealized gain / loss in other comprehensive income," which is located in stockholders' equity. The income statement is unaffected. The counter account to unrealized gain / loss in other comprehensive income is short-term available-for-sales fair market adjustment.
- **Held to maturity:** These are securities held by a company that it buys and holds to maturity. These are recorded at cost (purchase price + commissions or other fees) and gains or losses are only recognized after the company has sold them.

#### Accounting Impact:

Classification	Assessment Guidelines	Initially	Subsequently
Trading	Intent to buy / sell for short-term profits	Record at fair market value	Attribute gains and losses to operating income
Available for Sale	Default Category	Record at fair market value	Attribute gains and losses to stockholders' equity
Held to Maturity	Intent to buy and hold until fixed future maturity date	Original cost	No record

**(a) General Principles:**

- Accrued (broken period) interest paid when buying securities is expensed.
- Accrued interest received when securities are sold is treated as income.
- Book values are, therefore, clean prices (net of adjustments below).
- Brokerage received (e.g., when investing in a new issue) is deducted from the cost of acquisition.
- Brokerage paid (when buying / selling) is expensed.
- All inter-category transfers are at the lower of market price / book value. Depreciation, if any, is fully provided for.

**(b) HTM:** Profits / losses from sales are first taken to P&L and then appropriated to Capital Reserves.

**(c) HFT:** Profit / Loss is defined as the difference between sales and purchase prices (both on clean basis). If purchases and sales are in different unequal tranches, it is left to the discretion of the treasury to match purchases and sales on FIFO, LIFO or Weighted Average Prices.

Profits / Losses in the HFT portfolio directly impinge upon operating results.

**(d) AFS:** Depending upon the bank's policies, the cost of sales could be based on FIFO, LIFO or weighted average price of inventory. As in the case of HFT securities, realized profits/ losses squarely impact current performance.

## Capital Charge

As an initial step towards prescribing capital requirement for market risk, banks were advised to:

- (i) Assign an additional risk weight of 2.5 per cent on their entire investment portfolio.
- (ii) Assign a risk weight of 100 per cent on the open position limits on foreign exchange and gold, and
- (iii) Build up investment fluctuation reserve up to a maximum of 5 per cent of the investments held in HFT and AFS categories.

## Management of Daily, Weekly and Monthly Liquidity / Funding Plans and Coordinating Plans with Treasury Dealer

The objectives of the liquidity / funding management are:

- Maintain adequate funds for business.

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- Maintain liquidity at payment points.
- Maintain Statutory Reserves without default.
- Effective deployment and profit maximization.
- Ensure Liquidity assets.
- Judicious use of discretionary liabilities.
- Flexibility for asset re-mix and re-composition.

Treasury management (or treasury operation) includes management of an enterprise's holdings, with the ultimate goal of maximizing its liquidity and mitigating its operational, financial and reputational risk. Treasury management includes a firm's collections, disbursements, concentration, investment and funding activities. In larger firms, it may also include trading in bonds, currencies, financial derivatives and the associated financial risk management.

Cash forecasts are generally made over three time horizons: short, medium and long term.

### **Short-term cash forecasts**

Generally, these cover approximately 30 days, and are usually used exclusively by the treasury department to manage liquidity on a day-to-day basis. Their purpose is to aid decisions on the management of short-term borrowings and deposits, to ensure that there are no idle balances sitting in bank accounts and that shortages are detected and financed in the most cost-effective manner.

Short-term cash forecasts are generally prepared on a daily basis for five to ten days. Opening cleared cash balances at banks are calculated and adjusted for anticipated daily cash receipts and cash payments and updated daily. The following days are often prepared on a week-by-week basis, since trends, as opposed to daily movements, are more important. Short-term forecasts are usually prepared by the treasury department from records at their disposal, or information supplied by other parts of the business. Companies with stable and predictable cash flows sometimes prepare parts of these forecasts from historic data, updated for known circumstances.

### **Preparation of short-term cash forecasts**

It is normally the responsibility of a cash manager to prepare short-term cash forecasts. The opening balance will be the cleared balance reported through a company's bank balance reporting system. It will represent the total of cleared balances at the start of a day on the banking pool, or the net of different individual accounts with a particular bank. The bank balance reporting system will also inform the company of those payments or receipts that are being cleared through the clearing system that day, and for which their accounts will be debited or credited by the end of the day.

## Medium-term forecasts

Medium-term cash forecast is generally prepared for financial management purposes by the various finance departments within an organization. Equity analysts put more emphasis on cash flow as an indicator of the financial health of a company. Company directors also see cash control as one of the primary tools in the creation of value.

As a result, the management of cash, effected through a whole series of controls over every aspect of working capital and capital expenditure, becomes a key management issue. Central to these controls is the efficient and effective forecasting of cash over the budget or current financial year and beyond.

Most companies produce medium-term cash forecasts on a monthly basis, which are then updated at regular intervals. Many will produce medium-term cash forecasts that cover a rolling 12–18 months. Such rolling forecasts ensure that the control of cash does not just go from financial year to financial year, but instead a consistent control is taken over a 12-month cycle.

Medium-term cash forecasts are usually prepared on a receipt- and- payment basis, with emphasis on the key drivers in cash management.

## Use by treasury of medium-term forecasts

Medium-term cash forecasts are used by the treasury department for a number of purposes, such as the management of headroom within medium-term banking facilities and forecasting the observance of key financial covenants within borrowing instruments. Treasury also uses medium-term forecasts to:

- Strategically manage short-term liquidity. For instance, a treasury department with some cash surpluses, if it believes interest rates may decline more rapidly than the market predicts, may use the medium term cash forecasts in determining whether to deposit those funds for a more extended period than the usual one.
- Manage the actual interest cost, which for many treasury departments is one of their annual objectives. The medium-term forecast aids the management of derivative and liquidity instruments to meet this objective.

## Long-term cash forecasts

Long-term cash forecasts generally cover a period of three to five years and are produced during the strategic planning process. These forecasts are only indicative of the likely trend of a company's cash generation. Long-term cash forecasts have little use in the management of liquidity, but a greater significance in the management of a company's debt structure.

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### Aspects of cash forecasting

Most companies accept the need for accurate cash forecasts but few are able to produce them on a consistent basis. One of the main reasons for this is the difficulty of forecasting the timing of certain major items of cash expenditure and receipt. For instance, a company may have planned the purchase of certain items of capital equipment, but identifying the exact timing of the payments for the plant may be difficult. If the assets are being specifically manufactured against an order, timing of payment depends on the delivery of the order by the company, the design and production at the supplier's end, and then delivery, testing and acceptance by the company. Alternatively, expenditure may relate to the development of freehold premises, with all the problems of planning consent and construction progress. Working capital in some companies can fluctuate quite substantially. While companies can forecast the total cash outflow or inflow for the year as a whole, it is extremely difficult to achieve the same accuracy on a month-by-month basis.

There are, however, a number of general principles that can lead to more efficient cash forecasting:

- *Are full variances produced of actual cash flow against that budgeted or most recently forecast?* This analysis should help in understanding permanent variances and those that are due to timing. And also the lessons for cash forecasting that can be learned from these variances.
- *Are the forecasts being prepared in sufficient detail to enable undertaking meaningful variance analysis?* Is there a continual review of the underlying assumptions in the preparation of forecasts? Who vets and reviews these assumptions?
- *Is sensitivity analysis used to determine the possible boundaries of cash inflows and outflows?* Is the sensitivity analysis sensible and related to the historic volatility of the business?
- *Who prepares the forecasts and for what purpose?* Sometimes medium-term cash forecasts are prepared for treasury by the finance function. If the finance function has no involvement in managing actual cash flow to what is budgeted, then it is unlikely they will give the exercise high priority, and may not be too concerned with its accuracy.
- *Are the time horizons used in the forecast appropriate?* This very much depends on the volatility of the cash cycles in the business.
- *How frequently are forecasts, actual cash flows and variance analysis reports prepared?* Generally, the more regularly are they undertaken, the more accurate do they become. Specific forecasting techniques should be applied to each component of the cash forecast. For instance, forecasting the timing of cash receipts from customer trade payments requires an understanding of the payment methods used by customers (Cheques, bills of exchange etc.), company's payment terms and billing cycle, and

payment routines on their receivables ledger used by customers. It may also require an analysis of the comparative importance of different customers and different payment terms attached to different groups of customers.

- *Is there a need for forecasting other related items?* This may include foreign exchange receipts and payments that are related to forecasts for overseas sales.
- *Are incentives aligned to the management of cash against that budgeted and forecast, and does a cash- management culture pervade the whole organization?* It needs to be remembered that successful cash forecasting is often heavily reliant on the individuals preparing the forecasts, and their experience, skill and knowledge of the business and its current operations.

The Liquidity / Funding plan also contains some provisions where they will unfold only in times of turbulent liquidity. Instant decisions, after taking stock of current market conditions, are necessary. In tight money conditions, decisions could be:

- To liquidate the forex swaps at any cost.
- To raise funds through issue of CDs and deposits at differential pricing system to attract good resource may be at a higher cost.
- The re-price the Cash Management products to get a surge in liquidity on a day- to- day basis.
- To re-price the merchant banking activities in order to get a temporary float.
- To issue Interbank Participation Certificates to raise liquidity levels.
- To raise funds through term money, delegating decision making to operating executives.
- To give more delegation / freedom to the operating executives to give concessions while recovering Non-performing Assets.
- To withdraw the lending powers of operating executives / managers in case of liquidity crunch so that credit dispensation could be controlled and regulated.
- To cancel or withdraw disbursement of credit.
- To put maximum ceiling dependence on borrowing.
- Liquidate certain investments.

Contingency strategies are necessary to take care of contingencies like sudden tightening of liquidity or reversal of earlier policies, etc.

Each strategy is an alternative plan of action for any given situation and a workable solution. The same strategy may not be suitable for all the situations. Hence there should be proper thinking before a particular strategy is adopted.

## **Module-II : Theory and Practice of Forex and Treasury Management**

Corporate sector looks upon the banks to tide over their financial crisis. Hence banks should plan for all situations. In the organizational set-up of banks, the Board of Directors, ALCO and all functional departments participate in the planning process. Among various approaches to planning, Asset-Liability approach is appropriate for the banking Industry. Tools of analysis vary according to time horizon of its plan. Study of the liquidity gap, bifurcated into different time buckets, provides solutions for effective liquidity management. The estimation and forecast of the inflows and outflows are affected by factors like volume of assets and liabilities maturing, overall corporate plan, internal policy, regulatory policy, external factors and global events. Depending upon the estimated liquidity gap, suitable strategies should be evolved to bridge the gap and smoothen the liquidity flow.

### **Administration of the Bank Cash Management System**

SAP Treasury helps to maintain full control over liquidity planning with the help of SAP Cash and Liquidity Management application. Managing cash from sales orders to purchase orders with direct updates from bank – for a 360-degree view of treasury operations—is made possible with SAP Treasury.

Cash & Liquidity Management Application delivers:

- Basel regulatory compliance through its Intra-day Liquidity Management module
- Significant cost reductions by retiring multiple legacy systems and spreadsheets, whilst reducing the manual workload
- Reduced operational risk through real-time reconciliations and same day exception identification and resolution
- Improved balance management through automation of standard tasks, leaving staff to focus on critical tasks
- More profitable cash management by real-time tracking and monitoring of surplus positions, automated account sweeping and removing reliance on costly intra-day borrowing to boost liquidity
- More effective investment and funding decisions provided by greater visibility into cash movements
- Improved balance information through the reconciliation of correspondent movements, removing reliance on assumed settlement and next day statements
- More efficient management of higher transaction volumes and global cash movements without increasing headcount

## Treasury workstation module of SAP

The Treasury workstation of SAP ERP System represents treasury processes like liquidity and risk analysis as well as transaction and position management in different systems. Cash management is used as an interface both in transporting the basic system and in the treasury workstation. In the transporting basic system, the current liquidity status of the operative areas is updated, the relevant section is called up at defined points in time and imported to cash management in the treasury workstation.

You can use the treasury workstation if you represent different company units in local systems and have to bring them together for liquidity control purposes, or for concluding financial transactions.

**Liquidity status:** In the treasury workstation, you can aggregate evaluations of the liquidity status. This also allows you to evaluate cross-organizational units, like company codes within a group structure.

**Financial transactions:** The *Cash management data* of the assigned systems provides the basis for financial investment and borrowing decisions. Financial transactions are managed entirely within the treasury workstation.

**Risk status:** You can also use market risk management in the treasury workstation. This provides an integrated view of risk positions and different valuation methods for risk measurement.

## Oracle Treasury

Oracle Treasury is an application that has not gotten as much attention as it should. It provides the ability to manage cash flows, foreign currency market deals, money market deals, and overall investment related risks. Can capitalize off banking / broker relationships and settlement features that allow you to integrate cash flows and investment management into the E-Business Suite. The primary areas are cash management, deal management, and risk management.

### Cash Flow Management

Oracle Treasury is not designed to replace Oracle Cash Management. That application still exists and serves the function of cash forecasting, cash positioning, and bank account reconciliation. Treasury is intended to manage the investment portfolio, including investments and borrowings. Likewise, it allows managing banking relationships, transactions between companies and banks, and short term / long term cash forecasting. In addition, it can be used to manage in-house cash between companies within the same legal entity.

### Deal Management

Oracle Treasury can be used to manage financial transactions and both short term and long

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term deals including investments and borrowings. This management capability allows the organization to better manage results to achieve improved overall operation of its treasury management process. For Deal Management, Oracle Treasury allows you to:

- Create portfolios to manage short term and long term deals that are controlled through deal rate tolerances.
- Create the products you need to relate to the deals you trade in, and define stocks and bonds.
- Set up deals and manage them both in terms of risk and record appropriate journal entries to the General Ledger.
- Create confirmation templates that you can use to send out deal confirmations to the trading parties to control.
- Manage the settlement process with trading parties using EDI and related technologies.
- Define audit requirements to help manage internal audit requirements in the corporate treasury environment.

### **Risk Management**

Risk Management is an ever increasing part of corporate treasury and cash management responsibilities. Oracle Treasury helps to drive policy, risk limits, and risk exposure to interest rates, foreign currency, and commodities. Oracle Treasury allows to:

Define interest rate policy along with limit types and limit- monitoring.

- Define global limits to create a decentralized ability to share the responsibility globally for managing corporate treasury functions.
- Create exposure types and hedging policies to use as another tool in managing cash and treasury risk.
- Set limits based on counterparty, counterparty groups, settlements, sovereign limits, currency limits, and dealer and utilize that all with workflow.
- Set up brokerage schedules and details to manage brokerage accounts and relationships.
- Define market data curves and data sets that can be used for doing deal revaluations and mark- to- market evaluations to help manage treasury risks.

### **Treasury 11i vs R12**

From the perspective of using Treasury in an 11i versus R12 level, there is very little difference. R12 does utilize functionality in cash management, where the bank account maintenance takes place in it. . As part of R12, internal banks should be set up as parties that further allow you to manage banking relationships.

## Treasury — Accounting

In R12 – the bank account control for Treasury is at a legal entity level. This is different from the bank account control for Accounts Payables and Accounts Receivables where the control is at the operating unit level.

Treasury does not utilize the sub-ledger accounting application functionality that is used in R12 for the other sub-ledgers like Payables, Receivables, and Inventory. It does continue to utilize a direct interface to Oracle GL (without any drilldown functionality).

The remaining functionality in Treasury is the same from 11i to R12 as it relates to the primary functionality of the application. So, from an upgrade standpoint, there isn't any pre- or post - upgrade consideration required for Oracle Treasury.

A company needs a small number of relationship banks from which it can purchase its treasury products. The products that these banks offer need to be differentiated properly. Some banks, for instance, with powerful balance sheets have the ability to provide substantial amounts of finance at short notice. Others have very extensive capital market distribution capabilities and hence, in addition to providing effective delivery for capital market transactions, are able to provide constructive advice on the appropriate capital market products for a company. Others may have very efficient derivatives businesses or specialization in certain derivative products that meet the particular needs of a company.

The essence of good banking relationships is that a company should exploit the favored products and market positions of banks to its and banks' mutual benefit.

### **How many banking relationships?**

A company probably needs at least one bank in a territory where it has major operations. It should be able to offer the administration of current accounts, short-term credit facilities and efficient international payments. There is no rule for the number of banking relationships. Many treasury teams believe that there is no point in establishing relationships with investment banks. Should major acquisitions or disposals be effected, then advice will come from the company's merchant banks where officials are close to its senior executives. This is probably true, but today most banks that have advisory arms to their business are also part of a large banking group. In these circumstances, a company should be able to 'lever off' the existing relationship to access products that it needs.

Relationships are never stable. Rightly or wrongly, a bank usually achieves the status of a relationship bank by participating in a company's major bank financings. For most companies, it could be a revolving credit that provides it core finance to meet working capital, capital and small acquisition needs. Banks continually change their perception about their involvement in such financings. In addition, they continually compare the return from the total business generated by the relationship with the cost of capital required to support it. If banks consider the returns inadequate, they reduce support to the company. As a result of this, a treasurer needs to be continually open to new relationships, and ever sensitive to the existing relationships that may wither.

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Most banks that participate in a major financing activity maintain that the returns from traditional bank lending are insufficient to cover the cost of capital required to support their commitment. As a result, they continually look for ancillary business from a company to subsidize their lending activities. This is a real problem for many treasurers since many companies do not have that volume of ancillary business. Unfortunately, there is not much that can be done in this regard other than to be extra sensitive to ensuring that all treasury business goes to relationship banks. Additionally, treasurers need to ensure that relationship banks have, wherever possible, an opportunity to bid for all relevant treasury businesses.

### What each side must give the relationship?

Most treasurers would probably see the key elements to a successful relationship with bankers as being:

- Product compatibility.
- Personal chemistry.
- Integrity: the ability to see each other's point of view.
- Open information and understanding.
- Credit standing of the bank and credit consciousness of the company..

### Group Cash- Flow Forecasting

Liquidity management for every treasurer means that right amount of cash is available, at the right time and in the right place. , is firmly positioned as a pivotal task for every treasurer. Over the past few years, many treasurers have made substantial progress towards increasing the visibility of their cash flow and centralizing cash within countries or regions. However, industry surveys indicate year on year that liquidity management and particularly **Cash Flow forecasting** remain their greatest challenge. Since credit is expensive and elusive for many companies, they need to tackle these challenges effectively. Working Capital Management of a financial institution or bank or company is somehow different from that of other trading units, and the process starts with tapping of funds at lower rate in shape of deposits / borrowing and ends with investing the same in higher rate to earn profit out of business with a margin of small portion of cash-in-hand kept to meet day- to day- operations.

Efficient account and cash pooling structures are key to efficient and cost-effective liquidity management. Every investment has a cost to the company even the shares tapped from the shareholders. Deposits are tapped for payment of interest. Borrowing requires payment of interest to creditors. So every fund has dividend / interest payment risks for banks / companies. So, if funds tapped are not properly utilized, banks / companies will suffer losses. Idle cash balance in hand has no yield. On the other hand, if we do not keep balanced liquid cash-in-hand, we may not be able to pay the demand withdrawal of depositors, as well as

installment of creditors and untimely payment for other contingent liabilities. These will lead to an overtrading position for the company.

So there must be a scientific liquidity management policy for companies / banks / financial institutions.

Proper liquidity management can increase the turnover of business and also bring additional profit to companies / banks. Liquidity management has great significance in modern days to the company / bankers / financial institution, because they engage not only in retail business, but also deal in wholesale banking and investment banking business.

Over-liquidity, on the other hand, implies excess idle cash balance in hand. So every company should avoid both the positions and should manage without less/excess funds in hand i.e., just liquid position.

### **Daily, Weekly and Monthly Treasury MIS to Stakeholders**

The treasurer provides his senior management team with reports concerning market conditions, funding issues, returns on investment, cash-related risks, and similar subjects.

It is normally the responsibility of a cash manager to prepare short-term cash forecasts. The opening balance will be the cleared balance reported through a company's bank balance reporting system. It will represent the total of cleared balances at the start of the day on the banking pool, or the net of different individual accounts with a particular bank. The bank balance reporting system will also inform the company of those payments or receipts that are being cleared through the clearing system that day, and for which their accounts will be debited or credited by the end of the day.

Not only does the agreed action need to be taken but a regular reporting procedure needs to be put in place. In a small organization, responsibility for this may be delegated to its finance director or chief executive, but in larger organizations this role is likely to be undertaken by a risk management committee, led by senior executives or board directors.

Debt management, banking facilities, company debt maturity profile reports, debt source analysis reports are required to be prepared on pre-determined intervals. These reports cover the principal treasury-related financial risks that the organization faces and the action the treasury team has taken to manage these risks. It is a good practice if this report is prepared by the treasury middle office.

### **Open positions, mismatch of positions (IGL – Individual Gap Limit and AGL – Aggregate Gap Limit) and stop loss limits (VaR & capital provisions)**

The RBI, vide its circular RBI/2012-13/426 A. P. (DIR Series) No. 86 dated March 1, 2013, has

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provided guidelines for foreign exchange exposure limits of authorized dealers. These provisions provide detailed framework for overnight interbank positions, IGL and AGL. These are summarized below:

### **A. Foreign Exchange Exposure Limits of Authorized Dealers Category – I**

The Foreign Exchange Exposure Limits of Authorized Dealers are dual in nature:

- Net Overnight Open Position Limit (NOOPL) for calculation of capital charge on forex risk.
- Limit for positions involving Rupee as one of the currencies (NOP-INR) for exchange rate management.
- For banks incorporated in India, the exposure limits fixed by the Board are the aggregate for all branches including their overseas branches and off-shore banking units. For foreign banks, the limits will cover only their branches in India.

#### **I. Net Overnight Open Position Limit (NOOPL) for calculation of capital charge on forex risk**

NOOPL may be fixed by the boards of the respective banks and communicated to the Reserve Bank immediately. However, such limits should not exceed 25 percent of the total capital (Tier I and Tier II capital) of a bank.

The Net Open position may be calculated as per the method given below:

##### **1. Calculation of the Net Open Position in a Single Currency:**

The open position must first be measured separately for each foreign currency. The open position in a currency is the sum of (a) the net spot position, (b) the net forward position and (c) the net options position.

**(a) Net Spot Position:** The net spot position is the difference between foreign currency assets and the liabilities in the balance sheet. This should include all accrued income / expenses.

**(b) Net Forward Position:** This represents the net of all amounts to be received less all amounts to be paid in the future as a result of foreign exchange transactions, which have been concluded. These transactions, which are recorded as off-balance sheet items in the bank's books, will include:

- (i) spot transactions which are not yet settled;
- (ii) forward transactions;
- (iii) guarantees and similar commitments denominated in foreign currencies which are certain to be called;

- (iv) net future income / expenses not yet accrued but already fully- hedged (at the discretion of the reporting bank);
- (v) net of amounts to be received / paid in respect of currency futures, and the principal on currency futures / swaps.

**(c) Net Options Position:** The options position is the "delta-equivalent" spot currency position as reflected in the authorized dealer's options risk management system, and includes any delta hedges in place which have not already been included under 1(a) or 1(b) (i) and (ii) above.

## 2. Calculation of the Overall Net Open Position

This involves measurement of risks inherent in a bank's mix of long and short position in different currencies. It has been decided to adopt the "shorthand method" which is accepted internationally for arriving at the overall net open position. Banks may, therefore, calculate the overall net open position as follows:

- (i) Calculate the net open position in each currency.
- (ii) Calculate the net open position in gold.
- (iii) Convert the net position in various currencies and gold into Rupees in terms of the existing RBI / FEDAI guidelines. All derivative transactions including forward exchange contracts should be reported on the basis of Present Value (PV) adjustment.
- (iv) Arrive at the sum of all the net short positions.
- (v) Arrive at the sum of all the net long positions.

Overall net foreign exchange position is the higher of (iv) or (v). The overall net foreign exchange position arrived at as above must be kept within the limit approved by the bank's Board.

## 3. Offshore exposures

For banks with overseas presence, the offshore exposures will be calculated on a standalone basis as per the above method and should not be netted with onshore exposures. The aggregate limit (on-shore + off-shore) may be termed Net Overnight open Position (NOOP) and will be subjected to capital charge.

**Capital Requirement:** Capital requirement will be as prescribed by the RBI from time to time. Capital refers to Tier I capital as per instructions issued by the Reserve Bank of India (Department of Banking Operations and Development).

### Other Guidelines

- (i) ALCO / Internal Audit Committee of the Authorized Dealers should monitor the utilization of and adherence to the limits.

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- (ii) The Authorized Dealers should also have a system in place to demonstrate, whenever required, the various components of the NOOP as prescribed in the guidelines for verification by the Reserve Bank.
- (iii) Transactions undertaken by the Authorized Dealers till the end of business day may be computed for calculation of Foreign Exchange Exposure Limits.

The transactions undertaken after the end of business day may be taken into the positions for the next day. The end of day time may be approved by the bank's Board.

### **II. Limit for positions involving Rupee as one of the currencies (NOP-INR) for exchange rate management**

- (a) NOP-INR may be prescribed to the Authorized Dealers at the discretion of the Reserve Bank of India depending on the market conditions.
- (b) The NOP-INR positions may be calculated by netting off the long and short onshore positions (as arrived at by the short hand method) plus the net INR positions of offshore branches.
- (c) Positions undertaken by banks in currency futures / options traded in exchanges will not form part of the NOP-INR.
- (d) As regards the option position, any excesses on account of large option Greeks during volatile market closing / revaluations may be treated as technical breaches. However, such breaches are to be monitored by the banks with a proper audit trail. Such breaches should also be regularized and ratified by appropriate authorities (ALCO / Internal Audit Committee).

### **B. Aggregate Gap Limits (AGL)**

- (i) AGL may be fixed by the boards of the respective banks and communicated to the Reserve Bank immediately. However, such limits should not exceed 6 times the total capital (Tier I and Tier II capital) of a bank.
- (ii) However, the Authorized Dealers that have instituted superior measures such as tenor wise PV01 limits and VaR to aggregate foreign exchange gap risks are allowed to fix their own PV01 and VaR limits based on their capital, risk bearing capacity etc. in place of AGL and communicate the same to the Reserve Bank. The procedure and calculation of the limit should be clearly documented as an internal policy and strictly adhered to.

## **Monthly Bank Reconciliation**

A robust treasury module should have the capabilities of handling payment reconciliations for transactions, Nostro and internal accounts. It should support all types of accounts, having the

## Treasury — Accounting

capability to manage large volumes, with a very high percentage level of automatic reconciliation. The system should also provide for automated exception and investigations handling.

It should have the enterprise-wide, real-time Transaction Lifecycle Management (TLM) which should possess:

- Capabilities to reconcile the widest range of financial instruments, accounts, positions and processes on a single platform.
- Treasury confirmations processing.
- Post-trade allocation, confirmation, clearing and settlement of buy-side, sell-side.
- *Capability to generate and handle exceptions*
- *Capability to support optimal investment and lending opportunities.*

Most companies make treasury payments, such as interest and principal payments and settlement of derivative contracts, via an electronic banking system. Access to these machines needs to be strictly controlled.

- Payment requests should be written and appropriately authorized.
- Requests should be reviewed by the treasury team to ensure that they are properly authorized.
- Special staff should be responsible for input, verification and authorization of payments into the electronic banking systems. It is important to ensure that no person makes payments without proper supervision and checks.
- Pre-formatted input screens should be used for regular payments.
- Cash books should be maintained outside the treasury department.
- Reconciliation of bank accounts should be undertaken by a functionary outside the treasury. Bank reconciliations should be produced daily for all treasury accounts and discrepancies investigated immediately.
- Machines for payment should be subject to restricted access. Ideally, they should be in a separate room with access restricted to authorized individuals. Users should log out of systems, after leaving their desks.
- Systems administrator should be independent of those authorized to input verification and authorization.
- All systems should have passwords and should be locked before being left unattended.
- There should be set authority levels for payments. All large payments should require the authority of senior functionaries within the organization.

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### **Importance of Reconciliation**

Reconciliation of 'Nostro' Account balances is an essential control function and is intended to ensure that every transaction undertaken by the bank in its Nostro account has been correctly executed.

The basic records for reconciliation are bank statements, which should be received at least weekly, and the mirror account. Reconciliation must be done choosing the same date for Mirror accounts and foreign bank statements. Action on unreconciled items must be taken on an on-going basis, for any delay in this regard will render reconciliation difficult, especially because the correspondent banks/ branches abroad employ computerized accounting systems and micro filming procedure. Bank references quite often also involve additional costs, apart from further avoidable delay.

To minimize the number of unreconciled items, banks should put through transactions such as Export bills purchased, Export bills discounted, Drafts / Travelers cheques issued, Advance bills received, Inward bills / drafts etc. in its suspense account. To simplify this, some banks have permitted more branches to maintain independent Nostro accounts with different correspondent banks. While it is advisable for banks with a large network to adopt both these measures, the management at each office maintaining Nostro accounts should exercise requisite control over reconciliation and suspense accounts. The records of reconciliation must be held under safe custody and preserved for a sufficiently long period for reference.

It should be ensured that no set-off of debit or credit items has been made / any unreconciled item written off or appropriated to profit and loss except as permitted under the Reserve Bank guidelines.

### **Management Control**

A monthly report should be submitted by the Reconciliation Department indicating the progress made in reconciliation of Nostro account balances highlighting its special features, such as large unreconciled items, age-wise grouping of items, etc.

### **Management of Risk Arising in Rupee (Vostro) Accounts**

Control over Vostro accounts too covers various other aspects, such as funds flow into the accounts, observance of discipline in credit lines extended to the correspondent bank, concealed overdrafts (and recovery of interest there against), apart from periodical evaluation of credit risks.

Banks should assess their credit risks periodically, say, at least once in twelve months vis-à-vis their correspondent banks, whether or not they maintain Rupee accounts.

The credit risks arising from drawings on branches can be significant unless proper control is exercised over the flow of the paid drafts, etc. to the account maintaining office from the

drawee branches. Such risks can be minimized by adopting any one or more of the following measures.

- (i) Reduction in the number of branches where drafts, etc. can be drawn.
- (ii) Imposition of suitable limits for drawing or for aggregate drawings during a day.
- (iii) Securing draft, etc. issued advices from the correspondent.
- (iv) Decentralization of Vostro accounts by opening subsidiary or independent accounts at other important offices.
- (v) Arrangements for advice over expeditious mode of communication of large payments by paying branches.
- (vi) Prompt value-dating.
- (vii) As far as possible, bringing all the drawee branches under the Core Banking Solution.
- (viii) Where the facility is available, on-line monitoring of funds position is ensured to avoid concealed overdrafts in Vostro accounts.

### **Special Aspects for Vostro Account Monitoring**

Close monitoring of funds flow in Vostro account is required for averting hot money flows on the one hand and speculative dealing in the Rupee on the other. Apart from this, the accounts should be monitored for quickly identifying sudden changes in the volume of operations, changes in nature of operations, etc. so that discreet enquiries can be made about the cause for the changes. Any unusually large operations (whether credits or debits) in inactive or the less active Vostro accounts should be promptly looked into to ensure that they are genuine operations.

### **Confirmation of balances**

It is an essential feature of customer service to the overseas banks maintaining Vostro accounts to send out certificates of balance and obtain conformation thereof periodically. It should be ensured that the confirmations duly signed by the authorized signatory of the bank are received in time and are kept on record. Authenticated SWIFT confirmation may also be acceptable.

### **Treasury Control and Hedge Accounting**

Most CFOs recognize the value of hedge accounting for reducing the volatility of corporate earnings. However, the burden of documentation, ongoing monitoring and reporting of hedge effectiveness, high costs, and the need to maintain compliance with hedge accounting standards has left many struggling with and even foregoing this important activity.

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Derivatives are often used to mitigate or offset risks (such as interest or currency risk) that arise from corporate activities. The standard accounting treatment for hedge instruments is that changes in fair value will have to be recorded in Profit and Loss (P&L). As opposed to the hedge instruments, the hedged assets or liabilities are often measured at (amortized) cost or fair value through equity, or are forecasted items which are not recognized in the Balance Sheet. This results in a (temporary) valuation and or timing mismatch between the hedged item and the hedge instrument. The objective of hedge accounting is to avoid temporary undesired volatility in P&L as a result of these valuations and timing differences. However, entities can practice hedge accounting only if they meet the numerous and complex requirements set out in IAS 39.

### What is hedging?

The aim of hedging is to mitigate the impact of non-controllable risks on the performance of an entity. Common risks are foreign exchange risk, interest rate risk, equity price risk, commodity price risk, and credit risk.

The hedge can be executed through financial transactions. Examples in which hedging is used include:

- An entity that has a liability in a foreign currency and wants to protect itself against the change in the foreign exchange rate, and
- A company entering into an interest rate swap so that the floating rate of a loan becomes a fixed rate

### Types of hedge accounting

There are three types of hedge accounting: fair value hedges, cash flow hedges and hedges of the net investment in a foreign operation.

- **Fair Value Hedges.** The risk being hedged in a fair value hedge is a change in the fair value of an asset or a liability. For example, changes in fair value may arise through changes in interest rates (for fixed-rate loans), foreign exchange rates, equity prices or commodity prices.
- **Cash Flows Hedges.** The risk being hedged in a cash flow hedge is the exposure to variability in cash flows that is attributable to a particular risk and could affect the income statement. Volatility in future cash flows will result from changes in interest rates, exchange rates, equity prices or commodity prices.
- **Hedges of net investment in a foreign operation.** An entity may have overseas subsidiaries, associates, joint ventures or branches ('foreign operations'). It may hedge the currency risk associated with the translation of the net assets of these foreign

operations into the group's currency. IAS 39 permits hedge accounting for such a hedge of a net investment in a foreign operation.

### **The mismatch in the income statement recognition**

Under the accounting standard IAS 39, all derivatives are recorded at fair value in the income statement. However, these derivatives are often used to hedge recognized assets and liabilities, which are recorded at amortized cost or forecasted transactions that are not yet recognized on the Balance Sheet. The difference between the fair value measurement for the derivative and the amortized cost for the asset/liability leads to a mismatch in the timing of income statement recognition.

Hedge accounting seeks to correct this mismatch by changing the timing recognition in the income statement.

Fair value hedge accounting treatment will accelerate the recognition of gains or losses on the hedged item into the P&L, whereas cash flow hedge accounting and net investment hedge accounting will defer the gains or losses on the hedge instrument.

### **The hedge relation**

The hedge relation consists of a hedged item and a hedge instrument. A hedged item exposes the entity to the risk of changes in fair value or future cash flows that could affect the income statement currently or in the future.

If the hedge instrument is a derivative, it can be designated entirely or as a proportion of the hedging instrument. Even a portfolio of derivatives can be jointly designated as a hedge instrument. The hedge instrument can be a swap in which the entity receives a floating rate and pays a fixed rate. With this relation the entities offset the floating rate payments and pay only the fixed rate.

### **Criteria to qualify for hedge accounting**

Hedge accounting is an exception to the usual accounting principles, and has to meet several criteria:

- At the start of the hedge, the hedged item and the hedging instrument have to be identified and designated.
- At the start of the hedge, the hedge relationship has to be formally documented.
- At the start of the hedge, the hedge relationship has to be highly effective.
- The effectiveness of the hedge relationship must be tested periodically. Ineffectiveness is allowed, provided the hedge relationship achieves an effectiveness ratio between 80% and 125%.

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### Hedge effectiveness

Complying with IAS 39 requires two types of effectiveness tests:

- A prospective (forward-looking) test to see whether the hedging relationship is expected to be highly effective in future periods, and
- A retrospective (backward-looking) test to assess whether the hedging relationship has actually been highly effective in past periods.

Both tests need to be highly effective at the start of the hedge. A prospective test is highly effective if, at the inception of the hedge relation and during the period for which the hedge relation is designated, the expected changes in fair value of cash flows are offset. It means that during the life of the hedge relation, the change in fair value (due to change in the market conditions) of the hedged item should be offset by the change in fair value of the hedged instrument.

A retrospective test is highly effective if the actual results of the hedge are within the range of 80% to 125%.

### Calculation methods

IAS 39 does not specify a standard method for the calculation of the effectiveness of the hedge, for there are several methods. The method used by an entity depends on their risk management strategy. The most common methods are:

**Critical terms comparison:** This method consists of comparing the critical terms (notional, term, timing, currency, and rate) of the hedging instrument with the hedged item. This method does not require any calculation.

**Dollar offset method:** This is a quantitative method that consists of comparing changes in fair value between the hedging instrument and the hedged item. Depending on the entity risk policies, this method can be used on a cumulative basis (from inception) or on a period-by-period basis (between two specific dates). A hedge is considered highly effective if the results are within the range of 80% to 125%.

**Regression analysis:** This statistical method investigates the strength of the relationship between the hedged item and the hedge instrument. From an accounting perspective, this method proves whether or not the relationship is sufficiently effective to qualify for hedge accounting. It does not calculate the amount of ineffectiveness.

### Termination of the hedge relation

A hedge relation has to be stopped from going forward when any of the following occur:

- A hedge fails an effectiveness test.

- The hedged item is sold or settled.
- The hedging instruments are sold, terminated or exercised.
- Management decides to terminate the relation.
- For a hedge of a forecast transaction, the forecast transaction is no longer highly probable.

Hedge accounting is a complex process involving numerous technical requirements with the objective to avoid temporary undesired volatility in P&L. This volatility is the result of valuation or timing mismatch between the hedged item and the hedge instrument.

## **Treasury Hedge Accounting as per US GAAP (FAS 133, FAS 157), IFRS (IFRS 9, IFRS 13) and Indian GAAP**

### **FAS 133**

SUMMARY OF STATEMENT NO. 133  
ACCOUNTING FOR DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES  
(ISSUED 6/98)

This Statement establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts, (collectively referred to as derivatives) and for hedging activities. It requires that an entity recognize all derivatives as either assets or liabilities in the statement of financial position and measure them at fair value. If certain conditions are met, a derivative may be specifically designated as

- (a) a hedge of the exposure to changes in the fair value of a recognized asset or liability or an unrecognized firm commitment,
- (b) a hedge of the exposure to variable cash flows of a forecasted transaction, or
- (c) a hedge of the foreign currency exposure of a net investment in a foreign operation, an unrecognized firm commitment, an available-for-sale security, or a foreign-currency-denominated forecasted transaction.

The accountings for changes in the fair value of a derivative (that is, gains and losses) depend on the intended use of the derivative and the resulting designation.

- For a derivative designated as hedging, the exposure to changes in the fair value of a recognized asset or liability or a firm commitment (referred to as a fair value hedge), the gain or loss is recognized in earnings in the period of change together with the offsetting loss or gain on the hedged item attributable to the risk being hedged. The effect of that accounting is to reflect it in earnings the extent to which the hedge is not effective in achieving offsetting changes in fair value.

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- For a derivative designated as hedging, the exposure to variable cash flows of a forecasted transaction (referred to as a cash flow hedge), the effective portion of the derivative's gain or loss is initially reported as a component of other comprehensive income (outside earnings) and subsequently reclassified into earnings when the forecasted transaction affects earnings. The ineffective portion of the gain or loss is reported in earnings immediately.
- For a derivative designated as hedging, the foreign currency exposure of a net investment in a foreign operation, the gain or loss is reported in other comprehensive income (outside earnings) as part of the cumulative translation adjustment. The accounting for a fair value hedge described above applies to a derivative designated as a hedge of the foreign currency exposure of an unrecognized firm commitment or an available-for-sale security. Similarly, the accounting for a cash flow hedge described above applies to a derivative designated as a hedge of the foreign currency exposure of a foreign-currency-denominated forecasted transaction.
- For a derivative not designated as a hedging instrument, the gain or loss is recognized in earnings in the period of change.

Under this Statement, an entity that elects to apply hedge accounting is required to establish at the inception of the hedge the method it will use for assessing the effectiveness of the hedging derivative and the measurement approach for determining the ineffective aspect of the hedge. Those methods must be consistent with the entity's approach to risk management.

This Statement applies to all entities. A not-for-profit organization should recognize the change in fair value of all derivatives as a change in net assets in the period of change. In a fair value hedge, the changes in the fair value of the hedged item attributable to the risk being hedged are also recognized. However, because of the format of their statement of financial performance, not-for-profit organizations are not permitted special hedge accounting for derivatives used to hedge forecasted transactions. This Statement does not address how a not-for-profit organization should determine the components of an operating measure if one is presented.

This Statement precludes designating a non-derivative financial instrument as a hedge of an asset, liability, unrecognized firm commitment, or forecasted transaction except that a non-derivative instrument denominated in a foreign currency may be designated as a hedge of the foreign currency exposure of an unrecognized firm commitment denominated in a foreign currency or a net investment in a foreign operation.

This Statement amends FASB Statement No. 52, *Foreign Currency Translation*, to permit special accounting for a hedge of a foreign currency forecasted transaction with a derivative. It supersedes FASB Statements No. 80, *Accounting for Futures Contracts*, No. 105, *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk*, and No. 119, *Disclosure about Derivative*

*Financial Instruments and Fair Value of Financial Instruments*. It amends FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments*, to include in Statement 107 the disclosure provisions about concentrations of credit risk from Statement 105. This Statement also nullifies or modifies the consensus reached in a number of issues addressed by the Emerging Issues Task Force.

This Statement is effective for all fiscal quarters of fiscal years after June 15, 1999. Initial application of this Statement should be as of the beginning of an entity's fiscal quarter; on that date, hedging relationships must be designated anew and documented pursuant to the provisions of this Statement. Earlier application of all of the provisions of this Statement is encouraged, but it is permitted only as of the beginning of any fiscal quarter that begins after its issuance. This Statement cannot be applied retroactively to financial statements of prior periods.

## **FAS 157**

### SUMMARY OF STATEMENT NO. 157 FAIR VALUE MEASUREMENTS

This Statement defines fair value, establishes a framework for measuring fair value in generally accepted accounting principles (GAAP), and expands on disclosures about fair value measurements.

It applies under other accounting pronouncements that require or permit fair value measurements, the Board having previously concluded in those accounting pronouncements that fair value is the relevant measurement attribute. Accordingly, this Statement does not require any new fair value measurements. However, for some entities, its application will change the current practice.

#### **Reason for Issuing this Statement**

Prior to this Statement, there were different definitions of fair value and limited guidance for applying those definitions in GAAP. Moreover, that guidance was dispersed among the many accounting pronouncements that require fair value measurements. Such differences created inconsistencies that added to the complexity in applying GAAP. In developing this Statement, the Board considered the need for increased consistency and comparability in fair value measurements and for their expanded disclosures.

#### **Differences between this Statement and Current Practice**

Changes in the current practice resulting from the application of this Statement relate to the definition of fair value, the methods used to measure it, and the expanded disclosures about its measurements.

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The definition of fair value retains the exchange price notion in its earlier definitions. This Statement clarifies that the exchange price is the price in an orderly transaction between market participants to sell the asset or transfer the liability in the market in which the reporting entity would transact for the asset or liability, that is, the principal or most advantageous market for the asset or liability. The transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date, considered from the perspective of a market participant that holds the asset or owes the liability.

Therefore, the definition focuses on the price that would be received to sell the asset or paid to transfer the liability (an exit price), not the price that would be paid to acquire the asset or received to assume the liability (an entry price).

This Statement emphasizes that fair value is a market-based measurement, and not an entity-specific measurement. Therefore, a fair value measurement should be determined based on the assumptions that market participants would use for pricing the asset or liability. As a basis for considering market participant assumptions in fair value measurements, this Statement establishes a fair value hierarchy that distinguishes between

- (1) Market participant assumptions based on market data obtained from sources independent of the reporting entity (observable inputs) and
- (2) The reporting entity's own assumptions about market participant assumptions based on the best information available in the circumstances (unobservable inputs). The notion of unobservable inputs is intended to allow for situations in which there is little, if any, market activity for the asset or liability at the measurement date. In those situations, the reporting entity need not undertake all possible efforts to obtain information about market participant assumptions. However, it must not ignore information about market participant assumptions that is reasonably available without undue cost and effort.

This Statement clarifies that market participant assumptions include assumptions about risk, such as the risk inherent in a particular valuation technique used to measure fair value (such as a pricing model) and/or the risk inherent in the inputs to the valuation technique. A fair value measurement should include an adjustment for risk if market participants would include one in pricing the related asset or liability, even if the adjustment is difficult to determine. Therefore, a measurement (for example, a "mark-to-model" measurement) that does not include an adjustment for risk would not represent a fair value measurement if market participants would include one in pricing the related asset or liability.

This Statement clarifies that market participant assumptions also include assumptions about the effect of a restriction on the sale or use of an asset. A fair value measurement for a restricted asset should consider the effect of the restriction if market participants would consider the effect of the restriction on pricing the asset. That guidance applies for stock with restrictions on sale that terminate within one year that is measured at fair value under FASB

Statements No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, and No. 124, *Accounting for Certain Investments Held by Not-for-Profit Organizations*.

This Statement clarifies that a fair value measurement for a liability reflects its nonperformance risk (the risk that the obligation will not be fulfilled). Because nonperformance risk includes the reporting entity's credit risk, it should consider the effect of this risk (credit standing) on the fair value of the liability in all periods in which the liability is measured at fair value under other accounting pronouncements, including FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities*.

This Statement affirms the requirement of other FASB Statements that the fair value of a position in a financial instrument (including a block) that trades in an active market should be measured as the product of the quoted price for the individual instrument times the quantity held (within Level 1 of the fair value hierarchy). The quoted price should not be adjusted because of the size of the position relative to the trading volume (blockage factor). This Statement extends the requirement to broker-dealers and investment companies within the scope of the AICPA Audit and Accounting Guides for those industries.

This Statement expands disclosures about the use of fair value to measure assets and liabilities in interim and annual periods subsequent to initial recognition. The disclosures focus on the inputs used to measure fair value and for recurring fair value measurements using significant unobservable inputs (within Level 3 of the fair value hierarchy) and the effect of the measurements on earnings (or changes in net assets) for the period. This Statement encourages entities to combine the fair value information disclosed under this Statement with the fair value information disclosed under other accounting pronouncements, including FASB Statement No. 107, *Disclosures about Fair Value of Financial Instruments*, where practicable.

The guidance in this Statement applies to derivatives and other financial instruments measured at fair value under Statement 133 at initial recognition and in all subsequent periods. Therefore, this Statement nullifies the guidance in footnote 3 of EITF Issue No. 02-3, "Issues Involved in Accounting for Derivative Contracts Held for Trading Purposes and Contracts Involved in Energy Trading and Risk Management Activities." This Statement also amends Statement 133 to remove the similar guidance to that in Issue 02-3, which was added by FASB Statement No. 155, *Accounting for Certain Hybrid Financial Instruments*.

**How do the Conclusions in this Statement relate to the FASB's Conceptual Framework?**

The framework for measuring fair value considers the concepts in FASB Concepts Statement No. 2, *Qualitative Characteristics of Accounting Information*. Concepts Statement No. 2 emphasizes that providing comparable information enables users of financial statements to identify similarities in and differences between two sets of economic events.

The definition of fair value considers the concepts relating to assets and liabilities in FASB Concepts Statement No. 6, *Elements of Financial Statements*, in the context of market

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participants. A fair value measurement reflects current market participant assumptions about the future inflows associated with an asset (future economic benefits) and the future outflows associated with a liability (future sacrifices of economic benefits).

This Statement incorporates aspects of the guidance in FASB Concepts Statement No. 7, *Using Cash Flow Information and Present Value in Accounting Measurements*, as clarified and/or reconsidered in this Statement. This Statement does not revise Concepts Statement No. 7. The Board will consider the need to revise Concepts Statement No. 7 in its conceptual framework project.

The expanded disclosures about the use of fair value to measure assets and liabilities should provide users of financial statements (present and potential investors, creditors, and others) with information that is useful in making investment, credit, and similar decisions—the first objective of financial reporting in FASB Concepts Statement No. 1, *Objectives of Financial Reporting by Business Enterprises*.

### **How do Changes in this Statement improve Financial Reporting?**

A single definition of fair value, together with a framework for measuring it, should result in increased consistency and comparability in fair value measurements.

The expanded disclosures about the use of fair value to measure assets and liabilities should provide users of financial statements with better information about the extent to which fair value is used to measure recognized assets and liabilities, the inputs used to develop these measurements, and their effect on earnings (or changes in net assets) for the period.

The amendments made by this Statement advance the Board's initiatives to simplify and codify the accounting literature and to eliminate differences that have added to the complexity in GAAP.

### **Costs and Benefits of Applying this Statement**

The framework for measuring fair value builds on current practice and requirements. However, some entities will need to make systems and other changes to comply with the requirements of this Statement. Some entities also might incur incremental costs for applying the requirements of this Statement. However, the benefits from increased consistency and comparability in fair value measurements and expanded disclosures about those measurements should be ongoing.

### **The Effective Date of this Statement**

This Statement is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. Earlier application is encouraged, provided the reporting entity has not yet issued financial statements for that fiscal year, including financial statements for an interim period within that fiscal year.

The provisions of this Statement should be applied prospectively as of the beginning of the fiscal year in which this Statement is initially applied, except as follows. The provisions of this Statement should be applied retrospectively to the following financial instruments as of the beginning of the fiscal year in which this Statement is initially applied (a limited form of retrospective application):

- A position in a financial instrument that trades in an active market held by a broker-dealer or investment company within the scope of the AICPA Audit and Accounting Guides for those industries that was measured at fair value using a blockage factor prior to the initial application of this Statement.
- A financial instrument that was measured at fair value at initial recognition under Statement 133 using the transaction price in accordance with the guidance in footnote 3 of Issue 02-3 prior to the initial application of this Statement.
- A hybrid financial instrument that was measured at fair value at initial recognition under Statement 133 using the transaction price in accordance with the guidance in Statement 133 (added by Statement 155) prior to the initial application of this Statement.

The transition adjustment, measured as the difference between the carrying amounts and the fair values of those financial instruments on the date this Statement is initially applied, should be recognized as a cumulative-effect adjustment to the opening balance of retained earnings (or other appropriate components of equity or net assets in the statement of financial position) for the fiscal year in which this Statement is initially applied.

### **IFRS 9**

The new financial instruments' standard – IFRS 9 was under development for a long time and was finally completed in July 2014. Its aim is to replace the older IAS39 that dealt with financial instruments.

International Accounting Standards Board (IASB) decided to replace IAS 39 gradually, in 3 phases:

Phase 1—Classification and measurement of financial assets and financial liabilities,

Phase 2—Impairment Methodology and

Phase 3—Hedge Accounting.

### **Objective of IFRS 9**

IFRS 9 establishes principles for the financial reporting of financial assets and financial liabilities. Here, the principal aim is to present relevant and useful information to users of

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financial statements for their assessment of the amounts, timing and uncertainty of an entity's future cash flows.

### **Scope of IFRS 9**

Here, IFRS 9 makes reference to IAS 39, because it says that IFRS 9 shall be applied to all items within the scope of IAS 39.

### **Recognition and De-recognition**

#### **Initial recognition**

IFRS 9 requires recognizing a financial asset or a financial liability in the statement of financial position when the entity becomes a party to the contractual provisions of the instrument.

#### **De-recognition of financial assets**

Standard IFRS 9 provides extensive guidance on de-recognition of a financial asset. Before deciding on de-recognition, an entity must determine whether de-recognition is related to:

- a financial asset (or a group of similar financial assets) in its entirety, or
- a part of a financial asset (or a part of a group of similar financial assets)
- The part must fulfill the following conditions (if not, then asset is derecognized in its entirety):
- the part comprises only specifically defined cash flows from a financial asset (or group).
- the part comprises only a fully proportionate (pro rata) share of the cash flows from a financial asset (or group).
- the part comprises only a fully proportionate (pro rata) share of specifically identified cash flows from a financial asset (or group).
- An entity shall derecognize the financial asset when:
- the contractual rights to the cash flows from the financial asset expire, or
- an entity transfers the financial asset and the transfer qualifies for derecognition.

Transfers of financial assets are discussed in more detail.. First of all, an entity must decide whether the asset was transferred or not. Then, if the financial asset was transferred, the entity must determine whether risks and rewards from the financial asset were also transferred.

#### ***Was the financial asset transferred?***

An entity transfers a financial asset if either it transfers the contractual rights to receive cash flows from a financial asset, or it retains the contractual rights to receive cash flows from the

asset, but assumes a contractual obligation to pay these flows to one or more recipients under an arrangement that meets the following conditions:

- the entity has no obligation to pay amounts to the eventual recipient unless it collects equivalent amounts on the original asset,
- the entity is prohibited from selling or pledging the original asset (other than security to the eventual recipient),
- the entity has an obligation to remit any cash flows it collects on behalf of eventual recipients without material delay.

***Were the risks and rewards from the financial assets transferred?***

If substantially all the risks and rewards have been transferred, the asset is derecognized. If substantially all the risks and rewards have been retained, the entity must continue recognizing the asset in its financial statements.

If the entity has neither retained nor transferred substantially all of the risks and rewards of the asset, then the entity must assess whether it has retained control of the asset or not.

If the entity does not control the asset then it must derecognize the asset. But if the entity has retained control of the asset, then the entity continues to recognize the asset to the extent of its continuing involvement in the asset.

Transfers of financial assets are then discussed in much greater detail in IFRS 9 and also in application guidance in paragraph 36, which summarizes de-recognition steps in a simple decision tree. You can familiarize yourself with the decision tree in the video below this summary.

**De-recognition of a financial liability**

An entity shall derecognize a financial liability when it is extinguished. That is, when the obligation specified in the contract is discharged, cancelled or expires.

**Classification of financial instruments**

Classification of financial assets

IFRS 9 classifies **financial assets** into two main categories:

**1. Financial asset subsequently measured at amortized cost:** a financial asset falls into this category if both of the following conditions are met:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows, and
- only contractual cash flows are payments of the principal and related interest on specified dates.

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**2. Financial assets subsequently measured at fair value:** all financial assets that do not fall in the above category.

Here, we can see that IFRS 9 brings about significant reduction of rules, and is thus an improvement upon IAS 39, which classified financial assets into four categories. .

Moreover, regardless of the two categories mentioned above, a reporting entity may decide to designate the financial asset at fair value through profit or loss at its initial recognition. It effectively means that under IFRS 9 all financial assets can be measured at fair value with no need to split them into categories.

### Classification of financial liabilities

IFRS 9 classifies **financial liabilities** as follows:

1. **Financial liabilities at fair value through profit or loss:** these financial liabilities are subsequently measured at fair value.
2. **Other financial liabilities measured at amortized cost using the effective interest method**

IFRS 9 mentions separately some other types of financial liabilities measured in a different way, such as financial guarantee contracts and commitments to provide a loan at a below market interest rate, but here, we will deal with two main categories.

As you can see, there is not much change in this in comparison to IAS 39. An entity can designate the financial liability at fair value through profit or loss at its initial recognition, regardless of the category.

### Impairment of financial assets

New rules about the impairment of financial assets were added in July 2014.

IFRS 9 requires entities to estimate and account for **expected credit losses** for all relevant financial assets, starting from the time they first acquire a financial instrument.

When measuring expected credit losses, entities will be required to use all the relevant information that is available to them (without undue cost or effort).

### Embedded derivatives

Though many things related to the concept of embedded derivatives were taken from IAS 39 to IFRS 9, there are some changes, too.

If the host is within the scope of IFRS 9, then the whole hybrid contract shall be measured as one and not be separated. This is quite different from IAS 39, where if you have a host contract that is a financial asset with some embedded derivative whose economic characteristics are not closely related, these two would have been separated. But not under IFRS 9, because when a host is a financial asset, then no separation is required.

If the host contract is outside the scope of IFRS 9 (some non-financial asset), then it requires separation of embedded derivative from the host contract when the following conditions are fulfilled (and yes, again I carry forward from IAS 39):

- The economic risks and characteristics of the embedded derivative are not closely related to the economic risks and characteristics of the host contract.
- A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative.
- The hybrid instrument is not measured at fair value with changes in fair value recognized in the profit or loss.

Separation means that embedded derivative is accounted for separately in line with IFRS 9 and the host contract in line with other appropriate standard. If an entity is not able to do this, then the whole contract must be accounted for as a financial asset at fair value through profit or loss.

## Measurement of financial instruments

### Initial measurement

Financial asset or financial liability shall be initially measured at its fair value. When these are not measured at fair value through profit or loss, directly attributable transaction costs shall be included in the initial measurement.

### Subsequent measurement

Because IFRS 9 reduced the number of categories of financial assets and simplified the matter, their subsequent measurement has also been made simple. It becomes clear just by looking at the titles of the categories.

Thus, **financial assets** shall be subsequently measured either at fair value or at amortized cost.

Subsequent measurement of **financial liabilities** is carried over from IAS 39. Financial liabilities held for trading are measured at fair value through profit or loss, and all other financial liabilities are measured at amortized cost unless the fair value option is applied.

With regard to recognizing gains and losses from subsequent measurement, IFRS 9 requires to put them to profit or loss with the following exceptions:

- when there is a hedging relationship and hedge accounting applies ( please refer to IAS 39 summary),
- when a financial asset is an equity instrument not held for trading, then an entity can irrevocably at initial recognition choose to present changes in fair value of that instrument in other comprehensive income,

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- when a financial liability is designated at fair value through profit or loss, then the change in fair value attributable to changes in the credit risk shall be presented in other comprehensive income and the remaining change in profit or loss.

### **Hedge accounting**

Hedge accounting requirements were completed on 19 November 2013. Basic rules for hedge accounting, types of hedges and mechanics of accounting for each type of hedge remain the same as in IAS 39. However, IFRS 9 widens the situations in which hedge accounting can be applied.

In July 2014, IFRS 9 introduced a substantially-reformed model for hedge accounting, with improved disclosures about risk management activity.

### **Effective date and transition**

Mandatory effective date for IFRS 9 application is January 1, 2018 with earlier applications permitted.

### **IFRS 13**

IFRS 13 *Fair Value Measurement* applies to IFRSs that require or permit fair value measurements or disclosures and provides a single IFRS framework for measuring fair value and requires disclosures about fair value measurement. The Standard defines fair value on the basis of an 'exit price' notion and use a 'fair value hierarchy', which results in a market-based, rather than entity-specific measurement.

IFRS 13 was originally issued in May 2011 and applies to annual periods beginning on or after January 1, 2013.

### **Objective**

- defines fair value
- sets out in a single IFRS a framework for measuring fair value
- requires disclosures about fair value measurements.
- IFRS 13 applies when another IFRS requires or permits fair value measurements or disclosures about fair value measurements (and measurements, such as fair value less costs to sell, based on fair value or disclosures about those measurements), except for: [IFRS 13:5-7]
- share-based payment transactions within the scope of IFRS 2 *Share-based Payment*
- leasing transactions within the scope of IAS 17 *Leases*

- Measurements that have some similarities to fair value but that are not fair value, such as net realizable value in IAS 2 *Inventories* or value in use in IAS 36 *Impairment of Assets*.

Additional exemptions apply to the disclosures required by IFRS 13.

## Key definitions

### Fair value

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

### Active market

A market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

### Exit price

The price that would be received to sell an asset or paid to transfer a liability.

### Highest and best use

The use of a non-financial asset by market participants that would maximize the value of the asset or the group of assets and liabilities (e.g. a business) within which the asset would be used.

### Most advantageous market

The market that maximizes the amount that would be received to sell the asset or minimizes the amount that would be paid to transfer the liability, after taking into account transaction costs and transport costs.

### Principal market

The market with the greatest volume and level of activity for the asset or liability.

### Overview of fair value measurement approach

The objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. A fair value measurement requires an entity to determine all of the following: [IFRS 13:B2]

- the particular asset or liability that is the subject of the measurement (consistently with its unit of account)
- for a non-financial asset, the valuation premise that is appropriate for the measurement (consistently with its highest and best use)
- the principal (or most advantageous) market for the asset or liability

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- the valuation technique(s) appropriate for the measurement, considering the availability of data with which to develop inputs that represent the assumptions that market participants would use when pricing the asset or liability and the level of the fair value hierarchy within which the inputs are categorized.

## **Indian GAAP**

### **Differences between Indian GAAP and IFRS**

The consolidated financial statements of the Group for the year ending 31 December 2012 with comparatives as at 31 December 2011 are prepared in accordance with International Financial Reporting Standards (IFRS) and IFRS Interpretations Committee (IFRIC) interpretations as adopted by the European Union.

IFRS differs in certain significant respects from Indian Generally Accepted Accounting Principles (GAAP). These differences are related to methods for measuring the amounts shown in the financial statements of the Group, as well as additional disclosures required by Indian GAAP.

Set out below are descriptions of certain accounting differences between IFRS and Indian GAAP that could have a significant effect on profit attributable to parent company shareholders for the year ending 31 December 2012 and 31 December 2011 and total parent company shareholders' equity as on the same date. This section does not provide a comprehensive analysis of such differences. In particular, this description considers only those Indian GAAP pronouncements for which adoption or application is required in financial statements for years that ended on or prior to 31 December 2012. The Group has not quantified the effect of differences between IFRS and Indian GAAP, nor prepared consolidated financial statements under Indian GAAP, nor undertaken a reconciliation of IFRS and Indian GAAP financial statements.

Had the Group undertaken any such quantification or preparation or reconciliation, other potentially significant accounting and disclosure differences may have come to its attention that are not identified below. Accordingly, the Group does not provide any assurance that the differences identified below represent all the principal differences between IFRS and Indian GAAP relating to the Group. Furthermore, no attempt has been made to identify future differences between IFRS and Indian GAAP. Finally, no attempt has been made to identify all differences between IFRS and Indian GAAP that may affect the financial statements as a result of transactions or events that may occur in the future.

For making investment decisions, potential investors should consult their professional advisers for an understanding of the differences between IFRS and Indian GAAP, and how these may have affected the financial results of the Group. The summary does not purport to be complete

and is subject and qualified in its entirety by reference to the pronouncements of the International Accounting Standards Board (IASB), together with the pronouncements of the Indian accounting profession.

*Changes in accounting policy*

**IFRS**

Changes in accounting policy are applied retrospectively. Comparatives are restated and the effect of period(s) not presented is adjusted against opening retained earnings of the earliest year presented. Policy changes made on the adoption of a new standard are made in accordance with that standard's transitional provisions.

**Indian GAAP**

The cumulative amount of the change is included in the income statement for the period in which the change is made, except as specified in certain standards (transitional provision) where the change during the transition period resulting from adoption of the standard has to be adjusted against opening retained earnings and the impact disclosed.

Where a change in accounting policy has a material effect in the current period, the amount by which any item in the financial statements is affected by such change should also be disclosed to the extent ascertainable. Where such an amount is not ascertainable, this fact should be indicated.

*Functional and presentation currency*

**IFRS**

Assets and liabilities are translated at the exchange rate on the balance sheet date when the financial statements are presented in a currency other than the functional currency. Income statement items are translated at the exchange rate on the date of transaction or at average rates. The functional currency is the currency of the primary economic environment in which an entity operates. The presentation currency of the Group is US dollars.

**Indian GAAP**

There is no concept of functional or presentation currency. Entities in India have to prepare their financial statements in Indian rupees.

*Consolidation*

**IFRS**

Entities are consolidated when the Group has the power to govern the financial and operating policies to obtain benefits. Control is presumed to exist when the Group owns more than one half of an entity's voting power. Currently exercisable voting rights should also be taken into consideration when determining whether control exists.

## **Module-II : Theory and Practice of Forex and Treasury Management**

### **Indian GAAP**

It is similar to that of IFRS, except that currently exercisable voting rights are not considered in determining control.

#### *Consolidation of Special Purpose Entities*

### **IFRS**

Under the IASB's Standards Interpretations Committee (SIC) Interpretation 12 (SIC-12), an SPV should be consolidated when the substance of the relationship between an enterprise and the SPV indicates that the SPE is controlled by that entity. The definition of an SPV includes employee share trusts.

### **Indian GAAP**

There is no specific guideline on this. SPEs including employee share trusts are not consolidated.

#### *Business combinations*

### **IFRS**

All business combinations are treated as acquisitions. Assets liabilities and contingent liabilities acquired are measured at their fair values. Pooling of interest method is prohibited.

For acquisitions occurring on or after 1 January 2004, IFRS 3 'Business Combinations' (IFRS 3) requires that when assessing the value of the assets of an acquired entity, certain identifiable intangible assets must be recognized and if they are considered to have a finite life, amortized through the income statement over an appropriate period. As the Group has not applied IFRS 3, or the earlier IAS 22, to transactions that occurred before 1 January 2004, no intangible assets, other than goodwill, were recognized on acquisitions prior to that date.

Adjustments to provisional fair values are permitted provided those adjustments are made within 12 months from the date of acquisition, with a corresponding adjustment to goodwill.

After re-assessment of respective fair values of net assets acquired, any excess of acquirer's interest in the net fair values of acquirer's identifiable assets is recognized immediately in the income statement.

Where less than 100 per cent of an entity is acquired, non-controlling interests are stated at their proportion of the fair value of the identifiable net assets and contingent liabilities acquired.

### **Indian GAAP**

Treatment of a business combination depends on whether the acquired entity is held as a subsidiary or an amalgamation or whether it is an acquisition of a business.

For an entity acquired and held as a subsidiary, the business combination is accounted for as an acquisition. The assets and liabilities acquired are incorporated at their existing carrying amounts.

For an amalgamation of an entity, either pooling of interests or acquisition accounting may be used. The assets and liabilities amalgamated are incorporated at their existing carrying amounts or, alternatively, if acquisition accounting is adopted, the consideration can be allocated to individual identifiable assets (which may include intangible assets) and liabilities on the basis of their fair values.

Adjustments to the value of acquired or amalgamated balances are not permitted after initial recognition.

Any excess of acquirer's interest in the net fair values of acquirer's identifiable assets is recognized as capital reserve, which is neither amortized nor available for distribution to shareholders. However, in case of an amalgamation accounted under the purchase method, the fair value of intangible assets with no active market is reduced to the extent of capital reserve, if any, arising on the amalgamation.

Minority interests arising on the acquisition of a subsidiary are recognized at their share of the historical book value.

### *Goodwill*

#### **IFRS**

IFRS 3 requires that goodwill arising on all acquisitions by the Group and associated undertakings is capitalized but not amortized and is subject to an annual review for impairment. Under the transitional provisions of IFRS 1, the Group has not applied IFRS 3, or the earlier IAS 22, to transactions that occurred before 1 January 2004, the date of transition to IFRS. Accordingly, goodwill previously written off to reserves, as permitted under UK GAAP until the implementation of FRS 10 'Goodwill and intangible assets' in 1998, has not been reinstated nor will it be written back on disposal.

Amortization of goodwill that has been charged up to 31 December 2003 has not been reversed and the deemed carrying value of the goodwill on transition to IFRS is equal to the net book value as at 31 December 2003.

Goodwill is tested annually for impairment. Any impairment losses recognized may not be reversed in subsequent accounting periods.

#### **Indian GAAP**

Goodwill arising for amalgamations is capitalized and amortized over useful life not exceeding five years, unless a longer period can be justified.

For goodwill arising on acquisition of a subsidiary or a business, there is no specific guidance – in practice there is either no amortization or amortization not exceeding 10 years.

## **Module-II : Theory and Practice of Forex and Treasury Management**

Goodwill is reviewed for impairment whenever an indicator of impairment exists. Impairment losses recognized may be reversed under exceptional circumstances only in subsequent accounting periods through the income statement.

*Acquired and internally generated intangible assets*

### **IFRS**

Intangible assets are recognized if the specific criteria are met. Assets with a finite useful life are amortized on a systematic basis over their useful life. An asset with an indefinite useful life and which is not yet available for use should be tested for impairment annually.

### **Indian GAAP**

Intangible assets are capitalized if specific criteria are met and are amortized over their useful life, generally not exceeding 10 years. The recoverable amount of an intangible asset that is not available for use or is being amortized over a period exceeding 10 years should be reviewed at least at the end of each financial year even if there is no indication that the asset is impaired.

*Property, plant and equipment*

### **IFRS**

Fixed assets are recorded at cost or revalued amounts. Under the transition rules of IFRS 1, the Group elected to freeze the value of all its properties held for its own use at their January 1, 2004 valuations, at their 'deemed cost' under IFRS. They will not be revalued in future.

Foreign exchange gains or losses relating to the procurement of property, plant and equipment, under very restrictive conditions, can be capitalized as part of the asset.

Depreciation is recorded over the asset's estimated useful life. The residual value and the useful life of an asset and the depreciation method shall be reviewed at least at the end of each financial year.

The Group has the option to capitalize borrowing costs incurred during the period that the asset is getting ready for its intended use.

### **Indian GAAP**

Fixed assets are recorded at historical costs or revalued amounts. Relevant borrowing costs are capitalized if the required criteria in AS-16 are met.

Depreciation is recorded over the asset's useful life. Schedule XIV of the Companies Act and Banking Regulations prescribe minimum rates of depreciation and these are used as the basis for determining useful life.

*Recognition and measurement of financial instruments*

## IFRS

IAS 39 requires all financial instruments to be initially measured at their fair value, which is usually the transaction price. In cases where the initial fair value is based on a valuation model that uses inputs that are not observable in the market, the difference between the transaction price and the valuation model is not recognized immediately in the income statement but is amortized to the income statement until the inputs become observable, and the transaction matures or is terminated.

At the time of initial recognition, IAS 39 requires that all financial assets be classified under any one of the following categories:

- Held at fair value through profit or loss (as a trading instrument or as designated by management), with realized and unrealized gains or losses reflected in profit or loss.
- Available-for-sale at fair value, with unrealized gains and losses reflected in shareholders' equity, and recycled to the income statement when the asset is sold or is impaired.
- Held-to-maturity at amortized cost, where there is the intent and the ability to hold them to maturity.
- As loans and receivables at amortized cost.
- At the time of initial recognition, IAS 39 requires all financial liabilities to be classified as either:
  - Held at fair value through profit or loss (as a trading instrument or as designated by management), with realized and unrealized gains or losses reflected in profit or loss, or
  - At amortized cost.
- A financial asset or financial liability, other than one held for trading, can be designated as being held at fair value through profit or loss if it meets the criteria set out below:
  - The designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities on a different basis
  - A group of financial assets and/or liabilities is managed and its performance evaluated on a fair value basis
  - Assets or liabilities include embedded derivatives and such derivatives are not recognized separately

The designation of a financial instrument as held at fair value through profit or loss is irrevocable in respect of the financial instruments to which it relates. Subsequent to initial recognition, instruments cannot be classified into or out of this category.

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Changes in the fair value of available-for-sale financial assets resulting from movements in foreign currency exchange rates are included in the income statement as exchange differences. Foreign currency exchange movements for available-for-sale equity securities are recognized in reserves.

### **Indian GAAP**

AS 13 requires investments to be categorized as follows:

- Current investments that are readily realizable and intended to be held for less than one year are carried at the lower of cost and fair value, with changes in fair value taken directly to profit or loss;
- Long-term investments that are not classified as current are carried at cost unless there is a permanent diminution in value, in which case a provision for diminution is required to be made by the entity.

For investments, the Reserve Bank of India regulations are similar to the classifications of IFRS, but the classification criteria and measurement requirements differ.

Financial liabilities are usually carried at cost.

There is no ability to designate instruments at fair value.

## **Measurement of derivative instruments and hedging activities**

### **IFRS**

IAS 39 requires that all derivatives be recognized on balance sheet at fair value. Changes in the fair value of derivatives that are not hedges are reported in the income statement. Changes in the fair value of derivatives that are designated as hedges are either offset against the change in fair value of the hedged asset or liability through earnings or recognized directly in equity until the hedged item is recognized in earnings, depending on the nature of the hedge. The ineffective portion of the hedge's change in fair value is immediately recognized in earnings. A derivative may only be classified as a hedge if an entity meets stringent qualifying criteria in respect of documentation and hedge effectiveness.

IAS 39 requires the separation of derivatives embedded in a financial instrument if it is not deemed to be closely related to the economic characteristics of the underlying host instrument.

### **Indian GAAP**

Foreign exchange contracts held for trading or speculative purposes are carried at fair value, with gains and losses recognized in the income statement.

In the absence of specific guidance, equity options are carried at the lower of cost or market value.

There is no specific guidance on hedge accounting since Accounting Standard 30 is not mandatory. However, requirements of AS 30 with respect to hedge accounting are largely similar to that of IAS 39.

*Disclosure of Notional Value*

**IFRS**

A structured trade is a combination of individual trades. For IFRS reporting, notional value for structured trade is the highest notional value amongst its individual trades as at Balance Sheet date.

**Indian GAAP**

Notional value for structured trade is the cumulative notional values of all trades that make a structured trade.

*Impairment of financial assets*

**IFRS**

At each balance sheet date, an assessment is made as to whether there is any objective evidence of impairment. A financial asset is impaired and impairment losses are incurred if, and only if, there is objective evidence of impairment.

**Assets held at amortized cost**

If objective evidence of impairment exists, an assessment is made to determine what, if any, impairment loss should be recognized. The impairment loss is the difference between the asset's carrying amount and its estimated recoverable amount.

The recoverable amount is determined based on the present value of the expected future cash flows, discounted at the instrument's original effective interest rate, either individually or collectively. Individually assessed assets for which there is no objective evidence of impairment are collectively assessed for impairment.

**Available-for-sale assets**

If objective evidence of impairment exists, the cumulative loss (measured as the difference between the acquisition cost and the current fair value, less any previously recognized impairment) is removed from equity and recognized in the income statement.

Market recoveries leading to a reversal of an impairment provision for available-for-sale debt securities are recognized in the income statement. Impairment losses for equity instruments classified as available-for-sale are not permitted to be reversed through profit or loss.

## **Module-II : Theory and Practice of Forex and Treasury Management**

### **Indian GAAP**

Long-term investments are written down when there is a decline in fair value that is deemed to be other than temporary. Impairments may be reversed through the income statement in subsequent periods if the investment rises in value, or the reasons for the impairment no longer exist.

*De-recognition of financial assets*

### **IFRS**

A financial asset is derecognized if all the risks and rewards of ownership have been transferred substantially. If they have not been, then the asset will continue to be recognized to the extent of any continuing involvement.

### **Indian GAAP**

There is limited guidance on de-recognition of financial assets. Securitized financial assets can only be derecognized if the originator has surrendered control over them.

Control is not surrendered where the securitized assets are not beyond the reach of the creditors of the originator or where the transferee does not have the right to pledge, sell, transfer or exchange the securitized asset for its own benefit, or where there is an option that entitles the originator to repurchase the financial assets transferred under a securitization transaction from the transferee.

*Liabilities and equity*

### **IFRS**

A financial instrument is classified as a liability where there is a contractual obligation to deliver either cash or another financial asset to the holder of that instrument, regardless of the manner in which the contractual obligation is settled.

Preference shares, which carry a mandatory coupon or are redeemable on a specific date or at the option of the shareholder, are classified as financial liabilities and are presented in other borrowed funds. The dividends on these preference shares are recognized in the income statement as interest expense on an amortized cost basis using the effective interest method.

### **Indian GAAP**

Classification is based on the legal form rather than on substance.

*Provisions for liabilities and charges*

### **IFRS**

The amount recognized as a provision is the best estimate at the balance sheet date of the

expenditure required to settle the obligation, discounted using a pre-tax market discount rate if the effect is material.

#### **Indian GAAP**

Provisions are recognized and measured like what they are in IFRS, except that discounting is not permitted.

#### *Pension obligations*

#### **IFRS**

IAS 19 'Employee Benefits' (IAS 19) requires defined benefit pension liabilities to be assessed on the basis of current actuarial valuations performed on each plan, and pension assets to be measured at fair value. The net pension surplus or deficit, representing the difference between plan assets and liabilities is recognized on the balance sheet.

The discount rate to be used for determining defined benefit obligations is established by reference to market yields at the balance sheet date on high quality corporate bonds of a currency and term consistent with the currency and term of the post-employment benefit obligations.

Under the transitional provisions of IFRS 1 'First time adoption of International Financial Reporting Standards' (IFRS 1) and in accordance with IAS 19, the Group elected to record all actuarial gains and losses on the pension surplus or deficit in the year in which they occur within the 'Consolidated statement of comprehensive income'.

#### **Indian GAAP**

The liability for defined benefit plans is determined on a basis that is similar to what it is in IFRS.

The discount rate to be used for determining defined benefit obligations is established by reference to market yields at the balance sheet date on government bonds.

Actuarial gains or losses are recognized immediately in the statement of income.

In respect of termination benefits, the revised AS 15 (2005) specifically contains a transitional provision providing that where expenditure on termination benefits is incurred on or before 31 March 2009, entities can choose to follow the accounting policy of deferring such expenditure over its pay-back period. However, any expenditure deferred cannot be carried forward to accounting periods commencing on or after 1 April, 2010. Therefore, any expenditure deferred should be written off over the shorter of (a) the pay-back period or (b) the period from the date expenditure on termination benefits is incurred to April 1, 2010.

#### *Share-based compensation*

## **Module-II : Theory and Practice of Forex and Treasury Management**

### **IFRS**

IFRS 2 'Share based payment' requires that all share-based payments are accounted for by using a fair value method.

The fair value of the employee services received in exchange for the grant of the options is recognized as an expense. For equity-settled awards, the total amount to be expensed over the vesting period must be determined by reference to the fair value of the options granted (determined using an option pricing model), excluding the impact of any non-market vesting conditions (for example, profitability and growth targets).

Non-market vesting conditions must be included in assumptions about the number of options that are expected to become exercisable.

At each balance sheet date, the Group revises its estimates of the number of options that are expected to become exercisable. It recognizes the impact of the revision of original estimates, if any, in the income statement, and a corresponding adjustment to equity over the remaining vesting period. The proceeds received net of any directly attributable transaction costs are credited to share capital (nominal value) and share premium when the options are exercised.

Cash-settled awards must be revalued at each balance sheet date on an intrinsic value basis (being the difference between the market price of the share at the measurement date and the exercise price) with any changes in fair value charged or credited to staff costs in the income statement.

Deferred tax is recognized based on the intrinsic value of the award and is recorded in the income statement if the tax deduction is less than or equal to the cumulative share-based compensation expense or equity if the tax deduction exceeds the cumulative expense.

### **Indian GAAP**

Entities may either follow the intrinsic value method or the fair value method for determining the costs of benefits arising from share-based compensation plans. Although the fair value approach is recommended, entities may use the intrinsic value method and provide fair value disclosures.

Deferred tax is not recognized as it is not supposed to represent a timing difference.

Entities are also permitted the option of recognizing the related compensation cost over the service period for the entire award (that is, over the service period of the last separately vesting portion of the award), provided that the amount of compensation cost recognized at any date at least equals the fair value of the vested portion of the award on that date.

*Deferred taxation*

### **IFRS**

Deferred tax is determined on the basis of temporary differences, which are the differences

between the carrying amount and tax base of assets and liabilities, subject to certain exceptions.

Deferred tax assets are recognized if it is probable (more likely than not) that sufficient future taxable profits will be available to utilize for deferred tax assets.

**Indian GAAP**

Deferred tax is determined on the basis of timing differences, which are the differences between accounting income and taxable income for a period that is capable of reversal in one or more subsequent periods.

Deferred tax assets are recognized only if virtually certain with entities with tax losses carried forward or if reasonably certain with entities with no tax losses that the assets can be realised in future.

*Interest income and expense*

**IFRS**

Interest income and expense is recognized in the income statement using the effective interest method. The effective interest rate is the rate that discounts estimated future cash payments or receipts through the expected life of a financial instrument. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, transaction costs and all other premiums or discounts.

**Indian GAAP**

In the absence of a specific effective interest rate requirement, premiums and discounts are usually amortized on a straight line basis over the term of the instrument.

*Dividends*

**IFRS**

Dividends to holders of equity instruments, when proposed or declared after the balance sheet date, are not to be recognized as a liability on the balance sheet date. A company, however, is required to disclose the amount of dividends that were proposed or declared after the balance sheet date but before the financial statements were authorized for issue.

**Indian GAAP**

Dividends are reflected in the financial statements of the year to which they relate even if proposed or approved after the end of a year.

## **Detailed Accounting of all Hedge Items in respective Corporates Books**

A perfect hedge is one where the hedging instrument matches the original exposure perfectly in every detail. If such an instrument is available, risk can be eliminated completely. In practice, such perfect correlation between the original exposure and the hedging instrument may not always be obtainable, and the hedge may prove to be less than perfect. Nonetheless, almost any properly designed hedge will provide much safer overall result than having no hedge at all. It would be a poor hedge indeed that creates more risk than the original exposure. In a perfect hedge, the hedging instrument exactly mirrors the underlying risk before any hedging scheme can be designed, and certainly before any hedging decisions are implemented.

The following are hedging objectives:

- o **Complete protection against any movement in price**

Complete protection against both adverse and benign outcomes. Absolute certainty is achieved through instruments with symmetric characteristics such as FRAs, SAFEs, forwards, futures or swaps. When coupled with the underlying exposure, all of these tools attempt to guarantee a particular financial outcome, thus securing as complete a protection as possible against market price risk.

- o **Degree of risk to be tolerated.**

Clients may wish to have the best of both worlds – protection against the downside while enjoying the benefits of the upside. In these cases, options or option based risk management solutions are likely to be a preferred choice, but the number of possible permutations is infinite. To narrow the choice, the client needs to indicate the balance between his dislike of downside losses and his liking for upside savings. For many clients, the trade-off will not be symmetrical, because the desire to avoid losses for most companies is greater than the desire to realize savings.

- o **Paying for Protection.**

Ironically, while individuals and companies are quite prepared to pay insurance premiums on risks like fire and theft, there is often a marked resistance to pay for protection against financial risks. Insurance has been an age- old business and financial instruments are of recent origin. Many individuals undermine the true extent and impact of financial risk, because it is less tangible than physical risk. Similarly, some instruments like option- based ones may appear expensive in relation to the perceived risk.

It is believed that a financial risk premium is excessive when in reality it may be fairly priced in relation to the true level of risk. There are a wide range of products with low cost risk management solutions.

o **View of Market**

Many clients have their own view of what may happen to market rates in the future. For example, they may believe that the Pound Sterling will strengthen against the Deutsche Mark, or that interest rates in Japan will rise but more slowly than the implied forward rates predict. In all these circumstances, such views can and should be incorporated into the hedge design. Once the clients' attitudes, views and preferences are known, one or more hedging schemes can be designed appropriate for their needs.

The efficiency of the hedge is measured in terms of its applicability to the need. Measuring hedge efficiency is not the same as measuring hedge profitability, although many equate the two. Hedge efficiency is measured with reference to original objectives and the information available at that time. The choice of the right measure depends upon the hedging objectives. The objectives are:

1. Achieve a target financial result; more is better and less is worse.  
Here the Hedge efficiency =  $Tact / Ttgt$   
Tact means actual financial results  
Ttgt means targeted financial results
2. Achieve a target financial result; less is better and more is worse.  
Here the Hedge efficiency =  $Ttgt / Tact$
3. Achieve a target financial result subject to a minimum acceptable result.  
Here the Hedge efficiency =  $(Tact - Tmin) / (Ttgt - Tmin)$   
Tmin means minimum acceptable financial result.
4. Achieve a target financial result subject to a maximum acceptable result  
Here the Hedge efficiency =  $(Tmax - Tact) / (Tmax - Ttgt)$   
Tmax means maximum acceptable financial results.
5. Maintain the status quo.

Here, any deviation from the present situation is deemed undesirable. In earlier four situations, there was always a directional preference, and this meant that hedge efficiencies greater than 100% could be recorded if the target was bettered. Perfection here is a hedged portfolio whose value is totally unaffected when market prices change. A portfolio that is imperfectly hedged leaves it exposed to possible gains or losses if market rates change. Although a movement of rates in one direction could lead to fortuitous profits from an imperfectly hedged portfolio, one could rightly argue that the market could just as easily have moved in the other direction. The appropriate measure of efficiency in this case is:

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$$\text{Hedge efficiency} = \frac{\Delta T}{\Delta U} \times 100\% \quad (12.5)$$

$\Delta T$  means change in the total value of the hedged portfolio.

$\Delta U$  means change in the total value of the unhedged portfolio.

As the product 12.5 in the equation precludes efficiency greater than 100%, the best result attainable is an efficiency of 100%, and this is achieved when  $\Delta T = 0$  i.e., when the hedged portfolio does not change in value at all. For any deviation in portfolio value, whether positive or negative,  $\Delta T$  is not equal to 0, and efficiency will decline from 100%. If the hedge is totally ineffective  $\Delta T = \Delta U$ , and the hedge efficiency will be zero.

Pricing is an important aspect of an instrument and so also the derivatives. The two key concepts that underlie modern finance are:

- Dollars today are worth more than dollars tomorrow, and
- Safe dollars are worth more than risky dollars.

The first concept is often generalized as the time value of money. In finance, time does have value. The longer the term of single payment loan, the greater the amount that must be repaid. To an investor, bonds are worthless the longer they have until maturity, everything else being equal. Basic time value of money relationships are presented in the following equations:

- $PV = FV \times DF$
- $FV = PV \times CF$

Where

PV = Present Value

FV = Future Value

DF = Discount Factor =  $1 / (1+R)^t$

CF = Compounding factor =  $(1+R)^t$

R = Interest Rate

t = Time in Years

Present value is the discounted value of one or more future cash flows. Conversely, a future value is the compounded value of a present value. The discount factor is the present value of a dollar received in future, while the compounded factor is the future value of the dollar. Both are functions of two things:

- The interest rate used and
- The time between the present value and future value or values.

The discount factor decreases as time increases. The further away a cash flow is, the more it

is discounted. Interest rates measure peoples' willingness to trade dollars today for a greater number of dollars tomorrow. The higher the interest rates, the more we discount future dollars.

The second key concept is that a safe dollar is worth more than a risky dollar. Most investors are risk averse. This does not mean that people will not take risks, it means that they will take risks only when they expect to be rewarded for taking it. People have different degrees of risk aversion. Some are more willing to take a chance than others. People choose the alternative which has a good chance, a safe alternative. Each alternative will have different outcomes. In an alternative, there is an opportunity cost. Opportunity cost measures value foregone by choosing one alternative than the other. Every alternative has a chance of loss, a risk. Risk and return have a fundamental relationship. The more risk someone bears, the higher the expected return. Furthermore, there is some rate of return that can be earned without bearing any risk. This is called the riskless rate of interest. The risk / return relationship are based on expected return. The expected return is the weighted average of all possible returns, with the weights reflecting the relative likelihood of each possible return.

### **A Brief on Treasury Investments Portfolio:**

#### **GOVERNMENT SECURITIES**

##### **Treasury Bills (T-bills)**

Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 days, 182 days and 364 days.

Treasury bills are zero coupon securities and pay no interest. They are issued at a discount and redeemed at the face value at maturity. For example, a 91 days Treasury bill of Rs.100/- (face value) may be issued at say Rs. 98.20, that is, at a discount of say, Rs.1.80 and would be redeemed at the face value of Rs.100/-. The return to the investors is the difference between the maturity value or the face value (that is Rs.100) and the issue price.

The Reserve Bank of India conducts auctions usually every Wednesday to issue T-bills. Payments for the T-bills purchased are made on the following Friday. The 91 days T-bills are auctioned on every Wednesday. The Treasury bills of 182 days and 364 days' tenure are auctioned on alternate Wednesdays. T-bills of 364 days' tenure are auctioned on the Wednesday preceding the reporting Friday while 182 T-bills are auctioned on the Wednesday prior to a non-reporting Fridays.

The Reserve Bank releases an annual calendar of T-bill issuances for a financial year in the last week of March of the previous financial year. The Reserve Bank of India announces the issue details of T-bills through a press release every week.

##### **Cash Management Bills (CMBs)**

Government of India, in consultation with the Reserve Bank of India, has decided to issue a

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new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government.

The CMBs have the generic character of T-bills but are issued for maturities less than 91 days. Like T-bills, they are also issued at a discount and redeemed at face value at maturity. The tenure, notified amount and date of issue of the CMBs depend upon the temporary cash requirement of the Government.

The announcement of their auction is made by Reserve Bank of India through a Press Release which is issued one day prior to the date of auction. The settlement of the auction is on T+1 basis.

The non-competitive bidding scheme has not been extended to the CMBs. However, these instruments are tradable and qualify for ready forward facility.

Investment in CMBs is also reckoned as an eligible investment in Government securities by banks for SLR purpose under Section 24 of the Banking Regulation Act, 1949. First set of CMBs were issued on May 12, 2010.

### Dated Government Securities

Dated Government securities are long- term securities and carry a fixed or floating coupon (interest rate) which is paid on the face value, payable at fixed time periods (usually half-yearly). The tenor of dated securities can be up to 30 years.

The Public Debt Office (PDO) of the Reserve Bank of India acts as the registry / depository of Government securities and deals with the issue, interest payment and repayment of principal at maturity.

Most of the dated securities are fixed coupon securities.

The nomenclature of a typical dated fixed coupon Government security contains the following features - coupon, name of the issuer, maturity and face value. For example, 7.49% GS 2017 would mean:

Coupon	7.49% paid on face value
Name of Issuer	Government of India
Date of Issue	April 16, 2007
Maturity	April 16, 2017
Coupon Payment Dates	Half-yearly (October 16 and April 16) every year
Minimum Amount of issue/ sale	Rs.10,000

In case, there are two securities with the same coupon and both are maturing in the same year, then one of the securities will have the month attached as suffix in the nomenclature.

For example, 6.05% GS 2019 FEB, would mean that Government security having coupon 6.05% that matures in February 2019 along with the other security with the same coupon, namely, 6.05% 2019 which is maturing in June 2019.

If the coupon payment date falls on a Sunday or a holiday, the coupon payment is made on the next working day. However, if the maturity date falls on a Sunday or a holiday, the redemption proceeds are paid on the previous working day itself.

Just as in the case of Treasury Bills, dated securities of both Government of India and State Governments are issued by Reserve Bank through auctions. The Reserve Bank announces the auctions a week in advance through press releases. Government Security auctions are also announced through advertisements in major dailies. The investors are thus, given adequate time to plan for the purchase of government securities through such auctions.

### **Fixed Rate Bonds**

These are bonds on which the coupon rate is fixed for the entire life of the bond. Most Government bonds are issued as fixed rate bonds.

For example – 8.24%GS2018 was issued on April 22, 2008 for a tenor of 10 years maturing on April 22, 2018. Coupon on this security will be paid half-yearly at 4.12% (half yearly payment being the half of the annual coupon of 8.24%) of the face value on October 22 and April 22 of each year.

### **Floating Rate Bonds**

Floating Rate Bonds are securities which do not have a fixed coupon rate. The coupon is re-set at pre-announced intervals (say, every six months or one year) by adding a spread over a base rate.

In the case of most floating rate bonds issued by the Government of India so far, the base rate is the weighted average cut-off yield of the last three 364- day Treasury bill auctions preceding the coupon re-set date and the spread is decided through the auction.

For example, a Floating Rate Bond was issued on July 2, 2002 for a tenor of 15 years, thus maturing on July 2, 2017. The base rate on the bond for the coupon payments was fixed at 6.50% being the weighted average rate of implicit yield on 364-day Treasury Bills during the preceding six auctions.

In the bond auction, a cut-off spread (markup over the benchmark rate) of 34 basis points (0.34%) was decided. Hence the coupon for the first six months was fixed at 6.84%.

### **Zero Coupon Bonds**

Zero coupon bonds are bonds with no coupon payments. Like Treasury Bills, they are issued at a discount to the face value. The Government of India issued such securities in the nineties; it has not issued zero coupon bonds after that.

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### **Capital Indexed Bonds**

These are bonds, the principal of which is linked to an accepted index of inflation with a view to protecting the holder from inflation. A capital indexed bond, with the principal hedged against inflation, was issued in December 1997. These bonds matured in 2002.

The government is currently working on a fresh issuance of Inflation Indexed Bonds wherein payment of both, the coupon and the principal on the bonds, will be linked to an Inflation Index (Wholesale Price Index).

In the proposed structure, the principal will be indexed and the coupon will be calculated on the indexed principal. In order to provide the holders protection against actual inflation, the final WPI will be used for indexation.

### **Bonds with Call / Put Options**

Bonds can also be issued with features of optionality wherein the issuer can have the option to buy-back (call option) or the investor can have the option to sell the bond (put option) to the issuer during the currency of the bond. 6.72%GS2012 was issued on July 18, 2002 for a maturity of 10 years maturing on July 18, 2012.

The optionality on the bond could be exercised after completion of five years' tenure from the date of issuance on any coupon date falling thereafter.

The Government has the right to buy back the bond (call option) at par value (equal to the face value) while the investor has the right to sell the bond (put option) to the Government at par value at the time of any of the half-yearly coupon dates starting from July 18, 2007.

### **Special Securities**

In addition to Treasury Bills and dated securities issued by the Government of India under the market borrowing programme, the Government of India also issues, from time to time, special securities to entities like Oil Marketing Companies, Fertilizer Companies, the Food Corporation of India, etc. as compensation to these companies in lieu of cash subsidies.

These securities are usually long- dated securities carrying coupon with a spread of about 20-25 basis points over the yield of the dated securities of comparable maturity.

These securities are, however, not eligible SLR securities but are eligible as collateral for market repo transactions.

The beneficiary oil marketing companies may divest these securities in the secondary market to banks, insurance companies / Primary Dealers, etc., for raising cash.

### **STRIPS**

Steps are being taken to introduce new types of instruments like STRIPS (Separate Trading of Registered Interest and Principal of Securities). STRIPS are instruments wherein each

cash flow of the fixed coupon security is converted into a separate tradable Zero Coupon Bond and traded. For example, when Rs.100 of the 8.24%GS2018 is stripped, each cash flow of coupon (Rs.4.12 each half year) will become coupon STRIP and the principal payment (Rs.100 at maturity) will become a principal STRIP. These cash flows are traded separately as independent securities in the secondary market.

STRIPS in Government securities will ensure availability of sovereign zero coupon bonds, which will facilitate the development of a market determined zero coupon yield curve (ZCYC).

STRIPS will also provide institutional investors with an additional instrument for their asset-liability management.

As STRIPS have zero reinvestment risk, being zero coupon bonds, they can be attractive to retail/non-institutional investors.

The process of stripping/reconstitution of Government securities is carried out at RBI, Public Debt Office (PDO) in the PDO-NDS (Negotiated Dealing System) at the option of the holder at any time from the date of issuance of a Government security till its maturity. All dated Government securities, other than floating rate bonds, having coupon payment dates on 2nd January and 2nd July, irrespective of the year of maturity, are eligible for Stripping/Reconstitution.

Eligible Government securities held in the Subsidiary General Ledger (SGL)/Constituent Subsidiary General Ledger (CSGL) accounts maintained at the PDO, RBI, Mumbai, are eligible for Stripping/Reconstitution. Physical securities shall not be eligible for stripping/reconstitution.

Minimum amount of securities that needs to be submitted for stripping/reconstitution will be Rs. 1 crore (Face Value) and multiples thereof

#### **State Development Loans (SDLs)**

State Governments also raise loans from the market. SDLs are dated securities issued through an auction similar to the auctions conducted for dated securities issued by the Central Government.

Interest is serviced at half-yearly intervals and the principal is repaid on the maturity date.

Like dated securities issued by the Central Government, SDLs issued by the State Governments qualify for SLR.

They are also eligible as collaterals for borrowing through market repo as well as borrowing by eligible entities from the RBI under the Liquidity Adjustment Facility (LAF).

The SDLs do not carry any credit risk. In this regard, they are similar to securities issued by the Government of India (GoI). This can also be seen from the fact that the risk weights

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assigned to the investments in SDLs by the commercial banks is zero for the calculation of CRAR under the Basel III.

### **How are the Government Securities issued?**

Government securities are issued through auctions conducted by the RBI. Auctions are conducted on the electronic platform called the NDS – Auction platform.

Commercial banks, scheduled urban co-operative banks, Primary Dealers, insurance companies and provident funds, who maintain funds account (current account) and securities accounts (SGL account) with RBI, are members of this electronic platform.

All members of PDO-NDS can place their bids in the auction through this electronic platform. All non-NDS members including non-scheduled urban co-operative banks can participate in the primary auction through scheduled commercial banks or Primary Dealers.

For this purpose, the urban co-operative banks need to open a securities account with a bank / Primary Dealer – such an account is called a Gilt Account. A Gilt Account is a dematerialized account maintained by a scheduled commercial bank or Primary Dealer for its constituent (e.g., a non-scheduled urban co-operative bank).

The RBI, in consultation with the Government of India, issues an indicative half-yearly auction calendar which contains information about the amount of borrowing, the tenor of security and the likely period during which auctions will be held.

A Notification and a Press Communique giving exact particulars of the securities, viz., name, amount, type of issue and procedure of auction are issued by the Government of India about a week prior to the actual date of auction.

### **What are the different types of auctions used for issue of securities?**

Prior to introduction of auctions as the method of issuance, the interest rates were administratively fixed by the Government. With the introduction of auctions, the rate of interest (coupon rate) gets fixed through a market based price discovery process. An auction may either be yield- based or price- based.

#### **Yield Based Auction**

A yield based auction is generally conducted when a new Government security is issued. Investors bid in yield terms up to two decimal places (for example, 8.19 per cent, 8.20 per cent, etc.). Bids are arranged in ascending order and the cut-off yield is arrived at the yield corresponding to the notified amount of the auction. The cut-off yield is taken as the coupon rate for the security. Successful bidders are those who have bid at or below the cut-off yield. Bids which are higher than the cut-off yield are rejected.

An illustrative example of the yield based auction is given below:

**Yield based auction of a new security**

Maturity Date: September 8, 2018

Coupon: It is determined in the auction (8.22% as shown in the illustration below) Auction date: September 5, 2008

Auction settlement date: September 8, 2008\*

Notified Amount: Rs.1000 crore

\* September 6 and 7 being holidays, settlement is done on September 8, 2008 under T+1 cycle.

**Details of bids received in the increasing order of bid yields**

Bid No.	Bid Yield	Amount of bid (Rs. crore)	Cumulative amount (Rs. Cr)	Price with coupon as 8.22%
1	8.19%	300	300	100.19
2	8.20%	200	500	100.14
3	8.20%	250	750	100.13
4	8.21%	150	900	100.09
5	8.22%	100	1000	100
6	8.22%	100	1100	100
7	8.23%	150	1250	99.93
8	8.24%	100	1350	99.87

The issuer would get the notified amount by accepting bids up to 5. Since the bid number 6 also is at the same yield, bid numbers 5 and 6 would get allotment pro-rata so that the notified amount is not exceeded. In the above case, each would get Rs. 500 crores. Bid Numbers 7 and 8 are rejected as the yields are higher than the cut-off yield.

**Price Based Auction**

A price based auction is conducted when Government of India re-issues securities issued earlier. Bidders quote in terms of price per Rs.100 of face value of the security (e.g., Rs.102.00, Rs.101.00, Rs.100.00, Rs.99.00, etc., per Rs.100/-). Bids are arranged in descending order and the successful bidders are those who have bid at or above the cut-off price. Bids which are below the cut-off price are rejected.

An illustrative example of price- based auction is given below:

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### Price based auction of an existing security 8.24% GS 2018

Maturity Date: April 22, 2018

Coupon: 8.24%

Auction date: September 5, 2008

Auction settlement date: September 8, 2008\* Notified Amount: Rs.1000 crore

\* September 6 and 7 being holidays, settlement is done on September 8, 2008 under T+1 cycle.

Details of bids received in the decreasing order of bid price				
Bid no.	Price of bid	Amount of bid (Rs. Cr)	Implicit yield	Cumulative amount
1	100.31	300	8.1912%	300
2	100.26	200	8.1987%	500
3	100.25	250	8.2002%	750
4	100.21	150	8.2062%	900
5	100.20	100	8.2077%	1000
6	100.20	100	8.2077%	1100
7	100.16	150	8.2136%	1250
8	100.15	100	8.2151%	1350

The issuer would get the notified amount by accepting bids up to 5. Since the bid number 6 also is at the same price, bid numbers 5 and 6 would get allotment in proportion so that the notified amount is not exceeded. In the above case each would get Rs. 50 crores. Bid numbers 7 and 8 are rejected as the price quoted is less than the cut-off price.

Depending upon the method of allocation to successful bidders, auction could be classified as **Uniform Price** based and **Multiple Price** based.

In a Uniform Price auction, all the successful bidders are required to pay for the allotted quantity of securities at the same rate, i.e., at the auction cut-off rate, irrespective of the rate quoted by them.

On the other hand, in a Multiple Price auction, the successful bidders are required to pay for the allotted quantity of securities at the respective price / yield at which they have bid. In the example under Price based auction above, if the auction was Uniform Price based, all bidders would get

allotment at the cut-off price, i.e., Rs.100.20. On the other hand, if the auction was Multiple Price based, each bidder would get the allotment at the price he/ she has bid, i.e., bidder 1 at Rs.100.31, bidder 2 at Rs.100.26 and so on.

An investor may bid in an auction under either of the following categories:

### **Competitive Bidding**

In a competitive bidding, an investor bids at a specific price / yield and is allotted securities if the price / yield quoted is within the cut-off price / yield. Competitive bids are made by well- informed investors such as banks, financial institutions, primary dealers, mutual funds, and insurance companies. The minimum bid amount is Rs. 10,000 and in multiples of Rs. 10,000 thereafter. Multiple bidding is also allowed, i.e., an investor may put in several bids at various price/ yield levels.

### **Non-Competitive Bidding**

With a view to providing retail investors, who may lack skill and knowledge to participate in the auction directly, an opportunity to participate in the auction process, the scheme of non-competitive bidding in dated securities was introduced in January 2002.

Non-competitive bidding is open to individuals, HUFs, RRBs, co-operative banks, firms, companies, corporate bodies, institutions, provident funds, and trusts.

Under the scheme, eligible investors apply for a certain amount of securities in an auction without mentioning a specific price / yield. Such bidders are allotted securities at the weighted average price / yield of the auction. In the illustration given under Price Based auction above, the notified amount being Rs.1000 crore, the amount reserved for non- competitive bidding will be Rs.50 crores (5 per cent of the notified amount as indicated below). Non-competitive bidders will be allotted at the weighted average price which is Rs.100.26 in the given illustration.

The participants in non-competitive bidding are, however, required to hold a gilt account with a bank or PD. Regional Rural Banks and co-operative banks which hold SGL and Current Account with the RBI can also participate under the scheme of non-competitive bidding without holding a gilt account.

In every auction of dated securities, a maximum of 5 per cent of the notified amount is reserved for such non-competitive bids. In the case of auction for Treasury Bills, the amount accepted for non-competitive bids is over and above the notified amount and there is no limit placed. However, non-competitive bidding in Treasury Bills is available only to State Governments and other select entities and is not available to the co- operative banks.

Only one bid is allowed to be submitted by an investor either through a bank or Primary Dealer.

For bidding under the scheme, an investor has to fill in an undertaking and send it along with the application for allotment of securities through a bank or a Primary Dealer. The minimum amount

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and the maximum amount for a single bid is Rs. 10,000 and Rs.2 crores respectively in the case of an auction of dated securities.

A bank or a Primary Dealer can charge an investor up to maximum of 6 paise per Rs.100 of application money as commission for rendering their services. In case the total applications received for non-competitive bids exceed the ceiling of 5 per cent of the notified amount of the auction for dated securities, the bidders are allotted securities on a pro-rata basis.

Non-competitive bidding scheme has been introduced in the State Government securities (SDLs) from August 2009. The aggregate amount reserved for the purpose in the case of SDLs is 10% of the notified amount (Rs.100 Crore for a notified amount of Rs.1000 Crore) and the maximum amount an investor can bid per auction is capped at 1% of the notified amount (as against Rs.2 Crore in Central Government securities). The bidding and allotment procedure is similar to that of Central Government securities.

### **Check Your Progress**

1. Describe the planning process involved in liquidity management.
2. Critically examine the liquidity planning in banks.
3. Discuss the importance of liquidity flow cycle.
4. Describe the components in liquidity flow cycle and their role in liquidity management.
5. Describe the utility of electronic cash management systems in banking.
6. What is hedging and what is its utility?
7. How are various hedging instruments priced?
8. In what way is the currency risk managed?
9. How is the interest rate risk managed?
10. Give an example of how liquidity and credit risk can go hand in hand.

**Choose the appropriate answers for the following questions from the options given below:**

1. Intra-day limit will generally be bigger than the overnight limit because:
  - (a) The systems are shut down during night times
  - (b) Dealers will be absent during night times
  - (c) Volatility is more during night times
  - (d) The dealers can cover deals in active day-time markets\*

## Treasury — Accounting

2. Overnight open position limits are now being computed as per the RBI directives on ....
  - (a) Consolidated basis
  - (b) Currency basis
  - (c) Approximate basis
  - (d) Net Present Value basis\*
3. Continuous Linked Settlement (CLS) is devised to handle .....

  - (a) Linkage risk
  - (b) Continuity risk
  - (c) Settlement risk\*
  - (d) Technology risk

4. Current exposure is a sum of the replacement cost and .....

  - (a) Market value
  - (b) Discounted value
  - (c) Future exposure
  - (d) Potential future exposure\*

5. The accreditation of forex brokers is done by .....

  - (a) International Divisions of Banks' Head Offices
  - (b) Brokers' Associations
  - (c) FEDAI\*
  - (d) None of the above

6. Classification of investment portfolio is necessary only for ----- and purposes  
**Ans.** Profit Accounting, Valuation
7. As per general principles of profit accounting, accrued interest when securities are sold is treated as-----  
**Ans.** Income
8. All investments in the HTM category will be valued at ----- cost.  
**Ans.** Acquisition

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9. T Bills are valued at -----.

**Ans.** Carrying Cost

10. Where a government of India security benchmark is used for a swap transaction ----- will be used for valuing a swap

**Ans:** Base- Yield Curve.

### **Tax on Derivatives**

At first, one may be inclined to treat currency derivatives in the same manner as commodity derivatives. However, currency derivatives are traded on stock exchanges in the same manner as security derivatives, and are not traded on commodity exchanges the way commodity derivatives are. Currency derivatives cannot be settled by physical delivery, but can only be cash-settled, in other words, settled by payment of differences. Given these differences, are currency derivatives to be treated for tax purposes in the same manner as security derivatives or as commodity derivatives are treated? Are the transactions of trading in currency derivatives to be regarded as speculative transactions?

Since the definition of speculative transaction refers to a contract for the purchase or sale of any commodity, including stocks and shares, the first issue which needs to be addressed is whether foreign currency is a commodity or not. There is an old decision of the Court of Appeals in England, where the court has taken the view that foreign currency is a commodity. The tribunal in India has followed this view in the context of other assets, though there is one tribunal decision which has taken the view that foreign currency is not a commodity.

The matter, therefore, seems to be slightly debatable, though the better view seems to be that currency is a commodity, since it has physical existence and can be the subject matter of trade. If that is the position, a currency derivative transaction would be covered by the main part of the definition of speculative transaction. Would it fall within any of the exceptions to that definition?

One of the exceptions is in relation to certain types of hedging transactions. This exception, however, applies to contracts in respect of raw materials or merchandise entered into by a person in the course of manufacturing or merchant business, to guard against loss through future price fluctuations in respect of contracts for the actual delivery of goods manufactured by him or merchandise sold by him. Currency derivatives transactions are certainly not contracts in respect of raw materials or merchandise and, therefore, this exception may not apply.

The definition of speculative transaction under the tax laws makes an exception for transactions in respect of trading in derivatives referred to in section 2(ac) of the Securities Contracts (Regulation) Act (SCRA) carried out on recognized stock exchanges. The larger issue, therefore, is whether a currency derivative is a derivative as defined under SCRA. Currency derivative transactions are carried out on stock exchanges, and not on commodity

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exchanges, and would, therefore, not be regarded as speculative transactions if they qualify as derivatives defined under SCRA.

### **Under security derivatives?**

The definition of derivatives under SCRA is fairly broad and would include all sorts of derivatives, and not just derivatives whose value is linked to underlying securities. In fact, even commodity derivatives would be derivatives as defined under SCRA, but for various reasons, commodity derivatives are not traded on stock exchanges but on commodity exchanges. The very fact that currency derivatives are traded on stock exchanges indicates that they are securities, one type of security being a derivative. Currency derivatives would, therefore, qualify for tax treatment in the same manner as security derivatives.

Accordingly, profit or loss derived from trading in currency derivatives would not be regarded as speculative income or loss, but would be treated in the same manner as any other business loss. Also, commodity derivatives trading losses or day trading losses, which are classified as speculation losses, cannot be set off against income from trading in currency derivatives, which is treated as regular income.

### **Are they business transactions?**

So far as the issue of whether transactions in currency derivatives constitute a business or not, since currency derivatives are normally cash settled and are not capable of physical settlement, and the life of currency derivatives does not exceed 12 months, generally, transactions in currency derivatives would be regarded as business transactions. This would be the position particularly where currency derivatives transactions are entered into as part of normal business transactions, such as to hedge business transactions.

Today, most transactions in currency derivatives are entered into by businesses for hedging purposes and, therefore, in such cases there is no doubt that the currency derivatives transactions would be treated as part of normal business transactions.

As business transactions, the derivatives could be marked to market at the year end, and losses, if any, recognized while computing business profits, with gains being ignored. There could, of course, be exceptional cases where the transactions are entered into by individuals and may not be related to the business, and one could perhaps classify them as income from other sources in such cases. In either case, the applicable tax rates would be the same.

With high volatility in the foreign exchange markets over the last couple of years, currency derivatives are risky products. Fortunately, the tax treatment of the income or losses from currency derivatives is not so risky!

Most of the Indian Taxpayers irrespective of their earnings through business, jobs, services, indulge in Share trading because it is the quickest way of earning handsome money. It is

therefore, necessary to know the taxation on the earning from share trading. But, before going into the taxation part, first it is important to understand what type of share trading activity you are indulging in, whether it is Taxable as Business Income or not.

Income from Futures & Options (F&O) is treated as income from business and profession under income tax act, 1961. Thus, any profit or loss arising from Futures & Options will be assessed under the head of Income from Business and Profession, irrespective of assessee being engaged in any other business or not. Since F&O income is treated as Normal Business Income and not speculative income, Rate of Tax shall be the same as normal rates applicable to an Individual.

Till assessment year 2005-06, the Income Tax Act, 1961 did not have any special provisions dealing with taxation of derivatives transactions in general and dealings in futures and options in particular, though derivatives contracts have been traded on Indian stock exchanges since 2000. The Finance Act 2005 has amended the provision to section 43(5), with effect from Assessment Year 2006-07, to provide that derivatives trading transactions would not be regarded as speculative transactions, subject to the fulfillment of certain conditions.

### **Whether Always Taxable as Business Income**

The most common issue that arises in taxation of derivatives transactions is whether derivatives transactions are always to be regarded as business transactions.

It is true that in most cases, derivatives transactions would be regarded as business transactions on account of the following factors:

1. The purpose behind entering into most derivatives transactions is to profit from short-term fluctuations in market prices.
2. The period of any derivatives transaction cannot exceed 3 months, and such transactions are invariably short-term transactions.
3. Often, the sheer volume of trades in derivatives transactions entered into by a person on an ongoing basis indicates that it amounts to a business.
4. Many people who trade in derivatives may be associated with the stock market in some way or the other—they may be stock brokers or their employees, or regular day traders. For such people, derivatives trading are an extension of their normal business activities.

However, the issue of whether an activity amounts to a business or not depends upon various factors, and is not decided just because of the existence or absence of any one circumstance. There can be situations where derivatives transactions may not amount to business.

For instance, derivatives transactions may be carried on by an investor to hedge his investment portfolio. In such a case, the mere fact that the investor had to square up his derivatives position every 3 months and take up a fresh position, or pay mark-to-market on a

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daily basis, would not detract from the fact that the prime purpose of such transactions was to preserve the value of the investment portfolio.

Another common practice in the stock markets is arbitrage between the cash market and the futures market. It is a well known fact that the difference in prices between the futures market and the cash market is primarily dictated by the short-term interest rates, and such difference is normally equivalent to the interest that one would earn on short-term lending. Therefore, a person having surplus funds may buy shares in the cash market, while simultaneously selling an equal amount of futures of the same share in the futures market. He would take delivery of the shares bought in the cash market. On maturity of the futures, the shares bought in the cash market would be sold in the cash market. Since the futures would be squared off at the cash market price, the profit on the transaction would normally consist mainly of the difference between the initial purchase price in the cash market and the initial sale price in the futures market, with small adjustments for expenses such as brokerage, securities transaction tax, service tax and the market spread between the buying and selling quotes in the cash market.

Are such arbitrage transactions business transactions, or are they really in the nature of interest seeking transactions? If one looks at the substance of these transactions, they are not motivated by a desire to earn profits, but just to avail of the benefit of the short-term interest rates. There are just two legs of the transaction—the purchase and futures sale, and the expiry of futures and cash sale. The income element in the transactions is determined right at the outset, and does not fluctuate to any material extent, even if there is substantial volatility in the market.

It may, however, be noted that other factors, such as frequency of transactions, nature of other business carried on, etc., would also determine whether such transactions are business transactions or not.

### **If not Business Income, under which Head are derivatives transactions to be computed?**

The question arises that in a situation where derivatives transactions are not business transactions, under which head of income should such transactions be considered?

The answer to this question would partly depend upon the substance of the transactions. If the transactions are in the nature of interest-seeking transactions, then going by the substance of the transactions, the income from such transactions may be considered as interest.

But if the transactions are in the nature of hedging of investments, how would they be taxed? A derivative, being a security and a right under a contract, is certainly a valuable right, which is capable of being assigned. The right under the derivatives contract can, therefore, certainly be regarded as property, and, therefore, as a capital asset.

The issue which arises is – is there a transfer of the capital asset? When the transaction is squared up by an opposite corresponding transaction, there is certainly a transfer. But in cases where the squaring up is on expiry of the contract, can a transfer be said to have taken place? Considering the definition of “transfer” in section 2(47), the expiry of such a contract can possibly be regarded as an extinguishment of the rights in the asset. As held by the Supreme Court in the case of CIT vs. Grace Collis 248 ITR 323, the definition of “transfer” in section 2(47) clearly contemplates the extinguishment of the rights in a capital asset distinct and independent of such extinguishment consequent upon the transfer itself. A view is therefore possible that on expiry of the derivatives, there is a transfer of the capital asset. The gains or losses arising from such derivatives would accordingly be taxable under the head “Capital Gains”.

Though such income would be taxable under the head “Capital Gains”, and the derivatives transactions would be subject to Securities Transaction tax, such gains would not be entitled to the concessional tax treatment for short-term capital gains under section 111A, since the benefit of that section is available only to equity shares in a company or a unit of an equity oriented mutual fund.

If derivatives transactions are business transactions, the question then arises as to what constitutes the turnover in derivatives transactions for the purposes of section 44AB or for other purposes?

In the case of futures, the purchases of futures are not recorded as a purchase in the books of account, nor are the sale of futures recognized as a sale. Only the initial margin and mark-to-market margins are recorded as and when paid, and the profit or loss on the futures transaction is recorded as an income/expense on squaring up of the transaction or on expiry of the futures contract.

The margin paid is certainly not the turnover, and neither can the futures sale be regarded as a sale in the light of such accounting treatment. At best, only the difference (profit or loss on the futures transaction) can be regarded as turnover.

The question then is—should one net off the profits and losses and is only the net profit or loss to be regarded as the turnover? This does not appear to be proper, as the net profit or loss would not reflect a measure of the actual volume of transactions. It should be the gross differences which would constitute turnover, and not the net differences. The scrip wise gross differences for each maturity should be determined, the negative signs of the losses within scrip of each maturity ignored and such losses grossed up with the gains to compute the turnover.

In the case of options, only the premium and margins paid are reflected in the books of account at the inception of and during the currency of the option. The strike prices of the margins do not get reflected in the books of account, except for the limited purpose of identifying different sets of options.

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On the squaring up or expiry of the options, the value of the option on sale or maturity is received or paid, and the profit/loss on the options accounted for. There is a view that such value of the options on squaring up/maturity would constitute the turnover in case of options, though the better view seems to be that it would be the gross differences, as in the case of futures that would constitute the turnover.

### **Financial Transaction Tax**

A **financial transaction tax** is a levy placed on a specific type of monetary transaction for a particular purpose. The concept has been most commonly associated with the financial sector; it is not usually considered to include consumption taxes paid by consumers.

A transaction tax is not a levy on financial institutions per se; rather, it is charged only on the specific transactions that are designated as taxable. So if an institution never carries out the taxable transaction, then it will never be subject to the transaction tax. Furthermore, if an institution carries out only one such transaction, then it will only be taxed for that one transaction. As such, this tax is neither a financial activities tax (FAT), nor a Financial stability contribution (FSC), or "Bank Tax", for example. This clarification is important in discussions about using a financial transaction tax as a tool to selectively discourage excessive speculation without discouraging any other activity (as John Maynard Keynes originally envisioned it in 1936).

There are several types of financial transaction taxes. Each has its own purpose. Some have been implemented, while some are only proposals. Concepts are found in various organizations and regions around the world. (Some are domestic and meant to be used within one nation; whereas some are multinational. In 2011 there were 40 countries that made use of FTT, together raising \$38 billion (€29bn)).

### **Types of Financial Transaction Taxes**

Transaction taxes can be raised on the sale of specific financial assets, such as stocks, bonds or futures; they can be applied to currency exchange transactions; or they can be general taxes levied against a mix of different transactions.

#### **(a) Securities transaction tax**

John Maynard Keynes was among the first proponents of a securities transaction tax. In 1936, he proposed that a small tax should be levied on dealings on Wall Street in the United States, where he argued that excessive speculation by uninformed financial traders increased volatility. For Keynes, the key issue was the proportion of 'speculators' in the market, and his concern that, if left unchecked, these types of players would become too dominant. Keynes writes: "The introduction of a substantial Government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise in the United States. (1936:159–60)"

**(b) Currency transaction tax**

A currency transaction tax is a tax placed on a specific type of currency transaction for a specific purpose. This term has been most commonly associated with the financial sector, as opposed to consumption taxes paid by consumers. The most frequently discussed versions of a currency transaction tax are the Tobin tax and Spahn Tax.

**(c) Tobin tax**

In 1972, the economist James Tobin proposed a tax on all Spot Conversions of one currency into another. The so-called Tobin Tax is intended to put a penalty on short-term financial round-trip excursions into another currency. Tobin suggested his currency transaction tax in 1972 in his Janeway Lectures at Princeton, shortly after the Bretton Woods System effectively ended. In 2001, James Tobin looked back at the 1994 Mexican peso crisis, the 1997 Asian Financial Crisis, and the 1998 Russian Financial Crisis, and said: "[My proposed] tax [idea] on foreign exchange transactions... dissuades speculators as many investors invest their money in foreign exchange on a very short-term basis. If this money is suddenly withdrawn, countries have to drastically increase interest rates for their currency to still be attractive. But high interest is often disastrous for a national economy, as the nineties' crises in Mexico, South East Asia and Russia have proven...."

**(d) Spahn tax**

Paul Bernd Spahn opposed the original form of a Tobin Tax in a Working Paper *International Financial Flows and Transactions Taxes: Survey and Options*, concluding "...the original Tobin tax is not viable. First, it is virtually impossible to distinguish between normal liquidity trading and speculative noise trading. If the tax is generally applied at high rates, it will severely impair financial operations and create international liquidity problems, especially if derivatives are taxed as well." However, on 16 June 1995 Spahn suggested that "Most of the difficulties of the Tobin tax could be resolved, possibly with a two-tier rate structure consisting of a low-rate financial transactions tax and an exchange surcharge at prohibitive rates." This new form of tax, the Spahn Tax, was later approved by the Belgian Federal Parliament in 2004.

**(e) Special Drawing Rights**

On 19 September 2001, retired speculator George Soros put forward a proposal, issuing Special Drawing Rights (SDR) that the rich countries would pledge for the purpose of providing international assistance and the alleviation of poverty and other approved objectives. According to Soros, this could make a substantial amount of money available almost immediately. In 1997, IMF member governments agreed to a one-time special allocation of SDRs, totaling approximately \$27.5 billion. This is slightly less than 0.1% of the global GDP. Members having 71% of the total vote needed for implementation have already ratified the decision. All it needs is the approval of the United States Congress. If the scheme is successfully tested, it could be followed by an annual issue of SDRs and the amounts could

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be scaled up "so that they could have a meaningful impact on many of our most pressing social issues."

### **(f) Bank transaction tax**

Between 1982 and 2002, Australia charged a bank account debit tax on customer withdrawals from bank accounts with a cheque facility. Some Latin American countries also experimented with taxes levied on bank transactions. Argentina introduced a bank transaction tax in 1984 before it was abolished in 1992. Brazil implemented its temporary "CPMF" in 1993, which lasted until 2007. The broad-based tax levied on all debit (and/or credit) entries on bank accounts proved to be evasion-proof, more efficient and less costly than orthodox tax models.

### **(g) Automated payment transaction tax**

In 1989, Edgar L. Feige proposed a synthesis and extension of the ideas of Keynes and Tobin by proposing a flat rate tax on all transactions. The total volume of all transactions undertaken in an economy represents the broadest possible tax base and, therefore, requires the lowest flat tax rate to raise any requisite amount of revenue. Since financial transactions in stocks, bonds, international currency transactions and derivatives comprise most of the automated payment transaction (APT) tax base, it is in essence the broadest of financial transaction taxes. Initially proposed as a revenue neutral replacement for the entire Federal tax system of the United States, it could alternatively be considered as a global tax whose revenues could be used by national governments to reduce existing income, corporate and VAT tax rates as well as reducing existing sovereign debt burdens. If it is adopted by all of the developed nations, it would have the advantage of eliminating all incentives for substitution between financial assets and between financial centers since all transactions would universally be taxed at the identical flat tax rate.

## **Banking Services Tax**

Banking and financial services are subject to the levy of service tax in more than one form. While only specific services were taxed prior to 1.7.2012, all such services are taxable now barring those which are in the negative list.

### **Taxable services in relation to banking services (W.e.f. 1.09.2004 and Prior to 1.7.2012)**

#### **(i) Banking & other financial services [Section 65(12), 65(105)(zzk)]**

Taxable services meant any service provided or to be provided to any person, by a banking company or a financial institution including a non- banking financial company, or any other body corporate or commercial concern, in relation to banking and other financial services.

**(ii) Foreign exchange broker [Section 65(46), 65(105)(zzk)]**

Taxable services meant any service provided or to be provided to any person, by a foreign exchange broker, including an authorised dealer in foreign exchange or an authorised money changer, other than a banking company or a financial institution including a non-banking financial company, or any other body corporate or commercial concern referred to in sub-clause (zm).

**(iii) Credit card, debit card, charge card or other payment card related services [Section 65 (33a), 65(105)(zzzw)]**

Taxable service meant any service provided or to be provided to any person, by any other person, in relation to credit card, debit card, charge card or other payment card service, in any manner.

*Taxable services in relation to banking services (w.e.f. 1.7.2012):* W.e.f.1.07.2012, all services, other than services specified in the negative list, provided or agreed to be provided in the taxable territory by a person to another would be taxed under section 66B. Service has been defined in clause (44) of the new section 65B and means –

- any activity
- for consideration
- carried out by a person for another
- and includes a declared service.

In short, service means —

- any activity
- carried out by a person for another
- for consideration includes declared service but does not include
- transfer in title of goods or immovable property
- transaction in money or actionable claim
- provisions of service by employee to employer
- deemed sale of goods
- duties performed by MP/ MLA/ Members of Municipal Corporation, Panchayats or Local authorities/ person holding constitutional posts.

Since all banking companies including cooperative banks satisfy all the conditions of 'service', their services shall be taxable, subject to provisions of the service tax law.

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### **Point of Taxation Rules, 2011**

Point of taxation means the point in time when a service shall be deemed to have been provided. Rule 3 is a general rule and applies in all the situations for which no specific rules are prescribed.

#### **Rule 3 – general rule**

According to Rule 3, point of taxation is the date of invoice or payment, whichever is earlier, if the invoice is issued within 30 days from the date of completion of service. Date of completion of provision of service or payment, whichever is earlier, if the invoice is not issued within 30 days. But in the case of a banking company, NBFC or financial institution, the time limit is 45 days instead of 30 days.

#### **Negative list of services**

Meaning of negative list (clause 34 of section 65B/ section 66D)

Negative list has been defined under clause 34 of section 65B and such services are specified in section 66D of the Finance Act, 1994, as introduced by the Finance Act, 2012. Negative list of services would mean the services specified in section 66D which specifies seventeen broad categories of services.

Only the following negative list entry is relevant for banks –

(n) Services by way of—

- (i) extending deposits, loans or advances insofar as the consideration is represented by way of interest or discount;
- (ii) inter se sale or purchase of foreign currency amongst banks or authorised dealers of foreign exchange or amongst banks and such dealers.

#### **Interest**

Interest has been defined in section 65B (30) of the Finance Act, 1994 as under-

‘interest’ means interest payable in any manner in respect of any money borrowed or debt incurred (including a deposit, claim or other similar right or obligation) but does not include any service fee or other charge in respect of the moneys borrowed or debt incurred or in respect of any credit facility which has not been utilized.

It should only be in the form of interest and does not include any service charge, fee or other charge, by whatever name called. For example, processing charges, pre-payment fee, late fee, cheque bounce charges etc., will not be called interest.

Such 'interest' has to be paid or received in relation to

- Money borrowed
- Debt incurred
- Deposit
- Claim or other similar right or obligation

Any charges or amounts collected over and above the interest or discount amounts would represent taxable consideration. Invoice discounting or cheque discounting or any other similar form of discounting is covered only to the extent consideration is represented by way of discount; as such, discounting is nothing else but a manner of extending a credit facility or a loan.

### **Authorised dealer**

'Authorised dealer of foreign exchange' is defined in section 2(c) of Foreign Exchange Management Act, 1999. Authorised dealer of foreign exchange has been defined to have the meaning under section 2(c) of Foreign Exchange management Act, who deals in foreign exchange to carry out certain transactions in foreign exchange.

The authorised dealer should be a person authorised by the Reserve Bank of India and must have obtained a licence to deal in foreign exchange. An authorised dealer may be a person or a firm or a juristic person. Authorised person means an authorised dealer, moneychanger, offshore banking unit or any other person who deals in foreign exchange or foreign currency or foreign securities. Thus, such person must be authorised by the Reserve Bank of India to act as such.

Services provided by banks or authorised dealers of foreign exchange by way of sale of foreign exchange to general public will not be covered in this entry. This entry only covers sale and purchase of foreign exchange between banks or authorised dealers of foreign exchange or between banks and such dealers.

The negative list entry covers any such service wherein moneys due are allowed to be used or retained on payment of interest or on a discount. The words used are 'deposits, loans or advances', and have to be taken in the generic sense.

They would cover any facility by which an amount of money is lent or allowed to be used or retained on payment of what is commonly called the time value of money which could be in the form of an interest or a discount. This entry would not cover investments by way of equity or any other manner where the investor is entitled to a share of profit.

Illustrations of services covered in negative list could be as follows :

- Fixed deposits or saving deposits or any other such deposits in a bank for which return is received by way of interest.

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- Providing a loan or overdraft facility or a credit limit facility in consideration of payment of interest.
- Mortgages or loans with a collateral security to the extent that the consideration for advancing such loans or advances are represented by way of interest.
- Corporate deposits to the extent that the consideration for advancing such loans or advances is represented by way of interest or discount.

### **Repos/ reverse repos**

Repos and reverse repos are financial instruments of short term call money market that are normally used by banks to borrow from or lend money to the RBI. The margins, called the repo rate or reverse repo rate, in such transactions are nothing but interest charged for lending or borrowing of money. Thus, they have the characteristics of loans and deposits for interest. However, they are more appropriately excluded from the definition of service itself, being the sale and purchase of securities, which are goods.

### **Commercial paper ('CP') and certificate of deposit ('CD')**

Commercial paper ('CP') and certificate of deposit ('CD') are instruments for lending or borrowing money, wherein consideration is represented by way of a discount issue or subscription to CPs or CDs; these would be covered in the negative list entry relating to 'services by way of extending deposits, loans or advances insofar as consideration is represented by way of interest or discount'. It may also be borne in mind that promissory note is included in the definition of money in the Act as given in clause (33) of section 65B.

However, if some service charges or service fees or documentation fees or broking charges or such like fees or charges are charged, the same would be consideration for provision of service and chargeable to service tax.

### **Credit cards**

In case of a credit card, issuing entity allows the facility of payment of the purchases made by the cardholder within a specified period failing which some charges are levied. The question that arises is whether the credit so extended for this payment is in the nature of a loan or advance for interest.

Interest for delayed payment of any consideration for the sale of goods or provision of service has been specifically excluded from value by rule 6 of valuation rules. Thus, ordinarily, any interest charged for delayed payment of consideration would be outside the gambit of service tax.

However, in the case of credit cards, the credit extended is not for the delayed payment of consideration for the provision of services; the services in the case of the credit card are by

way of levy of issuing charges or the commission charged from merchants etc. The interest in this case is not for the consideration for the use of the card. Thus, the benefit under the valuation rules will not be available to credit card companies.

The other question is whether such credit extended will amount to loans or advances. Loans and advances are meant to signify amounts contractually negotiated as such (loan or advance) and not merely failure to pay an amount at the due date. The exorbitant charges have also no relationship with the prevailing interest for the same class of creditworthiness, and are in the nature of consideration for the services rendered for using the convenience of using the services by way of a credit card and hence taxable.

## Exempted services

Apart from services mentioned under negative list, there are specific exemptions under Notification No. 25/2012-ST dated 20.06.2012.

However, no specific exemption relating to banks/ banking services are covered under the said mega exemption notification.

## Registration by banks

All the branches or offices of the bank, from where services are provided, are required to get registered under service tax. It could be by way of taking centralized registration or separate registration for each branch.

The following are the few suggested service categories under which banks generally take registration. However, it may vary from bank to bank according to their sources of income and expenses.

*As service provider,*

- (i) Banking and other financial services
- (ii) Renting of immovable property services
- (iii) Other taxable services [Services other than the 119 listed] (e.g. Director's sitting fee)

*Under reverse charge*

- (i) Legal services
- (ii) Sponsorship services

## Specific provision for banks/ NBFCs for Cenvat credit

According to rule 6(3B) of Cenvat Credit Rules, a banking company and a financial institution including a non-banking financial company engaged in providing services by way of extending

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deposits, loans or advances shall pay for every month an amount equal to fifty percent of the Cenvat credit availed on inputs and input services in that month.

### Banking and Other Financial Services

**(A) Date of Introduction:**

16.07.2001 (Notification No. 4/2001-S.T. dated 09.07.2001)

**(B) Definition and scope of service:**

**"Taxable Service"** means any service provided or to be provided to any person, by a banking company or a financial institution including a non-banking financial company or any other body corporate or commercial concern, in relation to banking and other financial services;

[Section 65 (105) (zm) of Finance Act, 1994 as amended]

**"Authorized Dealer of Foreign Exchange"** has the meaning assigned to "authorized person" in clause (c) of Section 2 of the Foreign Exchange Management Act, 1999 (42 of 1999);

[Section 65(8) of Finance Act, 1994 as amended]

**"Banking"** has the meanings assigned to it in clauses (b) of section 5 of the Banking Regulation Act, 1949 (10 of 1949),

[Section 65 (10) of Finance Act, 1994 as amended]

**"Banking Company"** shall have the meanings assigned to it in clauses (a) of section 45 A of the Reserve Bank of India Act, 1934 (2 of 1934);

[Section 65 (11) of Finance Act, 1994 as amended]

**"Banking and Other Financial Services"** means -

(a) The following services provided by a banking company or a financial institution including a non-banking financial company or any other body corporate or [commercial concern]\*, namely:-

(i) financial leasing services including equipment leasing and hire-purchase;

*Explanation.*-For the purposes of this item, "financial leasing" means a lease transaction where-

(i) Contract for lease is entered into between parties for leasing of a specific asset;

(ii) Such contract is for use and occupation of the asset by the lessee;

(iii) The lease payment is calculated so as to cover the full cost of the asset together with the interest charges; and

- (iv) The lessee is entitled to own, or has the option to own, the asset at the end of the lease period after making the lease payment;
  - (ii) Omitted
  - (iii) Merchant banking services;
  - (iv) Securities and foreign exchange (forex) broking, and purchase or sale of foreign currency, including money changing;
  - (v) Asset management including portfolio management, all forms of fund management, pension fund management, custodial, depository and trust services,
  - (vi) Advisory and other auxiliary financial services including investment and portfolio research and advice, advice on mergers and acquisitions and advice on corporate restructuring and strategy;
  - (vii) Provision and transfer of information and data processing;
  - (viii) Banker to an issue services; and
  - (ix) Other financial services, namely, lending, issue of pay order, demand draft, cheque, letter of credit and bill of exchange, transfer of money including telegraphic transfer, mail transfer and electronic transfer, providing bank guarantee, overdraft facility, bill discounting facility, safe deposit locker, safe vaults, operation of bank accounts;"
- (b) foreign exchange broking and purchase or sale of foreign currency including money changing provided by a foreign exchange broker or an authorized dealer in foreign exchange or an authorized money changer, other than those covered under sub-clause (a);

[*Explanation:* - For the purposes of this clause, it is hereby declared that "purchase or sale of foreign currency, including money changing" includes purchase or sale of foreign currency, whether or not the consideration for such purchase or sale, as the case may be, is specified separately;]

[Section 65 (12) of Finance Act, 1994 as amended]

**"Body Corporate"** has the meaning assigned to it in clause (7) of Section 2 of the Companies Act, 1956 (1 of 1956);

[Section 65 (14) of Finance Act, 1994 as amended]

**"Financial Institution"** has the meaning assigned to it in clause (c) of section 45-I of the Reserve Bank of India Act, 1934 (2 of 1934);

[Section 65 (45) of Finance Act, 1994 as amended]

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**"Non-Banking Financial Company"** has the meaning assigned to it in clause (f) of section 45-I of the Reserve Bank of India Act, 1934 (2 of 1934);

[Section 65 (74) of Finance Act, 1994 as amended]

### **(C) Rate of Tax & Accounting Code:**

Particulars	Rate of Tax	Accounting Code
Service Tax	10% of the value of services	00440173
Education Cess	2% of the service tax payable	00440298
Secondary and Higher Education cess	1% of the service tax payable.	00440426
Other -Penalty/interest	As levied or applicable	00440174

**(Rate of tax is effective from 24.02.2009.)**

### **(D) Classification of Taxable Services:**

(1) The classification of taxable services shall be determined according to the terms of the sub-clauses (105) of section 65;

(2) When for any reason , a taxable service is prima facie, classifiable under two or more sub-clauses of clause (105) of section 65, classification shall be effected as follows :-

- (a) The sub-clause which provides the most specific description shall be preferred to sub-clauses providing a more general description;
- (b) Composite services consisting of a combination of different services which cannot be classified in the manner specified in clause (a), shall be classified as if they consisted of a service which gives them their essential character, in so far as this criterion is applicable;
- (c) When a service cannot be classified in the manner specified in clause (a) or clause (b), it shall be classified under the sub-clause which occurs first among the sub-clauses which equally merits consideration.

### **(Sec.65A of Finance Act, 1994)**

#### **(E) Valuation of taxable services for charging Service tax**

- (1) Service tax chargeable on any taxable service with reference to its value shall,-
  - (i) in a case where the provision of service is for a consideration in money, be the gross amount charged by the service provider for such service provided or to be provided by him;

- (ii) in a case where the provision of service is for a consideration not wholly or partly consisting of money, be such amount in money, with the addition of service tax charged, is equivalent to the consideration;
  - (iii) in a case where the provision of service is for a consideration which is not ascertainable, be the amount as may be determined in the prescribed manner.
- (2) Where the gross amount charged by a service provider, for the service provided or to be provided is inclusive of service tax payable, the value of such taxable service shall be such amount as, with the addition of tax payable, is equal to the gross amount charged.
- (3) The gross amount charged for the taxable service shall include any amount received towards the taxable service before, during or after provision of such service.
- (4) Subject to the provisions of sub-sections (1), (2) and (3), the value shall be determined in such manner as may be prescribed.

*Explanation.*-For the purposes of this section,-

- (a) "Consideration" includes any amount that is payable for the taxable services provided or to be provided;
- (b) "money" includes any currency, cheque, promissory note, letter of credit, draft, pay order, travellers cheque, money order, postal remittance and other similar instruments but does not include currency that is held for its numismatic value;
- (c) "gross amount charged" includes payment by cheque, credit card, deduction from account and any form of payment by issue of credit notes or debit notes and 'book adjustment, and any amount credited or debited, as the case may be, to any account, whether called "Suspense account" or by any other name, in the books of account of a person liable to pay service tax, where the transaction of taxable service is with any associated enterprise.

**(Sec.67 of Finance Act, 1994)**

Inclusion in or Exclusion from value of certain expenditure or cost:

- (1) Where any expenditure or costs are incurred by the service provider in the course of providing taxable service, all such expenditure or costs shall be treated as consideration for the taxable service provided or to be provided and shall be included in the value for the purpose of charging service tax on the said service.

[Rule 5(1) of Service Tax (Determination of Value) Rules, 2006]

- (2) The expenditure or costs incurred by the service provider as a pure agent of the recipient of service shall be excluded from the value of the taxable service if all the following conditions are satisfied, namely:-

- (i) The service provider acts as a pure agent of the recipient of service when he makes payment to third party for the goods or services procured;

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- (ii) The recipient of service receives and uses the goods or services so procured by the service provider in his capacity as pure agent of the recipient of service;
- (iii) The recipient of service is liable to make payment to the third party;
- (iv) The recipient of service authorizes the service provider to make payment on his behalf;
- (v) The recipient of service knows that the goods and services for which payment has been made by the service provider shall be provided by the third party;
- (vi) The payment made by the service provider on behalf of the recipient of service has been separately indicated in the invoice issued by the service provider to the recipient of service;
- (vii) The service provider recovers from the recipient of service only such amount as has been paid by him to the third party; and
- (viii) The goods or services procured by the service provider from the third party as a pure agent of the recipient of service are in addition to the services he provides on his own account.

[Rule 5(2) of Service Tax (Determination of Value) Rules, 2006]

### **(F) Clarifications issued by the Board:**

The Board vide Circular No.96/7/2007-ST dated 23.08.2007 on these services has clarified the following issues-

034.03 / 23.08.07	Whether depository services and Electronic Access to Securities Information (EASI) services provided by Central Depository Services (India) Ltd., (CDSL) is liable to service tax under Banking and other Financial Services[section 65(105)(zm)]?	Definition of "Banking and other Financial Services" specifically includes "provision and transfer of information and data processing [section 65(12)(a)(vii)]". Services provided by CDSL fall within the scope of "provision and transfer of information and data processing". These services are not in the nature of "on-line information and data base access or retrieval services". Therefore, the depository services provided by CDSL including Electronic Access to Securities
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Treasury — Taxation

		<p>Information (EASI) for a fee are liable to service tax under Banking and other Financial Services. [section 65(105)(zm)] Definition of "Banking and other Financial Services" specifically includes "provision and transfer of information and data processing [section 65(12)(a)(vii)]". Services provided by CDSL falls within the scope of "provision and transfer of information and data processing". These services are not in the nature of "on-line information and data base access or retrieval services". Therefore, the depository services provided by CDSL including Electronic Access to Securities Information (EASI) for a fee are liable to service tax under Banking and other Financial Services. [section 65(105)(zm)]</p>
<p>034.04 / 23.8.07</p>	<p>Services provided by banking company or a financial institution including a non-banking financial company or any other body corporate or commercial concern in relation to asset management including portfolio management, and all forms of fund management, were leviable to service tax under "banking and other financial services" [section 65(105)(zm) and section 65(12)]. The said taxable service also includes cash management services provided.</p> <p>Services are provided in relation to chit funds. Chit Funds are of two types, namely:-</p>	<p>Reserve Bank of India has clarified that the business of a chit fund is to mobilize cash from the subscribers and effectively cause movement of such cash to keep it working and, therefore, the activity of chit funds is in the nature of cash management.</p>

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	<p>(a) <u>Simple Chit Funds</u>: In this case, members agree to contribute to the fund a certain amount at regular interval. Lots are drawn periodically and the member, whose name appears, gets the periodical collection. No separate amount is charged from the members.</p> <p>(b) <u>Business Chit Funds</u>: In this case, there is a promoter known as foreman who draws up the terms and conditions of the scheme and enrolls subscribers. Every subscriber has to pay his subscription in regular installments. The foreman charges a separate amount for the services provided. Some States prescribe a ceiling limit for the amount to be charged by such promoter for the services provided. Commission amount is retained by the promoter as consideration for providing the services in relation to chit fund.</p> <p>Whether services provided in relation to chit fund are leviable to service tax under "banking and other financial services" or not ?</p>	<p>(a) In the case of Simple Chit Funds, no consideration is paid or received for the services provided and, therefore, the question of levy of service tax does not arise.</p> <p>(b) In the case of Business Chit Funds, cash management service is provided for a consideration and, therefore, leviable to service tax under "banking and other financial services".</p>
034.01 / 23.8.07	<p>Moneychangers are persons authorized under section 7 of Foreign Exchange Management Act, 1973 to deal in foreign currency. Explanation given under Section 7 of the said Act states that 'dealing' means purchasing foreign currency in the form of notes, coins or traveller's cheques or selling foreign currency in the form of notes, coins or traveller's cheques.</p> <p>Whether services provided by a money changer in relation to dealing of foreign currency (buying or selling), at specified rates, without separately charging any amount as commission for such dealing, is liable to service tax as foreign exchange broking under 'banking and other financial services' [section 65(105) (zm)] ?</p>	<p>Moneychangers are authorized by RBI to buy and sell foreign exchange at the prevalent market rates. Buying or selling of foreign exchange by such persons without separately charging any amount as commission or brokerage does not fall within the scope of foreign exchange broking and is not liable to service tax under section 65(105)(zm).</p>

034.02 / 23.8.07	'Asset management and all other forms of fund management' are liable to service tax under 'banking and other financial service' [section 65(12)].  Whether the amount charged as 'entry and exit load' from the investor by a mutual fund is liable to service tax as asset / fund management services under banking and other financial services [section 65(105)(zm)]?	Entry load and exit load charged by a mutual fund are not for the purpose of management of assets. Thus, amount charged as "entry and exit load" are not to be treated as consideration received by an Asset Management Company for asset management and hence not liable to service tax under Banking and other Financial service [section 65(105)(zm)].
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**(G) Exemption & Exclusion:**

**1. Exemption to Small Scale Service Providers:** In exercise of the powers conferred by sub-section (1) of section 93 of the Finance Act, 1994 (32 of 1994) (hereinafter referred to as the said Finance Act), the Central Government, on being satisfied that it is necessary in the public interest so to do, hereby exempts taxable services of aggregate value not exceeding **ten lakh** rupees in any financial year from the whole of the service tax leviable thereon under section 66 of the said Finance Act:

Provided that nothing contained in this notification shall apply to,-

- (i) taxable services provided by a person under a brand name or trade name, whether registered or not, of another person; or
- (ii) such value of taxable services in respect of which service tax shall be paid by such person and in such manner as specified under sub-section (2) of section 68 of the said Finance Act read with Service Tax Rules, 1994.

2. The exemption contained in this notification shall apply subject to the following conditions, namely:-

- (i) the provider of taxable service has the option not to avail the exemption contained in this notification and pay service tax on the taxable services provided by him and such option, once exercised in a financial year, shall not be withdrawn during the remaining part of such financial year;
- (ii) the provider of taxable service shall not avail the CENVAT credit of service tax paid on any input services, under rule 3 or rule 13 of the CENVAT Credit Rules, 2004 (herein

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after referred to as the said rules), used for providing the said taxable service, for which exemption from payment of service tax under this notification is availed of;

- (iii) the provider of taxable service shall not avail the CENVAT credit under rule 3 of the said rules, on capital goods received in the premises of provider of such taxable service during the period in which the service provider avails exemption from payment of service tax under this notification;
- (iv) the provider of taxable service shall avail the CENVAT credit only on such inputs or input services received, on or after the date on which the service provider starts paying service tax, and used for the provision of taxable services for which service tax is payable;
- (v) the provider of taxable service who starts availing exemption under this notification shall be required to pay an amount equivalent to the CENVAT credit taken by him, if any, in respect of such inputs lying in stock or in process on the date on which the provider of taxable service starts availing exemption under this notification;
- (vi) the balance of CENVAT credit lying unutilised in the account of the taxable service provider after deducting the amount referred to in sub-paragraph (v), if any, shall not be utilized in terms of provision under sub-rule (4) of rule 3 of the said rules and shall lapse on the day such service provider starts availing the exemption under this notification;
- (vii) where a taxable service provider provides one or more taxable services from one or more premises, the exemption under this notification shall apply to the aggregate value of all such taxable services and from all such premises and not separately for each premises or each services; and
- (viii) the aggregate value of taxable services rendered by a provider of taxable service from one or more premises, does not exceed rupees **ten lakhs** in the preceding financial year.

3. For the purposes of determining aggregate value not exceeding **ten lakh** rupees, to avail exemption under this notification, in relation to taxable service provided by a goods transport agency, the payment received towards the gross amount charged by such goods transport agency under section 67 for which the person liable for paying service tax is as specified under subsection (2) of section 68 of the said Finance Act read with Service Tax Rules, 1994, shall not be taken into account.

*Explanation:* - For the purposes of this notification, -

(A) "brand name" or "trade name" means a brand name or a trade name, whether registered or not, that is to say, a name or a mark, such as symbol, monogram, logo, label, signature, or invented word or writing which is used in relation to such specified services for the purpose of indicating, or so as to indicate a connection in the course of trade between

such specified services and some person using such name or mark with or without any indication of the identity of that person;

(B) "aggregate value not exceeding **ten lakh rupees** means the sum total of first consecutive payments received during a financial year towards the gross amount as prescribed under section 67 of the said Finance Act, charged by the service provider towards taxable services till the aggregate amount of such payments is equal to ten lakh rupees but does not include payments received towards such gross amount which are exempt from whole of service tax leviable thereon under section 66 of the said Finance Act under any other notification.

4. This notification shall come into force on the 1st day of April, 2005.

**[Notification No. 6/2005-ST, dated 1-3-2005. \*Amended by Notfn.No. 8/2008-ST dated 01.03.2008]**

**2. Services to UN Agencies:** Services provided to United Nations or an International Organizations are exempt.

[Notification No. 16/2002-ST, dated 2-8-2002]

**3. Export of service:** Any service which is taxable under clause 105 of Section 65 may be exported without payment of service tax.

(Rule 4 of Export of Services Rules, 2005)

**4. Exemption to services provided to a developer of SEZ or a unit of SEZ:** Exempts the taxable services specified in clause (105) of section 65 of the said Finance Act, which are provided in relation to the authorized operations in a Special Economic Zone, and received by a developer or units of a Special Economic Zone, whether or not the said taxable services are provided inside the Special Economic Zone, from the whole of the service tax leviable thereon under section 66 of the said Finance Act subject to certain conditions. (Refer notification for details)

{Notification No. 09/2009ST dated 03.03.2009 (Prior to 03.03.2009 Notfn.No4/2004-ST dated 31.03.2004)}

**5. Exemption to value of goods & material sold by service provider:** In exercise of the powers conferred by section 93 of the Finance Act, 1994 (32 of 1994), the Central Government, being satisfied that it is necessary in the public interest so to do, hereby exempts so much of the value of all the taxable services as is equal to the value of goods and materials sold by the service provider to the recipient of service from the service tax leviable thereon under section (66) of the said Act, subject to the condition that there is documentary proof specifically indicating the value of the said goods and materials.

(Notification No. 12/2003-ST dated 20.06.2003 effective from 01.07.2003)

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**6. Exemption to taxable services provided by TBI and STEP:** All taxable services, provided by a Technology Business Incubator (TBI) or a Science and Technology Entrepreneurship Park (STEP) recognized by the National Science and technology Entrepreneurship Development Board (NSTEDB) of the Department of Science and Technology, Govt. of India from the whole of the service tax leviable thereon subject to certain conditions and procedures. (Refer notification for details)

(Notification No.09/2007 ST dated 01.03.2007)

**7. Exemption to taxable services provided by entrepreneurs located within the premises of TBI or STEP:** All taxable services, provided by an entrepreneur located within the premises of a Technology Business Incubator (TBI) or a Science and Technology Entrepreneurship Park (STEP) recognized by the National Science and technology Entrepreneurship Development Board (NSTEDB) of the Department of Science and Technology, Govt. of India from the whole of the service tax leviable thereon subject to certain conditions and procedures. (Refer notification for details).

(Notification No.10/2007 ST dated 01.03.2007)

**8. Exemption to services provided to Foreign Diplomatic Missions or Consular Post in India:** All services provided by any person, for the official uses of a Foreign Diplomatic Mission or Consular Post in India are exempted from service tax subject to certain conditions and procedures. (Refer notification for details)

(Notification No. 33/2007-ST dated 23.05.2007)

**9. Exemption to services provided for personal use of a family member of Diplomatic Agent or Career Consular Officers posted in Foreign Diplomatic Mission/Consular Post in India:** All services provided by any person, for personal use of family member of Diplomatic Agents or Career Consular officers posted in a Foreign Diplomatic Mission or Consular Post in India are exempted from service tax subject to certain conditions and procedures. (Refer notification for details).

(Notification No. 34/2007-ST dated 23.05.2007)

## **Other Taxes applicable to Treasury Operations (Domestic and Forex)**

### **Securities Transaction Tax (STT) in India:**

The Securities Transaction Tax (STT) was introduced in India a few years ago to stop tax avoidance of capital gains tax. Earlier, many people usually didn't declare their profits on the sale of stocks and avoided paying capital gains tax. The government could tax only those profits which were declared by people.

To stop this situation, the then Finance Minister P Chidambaram in the Union Budget 2004-05 introduced STT. Transactions in stock, index options and futures were also made subject to transaction tax. This tax is payable whether you buy or sell a share and gets added to the price of the stock at the time the transaction is made. Since brokers have to automatically add this tax to the transaction price, there is no way to avoid it.

The Finance Ministry has supported the introduction of the STT to simplify the tax regime on financial market transactions. According to the ministry, STT is a clean and efficient way of collecting taxes from financial markets. In other words, STT is a neat, efficient and easy-to-administer tax and it has the great advantage of virtually eliminating tax avoidance.

STT is levied on every purchase or sale of securities that are listed on the Indian stock exchanges. This would include shares, derivatives or equity-oriented mutual funds units. The rate of tax that is deducted is determined by the central government, and it varies with different types of transactions and securities. STT is deducted at source by the broker or AMC, at the time of the transaction itself, and the net result is that it pushes up the cost of the transaction done.

### Scope of STT

- According to the Securities Contracts (Regulation) Act, 1956, STT would be applicable on the following securities.
- Shares, bonds, debentures, debenture stock or other marketable securities of a like nature in or of any incorporated company or other body corporate
- Derivatives
- Units or any other instrument issued by any collective investment scheme to the investors in such schemes
- Security receipt as defined in section 2(zg) of the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002
- Government securities of equity nature
- Rights or interest in securities
- Equity-oriented mutual funds
- STT is not applicable on any off-market transaction.

### STT rate

- Finance Minister in the Union Budget 2013-14 reduced the STT (securities transaction tax) on equities and mutual fund units. STT reduction on ETF is expected to enhance returns with lower transaction costs.

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- The STT charge on equity futures is cut from 0.17% to 0.1%. In the previous Budget, STT was slashed by 0.17% from 0.125% on cash delivery transactions.
- The STT charge on redemption of mutual funds or ETFs (exchange traded funds) at fund counters is reduced from 0.25% to 0.001%, while STT on sale of MFs or ETFs on stock exchanges is cut from 0.1% to 0.001% levied only on the seller.

### Deductions

Whether it is purchase and sale of shares or mutual fund units, STT will stay and cannot be avoided. At the end of the year, you can ask your broker to give you a certificate of the STT that you have paid through the year. We can use this amount to deduct from your short term capital gains and get a tax credit.

### STT Computation

As per the Finance Act 2004, and modified by Finance Act 2008 (18 of 2008) STT on the transactions executed on the Exchange shall be as under:

Sr. No.	Taxable securities transaction	New Rate from 01.06.2013	Payable by
A	B	C	D
A	Sale of an option in securities	0.017 per cent	Seller
B	Sale of an option in securities, where option is exercised	0.125 per cent	Purchaser
C	Sale of a futures in securities	0.01 per cent	Seller

- Value of taxable securities transaction relating to an "option in securities" shall be the option premium, in case of sale of an option in securities.
- Value of taxable securities transaction relating to an "option in securities" shall be the settlement price in case of sale of an option in securities, where option is exercised.

The following procedure is adopted by the Exchange in respect of the calculation and collection of STT:

- STT is applicable on all sell-transactions for both futures and option contracts.
- For the purpose of STT, each futures trade is valued at the actual traded price and option trade is valued at premium. On this value, the STT rate as prescribed is applied to determine the STT liability. In case of final exercise of an option contract, STT is levied on settlement price on the day of exercise if the option contract is in the money.
- STT payable by the clearing member is the sum total of STT payable by all trading members clearing under him. The trading member's liability is the aggregate STT liability of clients trading through him.

## NSE India information to their members

A report is provided to the members at the end of each trading day by NSE India. The report contains information on the total STT liability, trading member wise STT liability, client-wise STT liability and also the detailed computations for determining the client-wise STT liability.

## Other Levies & Taxes

### SEBI Turnover fees

Sr. No.	Nature of securities	Rate of Fee
1.	All sale and purchase transactions in securities other than debt securities	0.0002 per cent of the price at which the securities are purchased or sold (₹20 per crore)
2.	All sale and purchase transactions in debt securities	0.000005 per cent of the price at which the securities are purchased or sold (₹5 per crore)
<b>Stamp Duty</b>		
Stamp duty is levied on value of shares transferred. In India stamp duty is levied by various states and hence rate of stamp duty varies from state to state. In Maharashtra, the stamp duty rate for Cash Market (other than Government Securities) and Derivatives Market Turnover (non-delivery) is :		
<b>Type of Trade</b>		
Non-delivery trade		0.002%
Delivery trade		0.01%
<b>Service Tax</b>		
Category	Tax Rate	Payable by
Stock brokers Services	12.36% (12%+ 0.24% education cess + 0.12 % secondary and higher education cess)	Brokers and collected from their clients. However, if the services are partly performed outside India and payment is received in convertible foreign exchange within 6 months, then the services will be treated as Export of Services and will be exempt from levy of Service Tax

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<b>Securities Transaction Tax (STT)</b>				
<b>Sr. No.</b>	<b>Taxable Securities Transaction</b>	<b>Tax Rate Upto May 31, 2013</b>	<b>Tax Rate w.e.f. June 1, 2013</b>	<b>Payable by</b>
	Purchase of an equity share in a company, where such contract is settled by the actual delivery or transfer of such share or unit.	0.100 per cent	0.100 per cent	Purchaser- on the value of taxable securities transaction based on the volume-weighted average price.
1.	Purchase of a unit of an equity-oriented fund, where such contract is settled by the actual delivery or transfer of such share or unit.	0.100 per cent	NIL	NA
2.	Sale of an equity share in a company, where such contract is settled by the actual delivery or transfer of such share or unit	0.100 per cent	0.100 per cent	Seller - on the value of taxable securities transaction based on the volume-weighted average price.
3.	Sale of a unit of an equity-oriented fund, where such contract is settled by the actual delivery or transfer of such share or unit.	0.100 per cent	0.001 per cent	Seller - on the value of taxable securities transaction based on the volume-weighted average price.
3	Sale of an equity share in a company or a unit of an equity oriented fund, where such contract is settled otherwise than by the actual delivery or transfer of such share or unit.	0.025 per cent	0.025 per cent	Seller - on the value of taxable securities transaction based on the volume-weighted average price.

## Treasury — Taxation

4a	Sale of an option in Securities	0.017 per cent	0.017 per cent	Seller-on the Option Premium.
4b	Sale of an option in Securities, where option is exercised	0.125 per cent	0.125 per cent	Purchaser - on the settlement price.
4c	Sale of a futures in securities	0.017 per cent	0.010 per cent	Seller - on the price at which such futures is traded.

Further, as per SEBI guidelines, FII's are required to settle the transactions by delivery only, and therefore Sr. No.3 of the above table is not applicable in case of FIIs.

### Dividend Distribution Tax

Payable by	Tax Rate	Income in the hands of the recipient
Domestic Company	16.225% (15% + surcharge @ 5% + education cess @ 3%)	Exempt
Equity Oriented Fund	NIL	Exempt
Money market Fund or Liquid Fund	- if recipient is individual or HUF - 27.0375% (25% + surcharge @ 5% + education cess @ 3%) - if recipient in others - 32.445% (30% + surcharge @ 5% + education cess @ 3%)	Exempt

***The above information provided is for a general guidance only. However, in view of the specific nature of the transactions and their tax implications, FII's are advised to consult their own tax advisors with respect to the specific tax implications arising out of transactions in India.***

### A Brief on Tax on Derivatives:

Derivatives are primarily risk management tools. More accurately, they are volatility management tools. The ability to assume risk is a function of capital. The basis of the efficient utilization of capital is the netting of risks against each other. Trading in derivatives has now become an integral part of the global financial market. The past three decades have seen a singular rise in the development and growth of derivatives markets

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the world over. Trading in futures and options has seen a big rise and time and again, new products have been introduced which are related to this concept. Futures, options and OTC derivatives markets are integral parts of almost all economies of the world which have reached an advanced stage of development. Such markets are likely to become important part of developing countries as well, helping them to move to the advanced stage with the passage of time.

The development of a derivatives market is considered as a prerequisite for the Indian capital market to be globally competitive.

'Derivative' is an instrument whose value depends on its underlying cash or physical asset. Hence it means that the value is derived from the value of the underlying assets like foreign exchange, currency, securities and commodities. It also includes market indices such as the LIBOR, BSE Sensex or benchmark interest rates. The result of a derivative transaction is a transfer or exchange of specified cash flows at defined future points in time. Derivatives include forward, future and option contracts that are of a pre-determined fixed duration, linked for the purpose of contract fulfillment, to the specified value of real or financial asset or to index of securities.

Derivatives are used to hedge against price, currency and interest rate risk. Since derivative instruments do not involve risks, they help redistribute the risk between market participants. Hence, derivatives in this sense are used for risk management. Derivatives can also be used for speculative functions.

## **The Indian Legal Perspective**

### **Legal issues - legality and validity:**

Some of the broad legal issues include exchange control regulations, the issue of legality and validity of the transaction, questions of enforceability, termination provisions and insolvency issues.

### **Wager analysis:**

A related issue is whether a derivatives transaction can be said to be a contract for wager and hence invalid as per the terms of the Indian Contract Act 1872 ("**ICA**"). However, the law in this area is not very clear. The outcome would be determined on the basis of the facts and circumstances of each case. A contract wherein the element of wagering was merely a subordinate element, and did not constitute the substance of the transaction would be valid and enforceable. However, a transaction may be regarded as a wagering contract if the object was pure speculation or where the primary object of the transaction was speculation. A crucial element in determining whether or not a contract amounts to wager is the intention of parties. Another factor which may also have a bearing is whether the settlement takes place by way of 'netting off' of the differential or by an exchange of the underlying currencies. The former may be held to be speculative in nature.

**Exchange control issues:**

The Rupee is not fully convertible on the capital account, though it is moving in that direction. Hence, Indian resident cannot enter into a derivative contract directly with counterparts overseas. Such transactions have to be channeled through an authorized dealer. Besides this, there are some other exchange control regulations which govern cross-border transactions.

**Termination of Transactions:**

The Foreign Exchange Dealers' Association of India (**FEDAI**) has recommended the adoption of the International Swap Dealers' Association's (**ISDA**) Agreement. Hence most of the issues of termination and the ancillary issues arising out of termination are governed by the standard terms and conditions of the ISDA Agreement. The events of default under the ISDA are quite stringent and these have given rise to some concerns. One such concern relates to the ability of the overseas party to terminate all transactions ("automatic termination") under an agreement relying on the default of the Indian party. The overseas party can terminate all transactions provided that the agreement has a clause providing for such a measure.

**Insolvency Issues:**

The insolvency issues include the question of preference of payments upon insolvency proceedings being initiated. Another issue that may arise is whether a payment made or security delivered once bankruptcy proceedings have been initiated is valid. Such payments are generally valid unless they are fraudulent payments made to defeat valid claims under liquidation proceedings. Another concern related to insolvency risk is whether or not setting off of exposures would be permitted. A creditor claiming to prove a debt against an insolvent company in liquidation is entitled to set off its related claims. Even cross claims arising out of two separate contracts can be set off, if the two contracts are sufficiently connected and form part of the same transaction.

## **Financial Derivatives**

As the market grows, there is a demand for different instruments to help investors hedge, diversify and control different risks associated with them. The use of 'futures' and 'options' is an option available to the investor to hedge the market risks in probably the most cost-efficient manner. According to the L. C. Gupta Committee formed in November 1996, "the development of futures trading is an advancement over forward trading, and futures represent a more efficient way of hedging risk". The nature of a derivatives contract is to create liquidity, to allow risks to be distributed, to permit a party to take a position on the future value of an asset without actually acquiring it, and to obtain the benefit of its increased value and avoid loss if the value of the asset depreciates in that period of time.

A financial derivative is a financial instrument whose value is linked in some way to the value of another instrument, underlying the transaction. The value is derived from a basic financial instrument. The underlying assets could be securities, commodities, currencies or indices.

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Financial derivatives provide for the purchase or sale of traditional financial instruments in the future at prices that are agreed upon on the day of the contract. Financial derivatives are used for hedging, speculation and arbitrage.

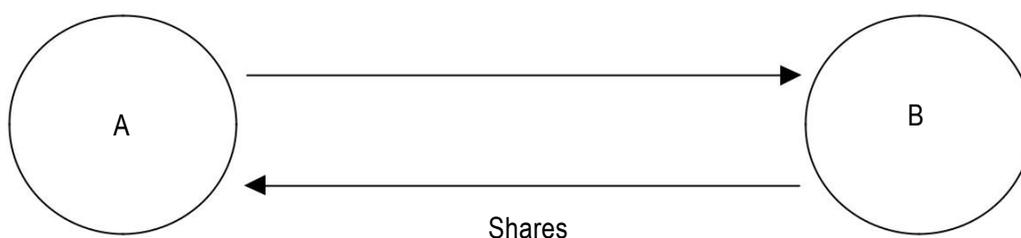
The OECD in its 1994 report entitled "Taxation of New Financial Instrument" provides for a comparative analysis of the tax treatment of four kinds of financial instruments: interest rate swaps, financial futures, option to buy shares and deep-discount bonds. After noting that many payments arising from financial instruments are similar in economic function to interest, the report admits that "it is unlikely that the definition of interest used in the Model Tax Convention is broad enough to encompass them all" and that "even payments on interest rate swaps, which may be a stream of payments calculated on an interest basis, are not income from debt claim. They are income from interest rate swaps."

### Forward Contracts

They are the simplest form of derivative contracts. Traders and investors who wish to hedge against their future risks use the forward markets. This market is characterized by actual delivery of the underlying asset in most cases at a pre-determined date. Such contracts are used to hedge against price fluctuations.

Example 1: 'A' agrees to purchase from 'B' 100 shares of 'C Ltd.' on a fixed future date for a pre-determined price of Rs. 100. Here, on the fixed future date, A will pay Rs. 100 to B and B will deliver the shares of C Ltd. to A.

Cash equivalent to Full Contract value



### Futures

A future contract is a contract by which one party agrees to sell to the other party on a specified future date, a specified asset at a price agreed at the time of the contract and payable on the maturity date. The agreed price is also known as 'strike price'. The asset may be a commodity or currency or debt or equity security (or a basket of securities) or a deposit of money by way of loan or any other category of property. The effect is to guarantee or hedge the price. The hedging party protects itself against a loss, but also loses the chance to make a profit. Unlike forward contracts, futures are usually performed (settled) by the payment of difference between the strike price and the market price on the fixed future date, and not by physical delivery and payment in full on that date.

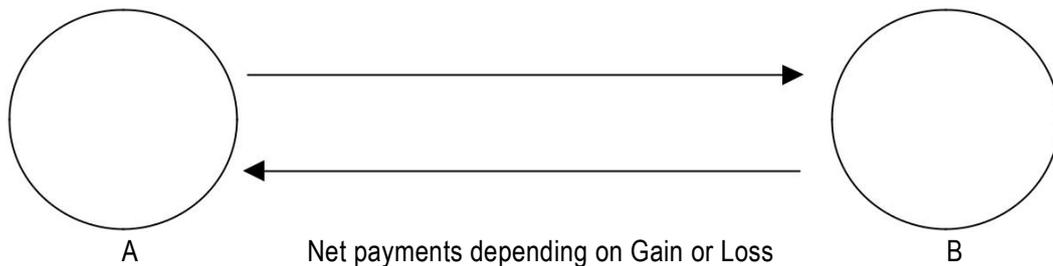
Financial futures originated in Chicago in 1972 with the introduction of currency futures by the International Monetary Market (IMM). This was followed by the introduction of Treasury Bond futures (interest rate futures) in 1977. Stock index futures soon followed in 1982. The basic difference between commodity and financial futures is that the asset represented by a financial future may not exist (for example, futures on a stock index represent only a hypothetical portfolio of the constituent stocks). Hence, such contracts cannot be settled by physical delivery of underlying shares and have to be settled by cash on the date of delivery. Also, financial futures are usually available with a longer life as compared to commodity futures. Usually, financial futures have standardized maturity dates.

Some types of financial futures contracts are:

- Currency futures
- Interest futures
- Stock index futures

The following example can explain a typical future transaction:

Example 2: 'A' enters into a future contract to purchase from 'B' shares of C Ltd. at Rs. 100 on 31<sup>st</sup> December. If for instance, on 31<sup>st</sup> December, the price of C Ltd. is Rs. 90, then A will pay to B Rs. 10 per share. If the price of C Ltd. is Rs. 120 then B will pay to A Rs. 20 per share.



The basic difference between forward and future contracts is that in a forward contract, the entire principal flows from one party to another i.e. exchange of assets take place. In the case of future contracts, on the other hand, only the net differential between the strike price and the market price on the date of exercise is exchanged.

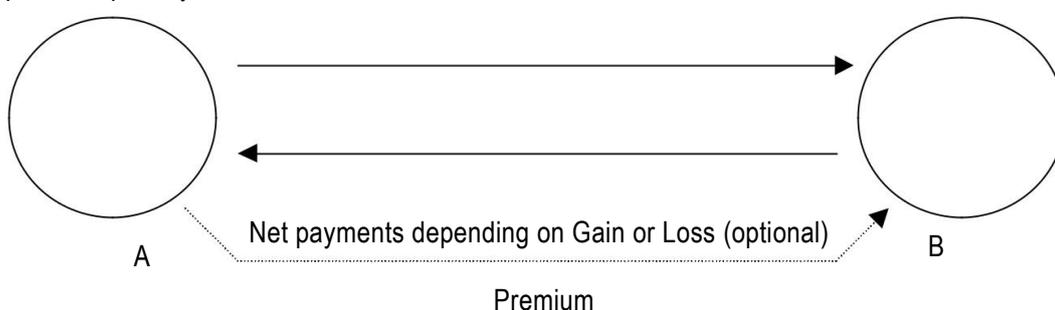
### Options

An Option contract is a further variation of a forward or future contract. They are of two types, call options and put options. A call option is the right, but not an obligation, to buy an asset in the future at a pre-determined price. A put option is a right, but not an obligation, to sell an asset in the future at a pre-determined price. Similar to a future contract, the exercise of the option does not result into an actual obligation to sell or buy

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the asset against the full price, but results in a contract to pay the difference between the strike price and the market price on the date of exercise of the option. The buyer of the option will have to pay a premium for purchasing the option. The maximum loss that a buyer of the option may suffer is the amount of the premium paid. The seller of the option, on the other hand, has unlimited risk because the buyer can, by exercising his option, insist on performance.

Example 3: In example 2, if the price of C Ltd. on exercise date is Rs 120, then A will exercise the option as he stands to benefit from doing so. However, if the price falls to Rs. 90 then, he will not exercise the option, thus restricting his loss to the amount of the premium paid by him.



### Caps, Floors and Collars

Caps, floors and collars are series of options. In a cap, the strike price for an option is not fixed, only an upper limit on the strike price is fixed. If on the maturity date, the market price is higher than the cap price will be the strike price otherwise the market price will be the strike price.

A floor is similar to a cap, the only difference being that in case of floors the lower limit for the strike price is fixed.

A collar is a combination of cap and floor. In this case, strike price will be within a range of prices. It cannot be higher than cap price and lower than floor price determined in a collar contract.

### Swaps

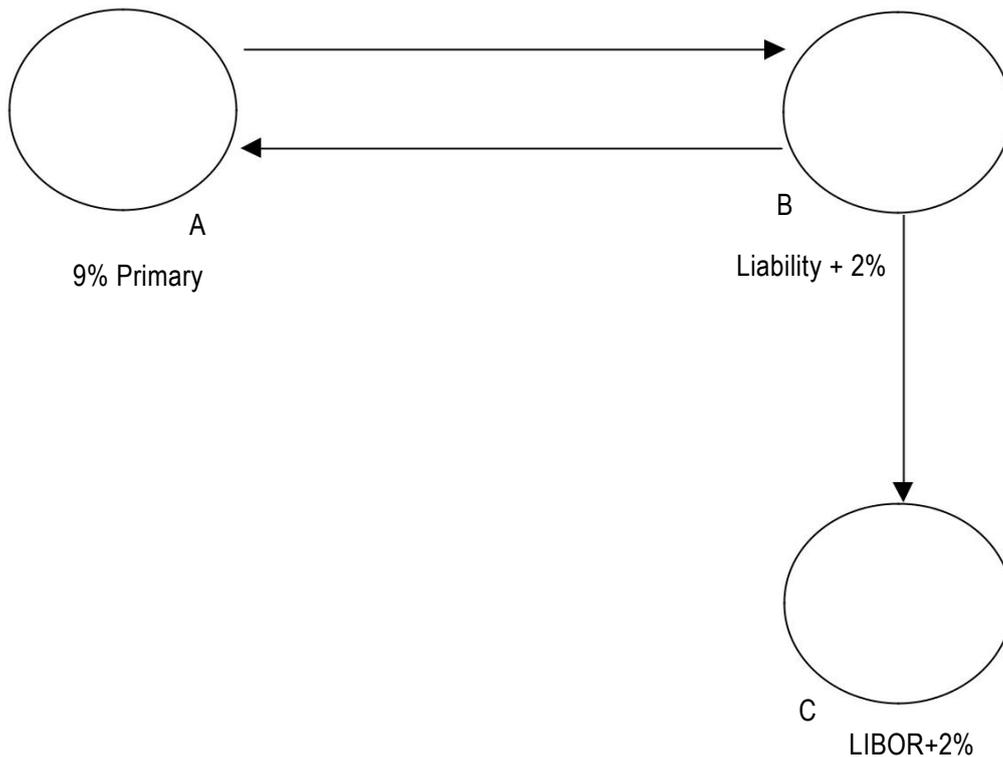
A swap is a contract whereby parties agree to exchange obligations that each of them have under their respective underlying contracts. In an interest rate swap, this would involve the exchange of a fixed rate of interest against a fluctuating rate of interest on the same notional principal. The rationale for this could be that one party (usually a bank) is of a high credit standing and hence it can borrow at a fixed rate whereas the other party is not in a position to borrow at a cheaper or fixed rate of finance. Therefore, in a swap transaction, the party with a fluctuating interest liability will exchange this liability for a

fixed interest liability. The interest rate differential will be exchanged between the parties on the settlement date.

A plain vanilla currency swap involves the following steps:

1. Exchange of equivalent amounts in different currencies
2. Exchange of interest payment during the tenure of the swap
3. Re-exchange of the principal sum at the pre-determined rate on the maturity of the swap agreement.

Example 4: A has borrowed from B at LIBOR + 2%. A now desires a fixed rate of interest at about 9%. C on the other hand is another player in the market, who is willing to borrow at LIBOR + 2% and lend at 9%. A and C can enter into a swap transaction whereby A borrows from C at 9% and lends to C at LIBOR + 2% on a notional principal. The actual amounts of the principals are never exchanged. Only the interest payments are exchanged on net basis.



The net result of the entire transaction is that liability of A is fixed at 9%. If LIBOR is 5% then A will have to pay C an amount of 2% of the notional principal. If LIBOR is 8% then C will pay A an amount of 1% of the notional principal.

## **Taxation of Financial Derivatives**

Taxation of derivatives is perhaps as complex an exercise as the transaction itself. A number of issues arise out of these transactions to which there are no well-defined solutions. The legal analysis of derivatives is fundamental to understanding its taxation. Several questions arise about characterization of income, treatment of the derivative and the underlying transaction etc. The issues get more intricate in the context of cross-border transactions. Characterization of income assumes greater importance as most of the tax treaties exempt 'business income' or 'other income' from taxation in the source country unless there is a Permanent Establishment. The lack of international consensus on taxation could lead to multiple taxation of a derivative transaction.

Internationally and especially in the UK there have been a number of reports on 'taxation of derivatives'. Some of them are:

1. "Tax aspects of derivative financial instruments" IFA, Cahiers vol. LXXXI, 1995
2. "Statement of Recommended Accounting Practice : Derivatives", British Bankers' Association, 1995
3. "Derivatives and Other Financial Instruments" Discussion paper on Accounting Standards Board, July 1996
4. "Taxation of Global Trading of Financial Instruments" Draft OECD Commentaries, 1997
5. "The Taxation of Derivatives" by David Southern, British Tax Review, 1998

IFA has published a comparative study of taxation of derivatives in about 29 countries. As per the study, there are three basic approaches to taxation of derivatives:

- (1) Decomposition principle - under which every derivative transaction is analyzed into a number of cash flows, each of which can be separately valued and taxed
- (2) Separate Transaction principle - under which each derivative contract is looked at in isolation to establish an overall return on investment
- (3) Linked approach - under which the related transactions are clubbed together to analyze the overall profit of the entire transaction.

There seems to be a general acceptance of the theory that the taxation of derivative financial instruments (popularly known as DFIs) is not to be determined by reference to the tax treatment of the underlying instrument to which the derivative relates. Most countries seem to have adopted the second i.e. separate transaction principle.

There are three key issues in taxation of a derivative transaction:

- 1) Characterization of income i.e. business income or interest
- 2) Determination of income i.e. timing and cash flow
- 3) Withholding tax implications

Unlike traditional debt and equity securities and foreign currency, derivative financial instruments do not involve a return on initial investment. In view of this peculiarity, the characterization of income is of great significance in order to determine its taxability. Whether the income arising from a derivative transaction can be regarded as interest, has been dealt with in the 1994 Report of the OECD on "Taxation of New Financial Instruments". In 1995, Paragraph 21.1 was added to the OECD Commentary on Article 11 which made it abundantly clear that in the absence of underlying debt, the payment for a financial instrument will not be regarded as 'interest'. This was made subject to 'substance over form' rule and 'abuse of rights' principle. In general, the income arising from a derivative transaction should be regarded as 'ordinary income'. If a derivative transaction is entered into in the ordinary course of business, it should be considered as 'business income', otherwise, it should be characterized as 'other income'. In a cross-border transaction where a tax treaty applies, under both these situations, income arising from a derivative transaction should not be taxable in the country of source unless there exists a Permanent Establishment.

The next issue arises as to when the income should be taxed. There are several points at which the income from a derivative transaction may arise. Initially, there may be a premium paid. In many transactions, there will be intermediate value dates on which interest or dividend becomes payable on the underlying securities. Further, many contracts are 'marked to market' which means that their value is adjusted in view of the market value of the underlying asset on a periodic basis. Finally, at the maturity, there is an ultimate settlement of the difference. When and how to tax these cash flows may to some extent depend upon the method of accounting adopted by the tax payer.

Since in most of the cross-border transactions, derivative income may not be taxed in the absence of a PE, it is crucial that there are no withholding taxes leviable on such income. However, this will depend upon the domestic tax law provisions in each country and the provisions of relevant tax treaties applicable to such companies.

### **Taxation of Derivatives in India**

Derivative transactions are still in nascent stage in India and their tax implications are still to be tested by the Indian revenue authorities. There are no precedents directly on the subject. Margins in a swap transaction are extremely narrow. Therefore, the imposition of taxes by the country of the payer substantially alters the profitability of a swap.

#### **General Provision under Income Tax Act:**

Indian residents are subject to tax on their worldwide income, non-residents on the other hand are taxed only on income received by them in India, or income that accrues or arises to them in India<sup>2</sup>. Further, under certain conditions, income can be "deemed to accrue or arise in India"

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<sup>2</sup> Section 5 of the Income Tax Act, 1961

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and thereby be subject to tax in India<sup>3</sup>. Generally, the entire tax payable by a non-resident in respect of income earned in India is liable to be withheld at source.

### Taxation under I-T Act

Section 9 of the *I-T Act* covers situations under which income which can be "deemed to accrue or arise in India". Under Section 9(1)(i) of the *I-T Act*, all income accruing or arising, through or from any business connection/property/asset or source of income in India, is deemed to accrue or arise in India<sup>4</sup>. Only such part of the income as is reasonably attributable to the operations carried out in India can be deemed to accrue or arise in India.<sup>5</sup>

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<sup>3</sup> Section 9 of the Income Tax Act, 1961

<sup>4</sup> Section 9(1)(i) reads as follows:

"All income accruing or arising, whether directly or indirectly, through or from any business connection in India, or through or from any property in India, or through or from any asset or source of income in India, or through the transfer of a capital asset situated in India is deemed to accrue or arise in India"

<sup>5</sup> Explanation (a) to section 9 reads as under:

"For the purpose of this clause – in the case of a business of which all the operations are not carried out in India, the income of the business deemed under this clause to accrue or arise in India shall be only such part of the income as is reasonably attributed to the operations carried out in India."

Unlike in the United Kingdom, the Indian tax laws do not specifically distinguish between "doing business in India" and "doing business with India". The term "business connection" which is crucial to determination of taxable business income in India, is not statutorily defined. Therefore, this term is to be understood based on interpretation provided by courts. In general, it can be interpreted as a continuous relationship between a businesses carried on by a non-resident entity, which yields profits or gains and some activity (in India) which contributes directly or indirectly to the earning of these profits or gains.

Whether payments under derivative transactions would constitute "Income deemed to accrue or arise in India" is a question which can be dealt with only *qua* facts of a specific transaction. The *I-T Act* does not specifically deal with the tax incidence of income flows arising out of a derivative transaction. Indian courts have also not analyzed the taxation of such income. Though there are no direct cases on the point, courts have opined on the taxability of profits/losses arising to an assessee merely due to the appreciation or depreciation in the value of foreign currency held by it. The position adopted by courts has been that such profits/losses would ordinarily be trading profit/losses if the foreign currency is held by the assessee in revenue account or as a trading asset or as part of circulating capital. If, on the other hand, the foreign currency is held by the assessee as a capital asset or as fixed capital, such profit or loss would be of capital nature. (*Sutlej Cotton Mills V. CIT*, (1979) 116 ITR 1, *State Bank of Travancore v. CIT*, (1986) 158 ITR 102).

Section 10(15) (iv) of the *I-T Act* exempts certain types interest payments from taxation in India. The Finance Act, 1999 has enlarged the scope of the word 'interest'. Now, interest includes hedging transaction charges on account of currency fluctuation. This would mean that any payment made for hedging against foreign currency rate fluctuations in respect of foreign currency debt obligation may be exempt from taxation in India.

## Tax Treaty Provisions

India has tax treaties with a number of countries. Indian tax law is unique as it statutorily offers a tax payer choice between the provisions of the treaty and the domestic tax law under Section 90 (2) of the *I-T Act*<sup>6</sup>. The effect of this section is that, a tax payer may opt for the treaty or I-T Act, whichever is more beneficial.

Most comprehensive treaties give the country of source the right to tax business income only if the recipient has a Permanent Establishment (**PE**) in the country of source. PE is a much narrower concept than "business connection". Therefore, many foreign parties, which may have a "business connection" in India by virtue of having the counter party in India and source of income in India, may not have a PE in India. This distinction is so crucial that the entire income, which could be taxable under the first concept, could be tax exempt under the

Even if a PE is found to exist, only such part of the business income, which is attributable to the permanent establishment, can be taxable in India. Such income is taxable on 'net' basis after deduction of certain expenses. While foreign companies are taxed at the rate of 48 %, domestic companies are taxed at the rate of 35% on such business profits. The Non-discrimination Article in some of the tax treaties may help reduce the tax incidence from 48% to 35%.<sup>7</sup>

For giving effect to the treaty provisions, reliance will have to be placed by the Indian counterparty on the payee representations. The payee may have to provide evidence that it qualifies for the relevant exemption from withholding taxes. The Indian counterparty can withhold the tax at the rates in force.<sup>8</sup>

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<sup>6</sup> Section 90 (2) of the *I-T Act* which reads as follows:

"Where the Central Government has entered into an agreement with the Government of any country outside India under sub section (1) for granting relief of tax, or as the case may be, avoidance of double taxation then, in relation to the assessee to whom such agreement applies, the provisions of this Act shall apply to the extent they are more beneficial to the beneficiary." other one. In the absence of a permanent establishment in India, the business income arising out of the derivative transactions made by the Indian payer, will not be subject to tax in India.

<sup>7</sup> There has been a recent advance ruling in the case of a French bank, which has been denied the benefits of non-discrimination article under India-French treaty for reduction of tax rate. (*Advance Ruling Application No. P – 16 of 1998, In re*), (1999) 102 *TAXMAN* 377 (AAR – New Delhi)

<sup>8</sup> "Rate or Rates in force" has been defined under Section 2(37A) to include:

"..... (iii) for the purposes of deduction of tax under section 195, the rate or rates of income tax specified in this

behalf in the Finance Act of the relevant year or the rate or rates of tax specified in an agreement entered into by the Central Government under section 90, whichever is applicable by virtue of the provisions of section 90....."

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Non-residents are eligible for applying for an advance ruling which is available on an existing or a proposed transaction, on questions of law or facts. These rulings are binding upon the applicant and the tax authorities, in respect of that applicant. Such a ruling may help the foreign counter party to determine the relevant tax implications in India.

### Withholding Tax

In a cross-border DFI transaction, withholding tax is a crucial question as the traders want their cash flows free of taxes. In general, withholding tax is levied on interest, dividend or royalty payments. Most countries have regarded payments under derivative contracts as falling outside 'interest' and 'dividend' articles as they do not reflect the true return on capital<sup>9</sup>. The same principle should apply to payments of differences on futures contracts, swap fees and premiums on options. Most of these payments fall within 'business profits' or 'other income' articles and therefore, are remitted gross, free of withholding taxes. The taxation is determined in the country of residence.<sup>9</sup>

In India, the position is slightly different. *Section 195(1)* of the *I-T Act* entrusts the payer with the liability to withhold tax on certain payments being made to a foreign recipient<sup>10</sup>. An issue

The Supreme Court has authoritatively settled this issue in the case of *Transmission Corporation of AP Ltd. V. CIT*<sup>11</sup>. The Apex court has held that the scheme under section 195 of the ITA applies not only to the amounts that bear an element of income or profit, but also to gross sums, the whole of which may not be income or profit of the recipient.

In order to obtain an exemption from withholding any tax, or for withholding tax at a lower rate, the payer/payee will have to file an application with the Assessing Officer to determine the appropriate portion of the sum that should be chargeable to tax<sup>12</sup>. However, it should be noted that a certificate granted in this regard is only provisional. Final tax liability is ascertained upon regular assessment after a tax return is filed (if necessary)<sup>13</sup>.

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<sup>9</sup> 'The Taxation of Derivative', British Tax Review, 1998

<sup>10</sup> The section reads as follows:

"Any person responsible for paying to a non-resident, not being a company, or to a foreign company, any interest (not being interest on securities) or any other sum chargeable under the provisions of the I-T Act, not being arises with respect to withholdings under section 195 that whether the payer has to deduct tax on the gross amount of payments due to the non-resident, or on the income or profit element received by the non-resident.

<sup>11</sup> 239 ITR 587.

<sup>12</sup> Sections 195(2), (3), and 197 of the ITA.

<sup>13</sup> Section 197 of the *I-T Act*.

withheld at source should be made not with reference to the 'net-of-tax' amount payable to the non-resident payee, but should be made with reference to the gross amount. This provision may further affect the profitability of a derivative transaction in India.

It is pertinent to note that in case of a banking company, exemption from withholding taxes is available only if the payments (not classified as interest on securities or dividend) are received by the branch operating in India, on its own account and are not received on behalf of the head office or any other branch situated outside India.

Thus, the Indian payer making payments to overseas parties under a derivative transaction is generally liable to withhold tax at source. The procedure for obtaining this lower tax withholding certificate has been recently simplified. Now, based on a Chartered Accountant's certificate, the Indian payer can remit the payment after withholding tax at the lower rate applicable under the treaty or without withholding any tax, as the case may be. However, it has to submit an undertaking that it shall undertake to pay the shortfall in tax, interest or penalty, which are payable in accordance with the provisions of *I-T Act*.

### **Gross-up of Tax:**

Under the terms of the ISDA Master Agreement, the payer has to bear the burden of withholding taxes, where the tax is payable because of a connection with its chosen tax jurisdiction (*i.e.*: India). The burden to bear the taxes falls upon the payee only in limited circumstances where the payee has made a representation which is not true at the time it is made or which becomes untrue as a result of subsequent events or where the payee fails to conform to a provision in the ISDA Master Agreement requiring performance of a tax related obligation.

In India, however the payer will have to comply with the provisions of *section 195A* of the *I-T Act* read together with *circular number 370* issued by the *Central Board of Direct Taxes*. These require that when the payer bears the income tax liability, the calculation of tax to be income chargeable under the head 'Salaries' shall at the time of credit of such income to the account of the payee or at the time of payment thereof in cash, or by the issue of a cheque or draft or by any other mode, whichever is earlier, deduct income tax thereon at the rates in force."

### **Tax Implications on Swaps:**

Taxation of swap payments is fairly complicated. The issue involved is one of characterization of the settlement amount. The characterization of the amount could be either business income or interest income. There is a strong case for the swap payment to constitute business income in the hands of the non-resident recipient as against interest income or other income.

The *I-T Act*, the term "interest" is defined under *section 2(28A)* to mean interest payable in any manner in respect of moneys borrowed or debt incurred (including a deposit, claim or other similar right or obligation) and includes any service fee or other charge in respect of the moneys borrowed or debt incurred or in respect of any credit facility which has not been utilized.

In a swap transaction, there is no money borrowed or debt incurred. The principal of a swap deal is the notional amount and the adjustment takes place between the bank and the counterparty in respect of the amounts payable by them. Only the net amount changes hands.

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Therefore, such amounts should qualify as trading income. However, in a synthetic transaction, where the deal is structured in a manner where there is a debt incurred and the payment is made in respect of debt incurred, such payment could be regarded as 'interest'. In the Indian context, such a situation may be the practical reality faced by the Indian corporates who are forced to enter into synthetic transactions. The consequences may be different in a cross-border transaction, especially where the non-resident counterparty is from a treaty jurisdiction.

Article 11(3) of the OECD Model Convention defines interest as:

“The term interest as used in this Article means **income from debt-claim** of every kind, whether or not secured by mortgage and whether or not carrying a right to participate in the debtor's profits, and in particular, income from government securities and income from bonds and debentures, including premiums and prizes attaching to such securities, bonds or debentures. Penalty charges for late payment shall not be regarded as interest for the purpose of this article.”

Thus, even the definition of OECD Model Convention (**OECD MC**) lays emphasis on the debt-claim. The commentary to OECD MC also supports the above argument<sup>14</sup>.

## Tax Planning

It may be possible to plan the swap transactions and the entities entering into such transactions in a manner by which the tax implications in the source country can be substantially reduced. We will examine some of the planning avenues in the context of India. Since this a new area for the Indian revenue authorities, it may be advisable to ascertain the tax implications by obtaining an advance ruling on the proposed transactions. Some of the factors which may assist in tax planning are discussed below:

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<sup>14</sup> Paragraph 21.1 on financial derivatives of the commentary to the OECD MC states that,

"The definition of interest in the first sentence of paragraph 3 does not normally apply to payments made under certain kinds of nontraditional financial instruments where there is no underlying debt (for example, interest rate swaps). However, the definition will apply to the extent that a loan is considered to exist under a 'substance over form' rule, an 'abuse of rights' principle, or any similar doctrine."

Thus it can be concluded that, as long as the underlying 'debt-claim' remains purely hypothetical, the equalization payment is not interest. The fact that the swap was created, to secure the payments on a loan does not change the payment into interest. However, if one party pays a lump sum amount to the other and the same is repaid over the course of the swap (an off-market swap), the return and equalization payments could be seen to contain a loan element.

If these amounts were to be treated as interest, they may attract a withholding tax in India at the rate of 20% on the gross amount. This rate could be reduced further depending upon the tax treaty provisions. If a foreign company earns any business income that is deemed to accrue or arise in India, it would be liable to be taxed at the current applicable rate of 48% on its net business income.

### **Characterization of Income:**

It is important that the income arising from the swap transactions qualifies as 'business income' and is not characterized as interest or otherwise. This is because payment of interest would, in most cases attract a withholding tax of 20 %. Under some exceptional treaties, this rate is reduced to 10% (Cyprus/Netherlands treaty) or 12.5% (U.A.E. treaty). Against this, business income will not be taxable unless the recipient has a PE in India. This can be achieved by contesting that the recipient has entered into such transaction in its ordinary course of business.

### **Selection of Entity:**

In general, a company is a better bet than an LLC particularly, where the members are from non-treaty countries. It is uncertain whether the treaty benefits will be available to an LLC *per se*. A company would generally qualify for treaty benefits. In addition, to be eligible for an advance ruling, it may also be required to establish proper tax residency in the treaty country by paying certain minimum tax in that country.

### **Location of Counterparty:**

It would be advisable to select a counter party from a treaty jurisdiction. In the absence of a treaty, the domestic law and the concept of 'business connection' may prevail. The concept of 'business connection' being much wider it is likely that the nexus can be established and the non-resident's income can be deemed to accrue or arise in India.

If the interested foreign party is located in a non-treaty jurisdiction, then it can select one of its subsidiary or affiliate based in a treaty jurisdiction to enter into the swap transaction with the Indian counter party. This would be subject to the anti-abuse provisions in the tax treaty. If a branch is set up in a treaty jurisdiction, it is likely that this branch may not qualify for treaty benefits as it will not be regarded as a separate legal entity but a mere extension of the parent company (which is a resident of a non-treaty country). However, this position may differ from country to country.

In many countries, a definite position on the taxation of financial derivatives has not been reached as yet. There is also an ongoing discussion on which distributive rules of the current OECD Model Convention will apply to the income resulting from financial derivatives. The differences in national tax systems further complicate the difficulties already present in the double taxation treaties. Further clarity is required to be provided in the commentaries to model treaties to affirm the tax treatment of new instruments like financial derivatives.

## **Securities Transaction Tax**

Clarification on levy of STT on physical settlement of stock derivatives The Securities and Exchange Board of India vide circular dated April 11 mandated physical settlement of stock derivatives for securities which did not met the enhanced eligibility criteria. Subsequently, the

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National Stock Exchange of India (NSE) vide circular dated April 23 and July 18 identified securities which would be compulsorily physically settled.

The NSE also issued a circular on July 17 directing its members to collect Securities Transaction Tax (STT) on physical settlement of stock derivatives at the rate of 0.10 per cent. The levy of STT was challenged by the Association of National Exchange Members of India by filing a writ petition before the Hon'ble Bombay High Court ('Hon'ble Court').

On direction from the Hon'ble Court, the Central Board of Direct Taxes (CBDT) issued instructions to the Revenue authorities vide letter dated August 27, 2018 clarifying its views in the context of levy of STT. The key takeaways from the CBDT instructions are:

- Levy of STT is not dependent on the purpose of the transaction (trading, investment or to settle a derivative contract);
- Settlement of derivatives segment transactions by delivery of shares is no different from cash segment;
- The legal mandate of STT is wide enough to cover delivery-based derivatives transactions;
- The rate of STT as applicable to a delivery-based equity transaction shall also be applicable to derivative transaction.

Taking cognizance of the clarification of the CBDT, the Hon'ble Court disposed off the writ petition. Consequent to the views provided by the CBDT, NSE has issued a Circular\* confirming levy of STT. The NSE circular further clarifies the following:

- STT of 0.1 per cent will be leviable with effect from July 26, 2018;
- STT will be payable by both purchaser (receiver) and seller (giver) of the securities;
- STT will be recovered from the members on those contracts which had expired on July 26 and were settled by way of physical delivery.

### Check Your Progress

1. What is the taxation on trading derivatives (futures) in India?
2. Is Derivatives Trading Speculative activity/business?
3. What is the treatment of profit/loss from F&O Trading in the income Tax Return?
4. Which specific official tax law/rule/notification mention that turnover from derivatives is the summation of the absolutes of contract-wise profits and losses.
5. Is profit from derivatives trading income or capital gain?

# 9

## Treasury – Types

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### Treasury - Manufacturing and Service Corporates

Corporate treasury has evolved into a truly strategic function for most organizations. From being a manager of liquidity and financial risk, corporate treasury has evolved into a strategic business partner. As this transition of corporate treasury into a strategic function continues, different organizations are at varying stages of evolution. Organizations are also seeking to establish the right construct of the treasury function to enable them to meet the heightened expectations.

#### Back ground

The treasury department occupies a central role in the finances of the modern corporation. It takes responsibility for the company's liquidity and ensures that a company has enough cash available at all times to meet the needs of its primary business operations. It sounds easy. Right? But is it? In fact it, is not.

To really meet the goal, a treasury department would need to perform the following roles over time:

#### Cash Forecasting

This is the beginning of all other roles carried on in the operation of a treasury department. Unlike the accounting staff, who handle the cash receipt and disbursement activities on daily basis, treasury staff need to draw all those accounting staff records (within the organization including its subsidiaries if any), and compile it to generate a cash forecast (short and long-range). The forecast and all its components are needed to:

- determine if more cash is needed. If that is the case, then they can go on to plan for fund inquiry either through the use of debt or equity.
- plan for investment purposes, if the forecast results in surplus and cash excess shows up.
- plan its hedging operations by using the information at the individual currency level.

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### **Working Capital Management**

Major use of company's cash is in the working capital area. Working capital is a key component of cash forecasting. It involves changes in the levels of current assets and current liabilities in response to a company's general level of sales. The treasurer should be aware of working capital levels and trends, and advise management on the impact of proposed policy changes on working capital levels.

### **Cash Management**

Combining information in the cash forecast and working capital management activities. Treasury staff is able to ensure that sufficient cash is available for operational needs.

### **Investment Management**

When the forecast shows some excess funds, the treasury staffs are responsible for its proper investment. Three primary goals of the role are:

- (a) maximum return on investment;
- (b) matching the maturity dates of investments with the company's projected cash needs; and most importantly,
- (c) not putting funds at risk.

### **Treasury Risk Management**

The treasury staffs are also responsible for creating risk management strategies and implementing hedging tactics to mitigate the whole company's risk—particularly in anticipating

- (a) market's interest rates may rise and leave the company paying on its debt obligations; and
- (b) company's foreign exchange positions that could also be at risk if exchange rates suddenly worsen.

### **Credit Rating Agency Relations**

A company may issue marketable debt. In this case a credit rating agency will review the company's financial condition and assign a credit rating to the debt. The treasury staff would need to show quick response to information requests from the credit agency's review team.

### **Bank Relation**

A long-term relationship can lead to some degree of bank cooperation if a company is having financial difficulties, and may sometimes lead to modest reductions in bank fees. The

treasurers should therefore, often meets with the representatives of any bank that the company uses to: discuss the company's financial condition, the bank ' s fee structure, any debt granted to the company by the bank, and foreign exchange transactions, hedges, wire transfers, cash pooling, and so on.

### Fund Raising

For fund raising purposes, from the

- (a) brokers and investment bankers who sell the company's debt and equity offerings;
- (b) the investors, pension funds, and other sources of cash, who buy the company's debt and equity, it is important to maintain the best of relations with the investment community.

Other than these main roles, the treasury staffs also keep monitoring market conditions constantly, and, are therefore, an excellent resource for the management team, should they want to know about interest rates that the company is likely to pay on new debt offerings, the availability of debt, and probable terms that equity investors will look for exchange for their investment in the company.

If a company engages in mergers and acquisitions on a regular basis, then the treasury staff should have expertise in integrating the treasury systems of acquisitions into those of the company. Another activity is the maintenance of all types of insurance on behalf of the company.

### Contribution Analysis

Contribution Analysis is an approach for assessing causal questions and inferring causality in real-life programme evaluations. It offers a step-by-step approach designed to help managers, researchers, and policymakers arrive at conclusions about the contribution their programme has made (or is currently making) to particular outcomes. The essential value of contribution analysis is that it offers an approach designed to reduce uncertainty about the contribution the intervention is making to the observed results through an increased understanding of why the observed results have occurred (or not!) and the roles played by the intervention and other internal and external factors.

Contribution analysis is particularly useful in situations where the programme is not experimental, i.e. not in trial projects but in situations where the programme has been funded on the basis of a relatively clearly articulated theory of change and where there is little or no scope for varying how the programme is implemented. Contribution analysis helps to confirm or revise a theory of change; it is not intended to be used to surface or uncover and display a hitherto implicit or inexplicit theory of change.

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The report from a contribution analysis is not definitive proof, but rather provides evidence and a line of reasoning from which we can draw a plausible conclusion that, within some level of confidence, the programme has made an important contribution to the documented results.

### **Steps**

Six steps are taken to produce a credible contribution story:

#### **1: Set out the attribution problem to be addressed**

Determine the specific questions being addressed. Not all cause-effect questions are useful to pursue. Contribution analysis is less suitable for traditional causality questions such as: Has the programme caused the outcome? To what extent, quantitatively, has the programme caused the outcome? These often are not that useful because they treat the programme as a black box and don't get at the fact that there are usually many causes involved. Contribution analysis is more appropriate for contribution questions: Has the programme influenced the observed result? Has the programme made an important contribution to the observed result? Why has the result occurred? What role did the intervention play? And for management questions: Is it reasonable to conclude that the programme has made a difference? What does the preponderance of evidence say about how well the programme is making a difference? What conditions are needed to make this type of programme succeed?

#### **2: Develop a theory of change and risks pertaining to it**

Develop the programme logic/results chain describing how the programme is supposed to work. Identify as well the main external factors at play that might account for the outcomes observed. Based on the results chain, develop the theory of change upon which the programme is based. This theory of change should lead to a plausible association between the activities of the programme and the outcomes sought. The theory of change must include the assumptions made in the results chain and the inherent risks as well as external influences such as donor pressure, influences of peers and resourcing levels. Some links in the theory of change will be fairly well understood or accepted. Others will be less well understood, contested or subject to significant influence other than from the programme. In this way you acknowledge that attribution is indeed a problem

#### **3: Gather the existing evidence on the theory of change**

It is useful to first use existing evidence such as from the past related evaluations or research, and from prior monitoring, to test the theory of change. It sets out the intended results (outputs, intermediate and end outcomes). What is the evidence (information from performance measures and evaluations) currently available about the occurrence of these various results? The links in the theory of change also need to be assessed. What is the evidence currently for the assumptions and risks behind these links? Which are strong (good evidence available, strong logic, or wide acceptance) and which are weak (little evidence

available, weak logic, or little agreement among stakeholders)? What evidence exists about the identified other influencing factors and the contribution they may be making?

#### **4: Assemble and assess the contribution story, or performance story, and challenges to it**

With this information, you will be able to assemble your contribution story that expresses why it is reasonable to assume that the actions of the programme have contributed (in some fashion, which you may want to try and characterize) to the observed outcomes. Now, you have to assess it. How credible is the story? Do reasonable people agree with the story? Does the pattern of results observed validate the results chain? Where are the main weaknesses in the story? There always will be weaknesses. Weaknesses in the story point to where additional data or information is needed.

#### **5: Seek out additional evidence**

Having identified where the contribution story is less credible, additional evidence is now gathered to augment the evidence in terms of what results have occurred, how reasonable the key assumptions are, and what has been the role of external influences and other contributing factors. Augmenting evidence can include the collection of additional, new data such as from surveys, field visits, administrative data, focus groups, national statistical data, etc. as well as the synthesis of evidence from other research and evaluations.

#### **6: Revise and, where the additional evidence permits, strengthen the contribution story**

With the new evidence, you should be able to build a more substantive and so more credible story, one that a reasonable person will be more likely to agree with. It will probably not be foolproof, but the additional evidence will have made it stronger and more plausible.

Using a generative perspective on causality to infer that a programme made an important contribution to an expected result that has been observed, contribution analysis argues that a reasonable contribution causal claim can be made if:

- There is a reasoned theory of change for the intervention: the key assumptions behind why the intervention is expected to work make sense, are plausible, may be supported by evidence and/or existing research, and are agreed upon by at least some of the key players.
- The activities of the intervention were implemented as set out in the theory of change.
- The theory of change—or key elements thereof— is supported by and confirmed by evidence on observed results and underlying assumptions—the chain of expected results occurred. The theory of change has not been disproved.
- Other influencing factors have been assessed and either shown not to have made a significant contribution or their relative role in contributing to the desired result has been recognized.

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### **Operating and Financial Leverage**

Leverage in its most general sense means the ability to magnify results at a relatively low cost. In business, you make decisions about leverage that affect your profitability. When you evaluate whether you can increase production profitably, you are addressing operating leverage. If you are contemplating taking on additional debt, you have entered the realm of financial leverage. Both types are crucial to business success and have different, though related, meanings.

#### **Operating Leverage**

Operating leverage compares sales to the costs of production. Fixed costs involve the property, plant and equipment you use to create products. These costs are independent of the number of units you produce. Variable costs are the additional costs required to produce a unit of marketable inventory, such as the costs of raw materials, electricity, packaging and transportation. You can measure operating leverage as the ratio of fixed costs to variable costs or fixed costs to total costs. Higher values of this ratio indicate high operating leverage.

#### **Effects of Operating Leverage**

A high operating leverage means you are in a position to increase production without investing in additional fixed costs. As production rises, you are, in effect, spreading fixed costs across a greater number of units, so the additional units have a lower ratio of fixed costs to total costs. The degree of operating leverage -- the percent change in earnings before interest and taxes, or EBIT, divided by the percentage change in sales -- gives you a means to gauge how earnings will respond to sales activity. When demand for your product increases, you can easily ramp up production by increasing variable costs; your fixed assets allow you to magnify production. You can increase production as long as your higher variable costs don't cause total costs to exceed your sales revenues. However, in a recession, high operating leverage is risky, as it saddles you with high fixed costs even when you cut production.

#### **Financial Leverage**

Financial leverage is a measure of debt, usually defined as total debt divided by the owners' equity, which are assets minus liabilities. By increasing financial leverage instead of issuing stock, you can use the additional funds to increase production without diluting earnings among a greater number of shareholders. In this sense, it magnifies your profits per share. You can measure this effect with the formula for degree of financial leverage: EBIT divided by earnings before taxes. However, additional leverage increases your interest expense, which cuts into net income, even though interest is tax deductible. If you are overleveraged and sales fall, you might find yourself short of cash and face default on your debt.

## Combined Leverage

The degree of combined, or total, leverage is defined as the percentage change in earnings per share divided by the percentage change in sales. It is the product of the degree of financial leverage and the degree of operating leverage. As such, it is a measure of the overall riskiness of your business. A high combined leverage indicates high fixed costs and heavy debt. In good times, these factors can increase profits as you increase sales. Should business falter, these same factors mean you cannot cut total costs substantially by decreasing production, putting a strain on cash flow and your ability to pay interest and repay debt.

## Liquidity Management

Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price.

Market liquidity refers to the extent to which a market, such as a country's stock market or a city's real estate market, allows assets to be bought and sold at stable prices. Cash is the most liquid asset, while real estate, fine art and collectibles are all relatively illiquid.

Accounting liquidity measures the ease with which an individual or company can meet their financial obligations with the liquid assets available to them. There are several ratios that express accounting liquidity.

Cash is considered the standard for liquidity because it can most quickly and easily be converted into other assets. If a person wants a \$1,000 refrigerator, cash is the asset that can most easily be used to obtain it. If that person has no cash, but a rare book collection that has been appraised at \$1,000, they are unlikely to find someone willing to trade them the refrigerator for their collection. Instead, they will have to sell the collection and use the cash to purchase the refrigerator. That may be fine if the person can wait months or years to make the purchase, but it could present a problem if the person only had a few days. They may have to sell the books at a discount, instead of waiting for a buyer who was willing to pay the full value. Rare books are, therefore, an illiquid asset.

## Market Liquidity

In the example given above, the market for refrigerators in exchange for rare books is so illiquid that, for all intents and purposes, it does not exist. The stock market, on the other hand, is characterized by higher market liquidity. If an exchange has a high volume of trade that is not dominated by selling, the price a buyer offers per share (the bid price) and the price the seller is willing to accept (the ask price) will be fairly close to each other. Investors, then, will not have to give up unrealized gains for a quick sale. When the spread between the bid and ask prices grows, the market becomes more illiquid. Markets for real estate are pretty much inherently less liquid than stock markets. Even by the standard of real estate markets, however, a buyer's market is relatively illiquid, since buyers can demand steep discounts from sellers who want to offload their properties quickly.

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### Accounting Liquidity

For an entity, such as a person or a company, accounting liquidity is a measure of their ability to pay off debts as they become due, that is, to have access to their money when they need it. In the example above, the rare book collector's assets are relatively illiquid, and would probably not be worth their full value of \$1,000 in a pinch. In practical terms, assessing accounting liquidity means comparing liquid assets to current liabilities, or financial obligations that become due within one year. There are a number of ratios that measure accounting liquidity; they differ in how strictly they define "liquid assets."

### Current Ratio

The current ratio is the simplest and least strict ratio. Current assets are those that can reasonably be converted to cash in one year.

**Current Ratio = Current Assets / Current Liabilities**

### Acid-Test or Quick Ratio

The acid-test or quick ratio is slightly more strict. It excludes inventories and other current assets, which are not as liquid as cash and cash equivalents, accounts receivable and short-term investments.

**Acid-Test Ratio = (Cash and Cash Equivalents + Short-Term Investments + Accounts Receivable) / Current Liabilities**

A variation of the acid-test ratio simply subtracts inventory from current assets, making it a bit more generous than the version listed above:

**Acid-Test Ratio (VaR) = (Current Assets - Inventories) / Current Liabilities**

### Cash Ratio

The cash ratio is the most exacting of the liquidity ratios, excluding accounts receivable as well as inventories and other current assets. More than the current ratio or acid-test ratio, it assesses an entity's ability to stay solvent in the case of an emergency. Even highly profitable companies can run into trouble if they do not have the liquidity to react to unforeseen events.

**Cash Ratio = (Cash and Cash Equivalents + Short-Term Investments) / Current Liabilities**

In finance, liquidity management takes one of two forms based on the definition of liquidity. One type of liquidity refers to the ability to trade an asset, such as a stock or bond, at its current price. The other definition of liquidity applies to large organizations, such as financial institutions. Banks are often evaluated on their liquidity, or their ability to meet cash and collateral obligations without incurring substantial losses. In either case, liquidity management describes the effort of investors or managers to reduce liquidity risk exposure.

## Liquidity Management in Business

Investors, lenders and managers all look to a company's financial statements, using liquidity measurement ratios to evaluate liquidity risk. This is usually done by comparing liquid assets and short-term liabilities. Companies that are over-leveraged must take steps to reduce the gap between their cash on hand and their debt obligations.

All companies and governments that have debt obligations face liquidity risk, but the liquidity of major banks is especially scrutinized. These organizations are subjected to heavy regulation and stress tests to assess their liquidity management because they are considered economically vital institutions. Here, liquidity risk management uses accounting techniques to assess the need for cash or collateral to meet financial obligations.

## Liquidity Management In Investing

Investors still use liquidity ratios to evaluate the value of a company's stocks or bonds, but they also care about a different kind of liquidity management. Those who trade assets on the stock market can't just buy or sell any asset at any time; the buyers need a seller, and the sellers need a buyer.

When a buyer cannot find a seller at the current price, he or she must usually raise his or her bid to entice someone to part with the asset. The opposite is true for sellers, who must reduce their ask prices to entice buyers. Assets that cannot be exchanged at a current price are considered illiquid.

Investors and traders manage liquidity risk by not leaving too much of their portfolios in illiquid markets. In general, high-volume traders in particular want liquid markets, such as the forex currency market.

## Foreign Exchange Exposures

Many firms are exposed to foreign exchange risk - i.e. their wealth is affected by movements in exchange rates - and will seek to manage their risk exposures. The details of different types of foreign exchange risks and the methods for hedging that risk are detailed below.

## Types of Foreign Exchange Risks

### Transaction risk

This is the risk of an exchange rate changing between the transaction date and the subsequent settlement date, i.e. it is the gain or loss arising on conversion.

This type of risk is primarily associated with imports and exports. If a company exports goods on credit then it has a figure for debtors in its accounts. The amount it will finally receive depends on the foreign exchange movement from the transaction date to the settlement date.

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As transaction risk has a potential impact on the cash flows of a company, most companies choose to hedge against such exposure. Measuring and monitoring transaction risk is normally an important component of treasury risk management.

The degree of exposure is dependent on:

- (a) The size of the transaction;
- (b) The hedge period, the time period before the expected cash flows occurs.
- (c) The anticipated volatility of the exchange rates during the hedge period.

The corporate risk management policy should state what degree of exposure is acceptable. This will probably be dependent on whether the Treasury Department has been established as a cost or profit centre.

### **Economic risk**

Transaction exposure focuses on relatively short-term cash flows effects; economic exposure encompasses these plus the longer-term affects of changes in exchange rates on the market value of a company. Basically, this means a change in the present value of the future after tax cash flows due to changes in exchange rates.

There are two ways in which a company is exposed to economic risk.

**Directly:** If your firm's home currency strengthens, then foreign competitors are able to gain sales at your expense because your products have become more expensive (or you have reduced your margins) in the eyes of customers both abroad and at home.

**Indirectly:** Even if your home currency does not move vis-à-vis your customer's currency, you may lose competitive position. For example, suppose a South African firm is selling into Hong Kong and its main competitor is a New Zealand firm. If the New Zealand dollar weakens against the Hong Kong dollar, the South African firm has lost some competitive position.

Even if your home currency does not move vis-à-vis your customer's currency you may lose competitive position. For example, suppose a South African firm is selling into Hong Kong and its main competitor is a New Zealand firm. If the New Zealand dollar weakens against the Hong Kong dollar, the South African firm has lost some competitive position.

Economic risk is difficult to quantify, but a favored strategy to manage it is to diversify internationally, in terms of sales, location of production facilities, raw materials and financing. Such diversification is likely to significantly reduce the impact of economic exposure relative to a purely domestic company, and provide much greater flexibility to react to real exchange rate changes.

### **Translation risk**

The financial statements of overseas subsidiaries are usually translated into the home currency in order that they can be consolidated into the group's financial statements. Note that

this is purely a paper-based exercise - it is the translation not the conversion of real money from one currency to another.

The reported performance of an overseas subsidiary in home-based currency terms can be severely distorted if there has been a significant foreign exchange movement.

If, initially, the exchange rate is given by \$/£1.00 and an American subsidiary is worth \$500,000, then the UK parent company will anticipate a balance sheet value of £500,000 for the subsidiary. A depreciation of the US dollar to \$/£2.00 would result in only £250,000 being translated.

Unless managers believe that the company's share price will fall as a result of showing a translation exposure loss in the company's accounts, translation exposure will not normally be hedged. The company's share price, in an efficient market, should only react to exposure that is likely to have an impact on cash flows.

### **Hedging transaction risk – the internal techniques**

Internal techniques to manage/reduce forex exposure should always be considered before external methods on cost grounds. Internal techniques include the following:

#### **Invoice in home currency**

One easy way is to insist that all foreign customers pay in your home currency and that your company pays for all imports in your home currency.

However, the exchange-rate risk has not gone away; it has just been passed onto the customer. Through achievable if you are in a monopoly position, however in a competitive environment, this is an unrealistic approach.

#### **Leading and lagging**

If an importer (payment) expects that the currency it is due to pay will depreciate, it may attempt to delay payment. This may be achieved by agreement or by exceeding credit terms.

If an exporter (receipt) expects that the currency it is due to receive will depreciate over the next three months, it may try to obtain payment immediately. This may be achieved by offering a discount for immediate payment.

The problem lies in guessing which way the exchange rate will move.

#### **Matching**

When a company has receipts and payments in the same foreign currency due at the same time, it can simply match them against each other.

It is then only necessary to deal on the forex markets for the unmatched portion of the total transactions.

An extension of the matching idea is setting up a foreign currency bank account.

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### **Decide to do nothing?**

The company would "win some, lose some".

Theory suggests that, in the long run, gains and losses net off to leave a similar result to that if hedged.

In the short run, however, losses may be significant.

One additional advantage of this policy is the savings in transaction costs.

### **Commodity Exposures**

As the volatility in prices / rate leads to market risk, it is essential to contain the risk within acceptable limits having regard to the risk appetite and culture of the organization by putting in place various limits. Exposure limits help control / contain the credit risk and concentration risk by stipulating monetary limits on various aspects. These limits help the organization to control the risk and probable loss. The limits also will take away unbridled freedom from the dealers, which may lead to financial losses that the organization may find difficult to absorb.

Given the current and future trends in commodity prices and volatility, companies are getting squeezed by rising and volatile commodity input prices that cannot be passed along to customers in their entirety. A commodity risk management programme can help. Not all organizations can, or should, adopt the sophisticated mechanisms of a pure commodity business. However, most organizations, particularly those in the middle of the value chain, can improve their commodity risk analytics.

Companies that are first to define their risk management metrics to include extreme prices and anticipate how they can best benefit from them will have a significant competitive advantage. The starting point is to understand the company's holistic commodity risk profile using analytics and modeling tools. A holistic commodity risk profile helps the organization assess its individual and net exposure to commodity prices across business and customer segments. This provides a common understanding for senior management and a "fact-based" foundation for evaluating the effectiveness of current risk-mitigation actions and alternative risk management strategies.

Determining the commodity risk profile can be quite challenging and the following aspects are to be looked into by the Company to mitigate the Commodity Exposures:

- Calculate expected commodity exposure
- Centralize risk management options undertaken across organization
- Calculate exposure after incorporating current risk management portfolio
- Determine impact of commodity price projections and exposure on financial metrics (e.g. EBITDA, cash flow, debt covenants)
- Define options for managing commodity price risk

## Credit Exposures

It is the total amount of credit extended to a borrower by a lender. The magnitude of credit exposure indicates the extent to which the lender is exposed to the risk of loss in the event of the borrower's default. Credit exposure can be minimized through purchasing credit default swaps or other types of financial instruments.

In general, a bank will seek to have greater credit exposure to its customers with the highest credit rating, and less exposure to clients with a lower credit rating. If a customer encounters unexpected financial problems, the bank may seek to reduce its credit exposure in order to mitigate the risk of loss arising from a potential default.

The credit risk in treasury is less pronounced as compared to market risk, because the majority of counter parties that the treasury deals with are banks whose credit rating is definitely a notch above the individuals and corporate. However, the treasuries will have policies in place to assume credit exposures during the course of their activities.

- *Credit Risk- Quantitative Controls:* Quantitative limits help the dealing room avoid concentration risk and credit risk. Quantitative exposure limits could be in terms of counter party limits, wherein the counter parties are identified and credit appraisals are done to ascertain their net worth and counter party limits are fixed. These limits are generally determined in terms of the net worth of the bank or the net worth of the counter party banks. The market developments / reports in respect of the counter party are closely monitored, and the limits are fine-tuned with regard to the developments.

Thus, the limit fixation is a dynamic process which automatically takes into account the changes in the credit worthiness of the counter party. These limits include per party / per deal limits, which act as brakes on the dealers.

- Further separate limits are earmarked for Fx dealing and Fx lending activities. Under both the heads, there may be distinct limits for short term exposures like spot and overnight placements, and forwards and long term placements. The exposure limits for foreign branches, if any, will also be incorporated in the same policy. Further, the exposure limits for foreign branches, if any, will also be incorporated in the same policy. The exposures that the designated branches take are also incorporated. Thus, the limits represent global limits of banks on counter party banks. Reserve Bank of India requires banks to monitor the counter party exposures globally, and on real time basis. Thus, the exposures are captured globally on line and monitored on a daily basis. Further, the powers are delegated to different functionaries so as to enable effective and smooth functioning. The exceptions are monitored on a regular basis, and it will be ensured that the global exposure remains within the approved limit which again has a relation to the net worth of the bank, or the net worth of the counter party.

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- *Credit Risk- Qualitative Controls:* Qualitative limits represent the control of quality of the portfolio that helps prevent deterioration in the quality of assets. Examples are, limits on tenor instruments, exposure to an entity rates 'AAA', exposure to instruments rates 'AAA', etc. Prescribing exit routes when there is impairment of quality of an exposure is also a qualitative control measure. In areas where credit rating is not available, the banks may identify counter parties based on net worth.

Fixing the progressively reducing limits of exposure is a technique designed to control the quality of exposures. The qualitative controls / limits provide the desired direction to the dealers.

### Debt Restructurings

*Corporate Debt Restructuring ("CDR") mechanism is a voluntary non-statutory mechanism under which financial institutions and banks come together to restructure the debt of companies facing financial difficulties due to internal or external factors, in order to provide timely support to such companies.*

The intention behind the mechanism is to revive such companies and also safeguard the interests of the lending institutions and other stakeholders. The **CDR mechanism** is available to companies which enjoy credit facilities from more than one lending institution. The mechanism allows such institutions, to restructure the debt in a speedy and transparent manner for the benefit of all.

**The objects of the CDR mechanism, as enunciated by the Reserve Bank of India, the central bank of the country, are-**

- *"To aim at preserving viable corporates that are affected by certain internal and external factors"*
- *"To minimize the losses to creditors and other stakeholders through an orderly and co-ordinated restructuring programme"*
- *"To ensure timely and transparent mechanism for restructuring of corporate debts of viable entities facing problems, for the benefit of all concerned."*

**The CDR mechanism has a three tier structure**

*CDR standing Forum:* The representative general body of banks and financial institutions participating in the CDR system. It is a self-empowered body which lays down the policies and guidelines, such as the time frame within which a unit shall become viable and the minimum level of promoter contribution. It also monitors the progress of corporate debt restructuring. The Forum also provides a platform for borrowers and creditors to amicably evolve policies for working out debt restructuring plans in the interest of everyone. The CDR Standing Forum comprises of Chairman and Managing Director, Industrial Development Bank of India Ltd; Chairman, State Bank of India; Managing Director and CEO, ICICI Bank Limited; Chairman,

Indian Banks' Association as well as Chairmen and Managing Directors of all banks and financial institutions participating as permanent members in the system. Most of the big financial institutions in India that lend money to companies are permanent participating members of the standing forum.

*CDR Core Group:* A CDR Core Group is carved out of the CDR Standing Forum to assist the Standing Forum in convening the meetings and taking decisions relating to policy, on behalf of the Standing Forum. The Core Group consists of Chief Executives of Industrial Development Bank of India Ltd., State Bank of India, ICICI Bank Ltd, Bank of Baroda, Bank of India, Punjab National Bank, Indian Banks' Association and Deputy Chairman of Indian Banks' Association representing foreign banks in India. It lays down policies and guidelines to be followed by the CDR Empowered Group and CDR Cell for debt restructuring, including policies regarding the operational difficulties faced by the CDR Empowered Group. It also prescribes time- frame, and modalities for the enforcement of time frame for cases that are referred for the CDR mechanism.

*CDR Empowered Group:* The individual cases of corporate debt restructuring are decided by the CDR Empowered Group. This group consists of Executive director level representatives of Industrial Development Bank of India Ltd., ICICI Bank Ltd. and State Bank of India as standing members, in addition to ED level representatives of financial institutions and banks who have an exposure to the concerned company. While standing members facilitate the conduct of the group's meetings, voting is in proportion to the exposure of the creditors only. The CDR Empowered Group considers the preliminary report of all cases of requests of restructuring, submitted to it by the CDR Cell. After the Empowered Group decides that restructuring of the company is prima facie feasible and the enterprise is potentially viable in terms of the policies and guidelines evolved by the Standing Forum, the detailed restructuring package is worked out by the CDR Cell in conjunction with the Lead Institution, which is the institution which has the highest exposure in the concerned company. The CDR Empowered Group examines the viability and rehabilitation potential of the company and approves the restructuring package within a specified time frame of 90 days, or at best within 180 days from the date on which it received the reference. The decision of the CDR Empowered Group is final and if it finds the restructuring package feasible and approves the scheme then the company is put on the restructuring mode. If restructuring is not found viable, the creditors are free to take necessary steps for immediate recovery of dues and / or liquidation or winding up of the company, collectively or individually.

*CDR Cell:* The CDR Cell makes the initial scrutiny about the health of the company and the role of corporate governance, and scrutinizes the details of the proposals received from borrowers / creditors, by calling for proposed rehabilitation plan and other information and puts up the matter before the CDR Empowered Group within one month to decide if rehabilitation is prima facie feasible.

If found feasible, the CDR Cell will proceed to prepare detailed Rehabilitation Plan with the help of creditors and, if necessary, with experts to be engaged from outside.

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Restructuring is a procedure in which a business changes the strategy or direction of its organization. Many cases of restructuring involve downsizing. The business may reduce the staff, eliminate departments or close some of its retail locations. Businesses attempting to downsize may also outsource some of their operations to save money. In other cases, restructuring may involve the reassignment or alteration of duties within the organization to improve performance or incorporate new technologies.

### **Advantages**

If a business downsizes during restructuring, its operational costs may decrease. For example, payroll expenses will be lower if the business reduced its staff. Likewise, outsourced operations are usually less expensive than in-house labor. When a business eliminates layers of management during its restructuring, communication and decision making often improve. Finally, businesses restructuring to introduce new technologies may enjoy increased operational efficiency. For instance, records become more accurate and easier to access if a business implements a computerized filing system.

### **Disadvantages**

If a business downsizes during restructuring, it may lose highly skilled workers. Reassigning the duties of these workers to remaining employees often involves added training expenses. Workers remaining after downsizings often feel insecure about their jobs, which may lead to low worker morale and poor customer service.

If a company's restructuring involves new technology or changes in employee responsibilities, productivity may suffer while employees learn their new roles.

### **Other Considerations**

If a business restructures, investors may question the company's future. Small businesses supported by only a few investors may lose necessary funding if they are unable to provide reassurance. Small businesses already operating with a limited number of employees may be unable to dismiss enough personnel to make a significant difference in payroll expenses. Furthermore, a small business that decreases its workforce too dramatically may spend more in overtime pay for the remaining workers than it saved through downsizing.

## **Treasury - Banking**

The Reserve Bank of India and other regulatory agencies have implemented significant policies so as to make various segments of financial markets more efficient and vibrant. On account of these policy measures, segments of financial markets like the money and securities markets have witnessed tremendous growth in terms of development of new financial instruments, number of players, volume of business, etc. Besides, the foreign exchange market has also witnessed growth and has integrated itself with the money and securities markets. Because of this, integrated treasury function in banks and financial institutions has

grown manifold and become too complex to organize and manage. Further, because of increasing business competition and expectations from the shareholders, banks and financial institutions are under pressure to improve their bottom line performance. In this context, treasury managers have to play a significant role in improving the overall financial performance of their organizations through efficient management of treasury operations.

Against this backdrop, banks and financial institutions have recognized the importance of treasury function, and, accordingly, have taken several steps for integration of rupee and forex treasury operations. Banks and financial institutions have increased their participation in the money, securities and forex markets. Integrated treasury uses derivative products for risk management and also offers investment banking products to their clients. In the light of these developments, a need has been felt to have an Intensive Programme in Integrated Treasury Management for middle level executives to enable them to improve their skill and knowledge which are necessary to manage the integrated treasury operations more efficiently and effectively.

### **Back ground**

With the rise in globalization and the integration of markets world over, treasury operations have undergone an enormous change. This change has been sweeping India and making integration of treasury operations more and more important for Indian banks. The basic aim of this integration is to improve the profitability of banks and insulate against risks. Banks are changing their organizational structures and their way of functioning to maximize their gains from these operations. However, there exist certain challenges that need to be addressed.

In general terms, and from the perspective of commercial banking, treasury refers to the fund and revenue in the possession of the bank and day-to-day management of the same. Idle funds are usually a source of loss, real or opportune, and, thereby need to be managed, invested, and deployed with intent to improve profitability. There is no profit or reward without attendant risk. Thus treasury operations seek to maximize profit and earning by investing available funds at an acceptable level of risks. Returns and risks both need to be managed.

In this context, treasury operations are becoming more and more important to the banks and a need for integration, both horizontal and vertical, has come to the attention of the corporates. The basic purpose of integration is to improve portfolio profitability, risk-insulation and also to synergize banking assets with trading assets. In horizontal integration, dealing/trading rooms engaged in the same trading activity are brought under same policy, hierarchy, technological and accounting platform, while in vertical integration, all existing and diverse trading and arbitrage activities are brought under one control with one common pool of funding and contributions.

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### Capital Adequacy

Banks encounter various types of risks while conducting the business of financial intermediation as it is the highly leveraged sector of an economy. Risk and uncertainties, therefore, form an integral part and parcel of banking. Thus, risk management is the core to any banking service and hence the need for sufficient Capital Adequacy Ratio is felt. Regulation of capital assumes significant importance so as to reduce bank failures, to promote stability, safety and soundness of the banking system, to prevent systemic disaster and to ultimately reduce losses to the bank depositors.

The Basel Committee on Banking Supervision (BCBS) is a committee of banking supervisory authorities which published the Basel Accords i.e., rules regarding capital requirements. BCBS is a comprehensive set of reform measures to strengthen the regulation, supervision and risk management of the banking sector. In 1988, BCBS introduced the capital measurement system commonly referred to as Basel I. In 2004, BCBS published Basel II guidelines which were the refined, reformed and more complex version of Basel I. While Basel I focus only on credit risk, Basel II includes market and operational risks besides credit risks.

Basel III was released in December, 2010 which lay more focus on quality, consistency and transparency of the capital base. India adopted Basel I guidelines in 1999 while Basel II guidelines were implemented in phases by 2009. The Basel III capital regulation has been implemented in India from April 1, 2013 in phases and will be fully implemented by March 31, 2018.

The capital which banks hold with themselves as required by financial regulator is known as minimum capital requirement. Banks are exposed to various types of risks while granting loans and advances to various sectors. In order to absorb any losses which banks face in their business, it is imperative that banks should have sufficient capital. If banks have adequate capital, then they can protect their depositors from unforeseen contingencies as also promote the stability and efficiency of financial systems.

### Components of Capital

**Tier I Capital:** The elements of Tier I capital include paid-up capital (ordinary shares), statutory reserves, disclosed free reserves, Perpetual Non-cumulative Preference Shares (PNCPS) subject to laws in force from time to time, Innovative Perpetual Debt Instruments (IPDI) and capital reserves representing surplus arising out of sale proceeds of asset. It is generally referred to as the core capital which absorbs losses without a bank being required to cease trading and to thus provides more of protection to its depositors.

**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. It is the supplementary capital which absorbs losses in the event of winding up and thus provides lesser degree of protection to its depositors. Tier II

items qualify as regulatory capital to the extent that they absorb losses arising from bank's activities.

**Tier III Capital:** This is arranged to meet part of market risk, viz. changes in interest rate, exchange rate, equity prices, commodity prices, etc. To qualify as Tier III capital, assets must be limited to 250% of a bank's Tier I capital, be unsecured, subordinated and have a minimum maturity of 2 years.

Capital adequacy ratio is the ratio which protects banks against excess leverage, insolvency and keeps them out of difficulty. It is defined as the ratio of bank's capital in relation to its current liabilities and risk-weighted assets. Risk-weighted assets are a measure of amount of bank's assets, adjusted for risks. An appropriate level of capital adequacy ensures that the bank has sufficient capital to expand its business, while at the same time its net worth is enough to absorb any financial downturns without becoming insolvent. It is the ratio which determines bank's capacity to meet the time liabilities and other risks such as credit risk, market risk, operational risk etc. As per RBI norms, Indian SCBs should have a CAR of 9% i.e., 1% more than stipulated Basel norms while public sector banks are emphasized to keep this ratio at 12%. Capital adequacy ratio is defined as:

**CAR**= Tier I + Tier II + Tier III capital (capital funds) / Risk Weighted Assets (RWA)

### Yield Curve and Spreads

Traditionally it is argued that yield curve and banks' net interest margins share a logical relationship. Banks pay interest on their deposits based on short-term interest rates while making loans tied to long-term interest rates. Thus, the difference between interest paid and received, which is the net interest margin, should be influenced by the slope of the yield curve defined as the spread between short- term and long- term interest rates.

The international discourse in this matter has been supported historically through 1984 and 1994 when the correlation between changes in the yield curve spread and banks' net interest margins with a two-quarter lag worked out to be 70 per cent. This relationship between yield curve and net interest margin is important from a macroeconomic point of view, given the fact that a flattening yield curve is a precursor to a slowing economic growth and consequently increased pressure on banks' earnings.

However, of late, banks have become less sensitive to yield curve movements for several reasons.

One, this may be attributed to changing banking regulations and product differentiation which has enabled banks to diversify into non-traditional activities.

Two, exposure to interest rate movements has been moderated through the development of new financial products such as interest rate swaps, securitization and adjustable rate loans.

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Three, banks have been able to offset the impact of declining yields on net interest margins of banks by funding more of their assets through non-interest bearing liabilities such as equity and demand deposits.

Another interesting observation has been that although net interest margins of large banks have moved in consonance with the yield curve movements, small banks have exhibited signs of decoupling from the prescribed trend of the yield curve. This may be attributed to differences in asset composition and funding costs between small and large banks.

Large banks specialize in commercial and industrial loans which have experienced decline in rates charged because of competition from both bank and non-bank sources.

Secondly, larger banks have experienced a rapid rise in funding costs due to their greater reliance on overnight and wholesale funding which are re-priced faster during an upward revision of interest rates. This is as opposed to smaller banks which rely more on long-term deposits.

### **Credit Risks**

Credit risk (or counterparty risk) is increasingly faced by banks in their product assortment (not only lending), and can be considered as the oldest and largest risk in banking. Important in a bank relationship is the “know your client principle”, for becoming familiar with the borrower and/or credit base<sup>1</sup>. It is important that banks deal with customers with sound reputation and creditworthiness. Therefore, banks need to manage the credit risk not only in their credit portfolio but also that in any individual credit or transaction. The relationship between credit risk and other risks should also be considered by banks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and important to the long-term success of any banking organization. Effective credit risk management process is a way to manage portfolio of credit facilities. Credit risk management encompasses identification, measurement, monitoring and control of the credit risk exposures. The effective management of credit risk is a critical component of comprehensive risk management and essential for the long term success of a banking organisation.

Credit risk consists of primarily two components, viz., quantity of risk, which is nothing but the outstanding loan balance as on the date of default, and the quality of risk, viz., the severity of loss defined by both probability of default as reduced by the recoveries that could be made in the event of default. Thus credit risk is a combined outcome of Default Risk and Exposure Risk.

The objectives are to:

- Evolve an integrated framework for charting/categorizing various types of loans and advances, and determine implications on quality of credit and risk.

- Draw up suitable strategies at the corporate level to attain the prescribed levels/quality of exposure and issue guidelines to Strategic Business Units (SBUs). Benchmarks could be in term of recovery percentages, NPA levels, volume of exposure, etc.
- Review the exposures and performance periodically.
- Devise suitable control/monitoring mechanisms.
- Evolve and refine analytical tools to assess risk profiles, for ensuring healthy portfolios and guarding against sickness

Credit Risk Management Policy of the bank dictates the Credit Risk Strategy. These policies spell out the target markets, risk acceptance/avoidance levels, risk tolerance limits, prefer levels of diversification and concentration, credit risk measurement, monitoring and controlling mechanisms. The ever-improving risk management practices in the Bank will result in the Bank emerging stronger, which in turn would confer competitive advantage on it in the market.

### Foreign Exchange Risk

**Foreign exchange risk** is commonly analyzed as transaction risk, pre-transaction risk, translation risk and economic risk.

#### Transaction risk

This is the risk where a company's cash flows and realized profits may be affected by movements in foreign exchange markets due to transactions entered into by the organization. Generally foreign exchange transaction risk is:

- Short-term (although some companies may have long-term transaction exposure)
- Revenue in nature
- Created where there is a firm commitment to pay or receive in a foreign currency.

Transaction risk represents definite foreign currency receipts or payments where a clear obligation to make a payment or a right to receive a payment has arisen. Examples of transaction risk are payments to be made in a foreign currency for deliveries from an overseas supplier, the receipt of foreign dividends or the payment of royalty and franchise fees.

#### Pre-transaction risks

These are contingent foreign exchange exposures arising before entering into a commercial contract, which would turn them into transactional exposures. Examples of pre-transaction risks are the publication of a price list, overseas sales not yet made but forecast by the company, or the forecast receipt of foreign dividends not yet declared.

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### **Translation risk**

Companies with overseas subsidiaries will find that the domestic value of the assets and liabilities of these subsidiaries will fluctuate with exchange rate movements. In addition, the domestic equivalent of the foreign currency earnings of these subsidiaries will also be affected by movements in exchange rates.

### **Economic risk**

Companies may be exposed to foreign exchange movements not only through transactional and pre-transactional exposure but also due to their competitive position. Consider an India-based engineering company exporting to the United States, with its major competitor being a Japanese manufacturer. Such a company has exposure not only to the Rupee/US\$ exchange rate on its transactional and pre-transactional exposures, but can also get impacted due to US\$/JPY movement. If the JPY weakens against the US\$ whilst at the same time Rupee strengthens against the US\$, that will clearly weaken the company's competitive position vis-à-vis its Japanese competitor.

Again, a London-based hotel will have all its operating costs in pound sterling, but nevertheless, may find its room occupancy rate affected by UK£/US\$ exchange rate. As pound sterling strengthens against the US\$ it becomes more expensive for American tourists to visit United Kingdom, and they switch their holidays to other venues.

### **Interest Risks**

Organizations with substantial borrowings or deposits will find that their borrowing costs or deposit returns will be affected by movements in interest rates. Organizations with their borrowings at variable rates will be exposed to increases in interest rates, whilst those organizations whose borrowing costs are totally or partly fixed will be exposed to a fall in interest rates. The reverse is obviously true for organizations with term cash deposits.

### **Re-financing Risks**

Re-financing risk is defined as the risk that an early unscheduled repayment of principal on mortgage-backed securities (MBS) will occur when the underlying mortgages are refinanced by borrowers. All MBS buyers assume some level of prepayments in their initial yield calculations, but an increase in the level of refinancing (which usually occurs as a result of falling interest rates) means that MBSs mature faster and will have to be reinvested at lower rates. For a mortgage borrower, the risk is that he or she will not be able to refinance an existing mortgage at a future date under favorable terms.

- The prepayment estimates used to price mortgage-backed securities are made based on market conventions known as "speeds". There are two primary measures of mortgage prepayment speeds: the conditional prepayment rate and the Public Securities Association Standard Prepayment model.

- Typically, refinancing risk is associated with short-term mortgage products such as hybrid ARMs and payment option ARMs. Borrowers often take on unforeseen risks when they assume that they will be able to refinance out of an existing mortgage at some planned future date - usually before a payment or interest rate reset date - to avoid an increase in their monthly payments. Interest rates might rise substantially before that date, or home price depreciation could lead to a loss of equity, which might make it hard to refinance as planned.

## Securitization

Securitization is the process of taking an illiquid asset, or group of assets, and through financial engineering, transforming them into a security.

A typical example of securitization is a mortgage-backed security (MBS), which is a type of asset-backed security that is secured by a collection of mortgages. The process works as follows:

First, a regulated and authorized financial institution originates numerous mortgages, which are secured by claims against the various properties the mortgagors purchase. Then, all of the individual mortgages are bundled together into a mortgage pool, which is held in trust as the collateral for an MBS. The MBS can be issued by a third-party financial company, such as a large investment banking firm, or by the same bank that originated the mortgages in the first place. Mortgage-backed securities are also issued by aggregators such as Fannie Mae or Freddie Mac.

In all such cases, the result is the same: a new security is created, backed up by the claims against the mortgagors' assets. This security can be sold to participants in the secondary mortgage market. This market is extremely large, providing a significant amount of liquidity to the group of mortgages, which otherwise would have been quite illiquid on their own.

Furthermore, at the time the MBS is being created, the issuer will often choose to break the mortgage pool into a number of different parts, referred to as tranches. These tranches can be structured in virtually any way the issuer sees fit, allowing the issuer to tailor a single MBS for a variety of risk tolerances. Pension funds will typically invest in high-credit rated mortgage-backed securities, while hedge funds will seek higher returns by investing in those with low credit ratings.

## Asset Liability Management

Asset-Liability Management (ALM) is one of the important tools of risk management in commercial banks of India. Indian banking industry is exposed to a number of risks prevailing in the market such as market risk, financial risk, interest rate risk etc. The net income of the banks is very sensitive to these factors or risks. For this purpose, Reserve bank of India (RBI), regulator of Indian banking industry evolved the tool known as ALM.

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ALM is a comprehensive and dynamic framework for measuring, monitoring and managing the market risk of a bank. It is the management of structure of balance sheet (liabilities and assets) in such a way that the net earnings from interest are maximized within the overall risk-preference (present and future) of the institutions. The ALM functions extend to liquidity risk management, management of market risk, trading risk management, funding and capital planning and profit planning and growth projection.

The concept of ALM is of recent origin in India. It has been introduced in Indian Banking industry w.e.f. 1st April, 1999. ALM is concerned with risk management and provides a comprehensive and dynamic framework for measuring, monitoring and managing liquidity, interest rate, foreign exchange and equity and commodity price risks of a bank that needs to be closely integrated with the bank's business strategy. Asset-liability management basically refers to the process by which an institution manages its balance sheet in order to allow for alternative interest rate and liquidity scenarios.

Banks and other financial institutions provide services which expose them to various kinds of risks like credit risk, interest risk, and liquidity risk. Asset liability management is an approach that provides institutions with protection that makes such risk acceptable. Asset-liability management models enable institutions to measure and monitor risk, and provide suitable strategies for their management.

It is, therefore, appropriate for institutions (banks, finance companies, leasing companies, insurance companies, and others) to focus on asset-liability management when they face financial risks of different types. Asset-liability management includes not only a formalization of this understanding, but also a way to quantify and manage these risks. Further, even in the absence of a formal asset-liability management program, the understanding of these concepts is of value to an institution as it provides a truer picture of the risk/reward trade-off in which the institution is engaged.

Asset-liability management is a first step in the long-term strategic planning process. Therefore, it can be considered as a planning function for an intermediate term. In a sense, the various aspects of balance sheet management deal with planning as well as direction and control of the levels, changes and mixes of assets, liabilities, and capital.

### **Significance of ALM**

- Volatility
- Product Innovations & Complexities
- Regulatory Environment
- Management Recognition

## Categories of Risk

Risk in a way can be defined as the chance or the probability of loss or damage. In the case of banks, these include credit risk, capital risk, market risk, interest rate risk, and liquidity risk. These categories of financial risk require focus, since financial institutions like banks do have complexities and rapid changes in their operating environments.

**CREDIT RISK:** The risk of counter party failure in meeting the payment obligation on the specific date is known as credit risk. Credit risk management is an important challenge for financial institutions and failure on this front may lead to failure of banks. The recent failure of many Japanese banks and failure of savings and loan associations in the 1980s in the USA are important examples, which provide lessons for others. It may be noted that the willingness to pay, which is measured by the character of the counter party, and the ability to pay need not necessarily go together.

The other important issue is contract enforcement in countries like India. Legal reforms are very critical in order to have timely contract enforcement. Delays and loopholes in the legal system significantly affect the ability of the lender to enforce the contract.

**CAPITAL RISK:** One of the sound aspects of banking practice is the maintenance of adequate capital on a continuous basis. There are attempts to bring in global norms in this field in order to bring in commonality and standardization in international practices. Capital adequacy also focuses on the weighted average risk of lending and, to that extent, banks are in a position to realign their portfolios between more risky and less risky assets.

**MARKET RISK:** Market risk is related to the financial condition, which results from adverse movement in market prices. This will be more pronounced when financial information has to be provided on a marked-to-market basis since significant fluctuations in asset holdings could adversely affect the balance sheet of banks. In the Indian context, the problem is accentuated because many financial institutions acquire bonds and hold it till maturity. When there is a significant increase in the term structure of interest rates, or violent fluctuations in the rate structure, one finds substantial erosion in the value of the securities held.

**INTEREST RATE RISK:** Interest rate risk is the change in prices of bonds that could occur as a result of change in interest rates. It also considers change in impact on interest income due to changes in the rate of interest. In other words, price as well as reinvestment risks require focus. Insofar as the terms for which interest rates were fixed on deposits differed from those for which they were fixed for assets, banks incurred interest rate risk i.e., they stood to make gains or losses with every change in the level of interest rates.

**LIQUIDITY RISK:** Affects many Indian institutions. It is the potential inability to generate adequate cash to cope with a decline in deposits or increase in assets. To a large extent, it is an outcome of the mismatch in the maturity patterns of assets and liabilities.

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### **ALM-PROCESS**

The ALM process rests on three pillars:

- (i) ALM Information Systems
  - Management Information Systems
  - Information availability, accuracy, adequacy and expediency
- (ii) ALM Organization
  - Structure and responsibilities
  - Level of top management involvement
- (iii) ALM Process
  - o Risk parameters
  - o Risk identification
    - Risk measurement
    - Risk management
  - o Risk policies and tolerance levels

As per RBI guidelines, commercial banks are to distribute the outflows/inflows in different residual maturity periods known as time buckets. The Assets and Liabilities were earlier divided into 8 maturity buckets (1-14 days; 15-28 days; 29-90 days; 91-180 days; 181-365 days, 1-3 years and 3-5 years and above 5 years), based on the remaining period to their maturity (also called residual maturity). All the liability figures are outflows while the asset figures are inflows.

Asset-Liability Management has evolved as a vital activity of all financial institutions and to some extent other industries too. It has become the prime focus in the banking industry, with every bank trying to maximize yield and reduce their risk exposure. The Reserve Bank of India has issued guidelines to banks operating in the Indian environment to regulate their asset-liability positions in order to maintain stability of the financial system.

Maturity-gap analysis has a wide range of focus, not only as a situation analysis tool, but also as a planning tool. Banks need to maintain the maturity gap as low as possible in order to avoid any liquidity exposure. This would necessarily mean that the outflows in different maturity buckets need to be funded from the inflows in the same bucket. As per the RBI's guidelines, banks have to maintain a stable liquidity position in the short term duration, including both 1-14 day- and 15-28 day-time buckets, to ensure the stability and credibility of the banking system of the country.

From the foregoing it may be concluded that asset-liability management is one of the vital tools for risk management in banks and banks have to take great care for that. All banks have to work properly with regard to the ALM so as to increase their performance.

## Treasury - Special Reference to:

### Insurance Companies (Life & General)

The Insurance Industry in India is subject to a complicated set of rules and regulations. Companies are required to invest minimum amounts in government securities; and restrictions are put on the amount to be invested in approved investments and other investments, as per a detailed list that includes specific equities and corporate bonds as well as bank deposits. Approved investments are in companies that have a strong, multi-year dividend payment record. Investments that do not meet these criteria are called –Other Investments.

The Insurance Act of 1938 required that the life insurers should hold 55% of their assets in government securities or other approved securities (Section 27A). In the 1940s, many insurers were part of financial conglomerates. With a 45% balance to play with, some insurers used these funds for financing their other enterprises or even for speculation. Based on the reading of Section 27A of the Insurance Act, 1938, together with the exposure norms issued by IRDA from time to time, the following can be the summary of the currently prevailing rules and regulations pertaining to investment norms for insurance companies.

**Life insurance:** A minimum 25% is to be invested in Central Government securities. A minimum 50% is to be invested in Central Government and state government securities (and in securities guaranteed by those entities), and equity investments cannot exceed 35%. Housing and infrastructure require a minimum of 15% investment.

**General insurance:** A minimum of 20% is to be invested in Central Government securities. A minimum of 30% is to be invested in Central Government and State government securities (and in securities guaranteed by those governments), and equity investments cannot exceed 55%. Housing and loans to State Governments for housing and fire-fighting equipment require a minimum of 5% investment and infrastructure requires a minimum of 10% investment.

**Total Investments of the Insurance sector:** As on March 31, 2013, the accumulated total investments of the insurance sector stood at ₹ 18,60,500 crore, showing a 10.70% increase over the ₹ 16,80,527 crore AUM recorded during 2011-12. Life insurers continue to contribute a major share of total investments held by the industry with a share of 93.58% (previous year 94%). Similarly, public sector companies continue to contribute a major share (79.74%) in total investments, although the share of AUM held by private sector insurers has also been growing fairly in recent years, particularly in the backdrop of increase in sales of Unit Linked Insurance Products (ULIPs).

### Investments of Life Insurers

The various sources of funds available for investment by life insurers are classified as (i) funds from traditional products, and, (ii) funds from ULIP products. The total funds invested by life

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insurers as on March 31, 2013, amounted to Rs 17,41,175 crore, compared with Rs15,81,259 crore in the previous year. Of this, ₹ 3,42,507 crore or 19.67% of the total funds (₹ 3,69,972 crore or 23.4% in the previous year) were contributed by ULIP funds. The remaining ₹ 13,98,668 crore or 80.33% (₹ 12,11,287 crore, or 76.60% in previous year) were contributed by traditional products. The share of ULIP funds in total investments has decreased in the last year. Thus, during the year the increase in total investments was contributed entirely by traditional funds as there was a reduction in funds contributed by ULIP funds.

The pattern of investments made by life insurers as on March 31, 2012, followed the trend of the previous year. According to IRDA's 2011-12 annual report: Central government securities and approved investments continued to be the two major avenues of investments by life insurers. Segregated on the basis of funds, life funds contributed ₹ 974,620 crore or 61.64% of the total funds (₹8,41,075 crore, 58.81%, in the previous year), pension and general annuity & group funds ₹ 2,36,667 crore at 14.97% (₹1,89,927 crore, 13.28%) and ULIP funds ₹ 3,69,972 crore at 23.4% (₹3,99,116 crore, 27.91%). Two interesting trends emerge – one, during 2011-12, share of pension/annuity funds increased to 14.97% from 13.28% in the previous year, and two, share of ULIP funds decreased from 27.91% to 23.4%.

### **Investments of Non-Life Insurers**

Non-life insurers contributed to the extent of only 6.41% (6% in the previous year) of total investments held by the insurance industry. The total investments of the non-life sector, as on March 31, 2013, stood at ₹ 1,19,325 crore, compared with ₹99,268 crore in the previous year, showing a growth of 20.20% growth. The pattern of investments remained the same as in the previous year. As on March 31, 2012, non-life insurers held ₹ 24,241 crore in central government securities, representing 24.42% of total investments (₹ 19,865 crore, 24.07%, in the previous year) and ₹ 38,563 crore, representing 38.84% of total investments (₹31,769 crore, 38.50%) in approved investments.

### **Mutual Fund Organizations**

A scheme can also be classified as growth scheme, income scheme, or balanced scheme depending on its investment objective. Such schemes may be open-ended or close-ended schemes as described earlier. These schemes may be classified mainly as follows:

#### **Growth- / Equity- Oriented Scheme**

The aim of growth funds is to provide capital appreciation over the medium to long-term. Such schemes normally invest a major part of their corpus in equities. Such funds have comparatively high risks. These schemes provide different options to the investors like dividend option, capital appreciation, etc. and the investors may choose an option depending on their preferences. The investors must indicate the option in the application form. The

mutual funds also allow the investors to change the options at a later date. Growth schemes are good for investors having a long-term outlook seeking appreciation over a period of time.

### **Income-/ Debt-Oriented Scheme**

The aim of income funds is to provide regular and steady income to investors. Such schemes generally invest in fixed income securities such as bonds, corporate debentures, Government securities and money market instruments. Such funds are less risky compared to equity schemes. These funds are not affected because of fluctuations in equity markets. However, opportunities of capital appreciation are also limited in such funds. The NAVs of such funds are affected because of change in interest rates in the country. If the interest rates fall, NAVs of such funds are likely to increase in the short run and vice versa. However, long term investors may not bother about these fluctuations.

### **Balanced Fund**

The aim of balanced funds is to provide both growth and regular income as such schemes invest both in equities and fixed income securities in the proportion indicated in their offer documents. These are appropriate for investors looking for moderate growth. They generally invest 40-60% in equity and debt instruments. These funds are also affected because of fluctuations in share prices in the stock markets. However, NAVs of such funds are likely to be less volatile compared to pure equity funds.

### **Money Market or Liquid Fund**

These funds are also income funds and their aim is to provide easy liquidity, preservation of capital and moderate income. These schemes invest exclusively in safer short-term instruments such as treasury bills, certificates of deposit, commercial paper and inter-bank call money, government securities, etc. Returns on these schemes fluctuate much less compared to returns on other funds. These funds are appropriate for corporate and individual investors as an avenue for parking their surplus funds for short periods.

### **Gilt Fund**

These funds invest exclusively in government securities. Government securities have no default risk. NAVs of these schemes also fluctuate due to change in interest rates and other economic factors as is the case with income or debt-oriented schemes.

### **Index Funds**

Index Funds replicate the portfolio of a particular index such as the BSE Sensitive index, S&P NSE 50 index (Nifty), etc. These schemes invest in the securities in the same weightage comprising of an index. NAVs of such schemes would rise or fall in accordance with the rise or

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fall in the index, though not exactly by the same percentage due to some factors known as "tracking error" in technical terms. Necessary disclosures in this regard are made in the offer document of the mutual fund scheme.

There are also exchange traded index funds launched by the mutual funds which are traded on the stock exchanges.

### **What are sector specific funds/schemes?**

These are the funds/schemes which invest in the securities of only such sectors or industries as are specified in the offer documents e.g. Pharmaceuticals, Software, Fast Moving Consumer Goods (FMCG), Petroleum stocks, etc. The returns in these funds are dependent on the performance of the respective sectors/industries. While these funds may give higher returns, they are more risky compared to diversified funds. Investors need to keep a watch on the performance of those sectors/industries and must exit at an appropriate time. They may also seek advice of an expert.

### **What is Tax Saving Schemes?**

These schemes offer tax rebates to the investors under specific provisions of the Income Tax Act, 1961 as the Government offers tax incentives for investment in specified avenues. For example, Equity Linked Savings Schemes (ELSS). Pension schemes launched by the mutual funds also offer tax benefits. These schemes are growth-oriented and invest predominantly in equities. Their growth opportunities and risks associated are like any equity-oriented scheme.

Considering the market trends, a prudent fund managers may change the asset allocation i.e. he can invest higher or lower percentage of the fund in equity or debt instruments compared to what is disclosed in the offer document. It can be done on a short-term basis on defensive considerations i.e. to protect the NAV. Hence the fund managers are allowed certain flexibility in altering the asset allocation considering the interests of the investors. In case the mutual fund wants to change the asset allocation on a permanent basis, they are required to inform the unit holders and giving them option to exit the scheme at prevailing NAV without any exit load.

The performance of a scheme is reflected in its net asset value (NAV) which is disclosed on daily basis in case of open-ended schemes and on weekly basis in case of close-ended schemes. The NAVs of mutual funds are required to be published in newspapers. The NAVs are also available on the web sites of mutual funds. All mutual funds are also required to put their NAVs on the web site of Association of Mutual Funds in India (AMFI) [www.amfiindia.com](http://www.amfiindia.com) and thus the investors can access NAVs of all mutual funds at one place.

Mutual funds are also required to publish reports of their performance in the form of half-yearly results which also include their returns/yields over a period of time i.e. last six months, 1 year,

3 years, 5 years and since inception of schemes. Investors can also look into other details like percentage of expenses of total assets as these have an effect on the yield and other useful information in the same half-yearly format.

Mutual funds are also required to send annual report or abridged annual report to the unitholders at the end of the year.

Various studies on mutual fund schemes including yields of different schemes are being published by the financial newspapers on a weekly basis. Apart from these, many research agencies also publish research reports on performance of mutual funds including the ranking of various schemes in terms of their performance. Investors should study these reports and keep themselves informed about the performance of various schemes of different mutual funds.

Investors can compare the performance of their schemes with those of other mutual funds under the same category. They can also compare the performance of equity oriented schemes with the benchmarks like BSE Sensitive Index, S&P CNX Nifty, etc.

On the basis of performance of the mutual funds, the investors should decide when to enter or exit from a mutual fund scheme.

Mutual funds are required to disclose full portfolios of all of their schemes on half-yearly basis which are published in the newspapers. Some mutual funds send the portfolios to their unit holders.

The scheme of portfolio shows investment made in each security i.e. equity, debentures, money market instruments, government securities, etc. and their quantity, market value and % to NAV. These portfolio statements are also required to disclose illiquid securities in the portfolio, investment made in rated and unrated debt securities, non-performing assets (NPAs), etc.

Some of the mutual funds send newsletters to the unit holders on quarterly basis which also contain portfolios of the schemes.

### **Chit Funds Organizations**

"Chit" means a transaction (whether called chit fund, chit, kuri or by any other name), by which the foreman enters into an agreement with a number of subscribers that everyone of them shall subscribe a certain sum for a certain period and each subscriber in his turn as determined by lot or by auction, shall be entitled to a prized amount.

**Example:** 25 subscribers agree to subscribe an amount of ₹4,000/- for 25 months i.e. for a total chit value of ₹1,00,000/-; each subscriber will get his chit amount in his turn as determined by draw of lot or by auction. During auction all non-prized subscribers bid by allowing percentage of subscription to be forgone. The highest bidder i.e. who allows

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maximum percentage to subscribers is given the chit amount. The amount, foregone by the subscriber is distributed as dividend amongst all the subscribers in every draw, after deducting 5% commission/remuneration to be paid to the foreman of the company. Maximum bid is normally between 20% to 40% and the duration of chit is normally between 12 months to 50 months. In case there are more than one highest bidder in an auction, then draw of lots is made and chit amount given to the successful subscriber.

These 25 subscribers constitute a "Chit Group"; the chit fund company can run many such groups. For each chit group, previous sanction, registration of chit agreements and commencement certificate from the office of the Registrar, Chit Funds, is a must. The share of a subscriber in a chit is also known as ticket.

### **How to Choose a Chit Fund Company**

- (i) See the certificate of incorporation issued by the Registrar of Companies (ROC) to the foreman of the company (All chit fund companies are required to be registered with the ROC).
- (ii) Ask for the certificate of registration number of the company issued by the Registrar, Chit Funds, Delhi (All chit fund companies are required to get themselves registered with the RCF to start the chit business in NCT of Delhi).
- (iii) Whether the previous sanction has been obtained from the RCF, Delhi in respect of the chit group, you wish to join.
- (iv) You should go through the clauses of chit agreement and be sure whether you are financially capable of subscribing in that chit group.
- (v) Ask for a list of Directors of the company. You should also personally satisfy yourself about the financial soundness of the Directors as well as of the company and their sincerity towards the subscribers.
- (vi) See the list of registered chit fund companies currently conducting chits under the Chit Funds Act, 1982 on this website.
- (vii) Verify from the office of the Registrar, Chit funds, Delhi whether the chit fund company is functioning and whether any complaint or court case is pending against the company.

### **Section 20 in the Chit Funds Act, 1982**

Security to be given by foreman:

- (1) For the proper conduct of the chit, every foreman shall, before applying for a prior sanction under section 4, 1[(a) deposit in the name of the Registrar, an amount equal to,
  - (i) fifty per cent of the chit amount in cash in an approved bank; and

- (ii) fifty per cent of the chit amount in the form of bank guarantee from an approved bank; or]
  - (b) transfer Government securities of the face value or market value (whichever is less) of not less than one and a half times the chit amount in favour of the Registrar; or
  - (c) transfer in favour of the Registrar such other securities, being securities in which a trustee may invest money under section 20 of the Indian Trusts Act, 1882 (2 of 1882), of such value, as may be prescribed by the State Government from time of time: Provided that the value of the securities referred to in clause (c) shall not, in any case, be less than one and a half times the value of the chit amount.
- (2) Where a foreman conducts more than one chit, he shall furnish security in accordance with the provisions of sub-section (1) in respect of each chit.
- (3) The Registrar may, at any time during the currency of the chit, permit the substitution of the security: Provided that the face value or market value (whichever is less) of the substituted security shall not be less than the value of the security given by the foreman under sub-section (1).
- (4) The security given by the foreman under sub-section (1), or any security substituted under sub-section (3), shall not be liable to be attached in execution of a decree or otherwise until the chit is terminated and the claims of all the subscribers are fully satisfied.
- (5) Where the chit is terminated and the Registrar has satisfied himself that the claims of all the subscribers have been fully satisfied, he shall order the release of the security furnished by the foreman under sub-section (1), or the security substituted under sub-section (3), as the case may be, and in doing so, he shall follow such procedure as may be prescribed.
- (6) Notwithstanding anything to the contrary contained in any other law for the time being in force, the security furnished under this section shall not be dealt with by the foreman during the currency of the chit to which it relates, and any dealing by the foreman with respect thereto by way of transfer or other encumbrances shall be null and void.

### Release of FDR

As soon as a chit group commenced under the Madras Chit Funds Act, 1961 is terminated and all the payments have been made to the subscribers, Departmental procedure requires the company to file the following documents for the release of security:

- (i) Form for release of security under Rule 22(1).
- (ii) Affidavit duly attested by the notary public along with notary stamps worth ₹3/-
- (iii) Bank certificate regarding clearance of payments made to the subscribers in r/o. last 5 auctions, and related documents.

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- (iv) List of transfers of subscribers.
- (v) Detailed list of payments.
- (vi) Last Balance Sheet.
- (vii) In case of a non-functional company, the Registrar Chit Fund, for being satisfied that payment to all the subscribers has been released, may seek confirmation from the subscribers regarding no dues from the company.

The Registrar, shall, after being satisfied that all the requirements have been complied with, release the security

### **Procedure for release of security furnished under section 20 of the Chit Funds Act,1982:**

On termination of the chit, the foreman shall make an application to the Registrar for release of the security given by him. The application for release of security shall contain a declaration in the form of an affidavit, duly signed by the foreman and attested by a Notary Public, stating-

- that the claims of all the subscribers have been fully satisfied and nothing is due to them from the company;
- that the company shall be held responsible for any complaint or claim put forth by any subscriber of the chit group in future;
- that all dues payable by the foreman under the Act and these rules to the Registrar or any other officers have been fully paid.

## **Housing Finance Companies**

In the normal course, Housing Finance Companies (HFCs) are exposed to credit and market risks in view of the asset-liability transformation. With liberalization in Indian financial markets over the last few years and growing integration of the domestic markets with external markets, the risks associated with the operations of an HFC have become complex and large, requiring strategic management. HFCs are operating in a fairly deregulated environment and are required to determine on their own, interest rates on advances and deposits, subject to the ceiling on maximum rate of interest they can offer on deposits, on a dynamic basis.

The interest rates on investments of HFCs in government and other securities are also now market related. Intense competition for business involving both the assets and liabilities has brought pressure on the managements of HFCs to maintain a good balance amongst spreads, profitability and long-term viability. These pressures call for structured and comprehensive measures and not just ad- hoc action.

The managements of HFCs have to base their business decisions on a dynamic and integrated risk-management system and process driven by corporate strategy. HFCs are exposed to several major risks in the course of their business - credit risk, interest rate risk,

equity/commodity price risk, liquidity risk and operational risk. It is, therefore, important that HFCs introduce effective risk management systems that address the issues relating to interest rate and liquidity risks.

HFCs need to address these risks in a structured manner by upgrading their risk management and adopting more comprehensive Asset-Liability Management (ALM) practices than has been done hitherto. ALM, among other functions, is also concerned with management of risks and provides a comprehensive and dynamic framework for measuring, monitoring and managing liquidity and interest rate risks of an HFC that need to be closely integrated with the HFC's business strategy. It involves assessment of various types of risks and altering the asset-liability portfolio in a dynamic way in order to manage risks.

### Non-banking Financial Companies

Investments Treasury operations of NBFCs represent all activities relating to the purchase, sale, borrowing and lending of financial instruments like securities, money market instruments or derivative instruments. Investment companies/NBFCs usually enter into such transactions for the purpose of hedging risk exposures or for meeting customers' needs. At times they also carry out trading activities of financial instruments (including derivatives) with the intention of deriving a gain from the change in market price parameters (for example, foreign exchange rates, interest rates, equity prices) over time. NBFCs manage and control their treasury activities on the basis of the various risks involved rather than on the basis of the particular type of financial instrument dealt with.

### Government (Either State or Central)

Treasury is the basic unit and the focal point for the primary record of financial transactions of a State Government in the districts. All the cash transactions of the government are carried out here and this system evolved over a century ago. Resources of the State are collected, disbursed and accounted for through the treasuries.

Generally, every district has one District Treasury, and there may be one or more sub-treasuries attached to the District Treasury. In some States like Kerala and West Bengal, there are more than one treasury per district. In West Bengal, there are no sub-treasuries.

Treasuries and Sub-Treasuries are of two types:

- **Banking Treasuries**, where the actual receipt or payment of cash is handled by RBI or its branches/agencies authorized to conduct Government business.
- **Non-Banking Treasuries**, where the Treasury itself conducts the receipt and disbursal of cash, as well as the accounting thereof. The segregation of duties between cash handling and accounting is of prime importance in Non-Banking Treasuries.

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### **Functions of a Treasury**

Functions of a Treasury can be broadly categorized as under:

- Receipt of money from the public and departmental officers for credit to Government
- Payment of claims against Government on bills or cheques or other instruments presented by departmental Drawing and Disbursing Officers or by pensioners or others authorized to do so.
- Keeping initial and subsidiary accounts of receipts and payments taking place at Treasuries and rendering statements of such transactions to the Accountant General's Office for detailed compilation and consolidation.
- Acting as a banker in respect of funds of local bodies, Zilla Parishads and Panchayat institutions which keep their funds with the treasuries.
- Maintaining letters of credit (LOC) received by Divisional Officers/Divisional Forest Officers and watching encashment of cheques against LOC keeping accounts of remittances made by Divisional Officers /Divisional Forest Officers and rendering certificate of Treasury Issues and Consolidated Treasury Receipts to each of the Divisions at the end of the month.
- Custody of opium and other valuables
- Custody of cash balance in case of a non-banking Treasury.

### **Importance of a Treasury**

The treasury, therefore, has a vital role to play in the implementation of government policies and programmes. Codes, manuals and administrative procedures have been devised by the State Government, as well as the Accountant General, for their smooth functioning. Any deviation from the rules and procedures on the part of the treasuries adversely affects the entire process of financial accountability. Besides, treasury is the back bone of the State Government through which financial administration is conducted.

It may be noted that the Treasury has no authority to keep pending any claim of payment or deposit of revenue, and has either to honour or object to the claim without delay.

### **Role of Budget Division of Central Government**

The Budget Division is responsible for the preparation and submission to Parliament of the Central Government's Budget other than Railways, as well as the supplementary Demands for Grants and Demands for Excess Grants. The Budget and Supplementary and Excess Demands of State and Union Territories under the President's Rule are also dealt with in this Division. Besides, this Division is responsible for dealing with all issues relating to Public Debt,

## Treasury — Types

market loans of the Central Government, and the fixation of terms & conditions of lending by the Central Government, fixing the administered interest rates and keeping a watch on the Ways and Means position of the Central Government.

The Division also deals with the matters relating to National Savings Organization and Small Savings Schemes, Duties, Powers and Condition of Service of the Comptroller and Auditor General of India, Accounting procedures and Classification, dealing with issues relating to National Defence Fund, Railways Convention Committee and Central Road Fund.

Budget Division also performs the functions in relation to the administration of Fiscal Responsibility and Budget Management (FRBM) Act, 2003, as Amended in 2012, and the Rules framed thereunder.

The work relating to Treasurer Charitable Endowment is also handled in the Budget Division. The Charitable Endowment Act, 1890 provides that where property is held or is to be applied in Trust for charitable purposes, the Central Government, if it thinks fit, may, on application made, order that the property be vested in a Treasurer Endowment on such terms as to the application of the property or the income thereof as may be agreed on between the Government and the persons(s) making the application. Presently, this appointment is held by Deputy Secretary/Director (Budget).

The Budget Division functions under the supervision of Joint Secretary / Addl. Secretary (Budget) and comprises of the following Sections/Units:

1. Accounts Section
2. Coordination Section
3. Demands Section
4. FRBM Cell
5. National Savings - I
6. National Savings - II
7. Public Debt Section
8. Reports Section
9. States Section
10. Supplementary Demands Section
11. Way and Means Section
12. Budget Press
13. Hindi Section I to IV

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In addition to work of routine administrative nature, sections at S.No.1-10 deal with all budgetary matters pertaining to Demands for Grants and allied subjects of different Ministries/Departments of Central Government. The major work undertaken in the Budget Division relates to the Scrutiny of Receipt and Expenditure Estimates in the process of preparation of Budget Estimates and Revised Estimates, and related Statements, and Annexures of the various budget documents. The detailed estimates of receipts and expenditure are prepared by the Ministries/Departments in the prescribed forms and furnished to the concerned Sections in the Budget Division.

### **Reserve Bank of India**

The various departments of RBI are involved in controlling the money in the economy in order to keep the Value of the Money and also control Inflation in the Economy.

### **Internal Debt Management Department**

The main activities of the Internal Debt Management Department include:

- Managing the Government's debt in a risk efficient and cost effective manner;
- Providing innovative and practical solutions for government's debt management;
- Building a robust institutional framework of primary dealers (PDs).

Specific functions of the Department include:

- (i) *Government Borrowing*: To manage market borrowing programmes of the Government of India (including preparing an issuance calendar in consultation with the Government of India), all State Governments and the Union Territory of Puducherry. The function involves choosing the instrument and tenor, manage the auctioning process and monitoring State and Central cash balances.
- (ii) *Dealing Operations*: To interface with the Government securities market for purchasing securities from the secondary market for investment purposes by State Governments under schemes like CSF & GRF and on behalf of foreign central banks. It also monitors movement of yields of Government securities, among other things, and provides necessary feedback to Top Management. It carries out monthly and quarterly analysis of the Government Securities - Secondary market.
- (iii) *Primary Dealers*: To enter into agreements with PDs, monitor and review their performance with regard to underwriting and bidding commitments in primary markets, conduct underwriting auctions and supervise standalone PDs.
- (iv) *Research*: To provide policy, analytical and technical inputs for various committees and conferences including State Finance Secretaries conference. To also act as the focal point for answering parliamentary questions, queries of the Central Board and

Committee of Central Board of the Reserve Bank, research contributions to the Reserve Bank's, Government of India's and other publications.

- (v) *Management Information Systems (MIS)*: To monitor the data pertaining to Government cash balances, maintain the MIS for the Top Management, provide data for various statutory and internal publications, oversee the technology platform for Government securities auction activities and undertake analysis. Also to undertake the assessment and short-term projections of Government cash balances primarily for liquidity management purposes of the Reserve Bank.
- (vi) *Central Debt*: To maintain accounting/reporting of public debt management functions. These include formulation of policy and monitoring of Public Debt Offices, which act as depositories of Government securities, as also to maintain and service public debt, administration of Government Securities Act, 2006/Rules 2007 and also Public Debt Act, 1944/ Rules 1947 wherever applicable.

### **Foreign Exchange Department**

The Foreign Exchange Regulation Act, 1973 (FERA) was repealed and a new Act called the Foreign Exchange Management Act, 1999 (FEMA) came into force with effect from June 1, 2000. The objective of the new dispensation is to facilitate external trade and payments and promote orderly development and smooth conduct of foreign exchange market in India.

### **Facilitator of Forex Transactions**

Since the procedures have been simplified and powers have been delegated to the Authorised Persons under the FEMA, 1999, the role of the Foreign Exchange Department is minimal so far as individual citizens are concerned. Persons resident in India have to simply approach the Authorised Persons for their foreign exchange needs.

Guided by the Current Account Rules notified from time to time by the Government of India and Capital Account Regulations notified by the Reserve Bank, the Authorised Persons will facilitate foreign exchange transactions of individuals. The Reserve Bank processes only those applications which require its prior approval under Foreign Exchange Management (Current Account Transactions) Rules and (Capital Account Transactions) Regulations.

### **Financial Stability Unit**

Keeping in view both international and domestic initiatives for resolving financial crisis and strengthening international financial architecture, the Financial Stability Unit (FSU) was set up in July 2009. The main functions of FSU are:

- Conduct of macro-prudential surveillance of the financial system on an ongoing basis
- Preparation of financial stability reports

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- Development of a database of key variables which could impact financial stability, in co-ordination with the supervisory wings of the Reserve Bank
- Development of a time series of a core set of financial indicators
- Conduct of systemic stress tests to assess resilience and
- Development of models for assessing financial stability

Following the formation of the Financial Stability and Development Council (FSDC), FSU provides the Secretariat to the Sub-Committee of the FSDC which is headed by the Governor. Executive Director (in charge of FSU) acts as the Member-Secretary of the FSDC Sub-Committee.

### **Financial Markets Regulation Department**

The Financial Markets Regulation Department (FMRD) was set up on November 3, 2014 with a mandate to regulate, develop and oversee financial markets. The primary activities of the department include:

- Regulation and development of the money, government securities, foreign exchange markets and related derivative markets;
- Regulation and supervision of financial benchmarks for interest rates and foreign exchange markets;
- Development work related to financial market infrastructure for the money, government securities, foreign exchange markets and related derivative markets, including trade repository for over-the-counter(OTC) derivative transactions;
- Oversight / surveillance of the money, government securities, foreign exchange markets and related derivative markets; and
- Secretarial support to the Technical Advisory Committee on Money, Government Securities and Foreign Exchange Markets and RBI-SEBI Technical Committee on Interest Rate and Currency Futures.

In addition, a Market Intelligence Cell is proposed to be set up as part of FMRD.

### **Financial Markets Operation Department**

Carved out of the Financial Markets Department in November 2014, the Financial Markets Operation Department (FMOD) has been entrusted with the responsibility of carrying out market operations towards implementing the Reserve Bank's monetary policy objectives. The Department, on behalf of the Reserve Bank, conducts operations in the money, government securities and forex markets.

As a part of this responsibility, the FMOD also undertakes analysis of various market segments and provides inputs to the top management for informed decision-making.

The specific functions of FMOD include:

- Domestic forex market operations (Spot, Forwards and Swaps)
- Liquidity Adjustment Facility (LAF) operations (Repo, Reverse repo, Marginal Standing Facility) including Open Market Operations (Outright sale/purchase of gilts) under liquidity management framework revised in August 2014
- Special Market Operations (SMO) for specific purposes
- Computation and dissemination of the Reserve Bank's Rupee Reference Rate
- Computation of Nominal Effective Exchange Rate (NEER) and Real Effective Exchange Rate (REER)
- Issuance and buyback of dated securities under Market Stabilization Scheme (MSS)
- Analysis of market developments
- Carrying out market oriented research and analysis
- Estimation of liquidity requirement in the banking system
- Providing secretarial assistance to the Financial Markets Committee (FMC) of the Reserve Bank
- Coordinating meetings of Early Warning Group (EWG) comprising financial sector regulators and Ministry of Finance

In addition, the FMOD also attends to policy issues relating to various segments of financial markets, fixation of Intra-Day Limits (IDL) limits for operation of Real Time Gross Settlement Accounts, and attending to references received from other departments of the Reserve Bank, international and other regulatory organizations.

## Department of Payment and Settlement Systems

### Functions

The Department of Payment and Settlement Systems (DPSS), as a separate department of the Reserve Bank, came into existence in March 2005.

The functions of the Department include:

- Policy formulation in respect of payment and settlement systems
- Authorization of payment and settlement systems/operators
- Regulation of payment and settlement systems

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- Supervision and monitoring of payment and settlement systems
- Laying down standards for payment and settlement systems
- Designing, developing and integrating payment system projects of national importance and / or facilitating such implementation
- Implementation of the international principles relating to payment systems as enunciated by the Bank for International Settlements

The department has four Regional Offices at Chennai, Kolkata, Mumbai and New Delhi.

### **Board for Regulation and Supervision of Payment and Settlement Systems**

The Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) prescribes policies relating to the regulation and supervision of all types of payment and settlement systems.

The BPSS also provides guidance on setting standards for existing as well as future payment systems, authorizing the payment and settlement systems/operators, determine criteria for membership to these systems, including continuation, termination and rejection of membership. BPSS meets once every quarter.

- The payment and settlement systems in India are regulated under the Payment and Settlement Systems Act, 2007 (PSS Act). The PSS Act as well as the Payment and Settlement System Regulations, 2008 framed under the Act came into effect from August 12, 2008. In terms of the PSS Act, no person other than the Reserve Bank of India (RBI) can commence or operate a payment system in India unless authorised by the Reserve Bank.
- Payment and settlement systems in India includes cheque-based clearing systems, Electronic Clearing Service (ECS) suite, National Electronic Funds Transfer (NEFT) System, electronic payments using debit and credit cards, prepaid payment instruments, mobile banking, internet banking, etc. While Real Time Gross Settlement Systems (RTGS) and Clearing Corporation of India Ltd. (CCIL) constitute financial market infrastructure, National Payments Corporation of India (NPCI) is the umbrella organization for retail payments.

### **Department of Government and Bank Accounts**

The Department of Government and Bank Accounts (DGBA) discharges the core central banking function of acting as banker to the government and banker to banks.

More specifically, it,

- maintains principal deposit accounts of Central and State Governments at Central Accounts Section of the Reserve Bank of India, Nagpur

- grants ways and means advances to Central and State Governments
- carries out day-to-day operations by agency bank branches (authorised for this purpose) and Banking Departments at Regional Offices.
- frames the accounting policy of the Reserve Bank
- finalizes the weekly statement of accounts of the Issue and Banking Departments and the annual balance sheet of the Reserve Bank
- Attends to matters relating to government business, such as appointment of agency banks, paying them commission and overseeing their conducting of government business. Much of this is done in consultation with the government
- In its capacity as banker to banks, the Reserve Bank:
  - opens current accounts of banks with itself, enabling them to maintain statutorily prescribed cash reserves as well as to carry out inter-bank transactions
  - effects interbank clearing settlements through these current accounts

The Department of Government and Bank Accounts (DGBA) also functions as the central office of the Banking Departments at Regional Offices.

## Department of External Investments and Operations

### Functions

- Investment and management of the foreign currency and gold assets of the Reserve Bank of India,
- Handling external transactions on behalf of Government of India (GOI) including transactions relating to International Monetary Fund (IMF)
- All policy matters incidental to India's membership of the Asian Clearing Union, and
- Other matters relating to gold policy, membership of the Bank for International Settlements (BIS) and bilateral banking arrangements between India and other countries like Russia, bilateral and South Asian Association for Regional Cooperation(SAARC) currency swap arrangements

## Profit Centre Vs. Non-Profit Treasury

If the treasury function is established as a **cost centre**, the costs of the department can be **charged to the various other departments / subsidiaries on some basis** that is seen to **fairly reflect the benefits the other department / subsidiary** obtains from the treasury department and the use it makes of the treasury services.

- If it is **not possible to allocate costs** on a basis that is seen to be fair, the company may simply **treat the costs as a head office expense**.

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- **Treasury department as a profit centre**
- Alternatively, the treasury function could be established as a profit centre if revenues arising from treasury can be identified. Revenues could be recognised as follows:
  - (a) Treasury could **charge all other departments/subsidiaries and other head office** departments a **fee for its services based on current market rates** (the total value charged to the group as a whole should exceed the treasury's costs enabling it to report a profit).
  - (b) Treasury could also **earn a profit** through its **management of the group's exposure to interest rate and foreign exchange risk**. Specialists at the treasury department may decide not to hedge group exposure to these risks in certain circumstances. If interest rates or exchange rates subsequently move in the company's favour the benefits could be credited to the treasury department. On the other hand, if such decisions resulted in subsequent losses, these would be charged to treasury.
  - (c) **Deciding not to hedge** all currency and interest rate risks. Experts in the treasury could decide which risks not to hedge, hoping to profit from un-hedged favourable exchange rate and interest rate movements.
  - (d) If the treasury department decided to take on **additional exchange rate or other risks purely as a speculative activity** (for example, writing options on currencies or on shares held) the profits or losses from these transactions could be credited or debited to the treasury function. The board must specify the policy framework within which such speculative trades are carried out and stringent procedures would need to be in place to ensure that these guidelines are adhered to.

### Advantages of profit centre

The following **advantages** may result from establishing the treasury function as a profit centre:

- (a) Treasury function may be able to **make a significant contribution to group profit** by undertaking some of the actions described above.
- (b) **Motivation of the specialists employed in treasury may be improved**, as they will now be assessed in terms of their contribution to group profit (as compared with the situation if treasury is treated as a cost centre and its costs are simply allocated throughout the group).

### Disadvantages of profit centre

The **disadvantages** of establishing a separate treasury department as a profit centre are as follows:

- (a) The group will incur **additional administrative cost** if it has to collect data on the revenues of the treasury function as well as its costs.
- (b) **Problems** are likely to **arise in establishing a satisfactory charge** for treasury's services to other departments/subsidiaries.
- (c) The **risks of speculation**: In practice, many treasury functions have run into difficulties speculating in derivative products and then have tried to trade their way out of the problem. The result has been some disastrous and well-publicized losses. If the group treasury function is to be allowed to engage in such speculative trades, it must be closely supervised by trained management to ensure that risk exposure limits are not exceeded.

#### A BRIEF ON ROLE OF 'TREASURY FUNCTION' IN CORPORATES

Corporate treasury has become an important engine of growth in global operations, putting the role of the treasurer under the spotlight. As the leader of this critical and strategic operation in the company, the new age treasurer is required to demonstrate finer treasury skills in areas such as funding, strategic cash management and risk management, as the entire business landscape globally is undergoing rapid changes.

The role of treasury in this ability to manage cash and other short-term assets to manage the firm's liabilities is not to be understated. The function may seem straightforward, but a great deal of resources and treasury intelligence is used in the cash management function of the world's most successful firms and financial service providers.

The ability to transfer longer term assets into short term, manageable and convertible assets such as cash is crucial to a company's health. Transfer too much, and the company may lose out on profitable investments – from bonds or savings returns, or direct business investments. Conversely, if the company does not have enough cash at its disposal, it could face penalties for not being able to meet short-term liabilities.

For multinational firms, the treasury function is responsible for moving cash through the system and across jurisdictions. This in itself requires a great deal of treasury intelligence, in being able to move the right sums around different units while factoring in the need to retain cash in a centralized system to factor for the unknown. With the cash management function, the corporate treasury will work closely with the finance and accounting departments, in a bid to make sure that the company is in good health and supporting its network.

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The role of the corporate treasury is evolving lately, metamorphosing from management of liquidity and financial risk to a more strategic role. Historically, the desire to reduce the cost led to a massive growth of the corporate treasury in large and mid-sized corporates. A corporate treasury department can be viewed as an in-house solution for managing funds of an organization. Conventionally, the corporate treasury performs functions such as cash management, liquidity planning, procuring finance and managing risks for the business. Although the treasury has a concrete role in financial risk management, which is not likely to change in the near future, along with the traditional functions like funding long-term growth and financing working capital, worldwide it is expanding into newer horizons, like providing advisory to business units and managing credit relations.

### **Investments and funding**

One of the key metrics in an assessment of the performance of the corporate treasury department is its ability to successfully invest available funds while making sure short-term liabilities are accounted for.

In assessing the likely returns of an investment, the treasury will work closely with the company's finance department in order to consider both the investment proposition in itself, as well as the opportunity costs in providing funds for the undertaking. The treasury may analyze other possible opportunities, and decide that funds are better used elsewhere – are may be indeed required for the day-to-day running of current operations. In this instance, a corporate treasury will assess all known opportunities, weighing them up against one another in order to exploit the very best returns available. Sound treasury intelligence, and assessing the treasury risk of the propositions, will be critical in allowing the firm to grow and prosper.

At any organization, a firm's finance department and other corporate levels will embark on rounds of treasury consultations in order to assess the best values the firm can ascertain from different strategies. Here, the treasury department will use knowledge of different financial techniques and market intelligence to calculate and decide on the best course of action.

In a complex and fast changing business scenario, corporate treasuries have seen a gradual shift to capital structure management from debt management and have increased their focus on improving ROE (return on equity) by optimizing leverage and managing investor relation to support long-term growth, in addition to raising long-term equity capital and aligning business cash flows with debt servicing obligations.

### **Risk management**

Assessing a firm's risk profile is a critical component in deciding which direction to drive the firm. When the C-suite has decided on the levels at which it would like the rest of the firm to

set its exposures, the treasury is tasked with ensuring those risk levels are delivered.

Further, the treasury will decide upon issues such as cash levels and exposures to different investment, based on those risk profiles. With that risk profile in mind, the firm's treasurers will assess which exposures to press and which need curtailed.

There are various risk management techniques the corporate treasury will utilize. For instance, in order to mitigate financial risks, it may enter the futures markets, buying up derivative products in order to balance exposures and allow for greater investments in related areas. In extreme circumstances, the firm may analyze the company's risk profile and decide to put more funds in longer term, safer investments such as government bonds, to reign in other risks currently being considered.

Financial risk management has also become the main concern for companies after the global financial crisis. The need for structured hedging programmes followed by monitoring by the boards has increased manifold with the focus of hedging programmes shifting towards business centricity and internal optimization. Going forward, corporate treasurers need to focus on engaging with business to provide risk management solutions, optimizing cost of hedging, effective netting of forex flows, accounting for hedging transactions and contract structuring to pass on forex risk.

Engaging with business to provide risk management solutions and making one of the most important internal focus areas has signaled a greater involvement of the treasury function in understanding the inherent risks in the business model. Most global organizations believe that their diverse risk exposure across geographies make it important to have a global treasury setup and setting up a global treasury centre has numerous benefits like increased range of hedging instruments, access to deeper financial markets, reduced cost of working capital financing and reduced regulatory and documentation requirements.

According to a survey by Deloitte, about 65 per cent of the companies invest their cash surplus for a period less than six months and the main criteria for short-term investment is the liquidity risk followed by credit and market risk with focus on return from these investments being relatively low.

However, Indian companies still do not visualize a central set-up, and financial risk management continues to be largely India-centric. With rapid globalization and increased internationalization of businesses, the role of corporate treasury in cross-border activities has increased and a smooth flow of information from different business units will help manage global cash flows.

### **Foreign exchange**

From the multinational firm's perspective, the treasury management system's role is perhaps obvious, but nonetheless pivotal to operations. Being able to manage the flow of

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funds across borders to different strands of the business while factoring in fluctuations in currencies – and monitoring for potential future changes in foreign exchange based on a variety of factors such as interest rates in different jurisdictions – has become more important in recent years as firms expand across global markets. Getting the foreign exchange function wrong can be costly, should the value of cash deteriorate as it crosses borders.

For smaller firms, treasury's capabilities to utilize proper foreign exchange functionality are no less important. Most firms in today's global markets import and export goods and services, so naturally funds come in and go out in different currencies. Here, not only is it important for the treasury department to provide the requisite funds for transactions to be able to be carried out, but a modern treasury manager will recognize that arbitrage opportunities lie in the conversion of currencies at different rates at different times – and not necessarily in the company's home currency.

Variability in forex and commodity prices poses a big challenge and are one of the reasons for difficulties in management of cash flows. While volatility makes forecasting and, therefore, management of working capital requirements difficult, the ability to evaluate the extent of impact from volatility on a continuous basis through use of forecasting and decision support tools is critical. Managing liquidity risk arising from market volatility is becoming an increasing focus area of corporate treasurers. Corporate treasurers should also focus on improving return by utilizing idle surpluses by pooling cash across geographies and entities, diversifying current short-term instrument mix and increased monitoring of idle cash.

With businesses going global, there is a significant evolution of treasury management and companies need to decide whether to position the treasury as a centralized or decentralized department. In a centralized set-up, a particular team takes the key decisions and functions on behalf of all the group companies located at a different locations. In such cases, there is a central handling of functions, like risk management and fund management for the entire group. In contrast, a decentralized structure entrusts the decision-making power to smaller units, located geographically apart, with cash management done locally. Since local management has various benefits, like familiarity with business, customs, language and culture, companies benefit from decentralized control when it comes to their treasury operations.

However, the benefits of decentralized operations are outweighed by the advantages of centralized operations. Centralized treasury operations can help in cost reduction for services and increase in professional treasury knowledge. Although a fully centralized environment may appear to be the most suitable structure for multinational corporations, in reality, not many companies, especially in India, take this route. Because of practical reasons, many companies end up with a hybrid or decentralized arrangement.

With expanding scopes, there are certain challenges, both internal and external, that corporate treasurers need to overcome to meet increased expectations. Lack of clear view on exposures and inadequate control over working capital utilization are the main internal challenges for corporate treasurers and quality talent crunch in the marketplace and laws affecting cash pooling along with unmanageable volatility in financial markets are their biggest concerns. In addition, since price discovery continues to be a key concern for corporate treasurers, covenant management and matching cash flows and servicing obligations are also key operational challenges. So how can these challenges be addressed?

### **Financial technology**

The various software tools to have come in the market over the past few years promising to help company's better use their financial supply chains and treasury systems have played a large part in supporting the treasury function. Many of these systems have added to the functionality of each firm's treasury capabilities, but also created the need for the department to constantly assess the software market, should a new offering be made available that could add significant competitive advantages.

Technology is the answer and investments in automation of treasury processes implementation of treasury performance management systems and development of decision support tools and risk models will go a long way in developing robust treasury frameworks which will be critical and would make corporate treasurers ready for the new role. In addition, putting in place clear and measurable treasury performance metrics at each tier of the treasury structure and monitoring the metrics is another way of meeting the expectations.

In the years ahead, the potential of emerging technologies from block chain, artificial intelligence (AI) and robotic analysis will augment treasury management systems in further developing treasury as a profit center. Block chain could prove to be the most transformational, but a number of technical and operational challenges must first be resolved. Inevitably, there will be other promising concepts that may fail to take wings. It's likely that AI will deliver solutions that impact mainly automating redundant and repetitive tasks, detecting payment and trading anomalies and finding patterns of behavior that better predict future forecasting assumptions. AI also has the advantage of being self-correcting, using the relative successes and failures resulting from earlier decisions.

In modern times, technology has proved itself the enabler for transforming the economics of the treasury department. For many years, the central question of any plan to develop treasury from a cost center to a profit center was whether it was feasible. The question was answered as the advent of the treasury management system made that challenge less daunting. Treasury has been able to integrate with other divisions within the organization,

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and increasingly sophisticated technology means the question is not "if" it can be met, but "how" it can be made profitable.

### **Financial supply chain**

The firm's management of its funds across its supply chain will necessarily be decided upon by its corporate treasury, which it leans on for the smooth transition of those funds through its network.

Much academic theory has been published on supply chain management, and that pertaining to the transfer of funds has become no less prominent. A treasury department's ability to move funds fluidly, with ease, and at the discretion of the C-suite as business models and economic environments change, is widely seen as the lifeblood of the firm. There are many software packages that can assist the treasury department to move funds around, but human interaction is still a large part of providing a subjective analysis of the firm's short and long-term financial requirements.

The future of corporate treasury management is set to transform into more of a strategic role for organizations, in addition to managing financial risk management and maintenance of liquidity. Future corporate treasury is expected to function under a three-tiered structure: First, the strategic role where the key focus will be enhancement of shareholder value by long-term funding and strategic investments in surpluses increase the overall ROE, maintaining relationships with different stakeholders like investors and institutions; second the management role which is further divided into financial risk management including currency, interest rate, credit, counter-party risk management; and financial supply chain management which comprises of cash and liquidity management and finally the operational role which includes the treasury operations. In their new strategic role, corporate treasurers have to brace themselves to transform their roles to become advisors to business on the potential economic risks, which, in turn, can impact business value chain. In India, organizations are regrouping themselves to meet the global best practices by making decision-making more central and using more complex ecosystems like technology platforms and using a seamless interface for managing transactions and reporting requirements.

### **Regulation**

Ensuring that the company is in line with regulations is a key function for the corporate treasury, given how active it needs to be in various markets and its responsibilities for corporate finances.

With the avalanche of regulations that have hit financial markets since the global recession and subsequent attempt by regulators to tighten those markets, the task of the treasurer to keep abreast of regulatory developments has become burdensome. With Europe's second

Markets in Financial Instruments Directive (MiFID II) for instance, and more recently the General Data Protection Regulation (GDPR), both of which have ramifications for firms across the globe, treasurers have much to keep up with.

Treasury management systems haven't been the only enabler. Regulatory authorities' growing scrutiny of tax havens and the practice of global transfer pricing is also a driver in helping treasury cast off its reputation as a cost center. The in-house bank becomes an attractive proposition when it can provide services for the company and be compensated for them. Transfer pricing's arm's length policies limit the charges to somewhat below market rates, but a central treasury platform also offers benefits for treasury in terms of tax optimization, helping profit and loss and assisting intercompany transfers to reduce exposure to tax.

Looking to the future, expect solid analytics to firmly be a major part of treasury's toolkit in taking control of banking fees, pricing and spreads, as well as identifying areas where they can demand improvement. Investment is needed in bank fee analysis if fees are to be controlled. System providers are already working on using analytics to provide traders with the lowest-cost method of trade execution through scenarios that assess the optimal combination of broker, exchange and clearing house. This is arrived at by assessing physical costs and the impact of the trade on initial margin calculations.

**CHECK LIST OF TREASURY FUNCTION:**

The general mission of the treasury department is to manage the LIQUIDITY of a business. This means that all current and projected cash inflows and outflows must be monitored to ensure that there is sufficient cash to fund company operations, as well as to ensure that excess cash is properly invested. While accomplishing this mission, the TREASURER must engage in considerable prudence to ensure that existing ASSETS are safeguarded through the use of safe forms of INVESTMENT and HEDGING activities.

In order to accomplish its mission, the treasury department must engage in the following activities:

- Cash forecasting-Compile information from around the company to create an ongoing cash forecast. This information may come from the ACCOUNTING RECORDS, the BUDGET, CAPITAL BUDGET, board minutes (for DIVIDEND payments) and even the CEO (for expenditures related to ACQUISITIONS and DIVESTITURES).
- Working capital monitoring-Review the corporate policies related to WORKING CAPITAL, and model their impact on CASH FLOWS. For example, looser credit results in a larger investment in ACCOUNTS RECEIVABLE, which consumes cash.
- CASH CONCENTRATION-Create a system for funneling cash into a centralized

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investment account, from which cash can be most effectively invested. This may involve the use of NOTIONAL POOLING or CASH SWEEPS.

- Investments-Use the corporate investment policy for allocating excess cash to various types of investments, depending on their RATES OF RETURN and how quickly they can be converted into cash.
- Grant credit-Issue credit to customers, which involves management of the policy under which CREDIT TERMS are granted.
- Fund raising-Determine when additional cash is needed, and raise funds through the acquisition of DEBT, sale of STOCK, or changes in company policies that impact the amount of working capital required to run the business.
- Risk management-Use various HEDGING and netting strategies to reduce risk related to changes in asset values, INTEREST RATES, and FOREIGN CURRENCY holdings.
- Credit rating agency relations-Keep any CREDIT RATING AGENCIES informed of the company's financial results and condition, if these agencies are providing ratings on the company's marketable debt issuances.
- Bank relations-Keep the company's bankers apprised of the company's financial condition and projections, as well as any forthcoming changes in its need for borrowed funds. The discussion may extend to the various services provided by the banks to the company, such as LOCKBOXES, WIRE TRANSFERS, payments, and so forth.
- IT systems-The department maintains TREASURY WORK STATIONS that provide it with information about cash holdings, projections, market conditions, and other information.
- Reporting-The treasurer provides the senior management team with reports concerning market conditions, funding issues, returns on investment, cash-related risks, and similar topics.
- Mergers and acquisitions-The department may advise on the company's ACQUISITION activities, and may be called upon to integrate the treasury functions of an ACQUIREE.

**Thus, Treasury is becoming a Value Creation Centre to the Corporate rather than a Cost Centre.**

## Check Your Progress

1. How does securitization increase liquidity?
2. What does a bank's treasury department do?
3. How does Treasury work with other parts of the Bank?
4. What is the difference between a bank's liquidity and its liquid assets?
5. Why is Asset Liability Management the key to the success of a bank?
6. What makes a Good Treasurer?
7. Indicate some of the measures for gauging liquidity risks.
8. What are the various risk exposure limits?
9. What are the principles prescribed by Basel Committee for Risk Management?
10. Give an example of Net Interest Position at risk.

**Choose the appropriate answers to the following questions from the options given below:**

1. The Bank's balance sheet is funded not only by deposits, but also by,
  - (a) Assistance from Head Office
  - (b) Help from RBI
  - (c) Market borrowings\*
  - (d) Contributions from peer banks
2. A net debit cap is calculated by CCIL for the bank, taking into account its net worth, capital adequacy and other financial parameters. What should not exceed the net debit cap?
  - (a) Bank's long USD position
  - (b) Bank's short USD position\*
  - (c) Bank's overnight open position
  - (d) Bank's stop loss limit
3. Inter-day limit will generally be bigger than overnight limit because,
  - (a) The systems are shut down during night times
  - (b) Dealers will be absent during night times
  - (c) Volatility is more during night times
  - (d) The dealers can cover the deals in active day-time markets\*

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4. Overnight open position limits are now being computed as per RBI directives on... ..
  - (a) Consolidated basis
  - (b) Currency basis
  - (c) Approximate basis
  - (d) Net present value basis\*
5. What type of risk has Continuous Linked Settlement (CLS) been devised to handle?
  - (a) Linkage risk
  - (b) Continuity risk
  - (c) Settlement risk\*
  - (d) Technology risk
6. Current exposure is a sum of replacement cost and,
  - (a) Market value
  - (b) Discounted value
  - (c) Future exposure
  - (d) Potential future exposure\*
7. The accreditation of forex brokers is done by,
  - (a) Banks' Head offices
  - (b) International Divisions
  - (c) Brokers' Associations
  - (d) FEDAI\*
8. Under integrated treasury management, reserve management and investment involves
  - (a) Meeting ----- obligations and
  - (b) Having an appropriate mix of investment portfolio to -----.

(CRR and SLR, Maximize Yield and Duration)
9. Under Risk Management in integrated treasury operations, market risks associated with bank's liabilities and assets pertain to ----- and ----- mismatches.

(Floating Interest Rate Risk, Asset / Liability)
10. The price ----- between different markets of the same asset category give rise to arbitrage opportunities.

(Differentials)

## Treasury – Risk Management

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### Risk – Definition

Risk can be defined as the chance that an investment's actual return will be different from that expected. Risk includes the possibility of losing some or all of the original investment. Different versions of risk are usually measured by calculating the standard deviation of the historical returns or average returns of a specific investment. A high standard deviation indicates a high degree of risk.

Many companies now allocate large amounts of money and time in developing risk management strategies to help manage risks associated with their business and investment dealings. A key component of the risk management process is risk assessment, which involves the determination of the risks surrounding a business or investment.

A fundamental idea in finance is the relationship between risk and return. The greater the amount of risk that an investor is willing to take on, the greater the potential return. The reason for this is that investors need to be compensated for taking on additional risk.

For example, a U.S. Treasury bond is considered to be one of the safest (risk-free) investments, and, when compared to a corporate bond, provides a lower rate of return. The reason for this is that a corporation is much more likely to go bankrupt than the U.S. government. Because the risk of investing in a corporate bond is higher, investors are offered a higher rate of return.

### Risk Process – Risk Management

#### Risk Process

When establishing a risk management process or initiative, auditors should recommend that organizations examine best management practices in the area. Typically, risk management plans have the following objectives:

1. To eliminate negative risks.
2. To reduce risks to an "acceptable" level if risks cannot be eliminated. This means a risk level the organization can live with, making sure that proper controls are in place to keep risks within an acceptable range.

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3. To transfer risks by means of insurance (i.e., insuring company assets for theft or destruction, such as hurricane or fire damage) or to transfer the risk to another organization (i.e., using a third-party vendor to install network equipment so that the vendor is made responsible for the installation's success or failure).

Banks should have a comprehensive and adequate risk management procedure covering both trading and non- trading activities. This procedure should enable the management to assess exposures on a consolidated basis. It should be easily understood by the dealers, back office, mid- office staff, senior management and the Board of Directors. Such a procedure will assist in limiting and monitoring risk taking activities at all levels.

### Risk Management

Risk management refers to the practice of identifying potential risks in advance, analyzing them and taking precautionary steps to reduce/curb the risk.

**Definition:** In the world of finance, risk management refers to the practice of identifying potential risks in advance, analyzing them and taking precautionary steps to reduce/curb the risk.

**Description:** When an entity makes an investment decision, it exposes itself to a number of financial risks. The quantum of such risks depends on the type of financial instrument. These financial risks might be in the form of high inflation, volatility in capital markets, recession, bankruptcy, etc.

So, in order to minimize and control the exposure of investment to such risks, fund managers and investors practice risk management. Not giving due importance to risk management while making investment decisions might wreak havoc on investment in times of financial turmoil in an economy. Different levels of risk come attached with different categories of asset classes.

For example, a fixed deposit is considered a less risky investment. On the other hand, investment in equity is considered a risky venture. While practicing risk management, equity investors and fund managers tend to diversify their portfolio so as to minimize the exposure to risk.

Risk Management is an ever increasing part of corporate treasury and cash management responsibilities; and, as such you can use Oracle Treasury to drive policy, risk limits, and risk exposure to interest rates, foreign currency, and commodities. Oracle Treasury allows you to:

- Define interest rate policy along with limit types and limits monitoring.
- Define global limits to create a decentralized ability to share the responsibility globally for managing your corporate treasury functions.
- Create exposure types and hedging policies to use as another tool in managing your cash and treasury risk.

- Set limits based on counterparty, counterparty groups, settlements, sovereign limits, currency limits, and dealer and utilize that all with workflow.
- Set up brokerage schedules and details to manage your brokerage accounts and relationships.
- Define market data curves and data sets so that you can use that for doing deal revaluations and mark- to- market evaluations to help manage your treasury risk.

### **Key Risks – Interest Rate Risk, Market Risk, Currency Risk, Credit Risk, Liquidity Risk, Legal and Operational Risk**

#### **Interest Rate Risk (IRR)**

Interest rate risk is the risk where changes in market interest rates might adversely affect a FI's financial condition. The immediate impact of changes in interest rates is on FI's earnings (i.e. reported profits) by changing its Net Interest Income (NII). A long-term impact of changing interest rates is on FI's Market Value of Equity (MVE) or Net Worth as the economic value of bank's assets, liabilities and off-balance sheet positions get affected due to variation in market interest rates. The interest rate risk when viewed from these two perspectives is known as 'earnings perspective' and 'economic value' perspective, respectively. The risk from the earnings perspective can be measured as changes in the Net Interest Income (NII) or Net Interest Margin (NIM). There are many analytical techniques for measurement and management of Interest Rate Risk. In the context of poor MIS, slow pace of computerization in FIs, the traditional Gap analysis is considered to be a suitable method to measure the Interest Rate Risk in the initial phase of the ALM system.

However, the FIs, which are better equipped, would have the option of deploying advanced IRR management techniques with the approval of their Board / ALCO, in addition to the Gap Analysis prescribed under the guidelines. It is the intention of RBI to move over to the modern techniques of Interest Rate Risk measurement like Duration Gap Analysis, Simulation and Value at Risk over time when FIs acquire sufficient expertise and sophistication in acquiring and handling MIS.

The Gap or Mismatch risk can be measured by calculating Gaps over different time intervals as at a given date. Gap analysis measures mismatches between rate sensitive liabilities and rate sensitive assets (including off-balance sheet positions). An asset or liability is normally classified as rate sensitive if:

- (i) Within the time interval under consideration, there is a cash flow;
- (ii) The interest rate resets/re-prices contractually during the interval;
- (iii) It is contractually pre-payable or withdrawable before the stated maturities;
- (iv) It is dependent on the changes in the Bank Rate by RBI.

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The Gap Report should be generated by grouping rate sensitive liabilities, assets and off-balance sheet positions into time buckets according to residual maturity or next re-pricing period, whichever is earlier. All investments, advances, deposits, borrowings, purchased funds, etc. that mature/re-price within a specified timeframe are interest rate sensitive. Similarly, any principal repayment of loan is also rate sensitive if the FI expects to receive it within the time horizon.

This includes final principal repayment and interim installments. Certain assets and liabilities carry floating rates of interest that vary with a reference rate and hence, these items get re-priced at pre-determined intervals. Such assets and liabilities are rate-sensitive at the time of re-pricing. While the interest rates on term deposits and bonds are generally fixed during their currency, the interest rates on advances could be re-priced any number of occasions, on the pre-determined reset / re-pricing dates and the new rate would normally correspond to the changes in PLR.

The interest rate gaps may be identified in the following time buckets:

- (i) 1-28 days
- (ii) 29 days and upto 3 months
- (iii) Over 3 months and upto 6 months
- (iv) Over 6 months and upto 1 year
- (v) Over 1 year and upto 3 years
- (vi) Over 3 years and upto 5 years
- (vii) Over 5 years and upto 7 years
- (viii) Over 7 years and upto 10 years
- (ix) Over 10 years
- (x) Non-sensitive

The various items of rate sensitive assets and liabilities and off-balance sheet items may be classified into various time-buckets. The Gap is the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) for each time bucket. The positive Gap indicates that it has more RSAs than RSLs whereas the negative Gap indicates that it has more RSLs.

The Gap reports indicate whether the institution is in a position to benefit from rising interest rates by having a positive Gap ( $RSA > RSL$ ) or whether it is in a position to benefit from declining interest rates by a negative Gap ( $RSL > RSA$ ). The Gap can, therefore, be used as a measure of interest rate sensitivity.

Each FI should set prudential limits on interest rate gaps in various time buckets with the approval of the Board/ALCO. Such prudential limits should have a relationship with the **Total**

**Assets, Earning Assets or Equity.** In addition to the interest rate gap limits, the FIs which are better equipped would have the option of setting the prudential limits in terms of Earnings at Risk (EaR) or Net Interest Margin (NIM) based on their views on interest rate movements with the approval of the Board/ALCO.

### Market Risk

Market risk is the risk of loss due to the movement in the prices of the traded assets. Market risk arising from adverse changes in market variables, such as interest rate, foreign exchange rate, equity price and commodity price has become relatively more important. Even a small change in market variables may cause substantial changes in income and economic value. Market risk takes the form of:

1. Liquidity Risk
2. Interest Rate Risk
3. Foreign Exchange Rate (Forex) Risk
4. Commodity Price Risk and
5. Equity Price Risk

### Currency Risk

A form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

For example, if you are a U.S. investor and you have stocks in Canada, the return that you will realize is affected by both the change in the price of the stocks and the change in the value of the Canadian dollar against the U.S. dollar. So, if you realize a 15% return in your Canadian stocks but the Canadian dollar depreciates 15% against the U.S. dollar, this will amount to no gain at all.

### Credit Risk

Credit risk is the risk of loss from the failure of the counterparty to fulfill its contractual obligations, perhaps because they have defaulted. The magnitude of the loss can be gauged by the free market cost of replacing the lost cash flows. Credit risk occurs in a lot of settings:

*In case of Loans:* Where we lend to organization certain money on a bilateral basis, expecting them to make payments of interest and to repay principal.

*Contractual agreements:* Such as IRSs or purchased options where our counterparty either certainly has to make payments in the future (as in the swap) or may have to (if we exercise an option they have written).

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*Receivables*: Where goods are delivered or services performed before they have been paid for.

### **Liquidity Risk**

The risk that a company or bank may be unable to meet short term financial demands. This usually occurs due to the inability to convert a security or hard asset to cash without a loss of capital and/or income in the process.

*Liquidity risk* generally arises when a business or individual with immediate cash needs, holds a valuable asset that it cannot trade or sell at market value due to a lack of buyers, or due to an inefficient market where it is difficult to bring buyers and sellers together.

For example, consider a \$1,000,000 home with no buyers. The home obviously has value, but due to market conditions at the time, there may be no interested buyers. In better economic times when market conditions improve and demand increases, the house may sell for well above that price. However, due to the home owner's need of cash to meet near term financial demands, the owner may be unable to wait and have no other choice but to sell the house in an illiquid market at a significant loss. Hence, the liquidity risk of holding this asset.

### **Legal Risk**

In addition to the foregoing risks, there is legal risk, which exists in all kinds of financial markets. It is probably more so in foreign exchange and interest rates, given their inherent volatility. It is, therefore, extremely important that banks as also the Corporates dealing in these products take such steps as would sufficiently protect them from the legal standpoint.

The surest way to do so is to insist on exchange of internationally accepted Master Agreements such as ISDA, IFEMA, and ICOM between the parties, supported by other relevant documentation.

### **Operational Risk**

The data processing system used must be appropriate to the nature and volume of trading activities. A written contingency plan has to ensure, among other things that in the event of a breakdown of the equipment, backup facilities can be deployed at a short notice.

### **Treasury Risk Management Policy**

All the organizations aim to run risk-free operations; however, the truth is that no matter how careful they are, there is always a danger of exposure to unexpected and unplanned-for threats.

Implementing a risk management policy throughout an organization is the best way of identifying and managing these threats before they become a costly problem.

## Treasury — Risk Management

Embedding such a policy within daily operations also helps with making well-informed choices, as decision-makers better understand and evaluate the wider impact their actions have. A good risk management policy builds a sound framework for :

- (i) Risk assessment and identification,
- (ii) Risk ranking,
- (iii) Action Plan,
- (iv) Assessment and review,
- (v) Compliance and
- (vi) Feedback and Improvement

So far, we have been considering risk management from the standpoint of the corporate treasurer, and the concept of financial risk that was used was the one in which the treasurer had the responsibility of managing. In the 1990s, the idea of managing risk throughout the organization was relatively new and most companies focused on specific, mainly financial and insurable risks. Companies have come to pay particular attention to the management of risks throughout their organizations due to a combination of: legal and compliance requirements on companies: the increasing need to communicate a company's risk management processes to various stakeholders, and a recognition of the benefits that an active, and corporate-wide, risk management programme can have on achieving the strategic aims of the organization and building shareholder value.

An assessment of the system of internal control is as relevant for the smaller listed company as it is for larger ones, since the risks facing such companies are generally increasing. Risk management is essential for reducing the probability that corporate objectives will be jeopardized by unforeseen events. It involves proactively managing those risk exposures that can affect everything the company is trying to achieve.

Among the steps involved in implementing and maintaining an effective risk management system are:

- Identifying risks
- Ranking those risks
- Agreeing control strategies and risk management policy
- Taking action
- Regular monitoring
- Regular reporting and review of risk and control.

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As can be seen, the process for managing risks on an enterprise-wide basis is essentially the same as that established by the treasurer for managing treasury-related financial risks.

### **Risk Measurement and Control**

Since standard deviation is the most common proxy for risk (even VAR measures are driven ultimately by standard deviation), the easiest way to approach the problem of risk measurement is to catalogue the various inadequacies of standard deviation as a risk measure.

### **Volatility vs. Uncertainty**

Standard deviation can be either a measure of uncertainty or a measure of volatility. Suppose, we are running a portfolio optimizer using a set of inputs that includes the assumption that US stocks will have a return of 12% and a standard deviation of 15%. The 15% figure can be interpreted as an estimate of the volatility of stocks over the forecast period, or can be interpreted as a measure of how much uncertainty attaches to the return estimate. In the first case we are estimating total return over the full investment horizon, and are then making an additional estimate regarding the character of the return over smaller time periods. In the second case, we are estimating total return over the full investment horizon, and then indicating how much confidence (or lack of confidence) we have in that estimate. In the first case we are making two forecasts, in the second case, we are making a forecast and then adding a disclaimer regarding the forecast.

To drive home the contrast between volatility and uncertainty, consider the difference between a 10-year zero coupon bond and a venture capital partnership requiring a 10-year lock-up of capital. The bond investor can be certain of the return (i.e., the nominal, pre-inflation, return) on his investment, but he also knows that the investment will be highly volatile when marked-to-market on a regular basis. The venture capital investment has no price volatility, because it is non-marketable, but the investment still offers substantial uncertainty, hence risk.

A volatile investment is likely to be an uncertain investment, except for special cases (like the zero coupon bond) where a volatile investment might produce a certain return if held to the end of a definite period. And even in those cases, volatility will create uncertainty for any investor whose holding period is uncertain. On the other hand, uncertainty need not involve volatility, as the venture capital example illustrates. So the concept of uncertainty has much broader investment application than the concept of volatility. Indeed, "risk as uncertainty" covers career risk, air travel risk, and all sorts of other situations, whereas "risk as volatility" applies only to the marketable portion of the investment arena.

The distinction between volatility and uncertainty is central to the idea that long-term investors have a competitive advantage over short-term investors. Most investors have greater confidence in their long-term return estimates than in their short-term return estimates. For

example, many people are confident that US stocks will outperform US bonds over the next ten years, but have no idea whether stocks will beat bonds over the next two months. For these investors, adopting a long-term investment horizon does not reduce volatility, but it does increase their confidence in their expectations. This reduces the level of uncertainty, thus enhancing their ability to tolerate volatility. The art, of course, is to make sure that confidence does not become over-confidence, which is the major cause of investment disasters.

### Frequency vs. Amplitude

The idea of risk as “expected pain” combines two elements: the likelihood of pain, and the level of pain. The measures described above focus on one or the other of these elements, but not both. Semi-variance (and its descendant, the Sortino ratio) focuses on the size of the negative surprises, but ignores the probability of those surprises. Shortfall probability focuses on the likelihood of falling below a target return, but ignores the potential size of the shortfall. If we were forced to embrace a single quantitative measure of risk, we would offer the concept of “expected return below the target,” defined as the sum of the probability-weighted below-target returns. This measure is essentially the area under the probability curve that lies to the left of the target return level. (Note that this definition is broad enough to cover both normal and non-normal distribution.)

### Predicting Risk

Past performance does not guarantee anything regarding future performance, and past risk does not guarantee anything regarding future risk. This is true even when the historical record is long enough to satisfy normal criteria of statistical significance. The problem is that, just as a performance record is getting long enough to have statistical significance, it may no longer have investment significance, because the people and the organization may have changed in important ways over the years, and the strong historical record may be a prominent driver of those changes. Top-performing hedge fund managers hardly ever retire at the top of their game: the risk is that they will fade away, or blow up.

Fading away is just another example of the universal phenomenon of reversion to the mean. A manager who has compiled an excellent historical record gradually turns into just another manager, with higher risk than before, and lower return. Maybe he has lost his competitive edge, his hunger for success; or maybe the historical record was just a fluke, not really a symptom of genuine investment skill. In any case, what looked like an exceptional investment opportunity turns into a disappointment; not a disaster, but a disappointment.

The blow-up syndrome takes us from the category of disappointment into the category of disaster. The pattern here goes roughly as follows: a manager puts together a superb performance record, which increases the size of assets under management and dramatically boosts the manager’s confidence in his own investment prowess. At some point, confidence becomes complacency, complacency becomes hubris, hubris creates errors, and the errors

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breed disaster. The unwinding of Long Term Capital Management, as well as the recent overhaul of the Soros organization, are examples of this phenomenon. In each case, genuinely exceptional investors pushed the envelope until the envelope pushed back. The irony here is that long records of strong performance, which are the records that investors love to see, are precisely the records that should create the most anxiety. Andy Grove, the Chairman of Intel, is famous for emphasizing that only the paranoid survive. Skilled money managers need to be paranoid about factors that may jeopardize the sustainability of their success. And prudent investors need to be paranoid about factors that may turn a golden record into lead.

### **Risk Control**

Given all these problems about measuring risk and forecasting risk, it might appear that risk management would be an impossible task. How can you manage what you can't measure? We would take the contrary position: a proper appreciation of the difficulties of measuring risk actually improves one's ability to manage risk. Those who overestimate their ability to measure risk, who have too much confidence in the sophistication of their quantitative tools, are precisely the ones most likely to get into trouble.

In constructing a multi-manager hedge fund portfolio, it is essential to have a clear view of the risk profile of the individual managers, and a clear view of the way in which those risk profiles interact within the context of a portfolio. We are not talking about a set of numbers for each manager and a correlation matrix tying those numbers together, we are talking about a practical working understanding of risk. A Lamborghini may be preferable to a Chevrolet on a closed-circuit racecourse, but the Chevrolet is probably the better bet for city driving.

*Manager Risk Factors:* The risk factors that we identify at the manager level are organized as follows:

#### **Portfolio Factors: Non-Market Related**

- Leverage
- Concentration
- Illiquidity
- Trading behavior: cut losses vs. average down

#### **Portfolio Factors: Market-Related**

- Directional factors: long bias, short bias, neutral, opportunistic
- Technical factors: volatility, choppiness, etc.
- Spread-related factors:
  - Equity: big/small, growth/value, etc.
  - Fixed income: maturity spreads, credit spreads, etc.

**Organizational Factors:**

- Length of record
- Assets under management
  - Rate of growth
  - Nature of client base
- Ownership/compensation structure
- Risk monitoring/control systems

The thinking behind this schema is very straightforward. We want to distinguish between risk factors that will show up within the portfolio, and factors more related to people and organizations. Among the portfolio-related factors, the first group comprises those factors that can be understood by looking at the manager's portfolio and by seeing how it changes through time. Many of these factors are factors that lie within the control of the manager. The market-related portfolio factors are those that can be understood only by looking more carefully at the ways in which the manager's returns are affected (either positively or negatively) by the behavior of market-related factors.

Within the first group of factors, the first three items require no special comment but the fourth factor goes to the heart of the risk control problem. Some managers are deeply averse to losses: if a position moves against them, their tendency is to exit the position first, ask questions later. Other managers are more contrarian, or value-oriented: if a position moves against them, the position is now even more attractively priced, hence the manager may be tempted to add to the position on weakness. Managers in the first category tend to have a shorter investment horizon than managers in the second category. At the extremes, both approaches are self-defeating.

The excessively loss-averse manager becomes so impatient that he cannot withstand any adverse movements, the result being enormous trading costs and no profits. The excessively value-driven manager becomes so convinced that he is right, the market wrong, that his hands remain frozen to the wheel as his portfolio crashes into the wall. In the real world, away from the extremes, the issue is to locate the manager, at least roughly, on the spectrum between "cut your losses quickly" and "buy low, buy lower."

**Prevention vs. Cure**

Preventing disease is usually much cheaper, and more effective, than curing disease. The same is true in risk management: staying out of trouble is much more effective than getting out of trouble. The keys to avoiding a crisis are diversification, prudent levels of leverage and liquidity, and a continuing respect for one's own fallibility. The keys to managing a crisis are more limited and less satisfactory: either do nothing, or reduce positions sharply. Doing

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nothing is often the right thing to do, and will certainly appeal to the longer-term, value-oriented manager, but sometimes the temptation to do something can be overpowering. Reducing positions seems very prudent (the manager is, after all, “protecting the value of his portfolio”), but the implementation costs are enormous, since the manager is selling long positions that may be in free fall and covering short positions that are spiraling upwards. For managers with a very large asset base, or a preference for less liquid situations, risk control in the sense of “crisis management” is simply not a realistic alternative. The only viable form of risk control is to stay out of trouble in the first place.

### **Calculation**

When calculating risks, the first thing you will want to know is, 'How likely is this?' A risk that is highly unlikely can be discounted. Or can it be? A meltdown in a nuclear reactor is unlikely, but should this risk be ignored? The overall risk exposure is calculated as the product of both the probability and also the overall cost, should the risk occur.

But what if you do not know the exact probability of something happening? What if you do not know the cost? A simple approach is to use more qualitative set of measures, such as 'Very Low', 'Low', 'Medium', 'High' and 'Very High', and then allocate a set of numbers to them. These can be linear, such as 1, 2, 3, 4 and 5, but may be better as a non-linear set, such as 1, 2, 4, 8 and 16, which will account for 'Very High' being *much* more important than 'Very Low' (not just five times). You can also use different sets of figures for probability and loss. If in doubt, do some experiments; 'suck it and see'.

### **Monitoring Risks in Open & Exposure Limits**

The Foreign Exchange Exposure Limits of Authorised Dealers would be dual in nature.

1. Net Overnight Open Position Limit (NOOPL) for calculation of capital charge on forex risk
2. Limit for positions involving Rupee as one of the currencies (NOP-INR) for exchange rate management.

For banks incorporated in India, the exposure limits fixed by the Board should be the aggregate for all branches including their overseas branches and Off-shore Banking Units. For foreign banks, the limits will cover only their branches in India.

### **Net Overnight Open Position Limit (NOOPL) for calculation of capital charge on forex risk**

NOOPL may be fixed by the boards of the respective banks and communicated to the Reserve Bank immediately. However, such limits should not exceed 25 percent of the total capital (Tier I and Tier II capital) of the bank.

The Net Open position may be calculated as per the method given below:

### Calculation of the Net Open Position in a Single Currency

The open position must first be measured separately for each foreign currency. The open position in a currency is the sum of (a) the net spot position, (b) the net forward position and (c) the net options position.

**(a) Net Spot Position:** The net spot position is the difference between foreign currency assets and the liabilities in the balance sheet. This should include all accrued income/expenses.

**(b) Net Forward Position:** This represents the net of all amounts to be received less all amounts to be paid in the future as a result of foreign exchange transactions, which have been concluded. These transactions, which are recorded as off-balance sheet items in the bank's books, would include:

1. Spot transactions which are not yet settled;
2. Forward transactions;
3. Guarantees and similar commitments denominated in foreign currencies which are certain to be called;
4. Net future income/expenses not yet accrued but already fully hedged (at the discretion of the reporting bank);
5. Net of amounts to be received/paid in respect of currency futures, and the principal on currency futures/swaps.

**(c) Net Options Position:** The option position is the "delta-equivalent" spot currency position as reflected in the authorized dealer's options risk management system, and includes any delta hedges in place.

### Risk Exposure Analysis

The dollar amount of funds or percentage of a portfolio invested in a particular type of security, market sector or industry, which is usually expressed as a percentage of total portfolio holdings.

Market exposure, also known as "exposure," represents the amount an investor can lose from the risks unique to a particular investment.

The greater the market exposure, the greater the market risk. For example, in a portfolio consisting of 20% bonds and 80% stocks, the investor's market exposure to stocks is 80%. This investor stands to lose or gain more depending on how stocks perform than from how bonds perform.

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Within this investor's 80% market exposure to stocks, there might be a 30% market exposure to the health-care sector, 25% exposure to the technology sector, 20% to the financial services sector, 15% to the defence sector and 10% to the energy sector. The portfolio's returns will be more influenced by health-care stocks than by energy stocks because of the greater market exposure to the former.

The exposure of a portfolio to particular securities/markets/sectors must be considered when determining a portfolio's asset allocation, since it can greatly increase returns and/or minimize losses. For example, a portfolio with both stock and bond holdings - that is, market exposure to both types of assets will typically have less risk than a portfolio with exposure only to stocks. In other words, diversification reduces market-exposure risks.

### **Risk Mitigation Policy**

Risk Mitigation Policy can be defined as the process of identification, analysis and either acceptance or mitigation of uncertainty in investment decision-making.

Essentially, risk management occurs anytime an investor or fund manager analyzes and attempts to quantify the potential for losses in an investment and then takes the appropriate action (or inaction) given their investment objectives and risk tolerance. Inadequate risk management can result in severe consequences for companies as well as individuals. For example, the recession that began in 2008 was largely caused by the loose credit risk management of financial firms.

Simply put, risk management is a two-step process - determining what risks exist in an investment and then handling those risks in a way best-suited to your investment objectives. Risk management occurs everywhere in the financial world. It occurs when an investor buys low-risk government bonds over more risky corporate debt, when a fund manager hedges their currency exposure with currency derivatives and when a bank performs a credit check on an individual before issuing them a personal line of credit.

### **Risk Immunization Policy**

A strategy that matches the durations of assets and liabilities, thereby minimizing the impact of interest rates on the net worth.

For example, large banks must protect their current net worth, whereas pension funds have the obligation of payments after a number of years. These institutions are both concerned about protecting the future value of their portfolios and therefore have the problem of dealing with uncertain future interest rates. By using an immunization technique, large institutions can protect (immunize) their firms from exposure to interest rate fluctuations. A perfect immunization strategy establishes a virtually zero-risk profile in which interest rate movements have no impact on the value of a firm.

Applying the immunization steps, the bank will be able to protect the market value of equity when interest rate moves adversely. But when the interest rate moves favorably then the bank will not be able to utilize the opportunity of increasing the market value of equity because of the immunization process. So immunization process is basically a hedging technique.

One of the major pitfalls of the duration gap methodology is that it requires complete information on each account or at least each homogeneous group of accounts on bank balance sheet including not only information on contract interest rate and maturity but also on when a variable rate account can be re-priced before maturity and any constraints on account by which it can be re-priced.

One assumption that we have been using in our discussion of income and duration gap analysis is that when the level of interest rates changes, interest rates on all maturities change by exactly the same amount.

That is the same as saying that we conducted our analysis under the assumption that the slope of the yield curve remains unchanged. Indeed, the situation is even worse for duration gap analysis, because the duration gap is calculated assuming that interest rates for all maturities are the same in other words, the yield curve is assumed to be flat. From the conception of the term structure of interest rates, we know that the yield curve is not flat, and the slope of the yield curve fluctuates and has a tendency to change when the level of the interest rate changes. Thus to get a truly accurate assessment of interest-rate risk, a financial institution manager has to assess what might happen to the slope of the yield curve when the level of the interest rate changes and then take this information into account when assessing interest-rate risk.

Also duration gap methodology is applicable when there is very little amount of changes in interest rate occurs. If there is a large amount of fluctuation in interest rates then this method is not at all applicable.

It is difficult to estimate the duration on assets and liabilities that do not earn or pay interest. Duration measures are highly subjective. Also, it is difficult to actively vary GAP or DGAP and consistently win. Moreover, interest rates forecasts are frequently wrong; even if rates change as predicted, banks have limited flexibility in varying GAP and DGAP and must often sacrifice yield to do so.

### **Risk Diversification Strategies**

When you invest, you have to be prepared for risk. The kinds of risk you face and the damage those risks can inflict depend on the combination of investments you make. While you can help limit risk with your investment choices, you can't eliminate it completely.

The reason for diversifying is that no investment can be a winner all the time. Managers get it wrong. The competition gets it right. When things go badly, or if investors think there's trouble,

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lagging performance and a lower return typically follow. Not every company is apt to strike out at the same time. Every product doesn't fall victim to a newer one. But a well-diversified portfolio with a variety of investments may help you minimize serious losses.

A word of caution though. Diversification doesn't guarantee you'll make money, or that you won't lose any. But if you are diversified when markets are weak, that may help your return as the markets recover. And if you're diversified when markets are strong, you may be in a better shape for the next downturn.

Here's another thing to keep in mind. Diversification can take time. You might not be able to create your portfolio overnight or even over a month or two. Consider defining the variety you want and how to get it. Then you can add to your holdings and weed out the ones that no longer fit your investment goals.

### Risk Diversification Strategy in Banks

During the second half of the 1990s, many Indian banks have, indeed, adopted universal banking structures (in different forms and degrees) as a strategic response to increased competition in both domestic as well as global market.

Banks pursue diversification strategy for a variety of reasons which may both be proactive and defensive. Disintermediation in commercial banking in combination with new capital adequacy rules and narrowing interest margins has led to an increased pressure on the banks profitability.

In response, commercial banks are diversifying by moving towards generating income from non-traditional sources like fee and fund based services. Besides this, diversification in the banking sector has emerged from a host of considerations.

Diversification helps a bank in eliminating the unevenness of geographical reach, product-process innovation, exploit economies of scale and scope, reap benefit of advanced technology, and diversify risk along with mobilization of additional capital.

Diversification has opened the door for commercial banks to earn fee income from investment banking, merchant banking, insurance agency, securities brokerage, and other non-traditional financial services. Ali-Yrkko (2002), classifies the banks' motive to diversify as synergy (or economic) motive, managerial motive, value maximization motive, increased market power motive, capital strength and **risk diversification** motives etc.

Determinants of diversification can be categorized into two categories.

- External determinants include Economies of Scale and Scope, Dynamics of bank Competition, Global presence of Financial Conglomerates and Disintermediation in banking activities.

- The internal determinants, on the other hand, include risk reduction motive, decline in interest margin, cost of production, low cost of capital, technology up gradation etc.

### Risk Framework and Individual Instruments

Banks should have a comprehensive risk scoring / rating system that serves as a single point indicator of diverse risk factors of counterparty and for taking credit decisions in a consistent manner. To facilitate this, a substantial degree of standardization is required in ratings across borrowers. The risk rating system should be designed to reveal the overall risk of lending, critical input for setting pricing and non-price terms of loans as also present meaningful information for review and management of loan portfolio. The risk rating, in short, should reflect the underlying credit risk of the loan book. The rating exercise should also facilitate the credit granting authorities some comfort in its knowledge of loan quality at any moment of time.

The risk rating system should be drawn up in a structured manner, incorporating, *inter alia*, financial analysis, projections and sensitivity, industrial and management risks. The banks may use any number of financial ratios and operational parameters and collaterals as also qualitative aspects of management and industry characteristics that have bearings on the creditworthiness of borrowers. Banks can also weigh the ratios on the basis of the years to which they represent for giving importance to near term developments. Within the rating framework, banks can also prescribe certain level of standards or critical parameters, beyond which no proposals should be entertained. Banks may also consider separate rating framework for large corporate / small borrowers, traders, etc. that exhibit varying nature and degree of risk. Forex exposures assumed by corporates who have no natural hedges have significantly altered the risk profile of banks. Banks should, therefore, factor the unhedged market risk exposures of borrowers also in the rating framework. The overall score for risk is to be placed on a numerical scale ranging between 1-6, 1-8, etc. on the basis of credit quality.

For each numerical category, a quantitative definition of the borrower, the loans underlying quality, and an analytic representation of the underlying financials of the borrower should be presented. Further, as a prudent risk management policy, each bank should prescribe the minimum rating below which no exposures would be undertaken. Any flexibility in the minimum standards and conditions for relaxation and authority there-for should be clearly articulated in the Loan Policy.

The credit risk assessment exercise should be repeated bi-annually (or even at shorter intervals for low quality customers) and should be delinked invariably from the regular renewal exercise. The updating of the credit ratings should be undertaken normally at quarterly intervals or at least at half-yearly intervals, in order to gauge the quality of the portfolio at periodic intervals. Variations in the ratings of borrowers over time indicate changes in credit quality and expected loan losses from the credit portfolio. Thus, if the rating system is to be meaningful, the credit quality reports should signal changes in expected loan losses. In order

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to ensure the consistency and accuracy of internal ratings, the responsibility for setting or confirming such ratings should vest with the Loan Review function and examined by an independent Loan Review Group. The banks should undertake comprehensive study on migration (upward – lower to higher and downward – higher to lower) of borrowers in the ratings to add accuracy in expected loan loss calculations.

Banks should evolve suitable framework for monitoring the market risks especially forex risk exposure of corporates who have no natural hedges on a regular basis. Banks should also appoint Portfolio Managers to watch the loan portfolios degree of concentrations and exposure to counterparties. For comprehensive evaluation of customer exposure, banks may consider appointing Relationship Managers to ensure that overall exposure to a single borrower is monitored, captured and controlled.

The Relationship Managers have to work in coordination with the Treasury and Forex Departments. The Relationship Managers may service mainly high value loans so that a substantial share of the loan portfolio, which can alter the risk profile, would be under constant surveillance. Further, transactions with affiliated companies/groups need to be aggregated and maintained close to real time. The banks should also put in place formalized systems for identification of accounts showing pronounced credit weaknesses well in advance and also prepare internal guidelines for such an exercise and set time frame for deciding courses of action.

### **Contingency Plan for Liquidity Management**

A bank should formulate a contingency funding plan (CFP) for responding to severe disruptions which might affect the bank's ability to fund some or all of its activities in a timely manner and at a reasonable cost. CFPs should prepare the bank to manage a range of scenarios of severe liquidity stress that include both bank specific and market-wide stress and should be commensurate with a bank's complexity, risk profile, scope of operations. *Contingency plans should contain details of available / potential contingency funding sources and the amount / estimated amount which can be drawn from these sources, clear escalation / prioritization procedures detailing when and how each of the actions can and should be activated and the lead time needed to tap additional funds from each of the contingency sources.*

With a view to diversifying, banks may like to enter into contingency funding agreements with different banks / types of banks (public sector, private sector, foreign banks) for providing contingency funding lines and / or reciprocal lines of credit (e.g. agreement to receive contingent funds in India with a reciprocity agreement to provide funds at a cross- border location or vice versa).

The CFP should also provide a framework with a high degree of flexibility so that a bank can respond quickly in a variety of situations. The CFP's design plans and procedures should be

closely integrated with the bank's ongoing analysis of liquidity risk and with the results of the scenarios and assumptions used in stress tests. As such, the plan should address issues over a range of different time horizons including intraday.

To facilitate timely response needed to manage disruptions, CFP should set out a clear decision-making process on what action to take at what time, who can take it, and what issues need to be escalated to more senior levels in the bank. There should be explicit procedures for effective internal coordination and communication across the bank's different business lines and locations. It should also address when and how to contact external parties, such as supervisors, central banks, or payment system operators. It is particularly important that in developing and analysing CFPs and stress scenarios, the bank is aware of the operational procedures needed to transfer liquidity and collateral across different entities, business lines and jurisdictions and the restrictions that govern such transfers like legal, regulatory and time zone constraints. CFPs should contain clear policies and procedures that will enable the bank's management to make timely and well-informed decisions, execute contingency measures swiftly and proficiently, and communicate effectively to implement the plan efficiently, including:

- clear specification of roles and responsibilities, including the authority to invoke the CFP. The establishment of a crisis team may facilitate internal coordination and decision-making during a liquidity crisis;
- names and contact details of members of the team responsible for implementing the CFP and the locations of team members; and,
- the designation of alternates for key roles.

Contingency plans must be tested regularly to ensure their effectiveness and operational feasibility and should be reviewed by the Board at least on an annual basis.

## **Reviewing Risk-Return Profile as well as the Tax-efficiency of investment instruments**

### **Stocks: Highest risk – Return Potential**

Stock investment can earn and lose money based on the increasing or decreasing market value of the shares. The price movements of stocks are very drastic, which can make or lose money very fast. Hence it is considered to be the most risky one. But what also needs to be taken into account is that Long-term capital gains and dividend from equities are tax-free in the hands of investors.

Within equity, investors can choose from stocks, equity mutual funds, portfolio management schemes, equity derivatives, structured products and private equity. Each of these also has different levels of tax efficiencies. Investment costs/taxation tends to be higher in portfolio

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management schemes when compared to equity mutual funds. In a mutual fund, investors hold units of a fund and have no tax impact for changes in the fund's underlying holdings. However, in a portfolio management scheme, the stocks are purchased/sold in the investor's name thereby making them liable for short-term capital gains tax if sold at a profit within a year. A good option for long-term investors can also be structured products with principal protection and some of them offer up to 200% participation on the Nifty over 3 years. In general, when it comes to equity, Indian investors prefer direct stock picking and making business investments.

### **Bonds: Low risk**

Return potential Bonds or fixed income investments are money loaned to the government, municipalities or other entities and thus, the investment risk is very small. Under fixed income, investors can opt for fixed maturity plans, other debt mutual funds, Government and corporate sector bonds as well as fixed deposits. Indian HNI investors have a significant appetite for investments where a higher percentage comes from predetermined returns. Within debt, taxation in mutual funds is lower compared to interest income. While interest income from fixed deposits and bonds is fully taxable, regulations do allow for long-term capital gains and losses from debt to be set off against each other. Indexation is allowed for debt mutual funds held for more than one year thereby enhancing post-tax returns. Investors in FMPs can further minimize their tax liability with the help of double indexation benefit. Once in a while, we also come across issues of tax-free bonds. Take the case of the recent issuance of tax-free bonds by NHA and Power Finance Corporation. On a ten-year bond, these offer a tax-free return of 8.2%. To earn a similar post-tax return, an investor in the highest tax bracket needs to invest in a bank fixed deposit giving pre-tax return of more than 12%. Presently, bank fixed deposit rates are hovering around 10%. Such tax-free bonds are not regularly available; hence, investors should grab these opportunities as and when they arise. Thus, looking at the tax efficiencies of various options, we can say that investors must seriously consider investment in debt mutual funds or fixed maturity plans as an alternative to fixed deposits. In case the investment tenure exceeds 12 months, the appreciation in the former is treated as capital gain which is more tax efficient when compared to interest income. Indian investors prefer higher visibility of returns as given by FMPs or tax free bonds.

### **Cash: Lowest risk**

Return potential Cash or Cash equivalents are Investment securities that are short-term, have high credit quality and are highly liquid. These include Treasury bills, certificates of deposits and other short-term securities. They earn you money through interest, which is usually set at a guaranteed rate. Liquid and liquid plus funds are good options to keep idle cash (in spite of banks offering 6-7% on savings account, post deregulation), due to the higher returns on offer and a better tax treatment. The dividend distribution tax (DDT) on liquid funds is 27.03% whereas the DDT on liquid plus funds is 13.52% for individual investors. The interest on

savings bank account is, however, added to an individual's income and taxed at the rate applicable to the individual. This means if you are in the higher tax bracket, you will pay a tax of 30.9% on your interest from savings bank account. The favourable tax treatment means the post-tax returns on liquid and liquid plus funds are likely to be higher than the interest earned on savings bank account. However, investors are now set to get an exemption of ₹ 10,000 from interest from bank accounts. While stocks and bonds have held their position as traditional investment instruments, investors are increasingly looking for alternate investments such real estate, hedge funds, private equity and exchange-traded funds (ETFs) to engineer an overall enhanced performance of their portfolios. Let us now look at some of these investments which also categorise as asset classes.

For a private equity investor, the primary concern is how to achieve the most tax-efficient exit in order to maximize returns. The most common method of achieving tax efficiency has been for investors to structure their investments through a jurisdiction with which India has a Double Taxation Avoidance Agreement (DTAA) in place. Popular jurisdictions include Mauritius, Cyprus, Singapore and the Netherlands.

The India Mauritius DTAA has made Mauritius the most popular destination for PE/VC funds to set up, since the DTAA provides that capital gains made by a Mauritian resident from the sale of shares in an Indian company are not taxable in India (provided that the Mauritian company does not have a permanent establishment in India). This is beneficial for PE investors, since Mauritius itself does not tax capital gains. Therefore, foreign funds seeking to invest in India have historically set up funds in tax-friendly jurisdictions.

### **Minimizing Float across the Business Value Chain and reducing the Cost of Borrowing Reviews**

As economies around the world step back from the previous several years of monetary uncertainty and begin adjusting to a new normal, companies face a different set of financial supply chain challenges than they did at the height of the downturn. Among them are rising pressure from global competition, consumer expectations, and increasingly complex patterns of customer demand. Most global CFOs face the basic challenge of doing much, much more with much, much less and gaining cost savings while simultaneously improving quality, gaining productivity and improving visibility.

Organizations today are searching for nearly the same visibility in their financial supply chains that they enjoy in their physical supply chains -- minimize incremental costs at touch points to maximize working capital. The financial supply chain involves the flow and use of cash throughout the physical supply chain, where there is an accompanying flow of cash in the transfer of products, services and analytics.

Presently, corporations are seeking best practices in how to move from a working capital optimization theory to practical initiatives which will improve their corporate financial

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performance while maintaining both customer and shareholder satisfaction. Leading companies are reforming their financial supply chains to achieve the next wave of improvements in working capital. As new services come to market, finance executives are taking a second look at supply-chain finance to improve performance.

The goal of operative financial supply chain management is to increase the transparency and the level of automation of business processes along the financial value chain. The purpose is to save processing costs and reduce the working capital of the company. This definition doesn't consider where the financial supply chain actually begins and ends, because there are also analytical processes that are not directly related to a business process but which belong, nonetheless, to the financial supply chain. Presently, corporate finance organizations are facing unparalleled pressure to improve finance supply chain operations.

To be competitive, CFOs are looking to better manage the financial supply chain, integrate and standardize processes, achieve a return on technology investments, and manage risk while improving margins and reducing costs. In sum, improving performance with innovation and technology in financial supply chain management enhances finance operational efficiency, strengthens finance reporting and analysis, and improves finance control and predictability.

Profiting from availability and deployment: One of the prime objectives of a treasury manager is to ensure timely procurement of right amount of funds and timely deployment of right amount of funds. This objective results in administrative smoothing and paves way for easier achievement of performance targets of the firm.

Modern day treasury manager has another objective, which is to profit from such sourcing and deployment. Profit from this function is derived as under: Sourcing of funds at the right time and in right quantity is a result of realization of debtors and financing of borrowings. Realization from debtors in time has a direct impact upon profitability of the firm through decrease in cost of holding debtors. Financing of borrowings is a capital structure decision but the actual availment of these borrowings is the domain of the treasury manager. Adequate and timely utilization of the borrowed funds results in the avoidance of strain on other sources of funds. Once the funds have been sourced in correct measure, the deployment adds further to the profitability of the firm if it has been done in tandem with the pace of sourcing. Correct deployment ensures that there is no unnecessary accumulation of funds in the firm at any point in time. Needs of every department are met as per schedule. This action results in avoidance of special and extraordinary costs, interests and the like. With costs being in control, surplus funds emerge from the system, which are deployed profitably either as long-term investments or as short-term parking tools. Both ways, the net result for the firm is an addition to profits.

## Role of Mid Office

The functions of the MO include oversight of the Capital Market Operations (CMO), Foreign Currency Exposure, Fixed Income (Treasury) operations and other related financial risk exposures to ensure adherence to policies and procedures. This oversight is executed through a review of summary trading activity, preparation of limit overruns, review of settlement of equity trades, resolution of issues, monitoring and investigation of any discrepancies or abnormal trends, etc. Additionally, a review of balance sheet gaps (price and maturity), liquidity and other Asset & Liability management related issues is also prepared for inclusion in the ALCO report.

Reports currently generated by MO include (distribution and frequency)

- Liquidity Gap
- Price Gap
- ALCO Summary
- MTM for Tbill, PIB and FIB Holdings
- Duration & Convexity for Fixed Income Holdings
- Interest Rate Shock reports – MTM based on 5, 50, 100 bps shift in the term structure.
- Net Open Positions – FX Summary
- FX Gaps
- FX Limit Utilization
- Capital Market Summary
- Capital Market Operations – Gain/Stop Loss Trigger Status (Daily)
- Capital Market Operations – Portfolio Status and dMTM
- Capital Market Operations – Limit Overrun Report (Daily)
- Liquidity/IRR Risk Management Guideline (Monthly);

Reports in the process of being generated by the MO include

- Value at Risk for FX position
- Value at Risk for Capital Market Portfolio (in development – as at end of day prices)

Additional reports that can be investigated by the MO include:

- Value at Risk for Money Market Portfolio
- Value at Risk for combined portfolio
- Balance Sheet Duration Gap

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### Operational Clarity and Documentation and Monitoring

Management of market risk should be the major concern of top management of banks. The Boards should clearly articulate market risk management policies, procedures, prudential risk limits, review mechanisms and reporting and auditing systems. The policies should address the bank's exposure on a consolidated basis and clearly articulate the risk measurement systems that capture all material sources of market risk and assess the effects on the bank. The operating prudential limits and the accountability of the line management should also be clearly defined. The Asset-Liability Management Committee (ALCO) should function as the top operational unit for managing the balance sheet within the performance/risk parameters laid down by the Board. The banks should also set up an independent **Middle Office** to track the magnitude of market risk on a real time basis. The Middle Office should comprise of experts in market risk management, economists, statisticians and general bankers and may be functionally placed directly under the ALCO. The Middle Office should also be separated from Treasury Department and should not be involved in the day-to-day management of Treasury. The Middle Office should apprise the top management / ALCO / Treasury of adherence to prudential / risk parameters and also aggregate the total market risk exposures assumed by the bank at any point of time.

The top management of banks should lay down policies with regard to volume, maximum maturity, holding period, duration, stop loss, defeasance period, rating standards, etc. for classifying securities in the trading book. While the securities held in the trading book should ideally be marked to market on a daily basis, the potential price risk to changes in market risk factors should be estimated through internally developed Value-at-Risk (VaR) models.

The VaR method is employed to assess potential loss that could crystallize on trading position or portfolio due to variations in market interest rates and prices, using a given confidence level, usually 95% to 99%, within a defined period of time. The VaR method should incorporate the market factors against which the market value of the trading position is exposed. The top management should put in place bank-wise VaR exposure limits to the trading portfolio (including forex and gold positions, derivative products, etc.) which is then disaggregated across different desks and departments. The loss making tolerance level should also be stipulated to ensure that potential impact on earnings is managed within acceptable limits. The potential loss in Present Value Basis Points should be matched by the Middle Office on a daily basis vis-à-vis the prudential limits set by the Board. The advantage of using VaR is that it is comparable across products, desks and Departments, and it can be validated through 'back testing'. However, VaR models require the use of extensive historical data to estimate future volatility. VaR model also may not give good results in extreme volatile conditions or outlier events and stress test has to be employed to complement VaR. The stress tests provide management a view on the potential impact of large size market movements and also attempt to estimate the size of potential losses due to stress events, which occur in the '**tails**' of the loss distribution. Banks may also undertake scenario analysis

with specific possible stress situations (recently experienced in some countries) by linking hypothetical, simultaneous and related changes in multiple risk factors present in the trading portfolio to determine the impact of moves on the rest of the portfolio. VaR models could also be modified to reflect liquidity risk differences observed across assets over time. International banks are now estimating Liquidity adjusted Value at Risk (LaVaR) by assuming variable time horizons based on position size and relative turnover. In an environment where VaR is difficult to estimate for lack of data, non-statistical concepts such as stop loss and gross/net positions can be used.

### What TMO should do?

- Manage all Treasury Limits
- Prepare Transactional Risk Reports
- Prepare Revaluation Reports
- Prepare Daily Deal Summary Reports
- Prepare Optimal Deal Rate and /or Pricing Reports
- Prepare Risk and Treasury Investment Model Validation Reports
- Prepare Counter-party Risk Management Reports
- Prepare Asset Liquidity Risk and Impact Cost Reports
- Prepare Market Risk Reports only if the Market Risk Desk doesn't exist!!!
- Prepare TMO – Manual Compliance and Internal Controls Reports
- Prepare Asset – Liability On and Off Balance Sheet GAP Simulation Reports
- Prepare Arbitrage Opportunity Reports
- In case of Financial Derivatives, should prepare Exposure, Basis Risk and Greek Measure reports etc. (The purpose should be to highlight all accounting and not just market risk aspects of treasury related transactions)
- Prepare Treasury Limits Approval, Renewal and EOL – Excess over Limits Reports (And have the final say on it instead of allowing the credit or the market risk desk to thrust their cruel arbitrary opinion on the front office!!! )
- Should have the final say on Brokerage Business Lines assigned by the Front Office!!!
- Should check the audit trail of all transactions in conjunction with the back office
- Should have a say on drafting of all FTP – Fund Transfer Pricing Policies – and other related procedural matters.

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### System Audit - Risk Management / Mitigations

The banks should observe the following guidelines for internal control system in respect of investment transactions:

- (a) There should be a clear functional separation of (i) trading, (ii) settlement, monitoring and control and (iii) accounting. Similarly, there should be a functional separation of trading and back office functions relating to banks' own Investment Accounts, Portfolio Management Scheme (PMS) Clients' Accounts and other Constituents (including brokers') accounts. The Portfolio Management service may be provided to clients, subject to strictly following the guidelines in regard thereto. Further, PMS Clients' Accounts should be subjected to a separate audit by external auditors.
- (b) For every transaction entered into, the trading desk should prepare a deal slip which should contain data relating to nature of the deal, name of the counter-party, whether it is a direct deal or through a broker, and if through a broker, name of the broker, details of security, amount, price, contract date and time. The deal slips should be serially numbered and controlled separately to ensure that each deal slip has been properly accounted for. Once the deal is concluded, the dealer should immediately pass on the deal slip to the back office for recording and processing. For each deal there must be a system of issue of confirmation to the counterparty. The timely receipt of requisite written confirmation from the counterparty, which must include all essential details of the contract, should be monitored by the back office.
- (c) With respect to transactions matched on the NDS-OM module, since CCIL is the central counterparty to all deals, exposure of any counterparty for a trade is only to CCIL and not to the entity with whom a deal matches. Besides, details of all deals on NDS-OM are available to the counterparties as and when required by way of reports on NDS-OM itself. In view of the above, the need for counterparty confirmation of deals matched on NDS-OM does not arise.

The deals in Government security transactions in OTC market that are mandated to be settled through CCIL by reporting on the NDS, are not required to be confirmed physically as OTC deals depend on electronic confirmation by the back offices of both the counterparties on NDS system like the NDS-OM deals.

However, all government securities transactions, other than those mentioned above, will continue to be physically confirmed by the back offices of the counterparties, as hitherto.

- (d) Once a deal has been concluded, there should not be any substitution of the counter party bank by another bank by the broker, through whom the deal has been entered into; likewise, the security sold/purchased in the deal should not be substituted by another security.

## Treasury — Risk Management

- (e) On the basis of vouchers passed by the back office (which should be done after verification of actual contract notes received from the broker/ counterparty and confirmation of the deal by the counterparty), the Accounts Section should independently write the books of account.
- (f) In the case of transaction relating to PMS Clients' Accounts (including brokers), all the relative records should give a clear indication that the transaction belongs to PMS Clients/ other constituents and does not belong to bank's own Investment Account and the bank is acting only in its fiduciary/ agency capacity.
- (g)
  - (i) Records of SGL transfer forms issued/received, should be maintained.
  - (ii) Balances as per bank's books should be reconciled at quarterly intervals with the balances in the books of PDOs. If the number of transactions so warrants, the reconciliation should be undertaken more frequently, say on a monthly basis. This reconciliation should be periodically checked by the internal audit department.
  - (iii) Any bouncing of SGL transfer forms issued by selling banks in favour of the buying bank should immediately be brought to the notice of the Regional Office of Department of Banking Supervision of RBI by the buying bank.
  - (iv) A record of BRs issued/ received should be maintained.
  - (v) A system for verification of the authenticity of the BRs and SGL transfer forms received from the other banks and confirmation of authorised signatories should be put in place.
- (h) Banks should put in place a reporting system to report to the top management, on a weekly basis, the details of transactions in securities, details of bouncing of SGL transfer forms issued by other banks and BRs outstanding for more than one month, and a review of investment transactions undertaken during the period.
- (i) Banks should not draw cheques on their account with the RBI for third party transactions, including inter-bank transactions. For such transactions, bankers' cheques/ pay orders should be issued.
- (j) In case of investment in shares, the surveillance and monitoring of investment should be done by the Audit Committee of the Board, which shall review in each of its meetings, the total exposure of the bank to capital market both fund based and non-fund based, in different forms as stated above and ensure that the guidelines issued by RBI are complied with and adequate risk management and internal control systems are in place;

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- (k) The Audit Committee should keep the Board informed about the overall exposure to capital market, the compliance with the RBI and Board guidelines, adequacy of risk management and internal control systems;
- (l) In order to avoid any possible conflict of interest, it should be ensured that the stockbrokers as directors on the Boards of banks or in any other capacity, do not involve themselves in any manner with the Investment Committee or in the decisions in regard to making investments in shares, etc., or advances against shares.
- (m) The internal audit department should audit the transactions in securities on an ongoing basis, monitor the compliance with the laid down management policies and prescribed procedures and report the deficiencies directly to the management of the bank.
- (n) The banks' managements should ensure that there are adequate internal controls and audit procedures for ensuring proper compliance of the instructions in regard to the conduct of the investment portfolio. The banks should institute a regular system of monitoring compliance with the prudential and other guidelines issued by the RBI. The banks should get compliance in key areas certified by their statutory auditors and furnish such audit certificate to the Regional Office of DBS, RBI under whose jurisdiction the HO of the bank falls.

### **Approach to Forex Risk Management Policy**

Risk management techniques vary with the type of exposure (accounting or economic) and term of exposure. Accounting exposure, also called translation exposure, results from the need to restate foreign subsidiaries' financial statements into the parent's reporting currency, and is the sensitivity of net income to the variation in the exchange rate between a foreign subsidiary and its parent.

Economic exposure is the extent to which a firm's market value, in any particular currency, is sensitive to unexpected changes in foreign currency. Currency fluctuations affect the value of the firm's operating cash flows, income statement, and competitive position, hence market share and stock price. Currency fluctuations also affect a firm's balance sheet by changing the value of the firm's assets and liabilities, accounts payable, accounts receivables, inventory, loans in foreign currency, investments (CDs) in foreign banks; this type of economic exposure is called balance sheet exposure. Transaction Exposure is a form of short term economic exposure due to fixed price contracting in an atmosphere of exchange-rate volatility.

The most common definition of the measure of exchange-rate exposure is the sensitivity of the value of the firm, proxied by the firm's stock return, to an unanticipated change in an exchange rate. This is calculated by using the partial derivative function where the dependant variable is the firm's value and the independent variable is the exchange rate (Adler and Dumas, 1984).

A key assumption in the concept of foreign exchange risk is that exchange rate changes are not predictable and that this is determined by how efficient the markets for foreign exchange are. Research in the area of efficiency of foreign exchange markets has thus far been able to establish only a weak form of the efficient market hypothesis conclusively which implies that successive changes in exchange rates cannot be predicted by analyzing the historical sequence of exchange rates (Soenen, 1979). However, when the efficient markets theory is applied to the foreign exchange market under floating exchange rates there is some evidence to suggest that the present prices properly reflect all available information. (Giddy and Dufey, 1992). This implies that exchange rates react to new information in an immediate and unbiased fashion, so that no one party can make a profit by this information and in any case, information on direction of the rates arrives randomly so exchange rates also fluctuate randomly.

It implies that foreign exchange risk management cannot be done away with by employing resources to predict exchange rate changes.

Once a firm recognizes its exposure, it has to deploy resources in managing it. A heuristic for firms to manage this risk effectively is presented below which can be modified to suit firm-specific needs i.e., some or all the following tools could be used.

**Forecasts:** After determining its exposure, the first step for a firm is to develop a forecast on the market trends and what the main direction/trend is going to be on the foreign exchange rates. The period for forecasts is typically 6 months. It is important to base the forecasts on valid assumptions. Along with identifying trends, a probability should be estimated for the forecast coming true as well as how much the change would be.

**Risk Estimation:** Based on the forecast, a measure of the Value at Risk (the actual profit or loss for a move in rates according to the forecast) and the probability of this risk should be ascertained. The risk that a transaction would fail due to market-specific problems should be taken into account. Finally, the Systems Risk that can arise due to inadequacies such as reporting gaps and implementation gaps in the firm's' exposure management system should be estimated.

**Benchmarking:** Given the exposures and the risk estimates, the firm has to set its limits for handling foreign exchange exposure. The firm also has to decide whether to manage its exposures on a cost-centre or profit-centre basis. A cost-centre approach is a defensive one and the main aim is to ensure that cash flows of a firm are not adversely affected beyond a point. A profit-centre approach on the other hand is a more aggressive approach where the firm decides to generate a net profit on its exposure over time.

**Hedging:** Based on the limits a firm sets for itself to manage exposure, the firm decides an appropriate hedging strategy. There are various financial instruments available for the firm to choose from: futures, forwards, options and swaps and issue of foreign debt. Hedging strategies and instruments are explored in a section.

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**Stop Loss:** The firm's risk management decisions are based on forecasts which are but estimates of reasonably unpredictable trends. It is imperative to have stop loss arrangements in order to rescue the firm if the forecasts turn out wrong. For this, there should be certain monitoring systems in place to detect critical levels in the foreign exchange rates for appropriate measure to be taken.

**Reporting and Review:** Risk management policies are typically subjected to review based on periodic reporting. The reports mainly include profit/ loss status on open contracts after marking to market, the actual exchange/ interest rate achieved on each exposure and profitability vis-à-vis the benchmark and the expected changes in overall exposure due to forecasted exchange/ interest rate movements. The review analyses whether the benchmarks set are valid and effective in controlling the exposures, what the market trends are and finally whether the overall strategy is working or needs change.

### **Developing Risk Framework**

Developing an effective Risk Management Plan can help keep small issues from developing into emergencies. Different types of Risk Management Plans can deal with calculating the probability of an event, and how that event might impact you, what the risks are with certain ventures and how to mitigate the problems associated with those risks. Having a plan may help you deal with adverse situations when they arise and, hopefully, head them off before they arise

### **Country Risk and Operating Risk**

#### **Country Risk**

Country Risk refers to the possibility that economic and political conditions, or an event in a foreign country could adversely impact an institution's exposure in that country. The institutions engaged in international lending or having other cross border exposure are exposed to country risk, in addition to the customary credit risk.

Country risk is not limited solely to an institution's international lending operations; rather, their on- balance sheet activities such as overseas investments, placements etc as well as off-balance sheet exposures such as letters of credit, guarantees/bonds, foreign exchange contracts etc., contain country risk. Besides, an institution's outsourcing arrangements such as electronic data processing, electronic banking or any consultancy/management services, with overseas counter parties, also carry inherent country risk.

While institutions are indirectly exposed to country risk as a result of their exposure to domestic entities that have significant cross border exposures, these institutions are not required to take into account such exposures in their formal country risk management process. However, such indirect country risk assessment pertains to credit risk management, and

banks are expected to give due consideration to this aspect while taking an exposure on such domestic entities.

Institutions can exercise little direct influence on the country risk they are exposed to. This distinctive nature of country risk necessitates that banks having significant cross border risk exposure should have adequate country risk management framework.

### Types of Country Risk

Country risk can be broadly classified into sovereign, transfer/convertibility and contagion risk.

**Sovereign risk** denotes a foreign government's capacity and willingness to repay its direct and indirect (i.e. guaranteed) foreign currency obligations.

**Transfer / Convertibility risk** arises if changes in government policies, or any event, result in a barrier to free conversion or movement of foreign exchange across countries. Under such conditions, a borrower may not be able to secure foreign exchange to service its external obligations. Where a country suffers economic or political problems, leading to depletion of its foreign currency reserves, the borrowers in that country may not be able to convert their funds from local currency into foreign currency to repay their external obligations.

**Contagion risk** refers to the possibility that any adverse economic or political factor in one country has an impact on other countries in that region.

### Elements of Country Risk Management

#### *Board and Senior Management oversight*

It is the responsibility of the board to define the level of country risk the institution can undertake, and to ensure that the institution has country risk management framework consistent with the level of the institution's cross border exposure. Towards this end, the board should ensure that there are well-defined policies and procedures for country risk management. Similarly, the senior management should ensure that the staff entrusted with the responsibility is capable of dealing with it and the managerial structure and resources devoted to country risk management are commensurate with the level of the institution's overseas exposure.

#### **Policies and procedures**

Institutions (having significant cross border exposure) should have written policies and procedures for their country risk management. Generally, such policies/ procedures encompass the following aspects:

- Delineate clear lines of responsibility and accountability for country risk management decisions.

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- Set up an internal rating system, or use external ratings (if the bank has little cross border exposure and it is not feasible to institute an internal country risk rating mechanism).
- Establish risk tolerance limits.
- Specify authorized activities and instruments.
- Set up a mechanism to monitor and report the institutions' country exposure for senior management and BOD's review.

To be effective, these policies should be communicated down the line to the concerned offices and staff. The policies should be approved by the board and be subject to review semi-annually or more frequently, if the need arises.

### Operating Risk

These arise from being in a particular industry and geographical area, and from the strategy the organization has chosen to undertake. The risks can range from wrong business strategy, bad or failed acquisitions and inability to obtain further capital, to competitive pressures on price and market share, political risks or the decline of an industry sector.

### Liquidity Coverage Ratio, Net Stable Funding Ratio, Leverage Ratio

Definition of LCR

$\frac{\text{Stock of high quality liquid assets (HQLAs)}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$
---

The LCR requirement would be binding on banks from January 1, 2015; with a view to providing a transition time for banks, the requirement would be a minimum of 60% for the calendar year 2015, i.e., with effect from January 1, 2015, and rise in equal steps to reach the minimum required level of 100% on January 1, 2019, as per the timeline given below:

	January 1 2015	January 1 2016	January 1 2017	January 1 2018	January 1 2019
Minimum LCR	60%	70%	80%	90%	100

Banks should, however, strive to achieve a higher ratio than the minimum prescribed above as an effort towards better liquidity risk management.

With effect from January 1, 2019, i.e., after the phase-in arrangements are complete, the LCR should be minimum 100% (i.e. the stock of HQLA should at least equal total net cash outflows) on an ongoing basis because the stock of unencumbered HQLA is intended to serve as a defence against the potential onset of liquidity stress. During a period of financial stress,

however, banks may use their stock of HQLA, and thereby falling below 100%. Banks should immediately report to RBI (Department of Banking Operations and Development as also Department of Banking Supervision) such use of stock of HQLA along with reasons for such usage and corrective steps initiated to rectify the situation. The stress scenario specified by the BCBS for LCR incorporates many of the shocks experienced during the crisis that started in 2007 into one significant stress scenario for which a bank would need sufficient liquidity on hand to survive for up to 30 calendar days. The scenario, thus, entails a combined idiosyncratic and market-wide shock that would result in:

- (a) the run-off of a proportion of retail deposits;
- (b) a partial loss of unsecured wholesale funding capacity;
- (c) a partial loss of secured, short-term financing with certain collateral and counterparties;
- (d) additional contractual outflows that would arise from a downgrade in the bank's public credit rating by up to three notches, including collateral posting requirements;
- (e) increases in market volatilities that impact the quality of collateral or potential future exposure of derivative positions and thus require larger collateral haircuts or additional collateral, or lead to other liquidity needs;
- (f) unscheduled draws on committed but unused credit and liquidity facilities that the bank has provided to its clients; and
- (g) the potential need for the bank to buy back debt or honour non-contractual obligations in the interest of mitigating reputational risk.

### Definition of NSFR

The NSFR is defined as the amount of available stable funding relative to the amount of required stable funding. "Available stable funding" is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which extends to one year. The amount of stable funding required ("Required stable funding") of a specific institution is a function of the liquidity characteristics and residual maturities of the various assets held by that institution as well as those of its off-balance sheet (OBS) exposures.

### Minimum Requirement and Implementation Date

$$\frac{\text{Available Stable Funding (ASF)}}{\text{Required Stable Funding (RSF)}} \geq 100\%$$

The above ratio should be equal to at least 100% on an ongoing basis. However, the NSFR would be supplemented by supervisory assessment of the stable funding and liquidity risk

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profile of a bank. On the basis of such assessment, the Reserve Bank may require an individual bank to adopt more stringent standards to reflect its funding risk profile and its compliance with the Sound Principles (issued vide circular DBOD.BO.No.56/21.04.098/2012-13 dated November 7, 2012 on “Liquidity Risk Management by Banks”). The NSFR requirement would be binding on banks from January 1, 2018.

### **Leverage Ratio**

An underlying cause of the global financial crisis was the build-up of excessive on- and off-balance sheet leverage in the banking system. In many cases, banks built up excessive leverage while apparently maintaining strong risk-based capital ratios. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage in a manner that amplified downward pressure on asset prices. This deleveraging process exacerbated the feedback loop between losses, falling bank capital and contraction in credit availability. Therefore, under Basel III, a simple, transparent, non-risk based leverage ratio has been introduced. The leverage ratio is calibrated to act as a credible supplementary measure to the risk-based capital requirements and is intended to achieve the following objectives:

- (a) Constrain the build-up of leverage in the banking sector to avoid destabilizing deleveraging processes which can damage the broader financial system and the economy; and
- (b) Reinforce the risk-based requirements with a simple, non-risk based “backstop” measure.

The Basel III leverage ratio is defined as the capital measure (the numerator) divided by the exposure measure (the denominator), with this ratio expressed as a percentage:

$$\text{Leverage Ratio} = \text{Capital Measure} / \text{Exposure Measure}$$

The Basel Committee will use the revised framework 2 for testing a minimum Tier 1 leverage ratio of 3% during the parallel run period up to January 1, 2017. The Basel Committee will continue to track the impact of using either Common Equity Tier 1 (CET1) or total regulatory capital as the capital measure for the leverage ratio.

The final calibration, and any further adjustments to the definition, will be completed by 2017, with a view to migrating to a Pillar 1 treatment on January 1, 2018.

Currently, Indian banking system is operating at a leverage ratio of more than 4.5%. The final minimum leverage ratio will be stipulated taking into consideration the final rules prescribed by the Basel Committee by end-2017. In the meantime, these guidelines will serve as the basis for parallel run by banks and also for the purpose of disclosures as outlined in paragraph 16.6 below. During this period, Reserve Bank will monitor individual banks against an indicative leverage ratio of 4.5%.

## Risk Hedging Instruments & its Mechanism

The term 'Derivative' stands for a contract whose price is derived from or is dependent upon an underlying asset. The underlying asset could be a financial asset such as currency, stock and market index, an interest bearing security or a physical commodity. According to the Securities Contract Regulation Act, (1956) the term "derivative" includes:

- (i) A security derived from a debt instrument, share, loan, whether secured or unsecured, risk instrument or contract for differences or any other form of security;
- (ii) A contract which derives its value from the prices, or index of prices, of underlying securities.

Derivatives comprise four basic contracts, namely, Forwards, Futures, Options and Swaps. We have already discussed Forwards, Futures and Options earlier in the module. Now let us look at Swaps:

### Over-the-Counter (OTC) Derivative Contracts

Derivatives that trade on an exchange are called exchange-traded derivatives, whereas privately negotiated derivative contracts are called OTC contracts. The OTC derivative markets have the following features compared to exchange-traded derivatives: (i) The management of counter-party (credit) risk is decentralized and located within individual institutions; (ii) There are no formal centralized limits on individual positions, leverage, or margining; (iii) There are no formal rules for risk and burden-sharing; (iv) There are no formal rules or mechanisms for ensuring market stability and integrity, and for safeguarding the collective interests of market participants, and (v) The OTC contracts are generally not regulated by a regulatory authority and the exchange's self-regulatory organization. They are however, affected indirectly by national legal systems, banking supervision and market surveillance.

### Participants in a Derivative Market

The derivative market is similar to any other financial market and has the following three broad categories of participants:

- **Hedgers:** These are investors with a present or anticipated exposure to the underlying asset which is subject to price risks. Hedgers use the derivative markets primarily for price risk-management of assets and portfolios.
- **Speculators:** These are individuals who take a view on the future direction of the markets. They take a view whether prices would rise or fall in future and accordingly buy or sell futures and options to try and make a profit from the future price movements of the underlying asset.

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- **Arbitrageurs:** They take positions in financial markets to earn riskless profits. The arbitrageurs take short and long positions in the same or different contracts at the same time to create a position which can generate a riskless profit.

### Economic Function of the Derivative Market

The derivative market performs a number of economic functions:

- Prices in an organized derivatives market reflect the perception of the market participants about the future and lead the prices of underlying to the perceived future level. The prices of derivatives converge with the prices of the underlying at the expiration of the derivative contract. Thus, derivatives help in discovery of future as well as current prices.
- The derivative market helps to transfer risks from those who have them.
- Derivatives, due to their inherent nature, are linked to the underlying cash markets. With the introduction of derivatives, the underlying market has witnessed higher trading volumes. This is because of participation of more players who would not otherwise participate for lack of an arrangement to transfer risk.
- Speculative trades shift to a more controlled environment in derivative market. In the absence of an organized derivative market, speculators trade in the underlying cash markets. Margining, monitoring and surveillance of the activities of various participants become extremely difficult in these kinds of mixed markets.
- An important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. The derivatives have a history of attracting many bright, creative, well-educated people with an entrepreneurial attitude. They often inspire others to create new businesses, new products and new employment opportunities, the benefit of which are immense.

In a nut shell, derivative markets help increase savings and investment in the long run. Transfer of risk enables market participants to expand their volume of activity.

### Some uses of derivatives

There is always a misconception that derivatives are used for speculation. While speculators can use, and do use derivatives, they can also be used – and are used – by businessmen and investors to *hedge* their risks.

There can be a variety of uses of derivatives. We will discuss a few of them. We will use simple examples for an easy understanding of the subject.

A manufacturer Mr. X has received an order for supply of his products after six months. The price of the product has been fixed. Production of goods will start after four months. He fears

that in case the price of raw material goes up in the meanwhile, he will suffer a loss on the order. To protect himself against the possible risk, he buys the raw material in the 'futures' market for delivery and payment after four months at an agreed price, say, ₹ 100 per unit. Let us take the case of another person Mr. Y who produces the raw material. He does not have advance orders. He knows that his produce will be ready after four months. He roughly knows the estimated cost of his produce.

He does not know what will be the price of his produce after four months. If the price goes down, he will suffer a loss. To protect himself against the possible loss, he makes a 'future' sale of his produce, at an agreed price, say, ₹ 100 per unit. At the end of four months, Mr. Y delivers the produce and receives payment at the rate of ₹ 100 per unit of contracted quantity. The actual price may be more or less than the contracted price at the end of contracted period. A businessman may not be interested in such speculative gains or losses. His main concern is to make profits from his main business and not through rise and fall of prices. He wants to work with peace of mind and some assurance.

Let us take another example. Suppose a person is going to retire after one year. He wants to invest a part of his retirement dues, to be received after one year, in shares. He feels that share prices ruling at present are quite reasonable, and after one year the prices might go up. He enters a 'futures' contract for one year to buy the shares at an agreed price of, say, ₹ 100 per share. After one year, he will make payment at the contracted rate and will receive the shares. There is another person who holds investments in shares. He desires to sell his investments after one year, for use for his daughter's marriage. He is afraid that if prices of his investments fall after one year, he will suffer a loss. He cannot sell them now as he has pledged them with a bank as security for a loan. He hedges the risk by selling his investments through a 'futures' contract for one year at a contracted price of, say, ₹ 100 per share.

In the above two examples, at the end of one year, ruling price may be more than ₹ 100 or less than ₹ 100. If the price is higher (say, ₹ 125), the buyer is gainer, for, he pays ₹ 100 and gets shares worth ₹ 125, and the seller is the loser for he gets Rs.100 for shares worth ₹ 125 at the time of delivery. On the other hand, in case the price is lower (say, Rs.75), the purchaser is loser; and the seller is the gainer. There is a method to cut a part of such loss by buying a 'futures' contract with an 'option', on payment of a fee. The option gives a right to the buyer/seller to walk out the 'futures' contract. Naturally, a person will exercise option only if beneficial. In the above example, suppose the option fee is ₹ 10, and the price of shares at the time of exercise is ₹ 75, it will be advantageous for the buyer of shares to exercise the option. Thus, if he directly buys shares in the spot market, his cost will be only ₹ 85 (Rs.75+Rs.10 fee) as against ₹ 100 which he had to pay under the 'futures' contract. In case the current price at the time of delivery is higher (say, Rs.125) than the contracted price (₹ 100) plus option fee, the seller of shares will be similarly benefited in opting out of the futures contract, for he can realize a higher price in the spot market.

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We have noticed from the earlier discussion that one's gain is another's loss. That is why derivatives are a '*zero sum game*'. The mechanism helps in distribution of risks among the market players.

The above retiring gentleman also wants to invest a part of his retirement dues in bonds. He is quite comfortable with the present level of yield. He hedges the risk of fall in yield by entering into a '*forward rate agreement*' of one year at an agreed rate. At the time of actual investment after one year, he will get the contracted yield on his investment.

It is also possible to hedge the risk of default on a bond/loan through a '*credit derivative*'.

So far, we have seen examples of derivatives for hedging business/investment risks. Derivatives can also be undertaken for *speculation*. Speculators, as you know, are of two types. One type is of optimistic variety, and sees a rise in prices in future. He is known as 'bull'. The other type is a pessimist, and he sees a fall in prices, in future. He is known as 'bear'. They undertake 'futures' transactions with the intention of making gains through difference in contracted prices and future prices. If, in future, their expectations turn out to be true, they gain. If not, they lose. Of course, they may limit their losses through options.

### **Trading Mechanism**

The derivatives trading system at NSE, called NEAT-F&O trading system, provides a fully automated screen-based trading for derivatives on a nation-wide basis. It supports an anonymous order- driven market, which operates on strict price/ time priority. It provides tremendous flexibility to users in terms of kinds of orders that can be placed on the system. Various time and price related conditions like Good-till Day, Good-till-cancelled, Good-Till-Date, Immediate or Cancel, Limit/market Price, Stop Loss, etc. can be built into an order. There are four entities in the trading system. The NEAT-F&O trading system distinctly identifies two groups of users. The trading user, more popularly known as trading member, has access to functions such as order entry, order matching, order and trade management. The clearing user (clearing member) uses the trader workstation for the purpose of monitoring the trading member(s) for whom he clears the trades. Additionally, he can enter and set limits on positions, which a trading member can take.

## **Forward, Futures, Options, Swaps and Arbitrage Opportunities**

### **Forward Contracts:**

A forward contract is an agreement to buy or sell an asset on a specified date for a specified price. One of the parties to the contract assumes a long position and agrees to buy the underlying asset on a certain specified future date for a certain specified price. The other party

assumes a short position and agrees to sell the asset on the same date for the same price. Other contract details like delivery date, price and quantity are negotiated bilaterally by the parties to the contract. The forward contracts are normally traded outside the exchanges. The salient features of forward contracts are as given below:

- They are bilateral contracts and hence exposed to counter party risk.
- Each contract is custom designed, and hence is unique in terms of contract size, expiration date and the asset type and quality.
- The contract price is generally not available in public domain.
- On the expiration date, the contract has to be settled by delivery of the asset.
- If the party wishes to reverse the contract, it has to compulsorily go to the same counterparty, which often results in high prices being charged.

### Limitations of forward markets

Forward markets world-wide face several problems:

- Lack of centralization of trading
- Illiquidity and
- Counterparty risk

In the first two of these, the basic problem is that of too much flexibility and generality. The forward market is like a real estate market, in which any two consenting adults can form contracts against each other. This often makes them design the terms of the deal which are convenient in that specific situation, but it makes the contracts non-tradable.

Counterparty risk arises from the possibility of default by any one of the parties to the transaction. When one of the two sides to the transaction declares bankruptcy, the other suffers. When forward markets trade standardized contracts, though it avoids the problem of illiquidity, the counterparty risk still remains a very serious issue.

### Futures Contracts

A futures contract is an agreement between two parties to buy or sell an asset at a certain time in the future at a certain price. But unlike forward contracts, the futures contracts are standardized and exchange traded. To facilitate liquidity in the futures contracts, the exchange specifies certain standard features of the contract. It is a standardized contract with standard underlying instrument, a standard quantity and quality of the underlying instrument that can be delivered, (or which can be used for reference purposes in settlement) and a standard timing of such settlement.

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A futures contract may be offset prior to maturity by entering into an equal and opposite transaction. The standardized items in a futures contract are:

- Quantity of the underlying
- Quality of the underlying
- The date and the month of delivery
- The units of price quotation and minimum price change
- Location of settlement

### Distinction between Futures and Forwards Contracts

Forward contracts are often confused with futures contracts. The confusion is primarily because both serve essentially the same economic functions of allocating risk in the presence of future price uncertainty. However, futures are a significant improvement over the forward contracts as they eliminate counterparty risk and offer more liquidity.

### Futures Terminology

- **Spot price:** The price at which an underlying asset trades in the spot market.
- **Futures price:** The price that is agreed upon at the time of the contract for the delivery of an asset at a specific future date.
- **Contract cycle:** It is the period over which a contract trades.
- **Expiry date:** is the date on which the final settlement of the contract takes place.
- **Contract size:** The amount of asset that has to be delivered under one contract. This is also called the lot size.
- **Basis:** Basis is defined as the futures price minus the spot price. There will be a different basis for each delivery month for each contract. In a normal market, basis will be positive. This reflects that futures prices normally exceed spot prices.
- **Cost of carry:** Measures the storage cost plus the interest that is paid to finance the asset less the income earned on the asset.
- **Marking-to-market:** In the futures market, at the end of each trading day, the margin account is adjusted to reflect the investor's gain or loss depending upon the futures closing price. This is called marking-to-market.

### Futures Contracts, Mechanism and Pricing

In recent years, derivatives have become increasingly important in the field of finance. While futures and options are now actively traded on many exchanges, forward contracts are

popular on the OTC market. We shall first discuss forward contracts along with their advantages and limitations. We then introduce futures contracts and describe how they are different from forward contracts. The terminology of futures contracts along with their trading mechanism will be discussed next. The primary idea of this chapter, however, is the pricing of futures contracts. The concept of cost of carry for calculation of the forward price has been a very powerful concept. One would realize that it essentially works as a parity condition and any violation of this principle can lead to arbitrage opportunities.

### Pricing Futures

Pricing of futures contract is very simple. Using the cost-of-carry logic, we calculate the fair value of a futures contract. Every time the observed price deviates from the fair value, arbitragers would enter into trades to capture the arbitrage profit. This, in turn, would push the futures price back to its fair value. The cost of carry model used for pricing futures is given below:

$$F = Se^{rT}$$

where:

r Cost of financing (using continuously compounded interest rate)

T Time till expiration in years

e 2.71828

*Example:* Security XYZ Ltd trades in the spot market at ₹ 1150. Money can be invested at 11% p.a. The fair value of a one-month futures contract on XYZ is calculated as follows:

$$\begin{aligned} F &= Se^{rT} \\ &= 1150 * e^{0.11 * \frac{1}{12}} \\ &= 1160 \end{aligned}$$

### Settlement of Futures Contracts

Futures contracts have two types of settlements-MTM settlement and the final settlement.

*MTM Settlement for Futures:* All futures contracts for each member are marked-to-market to the daily settlement price of the relevant futures contract at the end of each day. The profits/losses are computed as the difference between:

- (i) The trade price and the day's settlement price in respect of contracts executed during the day but not squared up,
- (ii) The previous day's settlement price and the current day's settlement price in respect of brought forward contracts,

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- (iii) The buy price and the sell price in respect of contracts executed during the day and squared-up.

The CMs who have suffered a loss are required to pay the mark-to-market (MTM) loss amount in cash which is, in turn, passed on to the CMs who have made a MTM profit. This is known as daily mark-to-market settlement. CMs are responsible for collecting and settling the daily MTM profits/losses incurred by the TMs and their clients clearing and settling through them. Similarly, TMs are responsible for collecting/paying losses/profits from/to their clients by the next day. The pay-in and pay-out of the mark-to-market settlement are effected on the day following the trade day. After completion of daily settlement computation, all the open positions are reset to the daily settlement price. Such position becomes the open position for the next day.

*Final Settlement for Futures:* On the expiry day of the futures contracts, after the close of trading hours, NSCCL marks all positions of a CM to the final settlement price and the resulting profit/loss is settled in cash. Final settlement loss/profit amount is debited/credited to the relevant CM's clearing bank account on the day following expiry day of the contract.

*Settlement Prices for Futures:* Daily settlement price on a trading day is the closing price of the respective futures contracts on such day. The closing price for a futures contract is currently calculated as the last half an hour weighted average price of the contract executed in the last half an hour of trading hours. In case futures contract is not traded in the last half an hour, the theoretical future price is computed and used as daily settlement price in the F&O segment of NSE. Final settlement price is the closing price of the relevant underlying index/security in the Capital market segment of NSE, on the last trading day of the contract. The closing price of the underlying Index/security is currently its last half an hour weighted average value in the Capital Market Segment of NSE.

### **Futures Payoffs**

Futures contracts have linear or symmetrical payoffs. It implies that the losses as well as profits for the buyer and the seller of a futures contract are unlimited. These linear payoffs are fascinating as they can be combined with options and the underlying to generate various complex payoffs.

#### **Payoff for buyer of futures: Long futures**

The payoff for a person who buys a futures contract is similar to the payoff for a person who holds an asset. He has a potentially unlimited upside as well as a potentially unlimited downside. Take the case of a speculator who buys a two-month Nifty index futures contract when the Nifty stands at 3000.

The underlying asset in this case is the Nifty portfolio. When the index moves up, the long futures position starts making profits, and when the index moves down it starts making losses.

## Payoff for seller of futures: Short futures

The payoff for a person who sells a futures contract is similar to the payoff for a person who shorts an asset. He has a potentially unlimited upside as well as a potentially unlimited downside. Take the case of a speculator who sells a two-month Nifty index futures contract when the Nifty stands at 3000. The underlying asset in this case is the Nifty portfolio. When the index moves down, the short futures position starts making profits, and when the index moves up, it starts making losses.

## Stock Index Futures

Stock Index Futures are financial derivatives which have a Stock Index as the underlying. An index is a scale of numbers that represents changes in a set of values between a base time period and another time period. These changes are reflected through the movements of the index values along the scale. A Stock Index, on the other hand is a particular kind of index that represents changes in the market values of a number of securities contained in that index. A Stock Index can be representative of a group of industries or of dominant companies among various industries. It can have a broad base of hundreds of companies or a select base of say 30 companies.

A major reason for the development of the indices is that they provide an efficient proxy for the market to enable the portfolio managers to beat the market. Stock indices, being representative in character, act as an effective barometer of the national economy and the market sentiments. Since the index is representative of the values of the component stocks there can be more than one way in which the values of the component stocks can be arranged in order to arrive at the index value. These ways are described as under:

### 1. Market Capitalization Method

Under this arrangement, a weight is assigned to each component total of the Stock Index based upon its share in market capitalization of all the components.

Then, on daily basis, changes in the market capitalization of each component impact the value of the index in proportion to their weights. Market capitalization, as we know is the multiple of the market value and the number of outstanding shares.

### 2. Market Value Method

Under this method, the weight is assigned on the basis of the market value and the index represents the aggregated market value of the component Stocks.

### 3. Equal Weightage

Under this arrangement of components, equal weightage is given to all the components. If there are 50 stocks in an index, each shall have 2 percent weight.

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Out of the above three methods of arrangement, the market capitalization method, is the most rational since it takes into account both market price and the number of shares. Thus a component having both larger floating stock and greater market value gets a better weightage.

### **Stock Indices in India**

Both the major stock exchanges in India, i.e. Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) have created a number of indices. Some of these are as follows:

- BSE-30 (Sensex)
- BSE-100
- BSE-200
- BSE-500
- S & P CNX Nifty
- S & P Mid cap
- S & P CNX 500

The Sensex and Nifty are the most popular indices. Both of these are considered benchmark indices.

### **Eligibility for trading in index futures**

Any eligible investor who can trade in the cash market, can trade in the futures market. For every buyer, there is a seller of the futures. What makes them agree on the contract value is the divergence of their views on the likely value of the index future at the expiry of the contract.

Let us illustrate this with the help of an example:

Suppose Nifty as on Jan. 1, 2014 is 3300. An investor 'A' takes a bullish view on the future movement of the Nifty i.e. he believes that Nifty value shall rise. There is another investor 'B' who believes that Nifty value should fall, i.e. he is bearish about future movement of the Nifty. Let us assume further that both 'A' and 'B' believe that the movement shall be 50 points from the present level after three months. 'A' has targeted a likely level of 3350 while 'B' has targeted a likely level of 3250. Both of them agree to enter into a index futures contract at a Nifty value of 3325 after three months. At this level, 'A' expects to make a profit of 25 points (3350-3325) while 'B' expects to make a profit of 75 points (3325-3250). Under the contract 'A' is a buyer of the futures, i.e. he agrees to buy the futures at the contracted value on the expiry of the contract. 'B' is a seller of the futures, i.e. he agrees to sell the futures at the contracted value on the expiry of the contract.

On the expiry date of the futures contract, i.e. after three months, if the Nifty value is 3315, 'A' will incur a loss of ten points while 'B' shall gain ten points. The contract will be closed by payment of the equivalent money by 'A' to 'B'. It may be noted here that the contracting parties need not wait for full three months for closing the contract at their end. If the Nifty future value a fortnight after the contract date is 3340, 'A' can book profit of 15 points and exit by selling his position to another buyer in the system. If on the other hand, the Nifty futures value is 3300, 'B' can book profit of 25 points and close his end of the contract by purchasing index futures of similar quantity and duration from a seller in the system. Following is a terminology of commonly used terms in the Index Futures market:

- *Contract Size*: is the value of the contract at a specific level of index. It is denominated by the product of the index level and the multiplier.
- *Multiplier*: It is a pre-determined value, used to arrive at the contract size. It is the price per index point.
- *Tick size*: It is the minimum price difference between two quotes of similar nature.
- *Contract Month*: It is the month in which the contract will expire.
- *Expiry Day*: It is the last day on which the contract is available for trading.
- *Open Interest*: It is the total outstanding long or short position in the market at any specific point in time. As total long outstanding positions in the market would be equal to total short positions, for calculation of open interest, only one side of the contracts is counted.
- *Volume*: is the number of contracts traded during a specific period of time during a day, during a week or during a month.
- *Long position*: is the outstanding/unsettled purchase position at any point of time.
- *Short position*: is the outstanding/unsettled sales position at any point of time.
- *Open position*: is the outstanding/unsettled long or short position at any point of time.

### Pricing equity index futures

A futures contract on the stock market index gives its owner the right and obligation to buy or sell the portfolio of stocks characterized by the index. Stock index futures are cash settled; there is no delivery of the underlying stocks. In their short history of trading, index futures have had a great impact on the world's securities markets.

Its existence has revolutionized the art and science of institutional equity portfolio management.

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The main difference between commodity and equity index futures is:

- There are no costs of storage involved in holding equity.
- Equity comes with a dividend stream, which is a negative cost if you are long on the stock and positive costs if you are short on the stock.

Therefore, Cost of carry = Financing cost - Dividends. Thus, a crucial aspect of dealing with equity futures as opposed to commodity futures is an accurate forecasting of dividends. The better the forecast of dividend offered by a security, the better is the estimate of the futures price.

### Pricing index futures given expected dividend amount

The pricing of index futures is based on the cost-of-carry model, where the carrying cost is the cost of financing the purchase of the portfolio underlying the index, minus the present value of dividends obtained from the stocks in the index portfolio. This has been illustrated in the example below.

Nifty futures trade on NSE as one, two and three-month contracts. Money can be borrowed at a rate of 10% per annum. What will be the price of a new two-month futures contract on Nifty?

1. Let us assume that A Ltd. will be declaring a dividend of Rs.20 per share after 15 days of purchasing the contract.
2. Current value of Nifty is 4000 and Nifty trades with a multiplier of 100.
3. Since Nifty is traded in multiples of 100, value of the contract is  $100 \times 4000 = \text{Rs.}400,000$ .
4. If A Ltd. Has a weight of 7% in Nifty, its value in Nifty is Rs.28,000 i.e.  $(400,000 \times 0.07)$ .
5. If the market price of A Ltd. is Rs.140, then a traded unit of Nifty involves 200 shares of A Ltd. i.e.  $(28,000/140)$ .
6. To calculate the futures price, we need to reduce the cost-of-carry to the extent of dividend received. The amount of dividend received is Rs.4000 i.e.  $(200 \times 20)$ . The dividend is received 15 days later and hence compounded only for the remainder of 45 days. To calculate the futures price we need to compute the amount of dividend received per unit of Nifty. Hence we divide the compounded dividend figure by 100.
7. Thus, the futures price is calculated as;

$$F = 4000e^{0.1 \frac{60}{365}} - \left( \frac{200 * 20e^{0.1 \frac{45}{365}}}{100} \right) = ₹ 4025.80$$

### Pricing index futures given expected dividend yield

If the dividend flow throughout the year is generally uniform, i.e. if there are few historical cases of clustering of dividends in any particular month, it is useful to calculate the annual dividend yield.

$$F = Se^{(r-q)T}$$

where:

F futures price

S spot index value

r cost of financing

q expected dividend yield

T holding period

**Example:** A two-month futures contract trades on the NSE. The cost of financing is 10% and the dividend yield on Nifty is 2% annualized. The spot value of Nifty 4000. What is the fair value of the futures contract?

$$\text{Fair value} = 4000e^{(0.1-0.02) \times (60/365)} = ₹ 4052.95$$

The cost-of-carry model explicitly defines the relationship between the futures price and the related spot price. As we know, the difference between the spot price and the futures price is called the basis.

### Trading in Index Futures

Index futures are the future contracts for which the underlying is the cash market index. In India, futures on both BSE Sensex and NSE Nifty are traded. By trading in index futures, the investors are betting on the state of the economy or collectively on the future market values of the shares of leading companies from major industrial groups. In a normal contract for purchase of equity shares, physical quantity of shares is delivered but in a futures contract, there is nothing to be delivered.

In the cash market, there is an ascertainable quantity of the security that is being traded. This quantity is subject to the upper limit of the amount of floating stock. In futures trading, the contracts are generated according to the interest of the contracting parties and as such, hypothetically, any numbers of futures can be traded.

Both the BSE and the NSE have introduced trading in index futures on a similar pattern. The highlights of the trading methodology are as under:

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### Currency Futures

A **currency future**, also known as **FX future**, is a futures contract to exchange one currency for another at a specified date in the future at a price (exchange rate) that is fixed on the purchase date. Currency Futures contracts are legally binding agreement to buy or sell a financial instrument sometime in future at an agreed price. Currency Future contracts are standardized in terms of lots and delivery time. The only variable is the price, which is dictated by the market. Currency Futures contracts have different expiry validity and will expire after the completion of the specified tenure. On NSE, the price of a future contract is in terms of INR per unit of other currency e.g. US Dollars. Currency future contracts allow investors to hedge against foreign exchange risk. Currency Derivatives are available on four currency pairs viz. US Dollars (USD), Euro (EUR), Great Britain Pound (GBP) and Japanese Yen (JPY). Currency options are currently available on US Dollars.

Any resident Indian or company including banks and financial institutions can participate in the futures market. However, at present, Foreign Institutional Investors (FIIs) and Non-Resident Indians (NRIs) are not permitted to participate in currency futures market.

The Indian currency market accounts for around 1% of the total world forex transactions, which stand at about \$4 trillion on a daily basis.

With the introduction of currency derivatives in 2008, the Indian market is poised for further growth by increasing its share in the world forex trade. The spot transactions involving the rupee totaled around \$30 billion in 2010, with the segment accounting for a share of 40% in the total forex turnover in India. This is followed by another 40% in forex swaps, and the rest in the form of outright forward transactions.

The opening of the currency futures was a revolution in the domestic financial markets. It was the beginning of an era marked by a transparent trading mechanism in currencies, aimed at expanding one's portfolio and curtailing losses in businesses due to the risk exposure to changes in currency movements.

With the increase in understanding about the benefits of currency futures trading, the volume on the Indian bourses has risen significantly. From a monthly average turnover of ₹ 30,000 crore in January-June 2012 on the currency exchanges, it increased to ₹ 45,000 crore in January-June 2013.

As the chart (Currency exchange volume) shows, in June 2013 alone, the average monthly volume jumped sharply to around ₹ 63,000 crore. The rise on the currency exchanges is backed by increased awareness about the trade among market participants, along with the broadening horizon and base of USD-INR futures on various bourses internationally.

## Global trading of USD-INR pair

The USD-INR pair is now traded internationally on the following exchanges—Chicago Mercantile Exchange, Singapore Exchange, Dubai Gold and Commodities Exchange, Intercontinental Exchange and the Bahrain Stock Exchange. This availability of trading in the pair will strengthen the base of the Indian currency in the world forex markets.

The launch of currency futures in India began with the USD-INR contracts. However, market participation increased over time and demanded the launch of other major global pairs like the EUR-INR, GBP-INR and JPY-INR. Since the currency markets are interconnected, the impact of movement in other currencies is also seen on the rupee.

Hence, the businesses that deal with currencies like the US dollar, Euro, British pound or the Japanese yen, can create a hedge position on currency futures in order to avoid the impact of volatile movement in these currencies.

The market participation in currency futures is only allowed to Indian residents, besides banks, companies and financial institutions. The suggestion to allow foreign institutional investors (FIIs) and NRIs (non-resident Indians) to participate in the currency market could be accepted in the near future and this would certainly lead to a further increase in volume.

## Benefits of currency futures

There are a lot of advantages of trading in currency futures, from the transparent price mechanism it offers to hedging, high liquidity, counterparty guarantee, low costs compared with that of banks, standardized contracts, lower margins, and electronic settlement.

For those linked directly with the import or export trade, the creation of a hedge on the currencies futures platform can help minimize the risk involved, especially given the current volatility in the rupee. Compared with the currency forward market, futures are also a highly convenient way for a trader to benefit from the change in price movement.

Since it's traded on the exchange, a major advantage is that it offers an opportunity to trade in small contracts compared with that in the forward market, thereby making the platform available for investors with a lower capital base.

Hence, investors from all asset classes can benefit from trading on the currency futures platform, and with the lot size of \$1,000 for a USD-INR contract, a retail investor can also hedge his personal currency risk.

Additionally, with currency futures being marked to market on a daily basis, one can exit from one's obligation to buy or sell a currency pair even before the contract's expiry date.

Apart from importers and exporters, the others who can benefit from participating in currency futures are travellers, students who are studying abroad, retail investors and anyone exposed to the forex market.

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While foreign vacations would be expensive for Indian tourists, the country would look like a favourable destination for the foreign vacationer since one dollar currently equals around 63, compared with the below-50 level in mid-2010.

Students who are planning to go abroad for higher studies will also be paying more for their education expenses due to the weakness in the rupee. Hence, utilising currency futures as a platform to lower the foreign currency risk can serve as a safety tool during uncertain financial times.

The availability of currency futures has also widened the choice for the retail investor as far as his investment portfolio is concerned. One must understand that due to the growing global financial integration, volatility in currencies has increased over time.

This is because an economic indicator of one country can have a worldwide impact. In the current context, the monetary policy stance of major global policymakers is driving sentiments in the world markets, thus affecting the currency price movements.

In such circumstances, it is important for businesses or anyone affected by the movement in currencies to hedge and covers the risk.

### **Introduction to interest rate futures**

We are all familiar with forward contracts. They are essentially over-the-counter (OTC) contracts traded on one- to-one basis among the parties involved, for settlement on a future date. The terms of these contracts are decided by the parties mutually at the time of their initiation. If a forward contract is entered into through an exchange, traded on the exchange and settled through the Clearing Corporation/ House of the exchange, it becomes a futures contract.

As one of the most important objectives behind bringing the contract to the exchange is to create marketability, futures contracts are standardized contracts so designed by the exchanges as to ensure participation of a wide range of market participants. In other words, futures contracts are standardized forward contracts traded on the exchanges and settled through their clearing corporation/house.

Futures contracts being standardized contracts, they appeal to a wide range of market participants and are, therefore, very liquid. On the other hand, the clearing corporation/house, in addition to settling the futures contracts, becomes the counter-party to all such trades or provides unconditional guarantee for their settlement, thereby ensuring financial integrity of the entire system. Therefore, although futures contracts take away the flexibility of the parties in terms of designing the contract, they offer competitive advantages over the forward contracts in terms of better liquidity and risk management.

Now, it is simple to comprehend that futures contract on interest rates would be called interest rate futures. Let us look at the Forward Rate Agreements (FRAs) being traded in the OTC

market. In case of FRAs, contracting parties agree to pay or receive a specific rate of interest for a specific period, after a specific period of time, on a specified notional amount. No exchange of the principal amount takes place among the parties at any point in time. Now, think about bringing this contract to the exchange. If we bring this FRA to the exchange, it would essentially be renamed as a futures contract. For instance, Eurodollar futures contract (most popular contract globally) is an exchange traded FRA on 3 months Eurodollar deposits rates. To comprehend the product further, now suppose that we are entering into an FRA on an exchange. The first thing would be that we would trade this contract on the exchange in the form of a standard product in terms of the notional amount, delivery and settlement, margins etc. Having entered into the contract, we can reverse the transaction at any point of time. Indeed, having reversed, we can again enter into the contract anytime. Therefore, these exchanges traded FRAs (futures contracts) would be very liquid. Further, in this contract, clearing corporation/ house would bear the counterparty risk.

The transaction mentioned above is pretty simple. But the world does not trade the interest rate futures so simply. Indeed, product designs are much more complicated and they are different both at the long and short end of the maturity curve. Let us have a look at a few global products on interest rate futures.

### **Interest rate futures in the global context**

Most of the global markets trade futures on two underlying - one at the long end (maturity of 10 years or more) and another at the short end (maturity up to one year) of the yield curve. The futures on the long end of the yield curve are called the Long Bond Futures and futures at the short end of the yield curve are called the T-Bill Futures and Reference Rate Futures. Some markets do trade futures on underlying with multiple maturities say of 2 years and 5 years as well, but volumes in these products speak for their poor receptivity by market participants. In other words, most of the volumes in the global markets are concentrated on derivatives with one underlying at the long end and one underlying at the short end of the yield curve.

In global markets, underlying for the long bond futures is a notional coupon bearing bond. These contracts are generally physically settled but some markets do have cash- settled products. For instance, Singapore trades 5 year- gilt futures, which are cash settled. Chicago Board of Trade (CBOT) also trades futures on the 10 year Municipal Bond Index, which is also a cash- settled product. Methodology of the physically -settled products is beyond the scope of this work. The simple thing to understand here is that there are concepts like basket of deliverable bonds, conversion factors, cheapest to deliver bond, delivery month etc. Price quote for long bond futures is the clean price of the notional bond, across the markets. On the short end of the yield curve, global markets have two kinds of products – T-Bill futures and reference rate futures.

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T-Bill futures are essentially the futures on the notional T-Bills, which are physically settled. But, reference rate futures are the futures on reference rates like London Inter-bank Offer Rates (LIBOR) and are cash settled. Over a period of time, these reference rate futures have rendered the T-Bill futures out of fashion. Possible reasons for this phenomenon are that they are easy to comprehend, have very wide participation from across the globe and are cash settled. The success of reference rate futures may be measured by the volumes they command in the international markets. Indeed, all major markets across the globe trade them. For instance, Japan trades futures on the Japan inter-bank offer rates (JIBOR), Singapore trades futures on Singapore inter-bank offer rates (SIBOR), Hong Kong trades futures on Hong Kong inter-bank offer rates (HIBOR).

### **Structure of the product in the Indian Market**

RBI vide its circular RBI/2013-14/402 IDMD.PCD. 08/14.03.01/2013-14 dated December 5, 2013 has announced introduction of cash-settled Interest Rate Futures (IRF) on 10-year Government of India security.

### **Eligible instruments**

The Interest Rate Futures deriving value from the following underlying are permitted on the recognised stock exchanges:

- (i) 91-Day Treasury Bills;
- (ii) 2-year, 5-year and 10-year coupon bearing notional Government of India security, and
- (iii) Coupon bearing Government of India security

### **Eligible entities and conditions**

Persons resident in India are permitted to purchase or sell Interest Rate Futures referred above both for hedging an exposure to interest rate risk or otherwise.

Foreign Institutional Investors, registered with Securities and Exchange Board of India, are permitted to purchase or sell Interest Rate Futures referred to 3 of these directions, subject to the condition that the total gross long (bought) position in the spot Government securities market and Interest Rate Futures markets taken together does not exceed the aggregate permissible limit for investment in Government securities and the total gross short (sold) position of each Foreign Institutional Investor in Interest Rate Futures does not exceed their long position in the Government securities and in Interest Rate Futures at any point of time.

### **Necessary conditions of the Interest Rate Futures contract**

Contracts for settlement by Physical Delivery:

## Treasury — Risk Management

The 10-year Interest Rate Futures contract shall satisfy the following requirements:

- (a) The contract shall be on coupon bearing notional 10-year Government of India security.
- (b) The coupon for the notional 10-year Government of India security shall be 7% per annum with semi-annual compounding.
- (c) The contract shall be settled by physical delivery of deliverable grade securities using the electronic book entry system of the existing Depositories, namely, National Securities Depositories Ltd. and Central Depository Services (India) Ltd. and Public Debt Office of the Reserve Bank.
- (d) Deliverable grade securities shall comprise Government of India securities maturing at least 7.5 years but not more than 15 years from the first day of the delivery month with a minimum total outstanding stock of 10,000 crore.
- (e) Subject to clause (d) of this sub paragraph, exchanges may select their own basket of securities for delivery from the deliverable grade securities in accordance with guidelines issued by the Securities Exchange Board of India from time to time.

### Contracts to be Cash-Settled

The 91-Day Treasury Bill Futures shall satisfy the following requirements:

- (a) The contract shall be on 91-Day Treasury Bills issued by the Government of India.
- (b) The contract shall be cash settled in Indian Rupees.
- (c) The final settlement price of the contract shall be based on the weighted average price/yield obtained in the weekly auction of the 91-Day Treasury Bills on the date of expiry of the contract.

The 2-year and 5-year Interest Rate Futures contract shall satisfy the following requirements:

- (a) The 2-year and 5-year Interest Rate Futures contracts shall be on coupon bearing notional 2-year and 5-year Government of India security respectively.
- (b) The coupon for the notional 2-year Government of India security shall be 7% per annum and that for the notional 5-year Government of India security shall be 7% per annum with semi-annual compounding.
- (c) The contracts shall be cash-settled in Indian Rupees.
- (d) The final settlement price of the 2-year and 5-year Interest Rate Futures contracts shall be based on the yields on basket of securities for each Interest Rate Futures contract specified by the respective stock exchange in accordance with guidelines issued by the Securities Exchange Board of India from time to time.

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- (e) The yields of the Government of India securities [indicated at (d) above] shall be polled and the same shall be as per the guidelines issued by the Reserve Bank of India from time to time.

The cash-settled Interest Rate Futures on 10-year Government of India security shall be:

- (i) Coupon bearing Government of India security

Or

- (ii) Coupon bearing notional 10-year Government of India security with settlement price based on basket of securities.

The 10-year Interest Rate Futures with coupon bearing Government of India security as underlying shall satisfy the following requirements:

- (a) The underlying shall be a coupon bearing Government of India security of face value ₹ 100 and residual maturity between 9 and 10 years on the expiry of futures contract. The underlying security within these parameters shall be as decided by stock exchanges in consultation with the Fixed Income Money Market and Derivatives Association (FIMMDA).
- (b) The contract shall be cash-settled in Indian rupees.
- (c) The final settlement price shall be arrived at by calculating the weighted average price of the underlying security based on prices during the last two hours of the trading on Negotiated Dealing System-Order Matching (NDS-OM) system. If less than 5 trades are executed in the underlying security during the last two hours of trading, then FIMMDA price shall be used for final settlement.

The 10-year Interest Rate Futures with coupon bearing notional 10-year Government of India security as underlying and settlement price based on basket of securities shall satisfy the following requirements:

- (a) The underlying shall be coupon bearing notional 10-year Government of India security with face value of ₹ 100. For each contract, there shall be basket of Government of India securities, with residual maturity between 9 and 11 years on the day of expiry of futures contract, with appropriate weight assigned to each security in the basket. Exchanges shall determine criteria for including securities in the basket and determining their weights.
- (b) The underlying security shall have coupon with semi-annual compounding.
- (c) The contract shall be cash-settled in Indian rupees.
- (d) The final settlement price shall be based on average settlement yield which shall be weighted average of the yields of securities in the underlying basket. For each security in the basket, yield shall be calculated by determining weighted average yield of the

security based on last two hours of the trading in NDS-OM system. If less than 5 trades are executed in the security during the last two hours of trading, then FIMMDA price shall be used for determining the yields of individual securities in the basket.

## Disclosure and Surveillance requirements

The disclosure and surveillance of all transactions in the Interest Rate Futures market shall be carried out in accordance with the guidelines issued by the Securities and Exchange Board of India and the Reserve Bank of India from time to time.

### Option Contracts:

An option is the right, but not the obligation, to buy or sell a specified amount of commodity, currency, shares index or other financial instrument at an agreed price on or before a specified date in future. An option may also relate to buying or selling a specified number of futures contracts. There are two parties to an options contract. The long who buys the option and the short, who sells or writes it. The long enjoys the right (and not the obligation) which is granted by the seller of the option for a price, called the premium. There are two types of options – calls and puts. A call option gives its holder the right to buy while a put option entails a right to sell for its holder. Options contracts are standardized in respect of the following:

- (a) The underlying asset, which may be a commodity, currency, shares of a company.
- (b) Size of the contract.
- (c) Specified price, which is called exercise price or strike price. It may be higher than, lower than, or equal to the current price of the underlying asset.
- (d) *Expiration date* - An options contract ceases to grant any right after this date if the option is not exercised. If an option is exercisable only on the expiration date, it is called a European style option. An American style option is one which can be exercised at any time up to the date of expiration.

Contracts for options which are traded on exchanges are designed by the exchanges only, and they contain all details about the underlying asset, size, expiration date etc. The exercise price is also set by the exchange. For example, in case of contracts of options or shares, the exercise price,  $E$ , may be higher or lower than, or equal to the current price,  $P$ , of the share. Incidentally, if  $E < P$ , a call option is “in the money”, and a put option is “out-of-the-money”. If  $E > P$ , the call option is “out-of-the-money” and the put option is “in the money”. If  $E = P$ , then both call and put options are called “at-the-money”.

### Types of Options:

There are only two types of options – puts and calls. Although there are always two parties to an options contract, they are always defined from the standpoint of the buyer (owner) of the

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contract. The buyer of a put has purchased a right to sell. Sounds a bit strange, but that is what a put is.

The owner of a put has the right to sell. The buyer of a call has purchased the right to buy. Again this sounds a bit odd, but it is correct. The owner of a call has the right to buy.

### **Long Seller versus Writer**

The buyer of an option has purchased a contract. This is quite easy to understand. But the seller of the contract can be acting in either of two capacities. In dealing with other securities, the seller can be selling long or short. Selling long means that the party owns the stock or bond, and is eliminating his holding.

### **Option Premium**

But the three basic factors that determine an option premium are:

1. Intrinsic Value
2. Time Value and
3. Volatility

Intrinsic value is an option's arithmetically determinable value based on the strike price of the option and the market value of the underlying stock.

Time value reflects the fact that the longer the option has to run until expiration, the greater the premium should be. This is perfectly logical. The right to buy or sell a stock for two months should be worth more than the same privilege for only one month. The third factor, namely, volatility is also easy to understand.

Higher the volatility, higher the risk; and higher the risk, higher the premium. Two terms used frequently in the options are class and series.

### **Class**

A class of options consists of all options of the same type (put or call) covering the same underlying security. All Axis calls comprise a class of options. All Axis puts comprise a different class of options. All Axis calls make up a class.

### **Series**

A series of options is all options of the same class having both the same strike price and the same expiration month. In one class of Axis calls, there are a number of different series as each call within that class has a different strike price and/or a different expiration month from any other option within the class. Each individual option is called a series. The total of all puts or calls on a particular stock makes up a class.

## Settlement of Options Contracts

*Daily Premium Settlement for Options:* Buyer of an option is obligated to pay the premium towards the options purchased by him. Similarly, the seller of an option is entitled to receive the premium for the option sold by him. The premium payable amount and the premium receivable amount are netted to compute the net premium payable or receivable amount for each client for each option contract.

*Interim Exercise Settlement:* Interim exercise settlement takes place only for option contracts on securities. An investor can exercise his in-the-money options at any time during trading hours, through his trading member. Interim exercise settlement is effected for such options at the close of the trading hours, on the day of exercise. Validly exercised option contracts are assigned to short positions in the option contract with the same series (i.e. having the same underlying, same expiry date and same strike price), on a random basis, at the client level. The CM who has exercised the option receives the exercise settlement value per unit of the option from the CM who has been assigned the option contract.

*Final Exercise Settlement:* Final Exercise settlement is effected for all open long in-the-money strike price options existing at the close of trading hours, on the expiration day of an option contract. All such long positions are exercised and automatically assigned to short positions in option contracts with the same series, on a random basis. The investor who has long in the money options on the expiry date will receive the exercise settlement value per unit of the option from the investor who has been assigned the option contract.

## Options Derivatives

In simple terms, the options premium is determined by the three factors mentioned earlier: intrinsic value, time value, and volatility.

But there are other, more sophisticated tools used to measure the potential variations of options premiums. They are generally employed by professional options traders and may be of little interest to the individual investor.

These four tools are known as options derivatives. They are:

Delta

Gamma

Theta

Vega

**Delta:** An options delta is used to measure the anticipated percentage of change in the premium in relation to a change in the price of the underlying security. If a particular call option had a delta of 60%, we would expect the option premium to vary by 60% of the change

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in the underlying stock. If that stock rose 1 point, the option premium should rise approximately 6/10 (60%) of 1 point.

**Gamma:** Gamma measures the expected change in the delta factor of an option when the value of the price of the underlying security rises. If a particular option had a delta of 60% and a gamma of 5%, an increase of 1 point in the value of the stock would increase the delta factor by 5% from 60% to 65%.

**Theta:** The theta derivative attempts to measure the erosion of an option's premium caused by the passage of time. We know that at expiration an option will have no time value and will be worth only the intrinsic value if, in fact, it has any. Theta is designed to predict the daily rate of erosion of the premium. Naturally other factors, such as changes in the value of the underlying stock will alter the premium. Theta is concerned only with the time value. Unfortunately, we cannot predict with accuracy changes in a stock's market value, but we can measure exactly the time remaining until expiration.

**Vega:** The fourth derivative, Vega is concerned with the volatility factor of the underlying stock. We have pointed out that the volatility varies among different securities. Vega measures the amount by which the premium will rise when the volatility factor of the stock increase. Vega measures the sensitivity of the premium to these changes in volatility. Delta, gamma, theta and vega are very sophisticated tools for predicting changes in an option's premium.

They merely take the three factors which determine a premium (price of the stock, passage of time, and volatility), and measure each in an exacting manner. The derivatives vary for each series of options.

**Swap Contracts:** Swaps are private agreements between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts.

The two commonly used swaps are:

- *Interest rate swaps:* These entail swapping only the interest related cash flows between the parties in the same currency.
- *Currency swaps:* These entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than those in the opposite direction.

A foreign exchange swap is usually a combination of a spot and a forward transaction, entered into simultaneously. Swaps are mostly inter-bank contracts and are neutral with respect to position as well as impact on the volatility of the exchange rate. Swaps do not have a separate regulatory framework and are covered by the foreign exchange regulations applicable to forward / spot contracts.

A foreign currency swap is an agreement between two parties to exchange cash flows (viz., the principal and/or interest payments) of a loan in one currency for equivalent cash flows of an equal (in net present value) loan in another. Globally, foreign currency swaps constitute a large segment of foreign currency derivatives. Resident Indians may enter into foreign currency-rupee swap within regulatory limits.

Let us see one of the uses of '*interest rate swap*'. Suppose a financial institution has some floating rate liabilities, but all its assets are on fixed rate basis. In case the floating rate goes up, it will be a loser. The institution can protect its position by *swapping* (exchanging) floating rate on its liabilities with fixed rate. There may be another person holding floating rate assets. He fears that the floating rate may go down in future. He may exchange his floating rate receipts with fixed rate receipts.

An example of '*currency swap*': Suppose a person is holding one million Dollars. He does not need them now. But, he will need them after six months for purchase of machinery. His calculation is that he can earn a better return on his funds by investing in Rupee bonds. What he does is to sell the Dollars in spot market for Rupees. Simultaneously, he buys Dollars '*forward*' for delivery after six months. At the end of six months, he sells his Rupee bonds and takes delivery of Dollars against payment of Rupees. He makes payment for the machine in Dollars. (The difference between '*forwards*' and '*futures*' is that while the former take place between two counter-parties in the OTC market, the latter are transacted on stock exchanges.)

A swap is an OTC contractual agreement between counterparties to exchange cash flows at specified future times according to pre-specified conditions:

Typically with a notional principal, and a stated maturity, often close to the date of the last cash flow, each set of cash flows might be:

- A fixed percentage of the notional principal;
- A floating percentage depending on some interest or currency rate, such as 3-month Libor or 1-month Libor plus 25 bps;
- Or otherwise determined.

### Swap terminology

*Trade date*: The date on which the parties commit to the swap and agree to its terms.

*Effective date*: The date on which interest starts to accrue, often 2 days after the trade date.

*Payer*: The party that pays the fixed rate.

*Receiver*: The party that receives the fixed rate.

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### **Arbitrage Opportunities**

Arbitrageurs play in an extremely fast-paced environment with decisions being made at a moment's notice. Sometimes the price of a stock in the cash market is lower or higher than it should be, in comparison to its price in the derivatives market. Arbitrageurs exploit these imperfections and inefficiencies to their advantage. They also play an important role in increasing liquidity in the market thus making it more fluid.

There are various arbitrage opportunities that can be explored in the derivatives market. Cash-Futures arbitrage is one of the simplest forms. If the futures price is trading at a premium to its underlying asset, it is referred to as a Contango. If the premium post adjustment for transaction costs gives higher returns than the cost of capital, an arbitrageur will initiate positions to benefit from this opportunity. The opposite scenario (where Futures are at discount) is referred to as Backwardation.

Derivative markets also include brokers and dealers who represent customers. Every participant individual or representative places his orders at the derivatives exchanges for execution. This central marketplace then provides a platform for information and matching positions for all participants who remain anonymous to ply their trade.

Thus derivatives and its market participants help redistribute risk generated by global and domestic economies. They regulate pricing and protect assets from being excessively over valued or undervalued. Derivative market participants thus keep efficient machinery in place to allow for a smoother and balanced functioning of the equity markets.

### **Credit-Rating Agencies**

Credit-rating is a well-established enterprise in most economies, including India, where specialized agencies have evolved to create extensive methods of analysis of information, and provide ratings to borrowers. The acceptance of these ratings by lenders crucially hinges on the independence of the rating agency, and the expertise it brings to bear on the process of credit-rating. In the recent years, the emphasis on internal credit risk evaluation systems has grown.

While European and Japanese lending institutions have always emphasized an internal rating system over external ratings, in countries outside these regions too, there is a parallel internal rating system being created in the recent years. While credit evaluation and monitoring have been traditionally in the banking domain, the formal conversion of these into rating systems is new. The impetus has been the supervisory risk assessment and early warning systems, now required by the BIS, which emphasizes the need for structured risk assessment systems.

There are 6 SEBI registered credit rating agencies in India, namely, CRISIL, ICRA, CARE, Fitch, Brickwork and SMERA which provide a rating on various categories of debt instruments. Credit rating agencies assess the credit quality of debt issuers, on the basis of a number of

quantitative and qualitative factors, employing specialized analysts, who focus on industry categories in which they have specialized knowledge. Apart from information provided by the borrower, these analysts independently collect and assess information, about the industry and company variables, and performance of peer group companies, and collate such data. Rating essentially involves the translation of information variables into a ranking, which places the company in a slot that describes the ability and willingness of the company to service the instrument proposed to be issued.

### Credit Rating

As we know, it is a precondition to obtain Credit rating from at least one credit-rating agency registered with SEBI which is disclosed in the offer document for issuance of debt securities under **SEBI (Issue and listing of Debt Securities) regulations, 2008** [to be read in reference to Securities and Exchange Board of India (Issue and Listing of Debt Securities) (Amendment) Regulations, 2012].

If the credit ratings have been obtained from more than one credit-rating agency, then all ratings including the unaccepted ratings have to be disclosed in the offer document.

Credit rating is primarily intended to systematically measure credit risk arising from transactions between lender and borrower. Credit risk is the risk of a financial loss arising from the inability (known in credit parlance as default) of the borrower to meet the financial obligations towards its creditor. The ability of a borrower to meet its obligations fluctuates according to the behavior of risk factors, both internal and external that impact the performance of a business enterprise. Therefore, most lenders have to incur costs of analyzing these factors before a lending decision is made, and also create monitoring mechanisms that enable such evaluation when the borrowers' obligations are outstanding. If such specialist assessment of credit quality is done by an independent agency, it would be possible for the lender to not incur the costs, but rely on the assessment of such agency. We then have a system where the borrower seeks the opinion of the specialized agency, pays the costs of these services, and then provides the assessment to the lender for seeking funds. Credit rating is one of the many ways of standardizing the credit quality of borrowers, through a formal examination of risk factors, which enables classification of credit risk into defined categories. Such categorization standardizes credit risk, in ways that enable measurement and management of credit risk. Credit rating thus enables pricing of debt products, and their valuation in a balance sheet over the period they are outstanding.

In India, it is mandatory for credit rating agencies to register themselves with SEBI and abide by the SEBI [Credit Rating Regulations, 1999 {to be read in reference and complied with **(CREDIT RATING AGENCIES) (AMENDMENT) REGULATIONS, 2011**}. There are 6 SEBI registered credit rating agencies in India, namely, CRISIL, ICRA, CARE, Fitch, Brickwork and SMERA which provide a rating on various categories of debt instruments. Credit rating agencies assess the credit quality of debt issuers, on the basis of a number of quantitative and

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qualitative factors, employing specialized analysts, who focus on industry categories in which they have specialized knowledge. Apart from information provided by the borrower, these analysts independently collect and assess information about the industry and company variables, and performance of peer group companies, and collate such data. Rating essentially involves the translation of information variables into a ranking, which places the company in a slot that describes the ability and willingness of the company to service the instrument proposed to be issued.

### Rating Symbols

The ranking of credit quality is usually done with the help of rating symbols, which broadly classify instruments into investment grade, and speculative grade. An illustrative rating list is provided below (representing CRISIL's rating symbols):

CRISIL has revised the symbols and definitions of its long-term and short-term credit ratings on debt instruments, structured finance instruments, and debt mutual fund schemes. This is in compliance with a June 15, 2011, Securities and Exchange Board of India (SEBI) circular, "Standardization of Rating Symbols and Definitions," which mandates the use of common rating symbols and rating definitions by all credit rating agencies (CRAs). As per the circular, all CRAs are required to revise their rating symbols and definitions as recommended by SEBI. Accordingly, CRISIL has effected changes in rating symbols and definitions with effect from July 11, 2011. The rating symbols and definitions of the following class of instruments have been revised for:

- (i) Long-term debt instruments
- (ii) Short-term debt instruments
- (iii) Long-term structured finance instruments
- (iv) Short-term structured finance instruments
- (v) Long-term mutual fund schemes
- (vi) Short-term mutual fund schemes

Below is the example for Credit Rating of Long-Term Debt Instruments of CRISIL:

Long-Term Debt instruments	
Earlier Rating Symbol	Revised Rating Symbol
AAA	CRISIL AAA
AA	CRISIL AA
A	CRISIL A

BBB	CRISIL BBB
BB	CRISIL BB
B	CRISIL B
C	CRISIL C
D	CRISIL D

## Portfolio Management Services

The process of portfolio management basically is closely/directly linked with process of decision making, the correctness of which cannot be ensured in all cases. It has become a specialized field which requires proper planning and continuous review as it is never static in character and goes on fluctuating depending on change in credit policy and investment conditions in the country. Some of the broad objectives of portfolio management are listed as under:

**Safety of fund:** Safety of fund is the primary objective of portfolio management. While making investment decisions pertaining to securities, it is a must for investors/portfolio managers to ensure that their investment is safe and it will return with appreciation in value.

**Liquidity:** Investors are very much interested in the liquidity aspect of securities in the portfolio. An investor shall make investment in those securities which can be encashed without any difficulty or involvement of time to meet urgent need for funds.

**Reasonable Return:** Reasonable return on securities is another important aspect of portfolio management. A sound investor or portfolio manager before making investment would like to judge the interest/dividend paying capacity/rate of the companies in which investment opportunities exist. The investor is very much concerned with the appreciation in value of securities because it will ultimately determine the profitability of his investment. (Capital gains plus dividends/interest together determine the return on investment).

**Minimum Risk:** The portfolio investments are subject to certain unforeseen risks, and it is the judgment and intelligence of the portfolio manager to reduce this element of risk to minimum. In practice, portfolio managers achieve this objective of minimizing risk by effective investment planning and periodical review of the market situation and economic environment affecting the financial markets.

**Portfolio Management Services (PMS)** guide the investor in a method of selecting the best available securities that will provide the expected rate of return for any given degree of risk and also to mitigate (reduce) the risks. It is a strategic decision which is addressed by the top-level managers.

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*Portfolio management* includes a range of professional services to manage an individual's and company's securities, such as stocks and bonds, and other assets, such as real estate. The management is executed in accordance with a specific investment goal and investment profile and takes into consideration the level of risk, diversification, period of investment and maturity (i.e. when the returns are needed or desired) that the investor seeks.

In cases of sophisticated portfolio management, services may include research, financial analysis, and asset valuation, monitoring and reporting.

The fee for portfolio management services can vary widely among management companies. In terms of structure, fees may include an asset-based management fee, which is calculated on the basis of the asset valuation at the beginning of the service. Since this fee is guaranteed to the manager, it is typically a lower amount. Alternatively, the fee may be tied to profits earned by the portfolio manager for the owner. In such cases, the risk-based fee is usually much higher.

### Objectives of Portfolio Management

The main objectives of portfolio management are as follows:-

- 1. Security of Principal Investment:** Investment safety or minimization of risks is one of the most important objectives of portfolio management. Portfolio management not only involves keeping the investment intact but also contributing to the growth of its purchasing power over the period. The motive of a financial portfolio management is to ensure that the investment is absolutely safe. Other factors such as income, growth, etc., are considered only after the safety of investment is ensured.
- 2. Consistency of Returns:** Portfolio management also ensures to provide the stability of returns by reinvesting the same earned returns in profitable and good portfolios. The portfolio helps to yield steady returns. The earned returns should compensate the opportunity cost of the funds invested.
- 3. Capital Growth:** Portfolio management guarantees the growth of capital by reinvesting in growth securities or by the purchase of the growth securities. A portfolio shall appreciate in value, in order to safeguard the investor from any erosion in purchasing power due to inflation and other economic factors. A portfolio must consist of those investments, which tend to appreciate in real value after adjusting for inflation.
- 4. Marketability:** Portfolio management ensures the flexibility to the investment portfolio. A portfolio consists of such investment, which can be marketed and traded. Suppose, your portfolio contains too many unlisted or inactive shares, then there would be problems with trading like switching from one investment to another. It is always recommended to invest only in those shares and securities which are listed on major stock exchanges, and also, which are actively traded.

**5. Liquidity:** Portfolio management is planned in such a way that it facilitates taking maximum advantage of various good opportunities coming up in the market. The portfolio should always ensure that there are enough funds available at short notice to take care of the investor's liquidity requirements.

**6. Diversification of Portfolio:** Portfolio management is purposely designed to reduce the risk of loss of capital and/or income by investing in different types of securities available in a wide range of industries. The investors shall be aware of the fact that there is no such thing as a zero risk investment. Moreover, relatively low risk investments give correspondingly lower return to their financial portfolio.

**7. Favorable Tax Status:** Portfolio management is planned in such a way as to increase the effective yield an investor gets on his surplus invested funds. By minimizing the tax burden, yield can be effectively improved. A good portfolio should give a favorable tax shelter to the investors. The portfolio should be evaluated after considering income tax, capital gains tax, and other taxes.

The objectives of portfolio management are applicable to all financial portfolios. These objectives, if considered, result in a proper analytical approach towards the growth of the portfolio. Furthermore, overall risk needs to be maintained at the acceptable level by developing a balanced and efficient portfolio.

## Asset Liability Management

The users of the financial statements need information about the financial position and performance of the bank in making economic decisions. They are interested in its liquidity and solvency and the risks related to the assets and liabilities recognized on its balance sheet and its off balance sheet items. In the interest of full and complete disclosure, some very useful information is better provided, or can only be provided, by notes to the financial statements. The use of notes and supplementary information provides the means to explain and document certain items, which are either presented in the financial statements or otherwise affect the financial position and performance of the reporting enterprise. Recently, a lot of attention has been paid to the issue of market discipline in the banking sector. Market discipline, however, works only if market participants have access to timely and reliable information, which enables them to assess banks' activities and the risks inherent in these activities. Enabling market discipline may have several benefits. Market discipline has been given due importance under Basel II framework on capital adequacy by recognizing it as one of its three Pillars.

## Multi- Currency Balance Sheet

The risk inherent in running open foreign exchange positions have been heightened in recent years by the pronounced volatility in forex rates, thereby adding a new dimension to the risk profile of banks' balance sheets.

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Forex 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. The banks are also exposed to interest rate risk, which arises from the maturity mismatching of foreign currency positions. Even in cases where spot and forward positions in individual currencies are balanced, the maturity pattern of forward transactions may produce mismatches. As such, banks may suffer losses as a result of changes in premiums/discounts of the currencies concerned.

In the forex business, banks also face the risk of default by the counterparties or settlement risk. While such type of risk crystallization does not cause principal loss, banks may have to undertake fresh transactions in the cash/spot market for replacing the failed transactions. Thus, banks may incur replacement cost which depends upon the currency rate movements. Banks also face another risk called time-zone risk or Herstatt risk which arises out of time-lags in settlement of one currency in one centre and the settlement of another currency in another time-zone. The forex transactions with counterparties from another country also trigger sovereign or country risk.

### **Forex Risk Management Measures**

Set appropriate limits – open positions and gaps.

Clear-cut and well-defined division of responsibility between front, middle and back offices.

The top management should also adopt the VaR approach to measure the risk associated with exposures. Reserve Bank of India has recently introduced two statements viz. Maturity and Position (MAP) and Interest Rate Sensitivity (SIR) for measurement of forex risk exposures. Banks should use these statements for periodical monitoring of forex risk exposures.

## **Organizational Structure**

### **ALM Organisation**

Successful implementation of the risk management process would require strong commitment on the part of the senior management in the FI, to integrate basic operations and strategic decision making with risk management. The Board should have overall responsibility for management of market risks and should decide the risk management policy of the FI and set limits for liquidity, interest rate, exchange rate and equity price risks.

The ALCO is a decision-making unit, consisting of the FI's senior management including CEO, responsible for integrated balance sheet management from risk-return perspective including the strategic management of interest rate and liquidity risks. While each FI will have to decide the role of its ALCO, its powers and responsibilities as also the decisions to be taken by it, its responsibilities would normally include:

## Treasury — Risk Management

- monitoring the market risk levels of the FI by ensuring adherence to the various risk-limits set by the Board;
- articulating the current interest rate view and a view on future direction of interest rate movements and base its decisions for future business strategy on this view as also on other parameters considered relevant.
- deciding the business strategy of the FI, both - on the assets and on the liabilities sides, consistent with the FI's interest rate view, budget and pre-determined risk management objectives. This would, in turn, include:
  - determining the desired maturity profile and mix of the assets and liabilities;
  - product pricing for both - assets as well as liabilities side;
  - deciding the funding strategy i.e. the source and mix of liabilities or sale of assets; the proportion of fixed Vs floating rate funds, wholesale Vs retail funds, money market Vs capital market funding , domestic vs foreign currency funding, etc.
- reviewing the results of and progress in implementation of the decisions made in the previous meetings

The ALM Support Groups consisting of operating staff should be responsible for analyzing, monitoring and reporting the risk profiles to the ALCO. The staff should also prepare forecasts (simulations) reflecting the impact of various possible changes in market conditions on the balance sheet and recommend the action needed to adhere to FI's internal limits.

**Composition of ALCO:** The size (number of members) of ALCO would depend on the size of each institution, business mix and organizational complexity. To ensure commitment of the Top Management and timely response to market dynamics, the CEO/CMD/DMD or the ED should head the Committee. Though the composition of ALCO could vary across the FIs as per their respective set up and business profile, it would be useful to have the Chiefs of Investment, Credit, Resources Management or Planning, Funds Management / Treasury (forex and domestic), International Business and Economic Research as the members of the Committee. In addition, the Head of the Technology Division should also be an invitee for building up of MIS and related computerization. Some FIs may even have Sub-committees and Support Groups.

**Committee of Directors:** The Management Committee of the Board or any other Specific Committee constituted by the Board should oversee the implementation of the ALM system and review its functioning periodically.

## Risk Adjusted return on Capital

**Risk-adjusted return on capital (RAROC)** is a risk-based profitability measurement framework for analyzing risk-adjusted financial performance and providing a consistent view

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of profitability across businesses. The concept was developed by Bankers' Trust and principal designer Dan Borge in the late 1970s. Note, however, that more and more **return on risk adjusted capital (RORAC)** is used as a measure, whereby the risk adjustment of Capital is based on the capital adequacy guidelines as outlined by the Basel Committee, currently Basel III.

- **RAROC = (Expected Return)/(Economic Capital) or,**
- **RAROC = (Expected Return)/(Value at Risk)**

Broadly speaking, in business enterprises, risk is traded off against benefit. RAROC is defined as the ratio of risk adjusted return to economic capital. The economic capital is the amount of money which is needed to secure the survival in a worst-case scenario. It is a buffer against unexpected shocks in market values. Economic capital is a function of market risk, credit risk and operational risk, and is often calculated by VaR. This use of capital based on risk improves the capital allocation across different functional areas of banks, insurance companies, or any business in which capital is placed at risk for an expected return above the risk-free rates.

RAROC system allocates capital for two basic reasons:

1. Risk management
2. Performance evaluation

For risk management purposes, the main goal of allocating capital to individual business units is to determine the bank's optimal capital structure; that is, economic capital allocation is closely correlated with individual business risk. As a performance evaluation tool, it allows banks to assign capital to business units based on the economic value added of each unit.

## Capital Adequacy Norms

The basic approach of capital adequacy framework is that a bank should have sufficient capital to provide 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. When returns of the investors of the capital issues are counter guaranteed by the bank, such investments will not be considered as Tier I/II regulatory capital for the purpose of capital adequacy.

**Capital funds:** The capital funds would include the components Tier I capital and Tier II capital.

**Elements of Tier I Capital:** The elements of Tier I capital include:

- (i) Paid-up capital (ordinary shares), statutory reserves, and other disclosed free reserves, if any;
- (ii) Perpetual Non-cumulative Preference Shares (PNCPS) eligible for inclusion as Tier I capital - subject to laws in force from time to time;
- (iii) Innovative Perpetual Debt Instruments (IPDI) eligible for inclusion as Tier I capital; and
- (iv) Capital reserves representing surplus arising out of sale proceeds of assets.

The guidelines covering Perpetual Non-Cumulative Preference Shares (PNCPS) eligible for inclusion as Tier I capital indicating the minimum regulatory requirements are furnished in Annex 1. The guidelines governing the Innovative Perpetual Debt Instruments (IPDI) eligible for inclusion as Tier I capital indicating the minimum regulatory requirements are furnished in Annex 2.

Banks may include quarterly / half yearly profits for computation of Tier I capital only if the quarterly/ half yearly results are audited by statutory auditors, and not when the results are subjected to limited review.

A special dispensation of amortizing the expenditure arising out of second pension option and enhancement of gratuity was permitted to Public Sector Banks as also select private sector banks who were parties to the 9th bipartite settlement with Indian Banks Association (IBA). In view of the exceptional nature of the event, the unamortised expenditure pertaining to these items need not be deducted from Tier I capital.

**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.

**(a) Undisclosed Reserves:** They can be included in capital, if they represent accumulations of post-tax profits and are not encumbered by any known liability; they should not be routinely used for absorbing normal loss or operating losses.

**(b) Revaluation Reserves:** It would be prudent to consider revaluation reserves at a discount of 55 per cent while determining their value for inclusion in Tier II capital. Such reserves will have to be reflected on the face of the Balance Sheet as revaluation reserves.

**(c) General Provisions and Loss Reserves:** Such reserves can be included in Tier II capital if they are not attributable to the actual diminution in value or identifiable potential loss in any specific asset and are available to meet unexpected losses. Adequate care must be taken to see that sufficient provisions have been made to meet all known losses and

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foreseeable potential losses before considering general provisions and loss reserves to be part of Tier II capital. General provisions/loss reserves will be admitted up to a maximum of 1.25 percent of total risk weighted assets.

'Floating Provisions' held by the banks, which is general in nature and not made against any identified assets, may be treated as a part of Tier II capital within the overall ceiling of 1.25 percent of total risk weighted assets.

Excess provisions which arise on sale of NPAs would be eligible for inclusion in Tier II capital subject to the overall ceiling of 1.25% of total Risk Weighted Assets.

**(d) Hybrid Debt Capital Instruments:** Those instruments which have 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 instruments have been recognized and placed under this category:

- (i) Debt capital instruments eligible for inclusion as Upper Tier II capital ; and
- (ii) Perpetual Cumulative Preference Shares (PCPS) / Redeemable Non-Cumulative Preference Shares (RNCPS) / Redeemable Cumulative Preference Shares (RCPS) as part of Upper Tier II Capital.
- (iii) The guidelines governing the instruments at (i) and (ii) above, indicating the minimum regulatory requirements are furnished in Annex 3 and Annex 4 respectively.

**(e) Subordinated Debt:** Banks can raise, with the approval of their Boards, rupee-subordinated debt as Tier II capital.

**(f) Investment Reserve Account:** In the event of provisions created on account of depreciation in the 'Available for Sale' or 'Held for Trading' categories being found to be in excess of the required amount in any year, the excess should be credited to the Profit & Loss account and an equivalent amount (net of taxes, if any, and net of transfer to Statutory Reserves as applicable to such excess provision) should be appropriated to an Investment Reserve Account in Schedule 2 –“Reserves & Surplus” under the head “Revenue and other Reserves” in the Balance Sheet and these would be eligible for inclusion under Tier II capital within the overall ceiling of 1.25 per cent of total risk weighted assets prescribed for General Provisions/ Loss Reserves.

**(g)** Banks are allowed to include the 'General Provisions on Standard Assets' and 'provisions held for country exposures' in Tier II capital. However, the provisions on 'standard assets' together with other 'general provisions/ loss reserves' and 'provisions held for country exposures' will be admitted as Tier II capital up to a maximum of 1.25 per cent of the total risk-weighted assets.

## ALCO Techniques / Tools – GAP Analysis

ALM is bank specific control mechanism, but it is possible that several banks may employ similar ALM techniques, or each bank may use unique system.

*Gap Analysis:* Gap Analysis is a technique of Asset – Liability management. It is used to assess interest rate risk or liquidity risk. It measures at a given point of time the gaps between Rate Sensitive Liabilities (RSL) and Rate Sensitive Assets (RSA) (including off balance sheet position) by grouping them into time buckets according to residual maturity or next re-pricing period, whichever is earlier. An asset or liability is treated as rate sensitive if,

1. Within time bucket under consideration is a cash flow.
2. The interest rate resets/re-prices contractually during time buckets
3. Administered rates are changed, and
4. It is contractually pre-payable or withdrawal allowed before contracted maturities.

Thus;

$$\text{GAP} = \text{RSA} - \text{RSL}$$

$$\text{GAP Ratio} = \text{RSAs/RSL}$$

- Mismatches can be positive or negative
- Positive Mismatch: M.A.>M.L. and vice-versa for Negative Mismatch
- In case of +ve mismatch, excess liquidity can be deployed in money market instruments, creating new assets & investment swaps etc.
- For –ve mismatch, it can be financed from market borrowings (call/Term), Bills rediscounting, repos & deployment of foreign currency converted into rupee.

Gap analysis was widely used by financial institutions during late 1990s and early years of present century in India. The table below gives you an idea of who would a positive or negative gap impact on NII in case there is upward or downward movement of interest rates:

Gap	Interest rate Change	Impact on NII
Positive	Increases	Positive
Positive	Decreases	Negative
Negative	Increases	Negative
Negative	Decreases	Positive

*Duration Gap Analysis:*

This is an alternative method for measuring interest-rate risk. This technique examines the sensitivity of the market value of the financial institution's net worth to changes in interest

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rates. Duration analysis is based on Macaulay's concept of duration, which measures the average lifetime of a security's stream of payments.

We know that Duration is an important measure of the interest rate sensitivity of assets and liabilities as it takes into account the time of arrival of cash flows and the maturity of assets and liabilities. It is the weighted average time to maturity of all the present values of cash flows. Duration basically refers to the average life of the asset or the liability.

$$DP / p = D (dR / 1+R).$$

The above equation describes the percentage fall in price of the bond for a given increase in the required interest rates or yields.

The larger the value of the duration, the more sensitive is the price of that asset or liability to changes in interest rates. Thus, as per this theory, the bank will be immunized from interest rate risk if the duration gap between assets and the liabilities is zero. The duration model has one important benefit: It uses the market value of assets and liabilities.

Duration analysis summarizes with a single number exposure to parallel shifts in the term structure of interest rates.

It can be noticed that both gap and duration approaches worked well if assets and liabilities comprised fixed cash flows. However options such as those embedded in mortgages or callable debt posed problems that gap analysis could not address. Duration analysis could address these in theory, but implementing sufficiently sophisticated duration measures was problematic.

### **Scenario Analysis:**

Under the scenario analysis of ALM, several interest rate scenarios are created during next 5 to 10 years. Such scenarios might specify declining interest rates, rising interest rates, a gradual decrease in rates followed by sudden rise etc. Different scenarios may specify the behavior of the entire yield curve, so there could be scenarios with flattening yield curve, inverted yield curves etc. Ten to twenty scenarios might be specified to have a holistic view of the scenario analysis. Next assumptions would be made about the performances of assets and liabilities under each scenario. Assumptions might include prepayment rates on mortgages and surrender rates on insurance products. Assumptions may also be made about the firm's performance.

Based upon these assumptions the performance of the firm's balance sheet could be projected under each scenario. If projected performance was poor under specific scenario, the ALCO might adjust assets or liabilities to address the indicated exposure. A shortcoming of scenario analysis is the fact that it is highly dependent on the choice of scenario. It also requires that many assumptions be made about how specific assets or liabilities will perform under specific scenario.

## Liquidity and Interest Rate Sensitivity Gaps

To strengthen the Management Information System within the FIs and to sensitize them to the market risk, RBI has issued certain guidelines under ALM. Under the ALM Guidelines, the FIs are required to prepare periodical statements on liquidity gap and interest rate sensitivity and put up to their top management.

In the ALM systems prescribed for FIs, not only are the items of assets and liabilities appearing on the balance sheets of FIs captured, but so also are the cash flows emanating from these items over the entire life of the asset, liability or contingent commitments. While the Reserve Bank has prescribed prudential limits on negative liquidity gaps at 10 per cent and 15 per cent of the cash outflows in the first two time buckets (viz., 1 to 14 days and 15 to 28 days), the FIs themselves have to evolve internal prudential limits for cumulative negative liquidity gaps across all time buckets as also for the interest rate gaps in various time buckets with the approval of their Board/ALCO. The ALM system also aims at capturing the foreign currency portfolio of the FIs and, therefore, the FIs are also required to compile currency-wise liquidity and interest rate sensitivity (IRS) reports in respect of their foreign currency exposures - for which separate formats have been prescribed.

The envisaged ALM system seeks to introduce a formalized framework for management of market risks through measuring, monitoring and managing liquidity, exchange rate and interest rate risks of a FI that need to be closely integrated with the FIs' business strategy. The initial focus of the ALM function should be to enforce the discipline of market risk management viz. managing business after assessing the market risks involved. The objective of good risk management systems should be to evolve into a strategic tool for effective management of FIs.

The ALM process rests on three pillars:

- ALM Information System
  - Management Information System
  - Information availability, accuracy, adequacy and expediency
- ALM Organisation
  - Structure and responsibilities
  - Level of top management involvement
- ALM Process
  - Risk parameters
  - Risk identification
  - Risk measurement

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- Risk management
- Risk policies and tolerance levels.

ALM has to be supported by a management philosophy which clearly specifies the risk policies and tolerance limits.

This framework needs to be built on sound methodology with necessary supporting information system as the central element of the entire ALM exercise is the availability of adequate and accurate information with expedience. Thus, information is the key to the ALM process. There are various methods prevalent world-wide for measuring risks. These range from the simple Gap Statement to extremely sophisticated and data intensive Risk Adjusted Profitability Measurement methods. The present guidelines would require comparatively simpler information system for generating liquidity gap and interest rate gap reports.

### **Liquidity Risk Management:**

As suggested by AML guidelines, liquidity position should be tracked through maturity or cash flow mismatches by FIs on ongoing basis. For measuring and managing net funding requirements, the use of a maturity ladder and calculation of cumulative surplus or deficit of funds at selected maturity dates is adopted as a standard tool. The maturity profile could be used for measuring the future cash flows of FIs in different time buckets as follows:

- (i) 1 to 14 days
- (ii) 15 to 28 days
- (iii) 29 days and up to 3 months
- (iv) Over 3 months and upto 6 months
- (v) Over 6 months and up to 1 year
- (vi) Over 1 year and upto 3 years
- (vii) Over 3 years and up to 5 years
- (viii) Over 5 years and up to 7 years
- (ix) Over 7 years and up to 10 years
- (x) Over 10 years.

The investments are assumed as illiquid due to lack of depth in the secondary market and are, therefore, generally shown, as per their residual maturity, under respective time buckets. However, some of the FIs may be maintaining securities in the 'Trading Book', which are kept distinct from other investments made for retaining relationship with customers. Securities held in the 'Trading Book' should be subject to the following preconditions:

1. The composition and volume of the Trading Book should be clearly defined;
2. Maximum maturity/duration of the trading portfolio should be restricted;
3. The holding period of the trading securities should not exceed 90 days;
4. Cut-loss limit(s) should be prescribed;
5. Product-wise defeasance periods (i.e. the time taken to liquidate the 'position' on the basis of liquidity in the secondary market) should be prescribed;
6. Such securities should be marked-to-market on a daily/weekly basis and the revaluation gain/loss should be charged to the profit and loss account.

## ALM Book – Banking Book & Trading Book

### Banking Book

The changes in market interest rates have impact on the earnings and economic value in the banks' books. Thus, given the complexity and range of balance sheet products, banks should have IRR measurement systems that assess the effects of the rate changes on both earnings and economic value.

The variety of techniques ranges from simple maturity (fixed rate) and re-pricing (floating rate) to static simulation, based on current on- and off-balance sheet positions, to highly sophisticated dynamic modelling techniques that incorporate assumptions on behavioural pattern of assets, liabilities and off-balance sheet items and can easily capture the full range of exposures against basis risk, embedded option risk, yield curve risk, etc.

### Trading Book

The top management of banks should lay down policies with regard to volume, maximum maturity, holding period, duration, stop loss, defeasance period, rating standards, etc. for classifying securities in the trading book. While the securities held in the trading book should ideally be marked to market on a daily basis, the potential price risk to changes in market risk factors should be estimated through internally developed Value at Risk (VaR) models. The VaR method is employed to assess potential loss that could crystallize on trading position or portfolio due to variations in market interest rates and prices, using a given confidence level, usually 95% to 99%, within a defined period of time. The VaR method should incorporate the market factors against which the market value of the trading position is exposed. The top management should put in place bank-wide VaR exposure limits to the trading portfolio (including forex and gold positions, derivative products, etc.) which is then disaggregated across different desks and departments. The loss making tolerance level should also be stipulated to ensure that potential impact on earnings is managed within acceptable limits. The

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potential loss in Present Value Basis Points should be matched by the Middle Office on a daily basis vis-à-vis the prudential limits set by the Board. The advantage of using VaR is that it is comparable across products, desks and Departments and it can be validated through 'back testing'. However, VaR models require the use of extensive historical data to estimate future volatility.

VaR model also may not give good results in extreme volatile conditions or outlier events and stress test has to be employed to complement VaR. The stress tests provide management a view on the potential impact of large size market movements and also attempt to estimate the size of potential losses due to stress events, which occur in the '**tails**' of the loss distribution. Banks may also undertake scenario analysis with specific possible stress situations (recently experienced in some countries) by linking hypothetical, simultaneous and related changes in multiple risk factors present in the trading portfolio to determine the impact of moves on the rest of the portfolio. VaR models could also be modified to reflect liquidity risk differences observed across assets over time. International banks are now estimating Liquidity adjusted Value at Risk (LaVaR) by assuming variable time horizons based on position size and relative turnover. In an environment where VaR is difficult to estimate for lack of data, non-statistical concepts such as stop loss and gross/net positions can be used.

### **Liability Management using Interest Rate Derivatives**

Financial derivative instruments are instruments of risk management used by banks for hedging expected variations in returns or values. Some of the derivative instruments used by banks to hedge their interest rate risk are forward rate agreements, futures, options, swaps, caps, floors and collars. Forward rate agreements are contracts where a bank, anticipating increase or decrease in interest rates, enters into a contract with counterparty for exchange of values at predetermined rates. Futures are similar contracts where banks take position to settle contracts at current rates on a future date. These contracts are marked- to- market and are for a fixed duration. Options are contracts that provide a right to buy or sell at an agreed rate an instrument on a future date. Caps, floors and collars provide the upper and lower limits for interest rate fluctuations which triggers a contract on the banks.

Swaps aim at exchange of fixed rate instruments to fluctuating rate instruments at predetermined rates on a future date.

### **Interest Rate Risk Management**

The Strategies adopted by banks to manage interest rate risks may be broadly classified into two categories. The first is the rearrangement of balance sheet that includes duration gap management. The second is the off-balance sheet adjustments through instruments such as interest rate swap, hedging with financial futures, insurance and risk transfer.

Some of the causes for risk from off- balance sheet activities include contingent liabilities, guarantees, standby letters of credit, loan commitments and note issue facilities given by banks. Securitization of loan wherein a debt instrument is issued by a bank based on expected revenues from a defined pool of loans is a strategy used by banks to transfer loan risks to market.

### Hedging:

- **Example - Interest-rate forward contract**
- Purchase of T-Bills with a maturity of one year.

### Advantages

- Risk of increased interest rate is reduced
- Flexibility can be incorporated in the contract if they are traded in the Over-The-Counter (OTC) market.

### Disadvantages

- OTC contracts have less liquidity
- Default risk to the bank

## **Mismatch of positions – Gap Limits (IGL – Individual Gap Limits and AGL – Aggregate Gap Limit) and Stop Loss Limits VaR & Capital Provisions**

A gap or mismatch risk arises from holding assets and liabilities and off-balance sheet items with different principal amounts, maturity dates or re-pricing dates, thereby creating exposure to unexpected changes in the level of market interest rates.

## **Basis Risk**

Market interest rates of various instruments seldom change by the same degree during a given period of time. 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. 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. Whenever the variation in market interest rate has caused the NII to expand, the banks have experienced favourable basis shifts and if the interest rate movement has caused the NII to contract, the basis has moved against the banks.

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The unprotected portion of the underlying exposure should be risk-weighted as applicable under Basel II framework. The amount of credit protection shall be adjusted if there are any mismatches between the underlying asset/ obligation and the reference / deliverable asset / obligation with regard to asset or maturity. These are:

### (i) Asset Mismatches

Asset mismatch will arise if the underlying asset is different from the reference asset or deliverable obligation. Protection will be reckoned as available by the protection buyer only if the mismatched assets meet the requirements specified in paragraph 4(k) of the Prudential Guidelines on CDS.

### (ii) Maturity Mismatches

The protection buyer would be eligible to reckon the amount of protection if the maturity of the credit derivative contract were to be equal or more than the maturity of the underlying asset. If, however, the maturity of the CDS contract is less than the maturity of the underlying asset, then it would be construed as a maturity mismatch. In case of maturity mismatch the amount of protection will be determined in the following manner:

- (a) If the residual maturity of the credit derivative product is less than **three months**, no protection will be recognized.
- (b) If the residual maturity of the credit derivative contract is **three months** or more, protection proportional to the period for which it is available will be recognised. When there is a maturity mismatch the following adjustment will be applied.

$$P_a = P \times (t - 0.25) \div (T - 0.25)$$

Where:

$P_a$  = value of the credit protection adjusted for maturity mismatch

$P$  = credit protection

$t$  = min ( $T$ , residual maturity of the credit protection arrangement) expressed in years

$T$  = min (5, residual maturity of the underlying exposure) expressed in years

*Example:* Suppose the underlying asset is a corporate bond of Face Value of `100 where the residual maturity is of 5 years and the residual maturity of the CDS is 4 years. The amount of credit protection is computed as under:

$$100 * \{(4 - 0.25) \div (5 - 0.25)\} = 100 * (3.75 \div 4.75) = 78.95$$

- (c) Once the residual maturity of the CDS contract reaches three months, protection ceases to be recognised.

## Gap Limits

Where a foreign currency is bought and sold for different value dates, it creates no net position i.e. there is no Forex risk. But due to the different value dates involved there is a “mismatch” i.e. the purchase/sale dates do not match. These mismatches, or gaps as they are often called, result in an uneven cash flow. If the forward rates move adversely, such mismatches would result in losses. Mismatches expose one to risks of exchange losses that arise out of adverse movement in the forward points and therefore, controls need to be initiated.

The limits on gap risks are:

- **Individual Gap Limit:** This determines the maximum mismatch for any calendar month; currency-wise.
- **Aggregate Gap Limit:** It is the limit fixed for all gaps, for a currency, irrespective of their being long or short. This is worked out by adding the absolute values of all overbought and all oversold positions for various months, i.e., the total of the individual gaps, ignoring the signs. This limit, too, is fixed currency-wise.
- **Total Aggregate Gap Limit:** Is the limit fixed for all aggregate gap limits in all currencies.

## Stop Loss Limits

An order placed with a broker that combines the features of stop order with those of a limit order. A stop-limit order will be executed at a specified price (or better) after a given stop price has been reached. Once the stop price is reached, the stop-limit order becomes a limit order to buy (or sell) at the limit price or better.

The primary benefit of a stop-limit order is that the trader has precise control over when the order should be filled. The downside, as with all limit orders, is that the trade is not guaranteed to be executed if the stock/commodity does not reach the stop price.

A stop order is an order that becomes executable once a set price has been reached and is then filled at the current market price. A limit order is one that is at a certain price or better. By combining the two orders, the investor has much greater precision in executing the trade. Because a stop order is filled at the market price after the stop price has been hit, it's possible that you could get a really bad fill in fast-moving markets.

For example, let's assume that ABC Inc. is trading at \$40, and an investor wants to buy the stock once it begins to show some serious upward momentum. The investor has put in a stop-limit order to buy with the stop price at \$45 and the limit price at \$46. If the price of ABC Inc. moves above \$45 stop price, the order is activated and turns into a limit order. As long as the

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order can be filled under \$46 (the limit price), the trade will be filled. If the stock gaps above \$46, the order will not be filled.

### VaR

VaR measures the possible adverse change in market value of a financial instrument, based on what is regarded as the largest likely adverse move in rates or prices over a given timeframe. It also includes the correlation between different financial instruments to measure the volatility of a financial portfolio of instruments.

Macaulay Duration is the weighted average term to maturity of the cash flows from a bond. The weight of each cash flow is determined by dividing the present value of the cash flow by the price, and is a measure of bond price volatility with respect to interest rates.

Macaulay duration can be calculated by:

$$\text{Macaulay Duration} = \frac{\sum_{t=1}^n \frac{t * C}{(1 + y)^t} + \frac{n * M}{(1 + y)^n}}{\text{Current Bond Price}}$$

Where:

t = respective time period

C = periodic coupon payment

y = periodic coupon payment

n = total number of periods

m = maturity value

The metric is named after its creator, Frederick Macaulay. Macaulay duration is frequently used by portfolio managers who use an immunization strategy. Macaulay duration is also used to measure how sensitive a bond or a bond portfolio's price is to changes in interest rates.

### Capital Provisions

Such reserves can be included in Tier II capital if they are not attributable to the actual diminution in value or identifiable potential loss in any specific asset and are available to meet unexpected losses. Adequate care must be taken to see that sufficient provisions have been made to meet all known losses and foreseeable potential losses before considering general provisions and loss reserves to be part of Tier II capital. General provisions/loss reserves will be admitted up to a maximum of 1.25 percent of total risk weighted assets.

'Floating Provisions' held by the banks, which is general in nature and not made against any identified assets, may be treated as a part of Tier II capital within the overall ceiling of 1.25 percent of total risk weighted assets.

Excess provisions which arise on sale of NPAs would be eligible Tier II capital subject to the overall ceiling of 1.25% of total Risk Weighted Assets.

### **Viability and Risk of using different Hedging Instruments**

Corporations in which individual investors place their money have exposure to fluctuations in all kinds of financial prices as a natural by-product of their operations.

These may include foreign exchange rates, interest rates, commodity prices and equity prices. The effect of changes in these prices on reported earnings can be overwhelming, so companies will seek out transactions whose sensitivity to movements in financial prices offsets the sensitivity of their core business to such changes, or hedging.

The most sophisticated players in this field recognize that a business' financial risks present a powerful opportunity to add to their bottom line while shielding the firm from the negative effects of those movements.

The main advantage of the hedge is that it lowers the risk of an investment significantly. If an investor makes an investment in which variables are out of his control - as is the case in nearly any investment - then he stands to lose money if things do not go as he planned. A hedge can help him offset these losses and thus reduce any unwanted risk.

The main disadvantage of a hedge is that in reducing risk the hedge is also cutting into the investor's potential reward. Hedges are not free, but must be purchased from another party. Like an insurance policy, a hedge costs money. And, if the main position produces profits as planned, then the hedge will have been an unnecessary expenditure. Some investors would question the benefit of second-guessing the original investment in this way.

Hedging is a technique to reduce exposure to measurable types of risk in financial market transactions. It is a type of insurance, and while it cannot eliminate risk completely, hedging can mitigate the effect. The correct hedging tools will depend on the types of assets or transactions involved. For example, for a portfolio containing international investments, it would be prudent to hedge against unexpected currency movements, in order to preserve the value of the portfolio in the home currency. The main types of hedging tools include futures, options, and forwards - whether on one of the underlying assets in the portfolio, in a currency index, or an asset negatively correlated with the portfolio.

Futures are an agreement to purchase a product or currency, on a specific date at a specific price. Options are a more flexible hedging tool. A company or investor can purchase a 'call' option, which is the right to buy an asset at a particular price, or a 'put' option, to sell at a

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particular price at a future date. Unlike futures, the option owner is not required to follow through with the transaction if the market price is more advantageous than the option price.

### **Hedging Strategies – Mandatory and Optional Hedging – Transaction-wise / Portfolio-wise Risk Management**

The best way to understand hedging is to think of it as insurance. When people decide to hedge, they are insuring themselves against a negative event. This doesn't prevent a negative event from happening, but if it does happen and you're properly hedged, the impact of the event is reduced. So, hedging occurs almost everywhere, and we see it every day. For example, if you buy house insurance, you are hedging yourself against fires, break-ins or other unforeseen disasters.

Portfolio managers, individual investors and corporations use hedging techniques to reduce their exposure to various risks. In financial markets, however, hedging becomes more complicated than simply paying an insurance company a fee every year. Hedging against investment risk means strategically using instruments in the market to offset the risk of any adverse price movements. In other words, investors hedge one investment by making another.

Technically, to hedge you would invest in two securities with negative correlations. Of course, nothing in this world is free, so you still have to pay for this type of insurance in one form or another.

Hedging currency risk can be done with forward contracts, futures, or options. For a company with international operations, the use of currency hedging tools is very important when converting foreign operation profits into the home currency, or purchasing inputs or equipment overseas. Forward contracts are unique to the foreign exchange market, and allow a company or investor to lock in a specific transaction to exchange one currency for another on a particular date.

Unlike futures contracts, a currency forward contract is not standardized or tradable, and if one party defaults, the other party is completely out of luck. Futures contracts represent a less risky alternative to hedging against currency market fluctuations. Depending on the direction and the amount of volatility in the currency market, the company will choose futures or options or a mix of both depending on the specific currencies involved.

A money market hedge is another type of hedging tool for a future foreign currency transaction. For instance, if a French company wants to sell equipment to Japan, it can borrow in yen now, and pay the yen-denominated debt when the Japanese company pays for the products. This allows the French company to lock in the current exchange rate between the Euro and the yen. The cost is the interest rate on the yen loan, which may be lower than the cost of another hedging tool.

One common use of futures as a hedging tool is when a company depends on a certain commodity to produce its products, such as coffee beans. To protect itself against adverse movements in the price of the coffee beans, the company may choose to purchase coffee futures, and lock in a particular price. The company is required to make the purchase even if the market price of coffee is lower than the contracted price. This is a risk in using futures as a hedging tool, unless the cost of the price uncertainty is greater than the cost of paying above market price and where possible, options present a more flexible hedging solution.

All hedging tools and techniques involve several costs. The first is the cost of the hedging instrument itself. The second is the risk of associated cost if the choice of hedging instrument results in higher than market costs of the underlying asset. Therefore, the use of hedging tools reduces both the total risk and return of the underlying asset or business. For corporations, however, the value of hedging against currency or commodity market fluctuations is in eliminating uncertainty.

This can allow for smooth operations and the ability to keep prices consistent, which may far outweigh the cost of the hedging strategy.

Hedging is the practice of purchasing and holding securities specifically to reduce portfolio risk. These securities are intended to move in a different direction than the remainder of the portfolio - for example, appreciating when other investments decline. A put option on a stock or index is the classic hedging instrument.

When properly done, hedging significantly reduces the uncertainty and the amount of capital at risk in an investment, without significantly reducing the potential rate of return.

### How It's Done

Hedging may sound like a cautious approach to investing, destined to provide sub-market returns, but it is often the most aggressive investors who hedge. By reducing the risk in one part of a portfolio, an investor can often take on more risk elsewhere, increasing his or her absolute returns while putting less capital at risk in each individual investment.

Hedging is also used to help ensure that investors can meet future repayment obligations. For example, if an investment is made with borrowed money, a hedge should be in place to make sure that the debt can be repaid. Or, if a pension fund has future liabilities, then it is only responsible for hedging the portfolio against catastrophic loss.

The pricing of hedging instruments is related to the potential downside risk in the underlying security. As a rule, the more downside risk the purchaser of the hedge seeks to transfer to the seller, the more expensive the hedge will be.

Downside risk, and consequently option pricing, is primarily a function of time and volatility. The reasoning is that if a security is capable of significant price movements on a daily basis,

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then an option on that security that expires in weeks, months or years in the future will be highly risky, and therefore, costly.

On the other hand, if the security is relatively stable on a daily basis, there is less downside risk, and the option will be less expensive. This is why correlated securities are sometimes used for hedging. The strike price of a put option represents the amount of risk that the seller takes on. Options with higher strike prices are more expensive, but also provide more price protection. Of course, at some point, purchasing additional protection is no longer cost-effective.

In theory, a perfectly priced hedge, such as a put option, would be a zero-sum transaction. The purchase price of the put option would be exactly equal to the expected downside risk of the underlying security. However, if this were the case, there would be little reason *not* to hedge any investment.

### **Transaction-wise / Portfolio-wise Risk Management**

Lending involves a number of risks. In addition to the risks related to creditworthiness of the counterparty, the banks are also exposed to interest rate, forex and country risks.

Credit risk or default risk involves inability or unwillingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, settlement and other financial transactions. The Credit Risk is generally made up of transaction risk or default risk and portfolio risk. The portfolio risk, in turn, comprises intrinsic and concentration risk. The credit risk of a bank's portfolio depends on both external and internal factors. The external factors are the state of the economy, wide swings in commodity/equity prices, foreign exchange rates and interest rates, trade restrictions, economic sanctions, Government policies, etc.

The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limits for Loan Officers/Credit Committees, deficiencies in appraisal of borrowers' financial position, excessive dependence on collaterals and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance, etc.

Another variant of credit risk is counterparty risk. The counterparty risk arises from non-performance of the trading partners. The non-performance may arise from counterparty's refusal/inability to perform due to adverse price movements or from external constraints that were not anticipated by the principal. The counterparty risk is generally viewed as a transient financial risk associated with trading rather than standard credit risk.

The management of credit risk should receive the top management's attention and the process should encompass:

1. Measurement of risk through credit rating/scoring;

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2. Quantifying the risk through estimating expected loan losses i.e. the amount of loan losses that bank would experience over a chosen time horizon (through tracking portfolio behaviour over 5 or more years) and unexpected loan losses i.e. the amount by which actual losses exceed the expected loss (through standard deviation of losses or the difference between expected loan losses and some selected target credit loss quintile);
3. Risk pricing on a scientific basis; and
4. Controlling the risk through effective Loan Review Mechanism and portfolio management.

The credit risk management process should be articulated in the bank's **Loan Policy**, duly approved by the Board. Each bank should constitute a high level **Credit Policy Committee**, also called Credit Risk Management Committee or Credit Control Committee etc. to deal with issues relating to credit policy and procedures and to analyze, manage and control credit risk on a bank wide basis. The Committee should be headed by the Chairman/CEO/ED, and should comprise heads of Credit Department, Treasury, Credit Risk Management Department (CRMD) and the Chief Economist. The Committee should, *inter alia*, formulate clear policies on standards for presentation of credit proposals, financial covenants, rating standards and benchmarks, delegation of credit approving powers, prudential limits on large credit exposures, asset concentrations, standards for loan collateral, portfolio management, loan review mechanism, risk concentrations, risk monitoring and evaluation, pricing of loans, provisioning, regulatory/legal compliance, etc. Concurrently, each bank should also set up Credit Risk Management Department (CRMD), independent of the Credit Administration Department. The CRMD should enforce and monitor compliance of the risk parameters and prudential limits set by the CPC. The CRMD should also lay down risk assessment systems, monitor quality of loan portfolio, identify problems and correct deficiencies, develop MIS and undertake loan review/audit. Large banks may consider separate set-up for loan review/audit. The CRMD should also be made accountable for protecting the quality of the entire loan portfolio. The Department should undertake portfolio evaluations and conduct comprehensive studies on the environment to test the resilience of the loan portfolio.

The existing framework for tracking the Non Performing Loans around the balance sheet date does not signal the quality of the entire Loan Book. Banks should evolve proper systems for identification of credit weaknesses well in advance.

Most of international banks have adopted various portfolio management techniques for gauging asset quality. The CRMD, set up at Head Office should be assigned the responsibility of periodic monitoring of the portfolio. The portfolio quality could be evaluated by tracking the migration (upward or downward) of borrowers from one rating scale to another. This process would be meaningful only if the borrower-wise ratings are updated at quarterly / half-yearly intervals. Data on movements within grading categories provide a useful insight into the nature and composition of loan book.

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The banks could also consider the following measures to maintain the portfolio quality:

1. Stipulate quantitative ceiling on aggregate exposure in specified rating categories, i.e. certain percentage of total advances should be in the rating category of 1 to 2 or 1 to 3, 2 to 4 or 4 to 5, etc.;
2. Evaluate the rating-wise distribution of borrowers in various industry, business segments, etc.;
3. Exposure to one industry/sector should be evaluated on the basis of overall rating distribution of borrowers in the sector/group. In this context, banks should weigh the pros and cons of specialization and concentration by industry group. In cases where portfolio exposure to a single industry is badly performing, the banks may increase the quality standards for that specific industry;
4. Fix a target for rating-wise volume of loans, probable defaults and provisioning requirements as a prudent planning exercise. For any deviation/s from the expected parameters, an exercise for restructuring of the portfolio should immediately be undertaken and if necessary, the entry-level criteria could be enhanced to insulate the portfolio from further deterioration;
5. Undertake rapid portfolio reviews, stress tests and scenario analysis when external environment undergoes rapid changes (e.g. volatility in the forex market, economic sanctions, changes in the fiscal/monetary policies, general slowdown of the economy, market risk events, extreme liquidity conditions, etc.). The stress tests would reveal undetected areas of potential credit risk exposure and linkages between different categories of risk. In adverse circumstances, there may be substantial correlation of various risks, especially credit and market risks. Stress testing can range from relatively simple alterations in assumptions about one or more financial, structural or economic variables to the use of highly sophisticated models. The output of such portfolio-wise stress tests should be reviewed by the Board, and suitable changes may be made in prudential risk limits for protecting the quality. Stress tests could also include contingency plans, detailing management responses to stressful situations.
6. Introduce discriminatory time schedules for renewal of borrower limits. Lower-rated borrowers whose financials show signs of problems should be subjected to renewal control twice/thrice a year.

Banks should evolve suitable framework for monitoring the market risks especially forex risk exposure of Corporates who have no natural hedges on a regular basis. Banks should also appoint Portfolio Managers to watch the loan portfolios, degree of concentrations and exposure to counterparties. For comprehensive evaluation of customer exposure, banks may consider appointing Relationship Managers to ensure that overall exposure to a single

borrower is monitored, captured and controlled. The Relationship Managers have to work in coordination with the Treasury and Forex Departments. The Relationship Managers may service mainly high value loans so that a substantial share of the loan portfolio, which can alter the risk profile, would be under constant surveillance.

Further, transactions with affiliated companies/groups need to be aggregated and maintained close to real time. The banks should also put in place formalised systems for identification of accounts showing pronounced credit weaknesses well in advance, and also prepare internal guidelines for such an exercise and set time frame for deciding courses of action.

Many of the international banks have adopted credit risk models for evaluation of credit portfolio. The credit risk models offer banks framework for examining credit risk exposures across geographical locations and product lines in a timely manner, centralizing data and analysing marginal and absolute contributions to risk. The models also provide estimates of credit risk (unexpected loss) which reflect individual portfolio composition. The Altman's Z score forecasts the probability of a company entering bankruptcy within a 12-month period. The model combines five financial ratios using reported accounting information and equity values to produce an objective measure of borrower's financial health. J. P. Morgan has developed a portfolio model '**Credit Metrics**' for evaluating credit risk. The model basically focuses on estimating the volatility in the value of assets caused by variations in the quality of assets. The volatility is computed by tracking the probability that the borrower might migrate from one rating category to another (downgrade or upgrade). Thus, the value of loans can change over time, reflecting migration of the borrowers to a different risk-rating grade. The model can be used for promoting transparency in credit risk, establishing benchmark for credit risk measurement and estimating economic capital for credit risk under RAROC framework. Credit Suisse has developed a statistical method for measuring and accounting for credit risk which is known as **Credit Risk+**. The model is based on actuarial calculation of expected default rates and unexpected losses from default.

The banks may evaluate the utility of these models with suitable modifications to Indian environment for fine-tuning the credit risk management. The success of credit risk models impinges on time series data on historical loan loss rates and other model variables, spanning multiple credit cycles. Banks may, therefore, endeavor building adequate database for switching over to credit risk modeling after a specified period of time.

### Implications and Challenges of Basel III

As globalization strides forward and previously unavailable markets are opened up, staying-up to-date with numerous regulations is becoming increasingly complicated. International companies must keep track of a variety of regulations impacting them from different locales – each has to be correctly tended to in order to ensure a prosperous business.

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However, treasury managers need to remain aware of local regulations that can change quickly and substantially in smaller regions. The most substantial new regulation affecting the financial sector, and particularly the treasury management industry, is Basel III. With its introduction planned over the next few years, it is set to have a large impact on the global treasury management industry.

The latest installment in the Basel Accords lays down a new global regulatory framework that builds on previous versions; Basel I & II. Designed to develop risk management and transparency in the banking sector, Basel III aims to improve all banks' ability to deal with economic stress. It does this by setting a series of rules, the most important of which are that banks must hold 4.5 percent common equity (up from two percent in Basel II) and six percent Tier I capital of risk-weighted assets (up from four percent).

Banks will build progressively larger buffers of capital in order to absorb financial damages and protect themselves against more downturns.

Although Basel III is meant to start coming into effect from the beginning of 2013, full implementation of Basel III is expected by 2018.

### **Treasury Management Objectives**

- Maintaining Liquidity
- Optimizing Cash Resources
- Establishing and Maintaining Access to Short-Term Financing
- Maintaining Access to Medium- and Long-Term Financing
- Maintaining Shareholder Relations
- Managing Risk
- Coordinating Financial Functions and Sharing Financial Information

The Treasury function in any corporate has always been important in making sure that the business has sufficient liquidity to meet its obligations, whilst managing payments, receipts and financial risks effectively.

With the ever increasing pace of change to regulation, compliance and technology in the financial sector, Treasury has increasingly become a strategic business partner across all areas of the business, adding value to the operating divisions of the company: for example, working with the sales department to establish good financial contract terms so that any trade discounts offered and the payment method agreed are beneficial to the business.

Current market conditions also reinforce the need for corporates to ensure that their financial position is managed as efficiently as possible, with no excess working capital tied up in the business - the old adage 'cash is king' is certainly as relevant today as it has always been.

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Treasury departments need to cover the complete financial environment; from capital structure and long term investments to liquidity and working capital management. If Treasury can drive improvements in the Purchase-To-Pay and Order-To Cash cycles, there can be a direct effect on the overall debt and investment requirements and thus on the capital structure required in the business.

The question then is: if the Treasury function is becoming more of a business partner, how can the department manage its time to ensure that day-to-day administration, processing and transaction execution is completed using the minimum of resource?

The answer is that larger companies automate the majority of their daily financial processing and administration tasks, supported by policy standards, control and monitoring processes, embedding financial best practices across the whole business. Integrating corporate systems with those of their banks can achieve significant levels of automation, reducing the amount of time that needs to be spent on tasks such as calculating the daily cash position.

At the same time, the efficient use of secure systems can minimize operational risk, increase operational security and maximize straight through processing. Add to this automatic reconciliation of bank account data, and Treasury can then manage exceptions rather than every item, giving them the time to devote to delivering value-added services across the company.

Technology development is continually providing new and enhanced ways for corporates to manage their financial position. An example of this is the development of SWIFT Corporate Access, enabling corporates to use SWIFT channels to communicate directly with their banks. This, together with the development of more standardized file formats, for example XML, has the potential to change radically the systems and processes used in the business where the benefits outweigh the cost of introduction.

Cash and liquidity management has always been a key task in every company to ensure that debtor, creditor and stock levels are managed as efficiently and effectively as possible. When the business environment is more challenging, corporates can gain a competitive advantage through optimal management of every aspect of their financial position.

## International Swaps and Derivatives Association Master Agreement

The **ISDA master agreement** is the most commonly used master service agreement for OTC derivative transactions internationally. It is part of a framework of documents, designed to enable OTC derivatives to be documented fully and flexibly. The framework consists of a master agreement, a schedule, confirmations, definition booklets, and a credit support annex. The ISDA master agreement is published by the International Swaps and Derivatives Association.

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The master agreement is a document agreed between two parties that set out standard terms that apply to all the transactions entered into between those parties. Each time that a transaction is entered into, the terms of the master agreement do not need to be re-negotiated and apply automatically.

Although it is often viewed as a tool for banks and financial institutions, the Master Agreement is widely used by a wide variety of counterparties.

The ISDA Master Agreement is a development of the Swaps Code, introduced by ISDA in 1985 and updated in 1986. In its earliest form, it consisted of standard definitions, representations and warranties, events of default, and remedies.

In 1987, ISDA produced three documents: (i) a standard form master agreement for U.S. dollar interest-rate swaps; (ii) a standard form master agreement for multi-currency interest-rate and currency swaps (collectively known as the "1987 ISDA Master Agreement"); and (iii) the interest rate and currency definitions.

The 1990s resulted in major document production by ISDA, including (i) a revised version of the Swaps Code, known as the 1991 ISDA Definitions, drafted and replaced later by the 2000 ISDA Definitions; (ii) a revision to the 1987 Master Agreement resulting in the 1992 Master Agreement; (iii) the User's Guide to the 1992 Master Agreement, drafted in 1993, explaining in detail each section of the 1992 Master Agreement; (iv) the Commodities Derivatives Definitions, drafted in 1993 and supplemented in 2000; and (v) the Annex., providing for collateral documentation, finalized in 1994, followed by its User's Guide in 1995.

The Master Agreement was updated again in 2002 (known as the 2002 ISDA Master Agreement). The move to update the 1992 Agreement had its origins in the succession of crises that affected the global financial markets in the late 1990s. These events, including the liquidation of Hong Kong broker-dealer Peregrine Investments Holdings and the 1998 Russian financial crisis, tested the ISDA documentation to a previously unseen degree. Although the ISDA documentation withstood that test, ISDA decided to establish a strategic review of its documentation to see what lessons could be learnt from these events. This review led, in time, to the full-scale update of 1992 Agreement, which culminated in the 2002 Agreement.

The master agreement is quite lengthy, and the negotiation process can be burdensome, but once a master agreement is signed, the documentation of future transactions between parties is reduced to a brief confirmation of the material terms of the transaction.

The master agreement also aids in reducing disputes by providing extensive resources defining its terms and explaining the intent of the contract, thereby preventing disputes from beginning as well as providing a neutral resource to interpret standard contractual terms. Finally, the master agreement greatly aids in risk and credit management for the parties.

## Role played by ISDA Agreement during Global Financial Crisis

The non-cleared segment of the OTC derivatives market includes many important products with significant value to the economy. These products enable industrial companies and governments to effectively finance and manage risk in their operations and activities and help pension funds meet their obligations to retirees. They help support economic growth by enabling banks to lend to corporate and individual customers. They play a vital role in virtually every industry – from financial services to international trade to home mortgages.

As the Financial Stability Board has noted: “...demand for bespoke products comes from a variety of market participants. These include non-financial corporate end-users such as airlines, financial sector end-users such as insurance companies and banks, as well as hedge funds and institutional investors including pension funds, mutual funds, university endowments, and sovereign wealth funds. Derivatives dealers themselves also may have tailored needs that can be met through the use of bespoke products.”

As a result of this demand, the non-cleared segment of the OTC derivatives market is expected to remain significant in size. While most of the OTC derivatives market is expected to be cleared, a substantial portion will not be. As stated in the Second Consultative Document on margin requirements that was recently issued by the Basel Committee on Banking Supervision (BCBS) and the Board of Governors of the International Organizations of Securities Commissions (IOSCO), “a substantial fraction” of OTC derivatives will not be able to be cleared. The paper also cites an earlier IMF study, according to which 25% of the interest rate derivatives market, 33% of the credit default swaps market, and significant percentages of other types of OTC derivatives will remain non-cleared.

Given its continuing importance and relevance, the non-cleared OTC derivatives market segment needs to be clearly understood. ISDA estimates the non-cleared OTC derivatives market will consist of the following:

- Several large, relatively broad market segments, including the majority of interest rate swaption and options, cross-currency swaps, single-name credit default swaps and various types of equity and commodity swaps will likely remain non-cleared, as they do not fit the eligibility requirements of clearinghouses (CCPs).
- A number of individual sectors of many otherwise clearable OTC derivative product classes will likely remain non-cleared due to a lack of liquidity (and associated lack of valuation/pricing depth) in certain transactions. The lack of liquidity in these areas results from the economic terms (currency denominations, maturities, underlying reference rates, etc.) of such transactions, which are traded less than other transactions in those product classes.

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- Transactions involving sovereigns, central banks, corporations and other nonfinancial end-users in jurisdictions around the world where such market participants are exempt from clearing requirements will also remain non-cleared.

Non-cleared OTC derivatives play a vital role in risk management and in business decision-making that cannot be filled by clearable instruments. If users are forced to abandon non-cleared derivatives, and instead have to employ imperfect or unsuitable hedges using only clearable risk-hedging tools, they may be confronted with unwanted basis risk. Users might also find that their transactions do not qualify for hedge accounting treatment, which would introduce significant volatility in their income statements.

In addition, there are certain specific risks for which the appropriate hedge is not yet available and may not be available in future as well in cleared form.

As a result, users may decide to forego their hedging strategy and remain exposed to the risks they previously wished to manage away. They may also prefer not to take the underlying risks at all, which could have dampening effects on economic growth.

Many standardized OTC derivatives cannot be cleared (such as most single-name credit default swaps (CDS)), and many non-standardized transactions can be cleared. Non-cleared transactions are often viewed as complex bespoke products, while cleared transactions are viewed as standardized and simple. However, contrary to popular belief, OTC derivatives with bespoke economic terms can be and are cleared. Standardization of economic terms is, therefore, not a direct condition required for clearing.

Standardization of legal and operational terms is, however, required for clearing. Significant effort has been made by market participants to achieve this type of standardization in recent years. This, together with the strong economic incentive that firms have to clear, is one reason why OTC derivatives clearing has substantially increased in recent years ahead of clearing mandates.

The regulatory treatment of non-cleared OTC derivatives has important implications for risk management, the financial system and the global economy. The proposed regulatory treatment of non-cleared OTC derivatives might adversely affect usage of these products and negatively impact the economy. Regulatory proposals for non-cleared OTC derivatives must take into consideration the uses and values of non-cleared OTC derivatives, and whether any benefits gained from such proposals, such as proposed rules for margin for non-cleared transactions, outweigh the substantial costs that they could impose.

### **Importance of ISDA after Global Financial Crisis**

A standard agreement used in over-the-counter derivatives transactions, the ISDA Master Agreement, published by the International Swaps and Derivatives Association (ISDA) is a document that outlines the terms applied to a derivatives transaction between two parties.

Once the two parties agree to the standard terms, they do not have to renegotiate each time a new transaction is entered into.

Unlike exchange-traded derivatives, over-the-counter derivatives are traded between two parties and not through an exchange or intermediary. The huge values and volumes in the OTC market increase the pressure on traders to make sure they are not exposed to undue risk, which is something that can easily creep up in two party negotiations. These risks prompted the creation of the ISDA Master Agreement in 1985, and the agreement is now well-known and widely-used.

Using the ISDA Master Agreement in derivatives trading has several advantages. It provides both parties with clear definitions of all contract terms, and because it can take a long period of time to negotiate, both parties are likely to be very familiar with its material. Using a master agreement keeps the two parties from having to enter into new rounds of negotiations for future transactions, which saves time and legal fees. The ISDA Master Agreement also makes close-out and netting easier, as it bridges the gap between various standards used in different jurisdictions.

The traditional world of derivatives, consisting of both listed and over-the-counter (OTC) instruments, is undergoing significant change. Clearing of OTC derivatives through central counterparties has grown rapidly over the last decade. The percentage of cleared interest rate swaps, for example, has doubled in the past four years and over half that market is now cleared.

This transformation is slated to continue given the pace and momentum of regulatory reform until upwards of 70 percent of global OTC derivatives activity is cleared.

The residual non-cleared segment of the OTC derivatives market – while somewhat smaller in size -- will nonetheless be critical to the global economy. Non-cleared OTC derivatives will continue to play an important role in many industries and in many areas of economic activity. They are used extensively by corporations, investment and pension funds, governments and financial institutions to run their operations and to manage risk.

Current regulatory proposals regarding margin requirements for non-cleared derivatives pose significant threats to the continued functioning of this vital market segment. Such proposals also fail to fully consider the lessons learned regarding margin practices during the recent financial crisis.

## **RBI Guidelines on Risk Management**

### **Risk Management**

The broad strategy for reserve management including currency composition and investment policy is decided in consultation with the Government of India. The risk management functions

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are aimed at ensuring development of sound governance structure in line with the best international practices, improved accountability, a culture of risk awareness across all operations, efficient allocation of resources and development of in-house skills and expertise. The risks attendant on deployment of reserves, viz., credit risk, market risk, liquidity risk and operational risk and the systems employed to manage these risks are detailed in the following paragraphs.

### **Credit Risk**

The Reserve Bank is sensitive to the credit risk it faces on the investment of foreign exchange reserves in the international markets. The Reserve Bank's investments in bonds/treasury bills represent debt obligations of highly rated sovereigns, central banks and supranational entities. Further, deposits are placed with central banks, the BIS and overseas branches of commercial banks. RBI has framed requisite guidelines for selection of issuers/ counterparties with a view to enhancing the safety and liquidity aspects of the reserves. The Reserve Bank continues to apply stringent criteria for selection of counterparties. Credit exposure vis-à-vis sanctioned limit in respect of approved counterparties is monitored continuously. Developments regarding counterparties are constantly under watch. The basic objective of such an on-going exercise is to assess whether any counterparty's credit quality is under potential threat.

### **Market Risk**

Market risk for a multi-currency portfolio represents the potential change in valuations that result from movements in financial market prices, for example, changes in interest rates, foreign exchange rates, equity prices and commodity prices. The major sources of market risk for central banks are currency risk, interest rate risk and movement in gold prices. Gains/losses on valuation of Foreign Currency Assets (FCA) and gold due to movements in the exchange rates and/or price of gold are booked under a balance sheet head named the Currency and Gold Revaluation Account (CGRA). The balances in CGRA provide a buffer against exchange rate/gold price fluctuations. Foreign dated securities are valued at market prices prevailing on the last business day of each month and the appreciation/depreciation arising therefrom is transferred to the Investment Revaluation Account (IRA). The balance in IRA is meant to provide cushion against changes in the security prices over the holding period.

### **Currency Risk**

Currency risk arises due to movements in the exchange rates. Decisions are taken on the long-term exposure to different currencies, depending on the likely movements in exchange rates and other considerations in the medium and long-term (e.g., maintenance of major portion of reserves in the intervention currency, benefit of diversification, etc.). The decision-making procedure is supported by reviews of the strategy on a regular basis.

## Interest Rate Risk

The crucial aspect of the management of interest rate risk is to protect the value of the investments as much as possible from adverse impact of interest rate movements. The interest rate sensitivity of the portfolio is identified in terms of the benchmark duration and the permitted deviation from the benchmark.

## Liquidity Risk

Liquidity risk involves the risk of not being able to sell an instrument or close a position when required without facing significant costs. The reserves need to have a high level of liquidity at all times in order to be able to meet any unforeseen and emergency needs. Any adverse development has to be met with reserves and, hence, the need for a highly liquid portfolio is a necessary constraint in the investment strategy. The choice of instruments determines the liquidity of the portfolio. For example, in some markets, treasury securities could be liquidated in large volumes without much distortion of the price in the market and, thus, can be considered as liquid. Except fixed deposits with the BIS, overseas branches of commercial banks and central banks and securities issued by supranational, almost all other types of investments are highly liquid instruments which could be converted into cash at short notice. The Reserve Bank closely monitors the portion of the reserves, which could be converted into cash at a very short notice, to meet any unforeseen/ emergency needs.

## Operational Risk and Control System

In tune with the global trend, close attention is paid to strengthen the operational risk control arrangements. Key operational procedures are documented. Internally, there is total separation of the front office and the back office functions and the internal control systems ensure several checks at the stages of deal capture, deal processing and settlement. The deal processing and settlement system, including generation of payment instructions, is also subject to internal control guidelines based on the principle of one-point data entry. There is a system of concurrent audit for monitoring compliance in respect of all the internal control guidelines. Further, reconciliation of accounts is done regularly. In addition to internal annual inspection, the accounts are audited by external statutory auditors. There is a comprehensive reporting mechanism covering significant areas of activity/ operations relating to reserve management. These are provided to the senior management periodically, viz., on daily, weekly, monthly, quarterly, half-yearly and yearly intervals, depending on the type and sensitivity of information. The Reserve Bank uses SWIFT as the messaging platform to settle its trades and send financial messages to its counterparties, banks with whom Nostro accounts are maintained, custodians of securities and other business partners. All international best practices with respect to usage of SWIFT are ensured. Further, additional security measures have also been put in place, in this regard.

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### **Transparency and Disclosures**

The Reserve Bank has been making available in the public domain data relating to foreign exchange reserves, its operations in foreign exchange market, position of the country's external assets and liabilities and earnings from deployment of foreign currency assets and gold through periodic press releases of its Weekly Statistical Supplements, Monthly Bulletins, Annual Reports, etc. The Reserve Bank's approach with regard to transparency and disclosure closely follows international best practices in this regard. The Reserve Bank is among the 61 central banks across the globe which has adopted the Special Data Dissemination Standards (SDDS) template of the IMF for publication of the detailed data on foreign exchange reserves. Such data are made available on monthly basis on the Reserve Bank's website.

### **RBI Guidelines on Derivatives**

Banks transact in various treasury instruments with an objective of hedging their risks and also to generate trading profits. Apart from regular proprietary business, the treasury operations of a bank aim to continue to focus on enhancing returns from customer relationships that have been built, and successfully capitalise on this to rapidly increase income from foreign exchange and derivative transactions from customers, as also to assist them in covering and hedging their foreign currency and derivative positions.

In India, different derivatives instruments are permitted and regulated by various regulators, like Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI). Broadly, RBI is empowered to regulate the interest rate derivatives, foreign currency derivatives and credit derivatives. For regulatory purposes, derivatives have been defined in the Reserve Bank of India Act, vide circular No. DBOD. No. BP.BC. 86/21.04.157/2006-07 dated 20 April 2007 as follows:

“Derivative” is a contract that changes in value in relation to the price movements of a related or underlying securities like change in interest rate, foreign exchange rate, credit rating or credit index, price of securities or a combination of more than one of them and includes interest rate swaps, forward rate agreements, foreign currency swaps, foreign currency-rupee swaps, foreign currency options, foreign currency-rupee options or such other instruments as may be specified by the RBI from time to time.

A derivative is traded between two parties – who are referred to as the counterparties. These counterparties are subject to a pre-agreed set of terms and conditions that determine their rights and obligations.

There are various types of foreign exchange and derivative contracts offered in normal course of banking business including inter-alia Cash, Tom & Spot, Foreign exchange forward, Swap,

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Currency Swap, Credit Default Swap, Currency Option, Forward rate Agreement, Interest rate swap, Interest rate futures, Interest rate cap & floor, Currency futures, Interest Rate Options. The following circulars are relevant and give guidance on these products:-

- DBOD.No.BP.BC. 44/21.04.157/2011-12 dated 2 November 2011 modifying the 20 April 2007 circular.
- DBOD.BP.BC.No. 61/21.06.203/2011-12 of 30th November 2011 regarding credit default swaps.
- IDMC.MSRD.4801/06.01.03 dated June 3, 2003 on Exchange-Traded Interest Rate Derivatives.
- IDMD.PDRD.No. 1056/03.64.00/2009-10 dated September 1, 2009 on Guidelines on Exchange Traded Interest Rate Derivatives.
- RBI/2010-11/147 A.P. (DIR Series) Circular No. 05 dated July 30, 2010 on “Guidelines on trading of Currency Options on Recognised Stock /New Exchanges.
- DBOD.No.BP.BC.51 / 21.06.101 / 2010-11 dated October 28, 2010 on Introduction of Exchange Traded Currency Options – Permitting Banks to Participate in Currency Options on Recognized Stock / New Exchanges.
- RBI/2016-17/199 FMRD.DIRD.12/14.01.011/2016-17, December 29, 2016 on Introduction of Interest Rate Options in India, detailed directions of which are given in Notification No. FMRD-DIRD.11/2016 dated December 28,2016.

Further, RBI vide its circular RBI/2017-18/198FMRD.DIRD.9 /14.01.020/2017-18 dated June 14, 2018 decided to permit Interest Rate Swaptions in Rupees so as to enable better timing flexibility for the market participants seeking to hedge their interest rate risk and issued a Notification No.FMRD.DIRD.8/2018 dated June 14, 2018 enabling the introduction of swaptions.

Derivatives can be traded on or off an exchange and are known as:

Exchange-Traded Derivatives (ETDs):

Contracts traded on a recognised exchange, with the counterparties being the holder and the exchange.

Over-the-Counter Derivatives (OTCs):

Bespoke contracts traded off-exchange with specific terms and conditions determined between two eligible parties, with or without the use of an intermediary As a result OTC derivatives are more illiquid, e.g., forward contracts and swaps.

RBI vide its circular RBI/2017-18/134 A. P. (DIR Series) Circular No. 18 dated February 26, 2018 permits persons resident in India and FPIs to take positions (long or short), without

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having to establish existence of underlying exposure, up to a single limit of USD 100 million equivalent across all currency pairs involving INR, put together, and combined across all exchanges.

Participants 6.10 Participants of this market can broadly be classified into following two functional categories:

- *User*: A user participates in the derivatives market to manage an underlying risk.
- *Market-maker*: A market-maker provides bid and offer prices to users and other market-makers. A market-maker need not have an underlying risk.

At least one party to a derivative transaction is required to be a market-maker.

*Purpose:*

Users can undertake derivative transactions to hedge an existing identified risk on an ongoing basis during the life of the derivative transaction or for transformation of risk exposure, as specifically permitted by RBI. Market-makers can undertake derivative transactions to act as counterparties in derivative transactions with users and also amongst themselves. Banks use derivatives to hedge, to reduce the risks involved in the bank's operations. The major objectives/purpose for undertaking derivative transactions has been explained below:

*Balance Sheet Management:*

- Use of derivatives by the Bank to manage its balance sheet exposures.
- The Bank will use derivatives as a means for managing the interest rate, liquidity and foreign exchange risks arising from its banking operations.

*Client servicing*

- Offering derivative products to existing and new clients as an additional product from the Bank.
- The Bank will offer derivative products to enhance product offerings to its existing clients as well as to build new client relations

*Proprietary Trading*

- The Bank will undertake derivative transactions to earn trading profits.
- The Bank's treasury may take view-based transactions as well as offer two-way quotes on derivatives within the limits prescribed by this policy.

*Hedging On-Balance sheet transactions*

- Banks are exposed to interest-rate risk from their on-balance-sheet activities when their assets do not reprice at the same time as their liabilities. So, banks undertake

derivatives transactions to hedge their Balance sheets transactions such as banks may use swaps to hedge on-balance-sheet interest-rate risk.

### **Bank's Process, Regulatory requirements/ restrictions & updates**

The major requirements for undertaking any derivative transaction include:

- In addition to generic derivative products, market-makers may also offer structured derivative products to users as long as they do not contain any derivative instrument as underlying and have been specifically permitted by RBI in its Master Direction No. 1/2016-17 dated July 5, 2016 (updated April 02, 2018) on 'Risk Management and Inter-Bank Dealings' and guidelines contained in RBI's Circular DBOD.No.BP.BC.86/21.04.157/ 2006-07 dated 20 April 2007 on Comprehensive Guidelines on Derivatives and further amendments issued vide circulars DBOD. No. BP.BC. 27 / 21.04.157/2011- 12 dated 2 August 2011 and DBOD.BP.BC.44/ 21.04.157/2011-12 dated 2 November 2011 on 'the Comprehensive Guidelines on derivatives'.
  - (a) The following derivative instruments used to hedge an existing interest rate and forex exposure, on a standalone basis, may be treated as generic derivative products:
    - o Forex Forward Contracts
    - o Forward Rate Agreements
    - o Interest rate caps and floors (plain vanilla only)
    - o Plain Vanilla Options (call option and put option)
    - o Interest Rate Swaps
    - o Currency Swaps including Cross-Currency Swaps
    - o Exchange traded Currency Futures
    - o Exchange traded currency options
    - o Interest Rate Options.
  - (b) The following derivative products may be treated as structured derivative products:
    - o Instruments which are combination of either cash instrument and one or more generic derivative products.
    - o Instruments which are combination of two or more generic derivative products.

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Market-makers should be in a position to arrive at the fair value of all derivative instruments, including structured products on the basis of the following approach:

- a. Marking the product to market, if a liquid market in the product exists.
- b. In the case of structured products, marking the constituent generic instruments to market.
- c. If (a) and (b) are not feasible, marking the product to model, provided:
  - All the model inputs are observable market variables.
  - Full particulars of the model, including the quantitative algorithm are documented.
  - It may be ensured that structured products do not contain any derivative, which is not allowed on a standalone basis. Further,
  - All permitted derivative transactions, including roll over, restructuring and novation can be contracted only at prevailing market rates.
  - All risks arising from derivatives exposures should be analysed and documented, both at transaction level and portfolio level.
  - The management of derivatives activities should be an integral part of the overall risk management policy and mechanism. It is desirable that the board of directors and senior management understand the risks inherent in the derivatives activities being undertaken.
  - Market-makers should have a 'Suitability and Appropriateness Policy' vis-à-vis users in respect of the products offered, on the lines indicated in the guidelines given in the Circular.
  - Market-makers may, where they consider necessary, maintain cash margin/liquid collateral in respect of derivative transactions undertaken by users on mark-to-market basis.

### **Risk Management and Corporate Governance Aspects**

The Comprehensive Guidelines on derivatives also sets out the basic principles of a prudent system to control the risks in derivatives activities. These include:

- (a) Appropriate oversight by the board of directors and senior management;
- (b) Adequate risk management process that integrates prudent risk limits, sound measurement procedures and information systems, continuous risk monitoring and frequent management reporting; and
- (c) Comprehensive internal controls and audit procedures.

## Suitability and Appropriateness

While undertaking any derivative transactions with a user, a market-maker should:

- (a) Document how the pricing has been done and how periodic valuations will be done. In the case of structured products, this document should contain a dissection of the product into its generic components to demonstrate its permissibility, on the one hand, and to explain its price and periodic valuation principles, on the other. The following information may be shared with the user:
  - (i) Description of the transaction.
  - (ii) Building blocks of the transaction.
  - (iii) Rationale along with appropriate risk disclosures.
  - (iv) Sensitivity analysis identifying the various market parameters that affect the product.
  - (v) Scenario Analysis encompassing both the possible upside as well as the downsides.
- (b) Analysis of the expected impact of the proposed derivatives transaction on the user.
- (c) While selling structured products, the selling banks should make available a calculator or at least access to a calculator (say on the market-maker's website) which will enable the users to mark to market these structured products on an ongoing basis.

Before offering any derivative product to a client, obtain Board resolution from the corporate which contains the details specified in the Comprehensive Guidelines on derivatives.

- (a) Identify whether the proposed transaction is consistent with the user's policies and procedures with respect to derivatives transactions, as they are known to the market-maker.
- (b) Ensure that the terms of the contract are clear and assess whether the user is capable of understanding the terms of the contract and of fulfilling its obligations under the contract.
- (c) Inform the customer of its opinion, where the market-maker considers that a proposed derivatives transaction is inappropriate for a customer. If the customer, nonetheless, wishes to proceed, the market-maker should document its analysis and its discussions with the customer in its files to lessen the chances of litigation in case the transaction proves unprofitable to the customer. The approval for such transactions should be escalated to next higher level of authority at the market-maker's as also at the user's end.

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- (d) Ensure the terms of the contract are properly documented, disclosing the inherent risks in the proposed transaction to the customer in the form of a Risk Disclosure Statement which should include a detailed scenario analysis (both positive and negative) and pay outs in quantitative terms under different combination of underlying market variables such as interest rates and currency rates, etc., assumptions made for the scenario analysis and obtaining a written acknowledgement from the counterparty for having read and understood the Risk Disclosure Statement.
- (e) Guard against the possibility of misunderstandings all significant communications between the market-maker and user should be in writing/email or recorded in meeting notes.
- (f) Ensure to undertake transactions at prevailing market rates and to avoid transactions that could result in acceleration/deferment of gains or losses.
- (g) Should establish internal procedures for handling customer disputes and complaints. They should be investigated thoroughly and handled fairly and promptly. Senior management and the Compliance Department/Officer should be informed of all customer disputes and complaints at a regular interval.
- (h) The market-makers should carry out proper due diligence regarding 'user appropriateness' and 'suitability' of products before offering derivative products to users. Each market-maker should adopt a Board-approved 'Customer Appropriateness & Suitability Policy' for derivatives business.

It may also be noted that the responsibility of 'Customer Appropriateness and Suitability' review is on the market-maker.

As per Comprehensive Guidelines on Derivatives: Modifications dated April 6, 2018 vide RBI/2017-18/151 DBR.No.BP.BC.103/21.04.157/2017-18 it has now been decided that stand-alone plain vanilla forex options (without attached structures) purchased by clients will be exempt from the 'user suitability and appropriateness' norms, and the regulatory requirements will be at par with forex forward contracts.

### **Documentation**

This can range from simple customer mandates through to full legal documentation with both banks and customers. The bank's legal department is responsible for legal agreements depending on what type of business is being conducted and, crucially, whether the counterparties intend to net payments at settlement. Organizationally, this area can be viewed in a similar way to the accounting function. If documentation forms part of the back office then the business will be more understood by management and better controlled as a result. The Comprehensive Guidelines on derivatives also requires the market participants to ensure that documentation requirements in respect of derivative contracts are complete in all respects.

The comprehensive guidelines on derivatives circular require the market participants to ensure that documentation requirements in respect of derivative contracts are complete in all respects.

The following instructions in this regard may, therefore, be strictly adhered to:

- (i) For the sake of uniformity and standardisation in respect of all derivative products, participants may use ISDA documentation, with suitable modifications. Counterparties are free to modify the ISDA Master Agreement by inserting suitable clauses in the schedule to the ISDA Master to reflect the terms that the counterparties may agree to, including the manner of settlement of transactions and choice of governing law of the Agreement.
- (ii) It may be mentioned that besides the ISDA Master Agreement, participants should obtain specific confirmation for each transaction which should detail the terms of the contract such as gross amount, rate, value date, etc. duly signed by the authorised signatories.
- (iii) It is also preferable to make a mention of the Master Agreement in the individual transaction confirmation.
- (iv) Participants should further evaluate whether the counterparty has the legal capacity, power and authority to enter into derivative transactions.
- (v) Participants must ensure that ISDA Master Agreement is signed with the counterparty prior to undertaking any derivatives business with them.
- (vi) Participants shall obtain documentation regarding customer suitability, appropriateness etc. as specified.

### Prudential Norms Relating to Derivatives

The prudential norms relating to derivatives – minimum capital adequacy requirement, credit exposure norms, ALM etc. will be as prescribed by RBI from time to time. Attention of the readers may be drawn on RBI's Circular No. DBOD.No.BP.BC.48 / 21.06.001/2010-11 dated October 1, 2010 and DBOD.No.BP.BC.31/21.04.157/2008-09 dated August 8, 2008, DBOD.No. BP.BC.57/21.04.157/2008–09 dated October, 13 2008, DBOD.No.BP.BC. 28/21.04.157/2011-12 dated August 11, 2011 and DBOD.No.BP.BC.31 /21.04.157/2012-13 dated July 23, 2012, RBI/2016-17/45DBR.No.BP.BC.7/ 21.04.157/2016-17 on "Prudential Norms for Off-Balance Sheet Exposures of Banks" and RBI's Master Circular No.RBI/2015-16/70/DBR.No.Dir.BC. 12/13.03.00/2015-16 dated July 1, 2015 on "Exposure Norms".

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### Asset Classification of Derivatives

RBI vide its Circular No. DBOD.No.BP.BC.57/ 21.04.157/2008-09 dated October 13, 2008 on "Prudential Norms for Off-Balance Sheet Exposures of Banks" and Circular No. RBI/2015-16/101DBR.No.BP.BC.2/21.04.048/2015-16 dated July 1, 2015 on "Prudential Norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances" advised the banks including foreign branches of Indian banks as under:

- (i) The overdue receivables representing positive mark-to-market value of a derivative contract will be treated as a non-performing asset, if these remain unpaid for a period of 90 days from the specified due date for payment.
- (ii) In case the overdues arising from forward contracts and plain vanilla swaps and options become NPAs, all other funded facilities granted to the client shall also be classified as non-performing asset following the principle of borrower-wise classification as per the existing asset classification norms.
- (iii) However, any amount, representing positive mark-to-market value of the foreign exchange derivative contracts (other than forward contract and plain vanilla swaps and options) that were entered into during the period April 2007 to June 2008, which has already crystallised or might crystallise in future and is / becomes receivable from the client, should be parked in a separate account maintained in the name of the client /counterparty. This amount, even if overdue for a period of 90 days or more, will not make other funded facilities provided to the client, NPA on account of the principle of borrower-wise asset classification, though such receivable overdue for 90 days or more shall itself be classified as NPA, as per the extant IRAC norms. The classification of all other assets of such clients will, however, continue to be governed by the extant IRAC norms.
- (iv) If the client concerned is also a borrower of the bank enjoying a Cash Credit or Overdraft facility from the bank, the receivables mentioned at item (i) above may be debited to that account on due date and the impact of its non-payment would be reflected in the cash credit/overdraft facility account. The principle of borrower-wise asset classification would be applicable here also, as per extant norms.
- (v) In cases where the contract provides for settlement of the current mark-to market value of a derivative contract before its maturity, only the current credit exposure (not the potential future exposure) will be classified as a non-performing asset after an overdue period of 90 days.
- (vi) As the overdue receivables mentioned above would represent unrealised income already booked by the bank on accrual basis, after 90 days of overdue period, the amount already taken to 'Profit and Loss a/c' should be reversed.

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RBI vide its Circular No. DBOD.No.BP.BC.48 / 21.06.001/2010-11 dated October 1, 2010 on "Prudential Norms for Off-Balance Sheet Exposures of Banks - Bilateral netting of counterparty credit exposures" has decided that since the legal position regarding bilateral netting is not unambiguously clear, bilateral netting of mark-to-market (MTM) values arising on account of such derivative contracts cannot be permitted. Accordingly, banks should count their gross positive MTM value of such contracts for the purposes of capital adequacy as well as for exposure norms.

RBI vide its Circular No. RBI/2015-16/101DBR.No.BP.BC.2/21.04.048/ 2015-16 dated July 1, 2015 on "Prudential Norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances" advised banks that credit exposures computed as per the current marked to market value of the contract, arising on account of the interest rate & foreign exchange derivative transactions, credit default swaps, shall also attract provisioning requirement as applicable to the loan assets in the 'standard' category, of the concerned counterparties. All conditions applicable for treatment of the provisions for standard assets would also apply to the aforesaid provisions for derivative exposures.

RBI vide its circular no. DBOD.BP.BC.28/21.04.157/2011-12 dated August 11, 2011 has further clarified that:

- In cases where the derivative contracts provide for more settlements in future, the MTM value will comprise of (a) crystallised receivables and (b) positive or negative MTM in respect of future receivables.
- If the derivative contract is not terminated on the overdue receivable remaining unpaid for 90 days, in addition to reversing the crystallised receivable from Profit and Loss Account as stipulated in para 1 of aforementioned circular, the positive MTM pertaining to future receivables may also be reversed from Profit and Loss Account to another account styled as 'Suspense Account – Positive MTM'. The subsequent positive changes in the MTM value may be credited to the 'Suspense Account – Positive MTM', not to P&L Account.
- The subsequent decline in MTM value may be adjusted against the balance in 'Suspense Account – Positive MTM'. If the balance in this account is not sufficient, the remaining amount may be debited to the P&L Account.
- On payment of the overdues in cash, the balance in the 'Suspense Account-Crystallized Receivables' may be transferred to the 'Profit and Loss Account', to the extent payment is received.
- If the bank has other derivative exposures on the borrower, it follows that the MTMs of other derivative exposures should also be dealt with / accounted for in the manner as described above, subsequent to the crystallised/settlement amount in respect of a particular derivative transaction being treated as NPA.

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- Since the legal position regarding bilateral netting is not unambiguously clear, receivables and payables from/to the same counterparty including that relating to a single derivative contract should not be netted.
- Similarly, in case a fund-based credit facility extended to a borrower is classified as NPA, the MTMs of all the derivative exposures should be treated in the manner discussed above.
- These guidelines are applicable to both outstanding derivatives contracts and the derivatives transactions undertaken from the date of the circular.

Also RBI vide its circular no. RBI/2012-13/139DBOD.No.BP.BC.31/ 21.04.157/2012-13 clarifies that there may be situations where the clients of banks may like to reduce the notional exposure of the hedging derivative contract. In such cases, banks may partially or fully terminate the contract before maturity, at their discretion, thereby reducing the notional exposure of the contract. This reduction in notional exposure would not be treated as restructuring of the derivative contract provided all other parameters of the original contract remain unchanged.

In such cases, if the MTM value of the derivative contract is not cash settled, banks may permit payment in instalments of the crystallized MTM of such derivative contracts (including Forex Forward Contracts), subject to the following conditions:

- i. Banks should have a Board approved policy in this regard.
- ii. Banks should permit repayment in instalments only if there is a reasonable certainty of repayment by the client.
- iii. The repayment period should not extend beyond the maturity date of the contract.
- iv. The repayment instalments for the crystallized MTM should be uniformly received over the remaining maturity of the contract and its periodicity should be at least once in a quarter.
- v. If the client is permitted to pay the crystallized MTM in instalments, and
  - a. if the amount becomes overdue for 90 days from the date of partial / full termination of the derivative contract, the receivable should be classified as NPA.
  - b. if the amount becomes overdue for 90 days from the due date of payment of subsequent instalments, the receivable should be classified as NPA.
- vi. Banks should reverse the entire MTM which has been taken to Profit and Loss account on accrual basis in case of (v) (a) and (v) (b) above. For the accounting of reversed MTM in these cases, banks should follow an approach similar to the one stipulated in circulars DBOD.No.BP.BC.57/ 21.04.157/2008-09 dated October 13, 2008

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and DBOD.No.BP.BC.28/ 21.04.157/2011-12 dated August 11, 2011 on 'Prudential Norms for Off-balance Sheet Exposures of Banks'. Accordingly, the crystallized MTM of these derivative contracts should be reversed from Profit and Loss account and credited to another suspense account styled as 'Suspense Account - Crystallised Receivables'.

If the client is not granted the facility of paying the crystallised MTM value in instalments and the amount becomes overdue for 90 days from the date of partial / full termination of the derivative contract, the entire receivable should be classified as NPA and banks should follow the instructions stipulated in our circulars dated October 13, 2008 and August 11, 2011, referred to above.

There may be cases, where the derivative contract has been terminated, either partially or fully, and crystallized MTM has been permitted to be repaid in instalments but the client subsequently decides to hedge the same underlying exposure again by entering into new contract with same or other bank (provided such re-booking is permissible as per extant RBI guidelines). In such cases, banks may offer derivative contracts to the client provided the client has fully re-paid the entire outstanding instalments corresponding to the derivative contract that was used to hedge the underlying exposure previously. Re-structuring of derivative contracts

In cases where a derivative contract is restructured, the mark-to-market value of the contract on the date of restructuring should be cash settled. For this purpose, any change in any of the parameters of the original contract would be treated as a restructuring. RBI vide Notification RBI/2016-17/45 DBR.No.BP. BC.7/21.04.157/ 2016-17 dated August 25, 2016 has clarified that cash settlement is required of the change in mark-to-market value of the restructured derivative contract. Banks are permitted to restructure derivative contract at prevalent market rates, and not on the basis of off-market rates.

### **A Brief on Basel – III – Current Guidelines**

Basel capital adequacy norms are meant for the protection of depositors and shareholders by prescriptive rules for measuring capital adequacy, thereby evolving methods of determining regulatory capital and ensuring efficient use of capital.

Basel III accord strengthens the regulation, supervision and risk management of the banking sector. It is global regulatory standard on capital adequacy of banks, stress testing as well as market liquidity risk.

The Basel III accord, aims at:

- a. improving the banking sector's ability to absorb shocks arising from financial and economic stress, whatever may be the source;

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- b. improving risk management and governance practices; and
- c. strengthening banks' transparency and disclosure standards.

Basel II has been fully implemented in all commercial banks (except RRBs and LABs) in India by March 31, 2009. In this regard, the RBI has also issued a Master Circular no. DBR.No.BP.BC.4/21.06.001/2015-16 dated July 1, 2015 on "Prudential Guidelines on Capital Adequacy and Market Discipline - New Capital Adequacy Framework (NCAF)".

The major changes made in Basel III over Basel II are as under:

- (a) **Quality of Capital:** One of the key elements of Basel III is the introduction of much stricter definition of capital, which means the higher loss-absorption capacity, which in turn would lead to banks becoming stronger with enhanced capacity to withstand periods of stress.
- (b) **Capital Conservation Buffer:** Beginning 31st March, 2016, Banks are required to hold capital conservation buffer of 0.625%, which will gradually increase to 2.5% by 31st March, 2019. This is to ensure that banks maintain a cushion of capital that can be used to absorb losses during periods of financial and economic stress.
- (c) **Counter cyclical Buffer:** The counter cyclical buffer ensures increased capital requirements in good times and decrease the same during bad times.
- (d) **Minimum Common Equity and Tier 1 Capital Requirement:** The minimum requirement for common equity, the highest form of loss absorbing capital, has been increased to 5.50% of RWA. The Minimum Tier 1 capital has been increased to 7%, which means that Additional Tier I (AT 1) capital can be maximum of 1.50% of RWA. Though, the minimum total capital (Tier I plus Tier II) requirement remains at 9%, which means that the Tier 2 capital can be admitted maximum of 2% of RWA. With the requirement of gradually maintaining 2.5% of RWA as Capital Conservation Buffer in the form of CET 1, the minimum total capital requirement shall increase to 11.50% of RWA by 31st March, 2019.
- (e) **Leverage Ratio:** Analysis of 2008 financial crisis indicates that value of assets went down much more than what was perceived based on their risk rating, which leads to stipulation of Leverage Ratio. Therefore, under Basel III, a simple, transparent, non-risk based leverage ratio has been introduced. A Leverage Ratio is the relative amount of capital to total assets (not risk-weighted). Basel III guidelines recommend leverage ratio of 3% but RBI has currently set the leverage ratio of more than 4.5% for Indian Banks.
- (f) **Liquidity Ratios:** Under Basel III, a framework for liquidity risk management has been set up. Liquidity Coverage Ratio (LCR) has become operational since 1st January, 2015.

Basel III capital regulation has been implemented from April 1, 2013 in India in phases and it will be fully implemented as on March 31, 2019. In view of the gradual phase-in of regulatory adjustments to the Common Equity component of Tier 1 capital under Basel III, certain specific prescriptions of Basel II capital adequacy framework (e.g. rules relating to deductions from regulatory capital, risk weighting of investments in other financial entities etc.) will continue to apply till March 31, 2018 on the remainder of regulatory adjustments not treated in terms of Basel III rules. In this regard, the RBI has also issued a Master Circular no. DBR.No.BP.BC.1/21.06.201/2015-16 dated July 1, 2015 on “Basel III Capital Regulations”.

#### **Guidelines on BASEL III Capital Regulations**

The RBI had issued a circular no. DBOD.No.BP.BC.98 /21.06.201/2011-12 dated May 2, 2012 on the subject “Guidelines on Implementation of Basel III Capital Regulations in India”. Vide this circular, the RBI has prescribed the final guidelines on Basel III capital regulations. RBI issued a master circular no. DBR.No.BP.BC.1/21.06.201/ 2015-16 dated July 1, 2015 on Basel III Capital Regulations. Following are main features of these guidelines:

- These guidelines became effective from April 1, 2013 in a phased manner. The Basel III capital ratios will be fully implemented as on March 31, 2019.
- The capital requirements for the implementation of Basel III guidelines may be lower during the initial periods and higher during the later years. While undertaking the capital planning exercise, banks should keep this in view.
- Liquidity Coverage Ratio has been introduced in a phased manner starting with a minimum requirement of 60% from January 01, 2015 and reaching minimum 100% on January 01, 2019.
- The banks are required to disclose capital ratios under Basel III from quarter ending June 30, 2013.

#### **Components of Capital**

Total regulatory capital will consist of the sum of the following categories:

- (i) Tier 1 Capital (going-concern capital)
  - (a) Common Equity Tier 1
  - (b) Additional Tier 1
- (ii) Tier 2 Capital (gone-concern capital)  
Capital to Risk-weighted Assets Ratio (CRAR)

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The RBI requires banks to maintain a minimum CRAR of 9 per cent on an ongoing basis. The Master Circular on Capital Adequacy contains detailed guidelines on calculation of risk weighted assets and off-balance sheet items and CRAR.

The CRAR is computed as follows:

$$\frac{\text{Eligible Total Capital funds}}{\text{Credit Risk RWA + Market Risk RWA + Operational Risk RWA}} \times 100$$

The minimum CRAR is required to be maintained at consolidated level also as per Basel III guidelines. The requirements mentioned above relates to standalone Bank only. For the requirement for the consolidated capital, the readers may refer the Master Circular on Basel III Capital Regulations.

### Board Oversight

The board of directors and senior management of each subsidiary/overseas branch should be responsible for conducting their own assessment of the subsidiary's/overseas branch's operational risks and controls and ensuring the subsidiary/overseas branch is adequately capitalized in respect of those risks.

### Disclosure (Pillar 3)

Pillar 3 aims primarily at disclosure of a bank's risk profile and capital adequacy. It is recognized that the Pillar 3 disclosure framework does not conflict with requirements under accounting standards, which are broader in scope. The banks in India have to follow Pillar 3 disclosure over and above the RBI master circular on "Disclosure in Financial Statements - Notes to Accounts". 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. Pillar 3 disclosures will be required to be made by the individual banks on a standalone basis when they are not the top consolidated entity in the bank.

## Check Your Progress

1. How are mismatched maturities (Gaps) controlled?
2. What do you understand by IGL, AGL? And why are they computed?
3. What do you understand by Maturity Mismatching and its effect on management of Nostro Account Balance?
4. What Internal Control System should be adopted for Dealing Operation?
5. Why are Front Office & Back Office Functions clearly segregated and dealers not allowed to have access to the back office records?

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6. What are MID Office Functions?
7. Discuss the importance and utility of Internal Control in Liquidity Management.
8. What is the risk largely addressed by regulators?
9. What are the principles prescribed by Basel Committee for Risk Management?
10. What are the two criteria that a risk measurement parameter must reckon with?

**Choose the appropriate answers for the following questions from the options given below:**

1. What are the features of NDS-Call System?
  - (a) Electronic Dealing Platform
  - (b) Direct one to one negotiation
  - (c) Online Exposure Monitoring
  - (d) All of the Above\*
2. Which of the following is the largest investor in CPs?
  - (a) Mutual Funds
  - (b) Corporate Treasuries
  - (c) Financial Institutions
  - (d) Scheduled Banks\*
3. If the RBI announces that it has done repos of Rs.3,000 crores, what does this imply?
  - (a) RBI has lent securities worth Rs.3,000 crore through the repo markets to the participants
  - (b) RBI has reversed the repo deals of participants who entered into a repo with RBI
  - (c) RBI has inducted funds amounting to Rs.3,000 crores into the market\*
  - (d) RBI has borrowed securities from the banking system, and lent them onward in the repo markets
4. What does re-balancing of a bond index mean?
  - (a) Changing the weightages in the index so that the market capitalization of bonds is kept constant
  - (b) Adjusting the index for changes in the composition of the index portfolio to ensure that artificial capital gains or losses are not included in the index\*
  - (c) Adjusting the composition of the index, whenever coupons are paid, such that the index is not impacted by changes in accrued interest

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- (d) Changing the composition of the index when yield alters, such that duration of the index is kept constant
5. What is the information gathered from market participants in the poll to determine NSE MIBOR?
- (a) The rate at which they would be able to lend and borrow in the markets
  - (b) The rate at which they are willing to lend and borrow amongst one another
  - (c) Their view of the market rates for lending and borrowing\*
  - (d) Their view of the lending and borrowing rates of specific market participants
6. Which of the following statements about negotiated trade entry is false?
- (a) If a trading member represents both the buyer and seller, negotiated trade orders can be entered in a single screen
  - (b) Trading members can invoke the security descriptor, and fill up the code and transaction details of the selling participants, and confirm the trade
  - (c) All negotiated trades require approval of the exchange only after which trading members receive confirmation slips.
  - (d) Negotiated trade entries can be made outside of set counter-party limits, and sent for approval by the end of the trading day\*
7. The duration of a coupon- paying bond is always lower than its term to maturity, because:
- (a) Since duration is the measure of average maturity, it has to be lower than the tenor
  - (b) Duration measures the weighted maturity, and therefore cannot be compared to tenor of a bond
  - (c) As long as some cash flows are received prior to maturity, the weightage of the terminal cash flow cannot be 1.\*
  - (d) None of the above
8. An interest rate swap transforms the nature of -----
- (a) An existing liability only
  - (b) An existing asset only
  - (c) As notional liability or an asset
  - (d) An existing liability or an asset\*
9. A swap can be interpreted as a strip of -----
- (a) Fixed rate agreements only

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- (b) Future contracts only
  - (c) Fixed rate agreements or future contracts\*
  - (d) None of the above
10. Forward rates cannot be-----
- (a) Positive
  - (b) Negative\*
  - (c) Zero
  - (d) Higher than spot rate

## Treasury – Regulation, Supervision and Compliance

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### Treasury Management - Ethics and Compliance

For any segment of financial market to develop on healthy lines, it is necessary that in addition to the regulation by the Central Bank of the country and other authorities, self-regulation needs to be accorded priority. Accordingly, in the Indian Foreign Exchange Market, Foreign Exchange Dealers' Association (FEDAI) is the Self Regulatory Organisation (SRO) for the foreign exchange segment. Fixed Income Money Market and Derivatives Association (FIMMDA) is the SRO for the money market. FIMMDA has taken initiatives to frame a Code of Conduct, and ensure adherence to the code by the market participants. It has also developed standard Master Agreements for various types of money market transactions to promote their use in the market. Along with an effective SRO, a strong Central Bank to support and supervise the money market, integration with the rest of the markets in the financial system, existence of risk management systems, adherence to the various risk control procedure, norms for disclosures, and transparency in the balance sheets of banks are some of the other prerequisites for the proper working of the money market. These prerequisites are almost fully prevalent in the Indian Money Market.

Following are the extracts from the guidelines / self regulations policies of the Reserve Bank of India / FIMMDA in respect of dealing with regulations, supervision, compliance, dealing and trading operations, control and orderly conduct, moral and ethical codes, etc., on Treasury Operations.

### Ethics

All dealers active in the day-to-day trading activities must acknowledge familiarity with, and provide an undertaking in writing to adhere, to the bank's dealing guidelines and procedures. The Dealing Room Procedures Manual should be comprehensive in nature, covering operating procedures for all the bank's trading activities in which the Dealing Room is involved, and in particular it must cover the bank's requirements with regard to:

- *Code of Conduct:* All dealers active in the day-to-day trading activities in the Indian Market must acknowledge familiarity with, and provide an undertaking to adhere to FEDAI code of conduct (and FIMMDA when available).

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- *Adherence to Internal Limits:* All dealers must be aware of, acknowledge and provide an undertaking to adhere to the limits governing their authority, to commit the bank, to risk exposures as they apply to their own particular risk responsibilities and level of seniority.
- *Adherence to RBI Limits and Guidelines:* All dealers must acknowledge and provide an undertaking to adhere to their responsibilities to remain within RBI limits and guidelines in their area of activity.
- *Dealing with Brokers:* All dealers should be aware of, acknowledge and provide an undertaking to follow the guidelines governing the bank's activities with brokers, including conducting business only with brokers authorised by the bank's Risk Management Committee (on the Banks' Brokers Panel).
- Ensuring that their activities with brokers do not result in the brokers acting as principals in transactions, but remain strictly in their authorised role as market intermediaries.
- Demanding that brokers provide all 'brokers notes', and confirmations of transactions before close of business each day (or exceptionally by the beginning of the next business day, in which case the notes must be prominently marked by the broker as having been transacted on the previous day, and the Back-Office for reconciliation with transaction data.
- Ensuring that all brokerage payments and statements are received, reconciled, and paid by the bank's Back-Office department, and under no circumstances, any payment authorised or released by dealers.
- Prohibiting the dealers from accepting any gifts, gratifications, or other favors from brokers, instances of which should be reported in detail to RBI's Department of Banking Supervision, indicating the nature of the case.
- Prohibiting dealers from nominating a broker in transactions not done through that broker.
- Promptly investigate complaints against dealers, and malpractices by brokers, and report them to FEDAI and RBI's Department of Banking Supervision.
- *Dealing Hours:* All Dealers should be aware of the bank's normal trading hours, cut-off time for overnight positions, and rules governing 'after hours' and off-site trading (if allowed by the bank).
- *Security and Confidentiality:* All dealers should be aware of the bank's requirements in respect of maintaining confidentiality over its own and its customers' trading activities, as well as the responsibility for secure maintenance of access media, keys, passwords, and PINS.

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- *Staff Rotation and Leave Requirements:* All dealers should be aware of the requirement to take at least one period of leave, of note less than 14 days continuously per annum, and of the bank's internal policy with regard to staff rotation.

### **Compliance with RBI prudential norms**

In view of the possibility of abuse, treasury transactions should be separately subjected to concurrent audit by internal auditors and the results of their audit should be placed before the CMD of the bank once every month. Banks need not forward copies of the above mentioned concurrent audit reports to RBI of India. However, the major irregularities observed in these reports and the position of compliance thereto may be incorporated in the half yearly review of the investment portfolio.

Investment in the following will not be reckoned as 'unlisted non-SLR securities' for computing compliance with the prudential limits prescribed by RBI:

1. Security Receipts issued by SCs / RCs registered with RBI.
2. Investment in Asset Backed Securities (ABS) and Mortgage Backed Securities (MBS), which are rated at or above the minimum investment grade. However, there will be close monitoring of exposures to ABS on a bank-specific basis based on monthly reports to be submitted to RBI as per the proforma being separately advised by the Department of Banking Supervision.
3. Investments in unlisted convertible debentures, however, would be treated as "Capital Market Exposure".

The investments in RIDF / SIDBI/RHDF Deposits may not be reckoned as part of the numerator as well as denominator for computing compliance with the prudential limit of 10 per cent of its total non-SLR securities as on March 31, of the previous year.

With effect from January 1, 2005, only investments in units of such mutual fund schemes, which have an exposure to unlisted securities of less than 10 per cent of the corpus of the fund, will be treated on par with listed securities for the purpose of compliance with the prudential limits prescribed in the above guidelines. While computing the exposure to the unlisted securities for compliance with the norm of less than 10 per cent of the corpus of the mutual fund scheme, Treasury Bills, Collateralized Borrowing and Lending Obligations (CBLO), Repo/Reverse Repo and Bank Fixed Deposits may not be included in the numerator.

Boards of banks should review the following aspects of non-SLR investment at least on quarterly intervals:

- Total business (investment and divestment) during the reporting period.
- Compliance with the prudential limits prescribed by the Board for non-SLR investment.
- Compliance with the prudential guidelines issued by RBI on non-SLR securities.

## Treasury – Regulation, Supervision and Compliance

- Rating migration of the issuers/ issues held in the bank's books and consequent diminution in the portfolio quality.
- Extent of non-performing investments in the non-SLR category.

With a view to encouraging early compliance by the banks with the RBI guidelines on maintenance of capital charge for market risks, it was advised in April 2005 that banks which have maintained capital of at least 9 per cent of the risk weighted assets for both credit risk and market risks for both HFT and AFS category may treat the balance in excess of 5 per cent of securities included under HFT and AFS categories, in the IFR, as Tier I capital. Banks satisfying the above were allowed to transfer the amount in excess of the said 5 per cent in the IFR to Statutory Reserve.

The Audit Committee should keep the Board informed about the overall exposure to capital market, the compliance with the RBI and Board guidelines, adequacy of risk management and internal control systems.

The internal audit department should audit the transactions in securities on an ongoing basis, monitor the compliance with the laid down management policies and prescribed procedures and report the deficiencies directly to the management of the bank.

The banks' managements should ensure that there are adequate internal control and audit procedures for ensuring proper compliance of the instructions in regard to the conduct of the investment portfolio. The banks should institute a regular system of monitoring compliance with the prudential and other guidelines issued by the RBI. The banks should get compliance in key areas certified by their statutory auditors and furnish such audit certificate to the Regional Office of DBS, RBI under whose jurisdiction the HO of the bank falls.

## Prevention of Money Laundering Act, 2002

The Prevention of Money Laundering Act (PMLA), 2002 was enacted in January, 2003. The Act along with the Rules framed there-under has come into force with effect from 1st July, 2005. Sec. 3 of PMLA defines the offence of money laundering and provides that whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the proceeds of crime and projecting it as untainted property shall be guilty of the offence of money-laundering. It places an obligation upon banking companies, financial institutions and intermediaries for verification and maintenance of records of the identity of all its clients and also of all transactions and for furnishing information of such transactions in the prescribed form to the Financial Intelligence Unit-India (FIU-IND).

It empowers the Director of FIU-IND to impose fine on banking company, financial institution or intermediary if they or any of its officers fail to comply with the provisions of the Act as indicated above.

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PMLA empowers certain officers of the Directorate of Enforcement to carry out investigations in cases involving offence of money laundering and also to attach the property involved in money laundering. PMLA envisages setting up of an Adjudicating Authority to exercise jurisdiction, power and authority conferred by it essentially to confirm attachment or order confiscation of attached properties. It also envisages setting up of an Appellate Tribunal to hear appeals against the order of the Adjudicating Authority and the authorities like Director FIU-IND.

PMLA envisages designation of one or more courts of sessions as Special Court or Special Courts to try the offences punishable under PMLA and offences with which the accused may, under the Code of Criminal Procedure 1973, be charged at the same trial. PMLA allows Central Government to enter into an agreement with Government of any country outside India for enforcing the provisions of the PMLA, exchange of information for the prevention of any offence under PMLA or under the corresponding law in force in that country or investigation of cases relating to any offence under PMLA.

The PML Act seeks to combat money laundering in India and has three main objectives:

- To prevent and control money laundering
- To confiscate and seize the property obtained from the laundered money; and
- To deal with any other issue connected with money laundering in India.

The Act also provides for various punishments under Sec. 4.

Special Courts have been set-up in a number of States / UTs by the Central Government to conduct the trial of offences of money laundering. The authorities under the Act like the Director, Adjudicating Authority and the Appellate Tribunal, have been constituted to carry out the proceedings related to attachment and confiscation of any property derived from money laundering.

In order to enlarge the scope of this Act and to achieve the desired objectives, the Act provides for bilateral agreements between countries to cooperate with each other and curb the menace of money laundering. These agreements shall be for the purpose of either enforcing the provisions of this Act or for the exchange of information which shall help in the prevention in the commission of an offence under this Act or the corresponding laws in that foreign State.

In certain cases the Central Government may seek/ provide assistance from/to a contracting State for any investigation or forwarding of evidence collected during the course of such investigation.

The Act provides for reciprocal arrangements for processes/assistance with regard to accused persons.

The Government has constituted the Financial Intelligence Unit, India, in November, 2004, headed by a Director in the rank of a Joint Secretary to the Government of India. The

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organization has become functional and has started receiving Cash Transaction Reports and Suspicious Transactions Reports from the banking companies etc. in terms of Section 12 of the PMLA. The organization is also in the process of seeking membership of Egmont Group of FIUs which is an umbrella group of FIUs of various countries.

Powers of investigation and prosecution for offences under the Act have been conferred on the Director, Enforcement Directorate.

In addition, the Adjudicating Authority in terms of section 6 of the Act and the Appellate Tribunal under section 25 of the Act has also been constituted and has become functional.

Brief mention may be made of the amendments made to the Act in 2009 and 2012.

Also in the context of money laundering the salient features of the Disclosure of Foreign Assets Act, 2015 could be enumerated.

The Directorate of Enforcement was established in the year 1956 with its Headquarters at New Delhi. It is responsible for enforcement of the Foreign Exchange Management Act, 1999 (FEMA) and certain provisions under the Prevention of Money Laundering Act. Work relating to investigation and prosecution of cases under the PML has been entrusted to Enforcement Directorate. The Directorate is under the administrative control of Department of Revenue for operational purposes; the policy aspects of the FEMA, its legislation and its amendments are within the purview of the Department of Economic Affairs. Policy issues pertaining to PML Act, however, are the responsibility of the Department of Revenue. Before FEMA became effective (1 June 2000), the Directorate enforced regulations under the Foreign Exchange Regulation Act, 1973.

The Directorate has 10 Zonal offices each of which is headed by a Deputy Director and 11 sub Zonal Offices each of which is headed by an Assistant Directors

Zonal offices are located in Mumbai, Delhi, Chennai, Kolkata, Chandigarh, Lucknow, Cochin, Ahmedabad, Bangalore & Hyderabad

Sub Zonal offices function at Jaipur, Jalandhar, Srinagar, Varanasi, Guwahati, Calicut, Indore, Nagpur, Patna, Bhubaneshwar & Madurai.

### Functions:

1. To collect, develop and disseminate intelligence relating to violations of FEMA, 1999; the intelligence inputs are received from various sources such as Central and State Intelligence agencies, complaints etc.
2. To investigate suspected violations of the provisions of the FEMA, 1999 relating to activities such as “hawala” foreign exchange racketeering, non-realization of export proceeds, non-repatriation of foreign exchange and other forms of violations under FEMA, 1999.

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3. To adjudicate cases of violations of the erstwhile FERA, 1973 and FEMA, 1999.
4. To realize penalties imposed on conclusion of adjudication proceedings.
5. To handle adjudications, appeals and prosecution cases under the erstwhile FERA, 1973
6. To process and recommend cases for preventive detention under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act (COFEPOSA)
7. To undertake survey, search, seizure, arrest, initiate prosecution action etc. against offenders of PMLA provisions.
8. To provide and seek mutual legal assistance to/from contracting states in respect of attachment/confiscation of proceeds of crime as well as in respect of transfer of accused persons under PMLA.

The Financial Intelligence Unit – India was set by the Government of India vide O.M. dated 18th November 2004 as the central nodal agency responsible for receiving, processing, analyzing and disseminating information relating to suspect financial transactions. FIU-IND is also responsible for coordinating and strengthening efforts of national and international intelligence, investigation and enforcement agencies in pursuing the global efforts against money laundering and related crimes. FIU-IND is an independent body reporting directly to the Economic Intelligence Council (EIC) headed by the Finance Minister.

The Prevention of Money laundering Act, 2002 and the Rules there under require every banking company to furnish details of suspicious transactions whether or not made in cash. Suspicious transaction means a transaction whether or not made in cash which, to a person acting in good faith-

- (a) Gives rise to a reasonable ground of suspicion that it may involve the proceeds or crime; or
- (b) Appears to be made in circumstances of unusual or unjustified complexity; or
- (c) Appears to have no economic rationale or bonafide purpose.

The Asia/Pacific Group on Money Laundering (APG) was officially established as an autonomous regional anti-money laundering body in February 1997 at the Fourth (and last) Asia/Pacific Money Laundering Symposium in Bangkok, Thailand. The purpose of the APG is to facilitate the adoption, implementation and enforcement of internationally accepted anti-money laundering and anti-terrorist financing standards set out in the recommendations of the Financial Action Task Force (FATF).

The APG's role includes assisting jurisdictions in the region to enact laws dealing with the proceeds of crime, mutual legal assistance, confiscation, forfeiture and extradition. It also includes the provision of guidance in setting up systems for reporting and investigating

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suspicious transactions and helping in the establishment of financial intelligence units. The APG undertakes studies on methods and trends of money laundering and financing of terrorism in the Asia/Pacific region. The APG allows for regional factors to be taken into account in the implementation of anti-money laundering and anti-terrorist financing measures and provides for peer review by means of a mutual evaluation process.

The APG is a voluntary and co-operative international body established by agreement among its members and is autonomous. It is not derived from any international treaty nor is it part of any international organization. However, it keeps itself informed of action taken on formal agreements made by relevant international and regional organizations or bodies in order to promote a consistent global response to money laundering and terrorist financing. The work to be done by the APG and its procedures is decided by consensus agreement among its members.

India became a member of the APG in March, 1998.

The Financial Action Task Force (FATF) is an inter-governmental body which sets standards, and develops and promotes policies to combat money laundering and terrorist financing. The Forty Recommendations and Nine Special Recommendations of FATF provide a complete set of counter-measures against money laundering covering the criminal justice system and law enforcement, the financial system and its regulation, and international co-operation. These Recommendations have been recognized, endorsed, or adopted by many international bodies as the international standards for combating money laundering.

India became a member of the FATF in 2010.

Financial Intelligence Unit-India (FIU-IND) is a member of the Egmont Group, an international organization for stimulating co-operation among FIUs. The Egmont Group serves as an international network fostering improved communication and interaction among FIUs. The goal of the Egmont Group is to provide a forum for FIUs around the world to improve support to their respective governments in the fight against money laundering, terrorist financing and other financial crimes. India became member of the Egmont Group in May, 2007.

The FIU-IND has signed bilateral Memorandum of Understanding (MoU)s with fifteen countries namely, Mauritius, Philippines, Brazil, Malaysia, Russia, Australia, Canada, USA, Srilanka, Georgia, San Marono, Bermuda, Nigeria, Japan, Indonesia as on May, 2011. The MoUs are to facilitate the exchange of intelligence between the two countries for the purpose of cooperation to gather, develop and analyze information concerning financial transactions suspected of being related to money laundering and terrorist financing.

Eurasia Group (EAG) is a FTF styled Regional Body (FSRB). It is the world's leading global political risk research and consulting firm. According to the EAG's Terms of Reference its primary objectives include money laundering and financing of terrorism typologies analysis and exchange of experience in combating such crimes with regard to regional peculiarities.

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### Money Market Operations

MMOs are the market operations conducted by the Reserve Bank of India by way of sale/purchase of Government securities to/ from the market with an objective to adjust the rupee liquidity conditions in the market on an enduring basis. When the RBI feels there is excess liquidity in the market, it resorts to sale of securities thereby sucking out the rupee liquidity. Similarly, when the liquidity conditions are tight, the RBI will buy securities from the market, thereby infusing liquidity in the market.

Buyback of Government securities is a process whereby the Government of India and State Governments buy back their existing securities from the holders. The objectives of buyback can be reduction of cost (by buying back high coupon securities), reduction in the number of outstanding securities and improving liquidity in the Government securities market (by buying back illiquid securities) and infusion of liquidity in the system. Governments make provisions in their budget for buying back of existing securities. Buyback can be done through an auction process or through the secondary market route, i.e., NDS/NDS-OM.

The price of a Government security, like other financial instruments, keeps fluctuating in the secondary market. The price is determined by demand and supply of the securities. Specifically, the prices of Government securities are influenced by the level and changes in interest rates in the economy and other macro-economic factors, such as, expected rate of inflation, liquidity in the market, etc.

Developments in other markets like money, foreign exchange, credit and capital markets also affect the price of the Government securities. Further, developments in international bond markets, specifically the US Treasuries affect prices of Government securities in India. Policy actions by RBI (e.g., announcements regarding changes in policy interest rates like Repo Rate, Cash Reserve Ratio, Open Market Operations, etc.) can also affect the prices of Government securities.

<b>Money Market Operations as on October 08, 2015</b>			
	(Amount in ₹ billion, Rate in Per cent)		
MONEY MARKETS @	Volume	Wtd. Avg. Rate	Range
	(One Leg)		
A. Overnight Segment (I+II+III+IV)	1,222.07	6.80	5.25-7.17
I. Call Money	149.16	6.66	5.25-7.05
II. CBLO	717.06	6.84	6.70-7.17
III. Market Repo	355.85	6.79	5.75-6.95

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IV. Repo in Corporate Bond			0.00		-
<b>B. Term Segment</b>					
I. Notice Money**			3.99	6.56	5.25-6.75
II. Term Money@@			1.59	-	6.60-7.25
III. CBLO			0.00	-	-
IV. Market Repo			0.00	-	-
V. Repo in Corporate Bond			0.00	-	-
<b>RBI OPERATIONS@</b>					
	Auction Date	Tenor (Days)	Maturity Date	Amount Outstanding	Current Rate / Cut off Rate
<b>C. Liquidity Adjustment Facility</b>					
(i) Repo (Fixed rate)	08/10/2015	1	09/10/2015	113.24	6.75
(ii) Repo (Variable rate)	24/09/2015	15	09/10/2015	45.75	7.26
	29/09/2015	14	13/10/2015	80.00	6.77
	01/10/2015	15	16/10/2015	120.25	6.82
	06/10/2015	14	20/10/2015	43.50	6.81
(iii) Reverse Repo (Fixed rate)	08/10/2015	1	09/10/2015	39.30	5.75
(iv) Reverse Repo (Variable rate)	06/10/2015	6	12/10/2015	9.55	6.74
	07/10/2015	5	12/10/2015	105.90	6.74
D. Marginal Standing Facility	08/10/2015	1	09/10/2015	5.52	7.75
E. Standing Liquidity Facility Available from RBI \$				17.57	
<b>RESERVE POSITION @</b>					
<b>F. Cash Reserves Position of Scheduled Commercial Banks</b>					
(i) Cash balances with RBI as on #	05/10/2015			3,709.78	
(ii) Average daily cash reserve requirement for the fortnight ending	16/10/2015			3,650.36	

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G. Government of India Surplus	08/10/2015	289.50
Cash Balance Reckoned for Auction as on ₹		
@ Based on RBI / CCIL/ FIMMDA Data - Not Applicable / No Transaction		
** Relates to uncollateralized transactions of 2 to 14 days tenor		
@@ Relates to uncollateralized transactions of 15 days to one year tenor		
# The figure for the cash balances with RBI on Sunday is same as that of the previous day (Saturday).		
\$ Includes refinance facilities extended by RBI		
¥ As per the Press Release No. 2014-2015/1971 dated March 19, 2015		

## RBI Policy – Liquidity Support for Banks and Primary Dealers

### 1. Scheme for Underwriting Commitment

This scheme replaces the existing Scheme for Bidding Commitment and Underwriting to Primary Dealers (PDs) contained in circular IDMC No.4135/03.64.00/2000-01 dated April 19, 2001. PDs/Bank-PDs will be, hereinafter, collectively referred to as PDs.

Under the revised scheme, PDs will be required to meet underwriting commitment instead of the earlier requirements of bidding commitment and voluntary underwriting. The underwriting commitment will be divided into two parts

- (i) Minimum Underwriting Commitment (MUC), and
- (ii) Additional Competitive Underwriting (ACU),

**(i) Minimum Underwriting Commitment:** The MUC of each PD will be computed to ensure that at least 50 per. cent of each issue is mandatorily covered by the aggregate of all MUCs. For example, with the current number of PDs at 17, each PD will be deemed to underwrite about 3 per cent of the notified amount of each auction as MUC. The MUC will be uniform for all PDs, irrespective of their capital or balance sheet size.

Since the MUC would not be through a bidding process, the same would be incorporated in the Undertaking given by the PDs to RBI, every year to enable compulsory minimum underwriting for each auction. For the fiscal year 2006-07, the revised scheme will be applicable with effect from April 1, 2006.

**(ii) Additional Competitive Underwriting:** The remaining portion of the notified amount will be open to competitive underwriting through underwriting auctions. Each PD would be required to bid for a minimum of 3 per cent of notified amount. The auctions could be either uniform price-based or multiple price-based depending upon the market conditions and other

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relevant factors, which will be announced before the underwriting auction for each issue. All successful bidders in the ACU auction will get commission as per auction rules.

(iii) **Commission on MUC:** Those PDs who succeed in the ACU for 4 per cent and above of the notified amount of the issue will get commission on their MUC (3 per cent) at the weighted average of all the accepted bids in the ACU. Others will get commission on the 3 per cent in MUC at the weighted average rate of the three lowest bids in the ACU.

2. The operational guidelines for the underwriting commitment / auction are detailed as below:

### 2.1 For the ACU underwriting auction:

- (a) RBI will announce the MUC of each PD and the amount for which ACU underwriting auction will be held. PDs have to bid in the ACU underwriting auction for the remaining portion (notified amount minus MUC) of the notified amount.
- (b) Bids will be tendered by PDs within the stipulated time, indicating both the amount of the underwriting commitments and underwriting commission rates. A PD can submit multiple bids for underwriting.
- (c) Each PD would be required to bid for a *minimum of 3 per cent* of the notified amount.
- (d) A PD *cannot bid for more than 30 per cent* of the notified amount.
- (e) Depending upon the bids submitted for underwriting, RBI will decide the cut-off rate of commission and inform the PDs.
- (f) Underwriting commission will be paid on the amount accepted for underwriting by the RBI, irrespective of the actual amount of devolvement, by credit to the current account of the respective PDs at the RBI, Fort, Mumbai, on the date of issue of security.

### 2.2 For the auction for GOI securities

- (a) A PD should bid for an amount not less than the amount successful in the ACU and MUC. If two or more issues are floated on the same day, the minimum bid amount will be applied to each issue separately.
- (b) In case of devolvement, PDs would be allowed to set-off the accepted bids in the auction against their underwriting commitment accepted by the Reserve Bank. Devolvement of securities, if any, on PDs will take place on pro-rata basis, depending upon the amount of underwriting obligation of each PD after setting off the successful bids in the auction.

### 3.0 Other issues

3.1 It may be recalled that in the earlier system of underwriting, it was prescribed that the total amount offered for underwriting by a PD on any single day should not exceed five times of its net owned funds. Under the revised system, this condition is being dispensed with.

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3.2 In case of State Government floatation through auction, the existing system of underwriting will continue.

3.3 In the case of Treasury Bills, however, the existing stipulations in regard to separate bidding commitment as a percentage of notified amounts for each auction and success ratio will continue.

4 Reserve Bank of India reserves its right to amend these guidelines from time to time, as may be considered necessary.

### **II Scheme for liquidity support to stand-alone Primary Dealers**

In terms of the "Guidelines for Primary Dealers in the Government Securities Market", PDs are provided with liquidity support by the Reserve Bank of India through repos /refinance against Central Government securities. In view of the revised scheme of underwriting commitment, the methodology of calculation of liquidity support to individual PDs has been changed. The liquidity support will be provided to stand-alone PDs only. The parameters based on which liquidity support will be allocated are given below:

**(a) Liquidity Adjustment Facility:** The stand-alone PDs will be able to access the Liquidity Adjustment Facility as hitherto.

**(b) Liquidity support:** Of the total liquidity support, half of the amount will be divided equally among all the stand-alone PDs. The remaining half (i.e. 50%) will be divided in the ratio of 1:1 based on market performance in primary market and secondary market. Performance in primary market will be computed on the basis of bids accepted in the T-Bill auction and G-sec auction in the proportion of 1:3. Similarly, the secondary market performance will be judged on the basis of outright turnover in T-Bills and G-secs in the proportion of 1:3.

**(c)** The PD-wise quantum of liquidity support will be revised every half-year (April-September and October-March) based on the market performance of the PDs in the preceding six months.

## **Monetary and Liquidity Measures**

On the basis of an assessment of the current and evolving macroeconomic situation, RBI decided on 2<sup>nd</sup> June, 2015 to:

- reduce the policy repo rate under the liquidity adjustment facility (LAF) by 25 basis points from 7.5 per cent to 7.25 per cent with immediate effect;
- keep the cash reserve ratio (CRR) of scheduled banks unchanged at 4.0 per cent of net demand and time liabilities (NDTL);

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- continue to provide liquidity under overnight repos at 0.25 per cent of bank-wise NDTL at the LAF repo rate and liquidity under 14-day term repos as well as longer term repos of up to 0.75 per cent of NDTL of the banking system through auctions; and
- continue with overnight/term variable rate repos and reverse repos to smooth liquidity.

Consequently, the reverse repo rate under the LAF stands adjusted to 6.25 per cent, and the marginal standing facility (MSF) rate and the Bank Rate to 8.25 per cent.

### Market Practices

The Fixed Income Money Market and Derivatives Association of India (FIMMDA) were established in May 1998.

The spirit with which FIMMDA has been formed is to enable the major principals in the Fixed Income and Money Market to form an organization through which they could collectively express their views on market development.

One of the main objects as mentioned in its Articles of Association was to recommend and implement healthy business practices, ethical code of conduct, standard principles and practices to be followed by the members in their dealing of securities.

It is believed that a clear understanding of market conventions, practices and high levels of integrity by the individuals concerned in the market is a vital cornerstone of a healthy market.

SBI DFHI LTD is a State Bank of India Group Company with impeccable lineage, created out of the merger in 2004 of the two leading players in the domestic Money and Debt Markets, the RBI promoted Discount & Finance House of India (DFHI) and SBI Gilts Ltd, a subsidiary of India's largest commercial bank.

It is a market leader in the Primary Dealer segment of the domestic debt market, with a Net Worth of ₹ 936.18 crores (as on 31st March 2014) and a presence in all major financial centers of the country. It posted an impressive total turnover of ₹ 4,04,211 crores in Government Securities/SDL and ₹ 2,43,494 crores in Treasury Bills respectively for the financial year 2012-13.

As Primary Dealers, they trade in Fixed Income Securities (Treasury Bills, Government securities, State Development Loans, Non SLR Bonds, and Corporate Bonds) and Short Term Money Market instruments (Certificates of Deposit, Commercial Paper, Inter- Corporate Deposits, Call & Notice Money Deposits).

SBI DFHI Ltd is active in retailing of Government Securities, including small lots, and are the distributors of Mutual Fund products of all leading funds and also actively participates in the domestic interest rate derivatives and equities/equity futures markets.

## **FIMMDA Guidelines (In Detail)**

### **General Principles**

- All Principals and Brokers shall maintain the highest standards of conduct so as to enhance the reputation of these markets.
- All participants must ensure that any individual who commits on behalf of the institution is acting within approved authorities.
- All institutions must stand by the commitment made by an individual acting on their behalf, the principle being 'My Word is my Bond'.
- Institutions must ensure that the individuals acting on their behalf are fully trained and completely aware of the rules and regulations, conventions, practices and the markets in which they deal.
- All individuals must comply with the rules and regulations governing the market and keep up-to-date with changes that may happen from time to time.

Trades done outside the NDS, between institutions who are members of the NDS should be entered in the NDS within a period of 15 minutes from the time of conclusion of the trade.

- The role of a broker is to bring together the counterparties for a fee. When brokers act as intermediaries, they are not expected to act as principals or in a discretionary capacity, even momentarily. Where the broking company is acting on its own account, it is expected to declare that it is dealing as a principal before negotiating the trade.
- Brokers and principals are expected to maintain confidentiality of the parties involved in the transactions.
- Settlement of the deals in Fixed Income, Money Market and Rupee Derivatives will be subject to market conventions laid down by FIMMDA, irrespective of the counterparty being a member of FIMMDA.

### **Management Controls**

The management should put in place appropriate controls and procedures in respect of their dealing in the markets, covered by the handbook. It should be ensured that the staff members who deal in the market and the other support staff follow the controls and procedures so laid down.

The management should periodically review the controls and procedures.

## Organisation of the dealing department

The fundamental principle of maintenance of internal controls is the functional segregation of the front office and back office and settlement functions.

However, in view of the increasing volume and complexity of the transactions, it may be a good practice to segregate the functions of the dealing department as under:

Function	Responsible for
Front office	Dealing
Mid-Office	Risk management, accounting and management information
Back office	Confirmations, settlement and reconciliation

Since there may be an overlap of the mid-office and back office functions, the managements of individual institutions may lay down any other level of segregation that they think fit. The terms 'Back-office' and 'mid-office' have been used interchangeably.

Personnel in back office functions and mid-office functions should be functionally segregated from those in the front office. Persons who conclude trades must not be involved in the confirmation or settlement of trades.

## Know your counterparty

It is a good practice to conduct basic due diligence and "know your counterparty" checks before dealing. These checks should show a basic understanding of who the counterparty is and why the counterparty is dealing in the product. For derivative transactions, firms should, in spirit of "duty of care" be satisfied that the company is aware of the risks involved in using those products and the person dealing is authorized by the company for executing those transactions.

## Recording of conversations

Experience has shown that recourse to tapes proves invaluable to the speedy resolution of differences and disputes. Members who do not tape all their front office conversations should review this matter and introduce the system as soon as possible. When initially installing recording equipment, or taking on new clients or counterparties, firms should inform them that conversations will be recorded.

Tapes should be preserved for at least three months. Tapes relating to disputed / unconfirmed transactions should be retained until the disputes have been settled.

Management should ensure that access to the recording equipment, whether in use or in store, is strictly controlled so that they cannot be tampered with.

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### **Off-Premise Dealing**

As a practice, participants should deal only from their normal place of dealing i.e. from their respective dealing rooms/office as the case may be.

However, there may be occasions when the dealer may have to deal from a place other than his normal place of dealing. Management may lay down the guidelines, including the staff that is authorized to deal from outside the normal place of dealing. The back office should inform the management about such off-premises deals. Management should satisfy them of the need for such dealing.

The dealer / official should, prior to dealing, inform the counterparty about dealing off-premises. The fact that the deal has been done off the premises should also be recorded in the deal confirmation and/or other relevant records.

### **Dealing Hours**

The dealing hours will be from 9:00 a.m. to 5:30 p.m. from Monday to Friday and from 9:00 a.m. to 1:00 p.m. on Saturday or as prescribed by RBI. NDS also has the same timings for trading sessions. Deals done outside these hours should be reported to the management and management should satisfy them about the necessity of concluding such deals outside the prescribed hours.

### **Rate Scan**

Market Players shall not deal at rates, which are not market related. Management should ensure that proper procedures, including the periodicity of taking rate scans, are in place to ensure this. Management should set up the "rate-bands" within which the actual traded rates should fall.

A proper procedure to monitor the deals, which are outside the rate-bands, should be laid down. Usually this would be because of extraordinary volatility, or because the amount of the deal is small and transactional costs have been loaded into the price.

The back-office should report these exceptions to the management and management must satisfy itself that the exceptions are for legitimate and comprehensible reasons.

### **Conflicts of Interest**

It is possible that dealers may wish to make personal investments in the products, which the institution is dealing in or in the products covered by this handbook. Management should formulate a "Personal Investment Policy" and ensure adherence to the same.

While framing the Personal Investment Policy the management may take into consideration the rules and regulations laid down by any statutory authority in respect of insider trading.

## Rotation of dealers

Dealers should not be kept too long on the same desk. Management should formulate suitable policy for rotation of dealers. Further a system of an annual compulsory leave of 15 days or longer may be introduced so that no dealer remains on the job continuously.

## Confirmations

Firms should ensure that they have a process in place, which at the minimum ensures the following:

Deals recorded by the trader are confirmed independently by the back-office. All confirmations should include the date of the deal, the name of the counterparty and all other details of the deal. It is a good practice to also confirm all settlement details, even when some of these details do not change with each and every deal.

The back office must respond promptly to confirmations received for which they do not have a corresponding trade. It is proper to first check with the front office to ensure that no deal has been missed. They should then promptly advise the back office of the counterparty of the absence of the trade.

Any discrepancy between a confirmation and significant details of the trade, and even the existence of a trade, should be brought to the attention of the management. Management should satisfy themselves of the genuineness and accuracy of the trade. It is important that discrepancies be promptly sorted out within a few minutes of the deal.

## Dealing Procedures and Principles

### Scope

Deals done in the Indian market should be conducted on the basis of this handbook. In respect of deals done with overseas counterparties, the counterparty should be made aware of the conventions, followed in India, in advance, to avoid any possible confusion.

### Preliminary Negotiation of terms

Dealers should clearly state at the outset, prior to a transaction being executed, any qualifying conditions which the deal will be subject to. Where a firm quote has been indicated on the NDS, qualifying conditions cannot be specified after the conclusion of the deal.

Typical examples of qualifications include where a price is quoted subject to the necessary credit approval, limits available for the counterparty, inability to conclude a transaction because offices of the member in other centres are not open. This should be made known to the broker and the potential counterparty at an early stage and before names are exchanged by the broker.

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### **Firmness of Quotation**

Dealers, whether acting as principals, agent or broker, have a duty to make absolutely clear whether the prices they are quoting are firm or merely indicative. Prices quoted by brokers should be taken as indicative unless otherwise qualified.

In respect of deals on the NDS, the dealer would put the quote as a “firm” quote or “indicative” quote on the NDS. In case the dealer is willing to do the deal only with a certain set of counterparties, he should put the quote as “firm” only for preferred counterparties.

In respect of other deals, a dealer quoting a firm price or rate either through a broker or directly to a potential counterparty is committed to deal at that price or rate in a marketable amount provided, the counterparty name is acceptable. Generally, prices are assumed to be firm as long as the counterparty or the broker is on line. Members should clearly and immediately indicate when the prices are withdrawn.

In volatile markets, or when some news is expected, dealers quoting a firm price or rate should indicate the length of time for which their quote is firm. The price or the rate is usually for the marketable amount. If the quote is not for a marketable quantity, the dealer / broker should qualify the same while submitting the quote.

A significant part of the volume transacted by brokers relies on mandates given by dealers acting on behalf of principals. The risk that the principal runs is that such an offer could get hit after an adverse market move has taken place.

The broker is expected to use the mandate in order to “advertise” the principal’s interest to the entities that the broker expects will have an interest in the price. Generally, the broker is free to show the price to entities he deems fit, but members have the right to expect that if a smaller set is defined, the broker will adhere to such a smaller set.

Mandates shall not be for a period of more than 15 minutes unless otherwise specified. Brokers are expected to check with the principal from time to time to ensure that the mandate is still current.

The broker shall reveal the name of the entity offering the mandate when the counterparty is firm to deal at the mandate price. The broker will then call the member who offered the mandate and confirm the deal. In the absence of any significant market movement, the member who has offered the mandate is expected to adhere to it. In case the price is not adhered to, it is the responsibility of the member who had offered the mandate to explain why the mandate is no longer valid. It is required of the member that the mandate price be withdrawn before the broker reveals the counterparty name. The only exception to this is when the counterparty name is not acceptable.

The principal should call the broker if he wishes to withdraw the mandate before its expiry. The quote cannot be withdrawn after the broker has concluded the deal.

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### **Delivery of the securities / funds**

The dealers should agree on the delivery conditions before concluding the deal.

Delivery of the securities/funds is on a Delivery-versus-Payment (DVP) basis in respect of Government Securities and T-Bills. In respect of other securities, which are in demat form, since there is no DVP mechanism, the dealers should agree on the priority of settlement of the securities and funds.

Banks and primary dealers are currently not allowed to invest in securities, which are not in demat form. However, where physical securities are to be delivered, the dealers should agree before conclusion of the deal as to whether the settlement will be DVP or otherwise (in which case the priority of settlement needs to be agreed upon).

### **Concluding a Deal**

Dealers should regard themselves as bound to honour a deal once the price, name acceptability, credit approval and any other key commercial terms have been agreed. Oral agreements/contracts are considered binding on all the parties concerned. In respect of deals done on the NDS, the deal would be considered as final as soon as any counterparty responds to a “firm” quote.

Where quoted prices are qualified as being indicative or subject to negotiation of commercial terms, members should normally treat themselves as bound to honor the deal at the point when the terms have been agreed without qualification.

Oral agreements are considered binding; the subsequent confirmation is evidence of the deal but should not override terms agreed orally.

Making a transaction subject to documentation is not a good practice. In order to minimize the likelihood of disputes arising once documentation is prepared, dealers should make every effort to clarify all material points quickly during oral negotiation of terms, and should include these in the confirmation.

Where brokers are involved, members have the right to expect that the broker will make them aware immediately on conclusion of the deal. As a general rule, a deal should be regarded as having been ‘done’ where the dealer positively acknowledges the broker’s confirmation. It is expected that a broker shall not assume that a deal is done without oral confirmation from the dealer.

### **Passing of names by brokers**

It is a good practice for dealers not to seek the names of the counterparty before transacting and for brokers not to divulge the names before concluding the deal. Dealers and brokers should at all times treat the details of transactions as absolutely confidential between the parties involved.

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To save time and avoid confusion, dealers should, wherever practical, give brokers prior indication of counterparties with whom, for whatsoever reason, they would be unwilling to do business. In all their transactions, brokers should aim to achieve a mutual and immediate exchange of names.

In the repo markets, it is accepted that members may vary the price (second leg) depending on the counterparty. Hence it is acceptable for the member to know the name of the counterparty in advance.

In the case of instruments like Certificate of Deposits and Commercial Papers, where the seller may not be the same entity as the issuer, the broker shall first disclose the issuer's name to the potential buyer. The name of the buyer shall be disclosed only after the buyer has accepted the seller's name. The seller has the right to refuse to transact with the buyer.

### **Reporting of deals on the NDS**

The dealers should enter the deals, concluded on the NDS or to be reported on the NDS, within a period of 15 minutes of the conclusion of the deal.

Deals in Government Securities and T-Bills may be conducted either on the NDS or otherwise. However, all the deals in Government Securities and Treasury Bills have to be reported on the NDS. Since the settlement of the deals amongst members will be through CCIL, it would have to be entered in the NDS. The dealer of the selling counterparty of the securities has to enter the deal into NDS and the dealer of the buying counterparty will have to approve the deal. The back offices of both the counterparties then have to approve the deal.

It would be a good practice to conclude the approval of the deals within a period of 30 minutes from the time of conclusion of the deal. In any case the process should be completed before the time of closure of the NDS.

### **Oral Confirmations**

No oral confirmation is essential in respect of deals, entered in the NDS. In respect of other deals an oral confirmation of the deals by the back office is a good practice. Lack of response should not be construed as confirmation.

### **Written Confirmations**

A written confirmation of each deal must be sent out at the earliest and a confirmation should be received from the counterparty

The confirmation provides a necessary final safeguard against dealing errors. Confirmations should be dispatched and checked promptly, even when oral deal confirmations have been undertaken.

A confirmation of each deal must be sent out at the earliest. This is particularly essential if the deal is for same day settlement. All participants of the wholesale markets should have in place

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the capability to dispatch confirmations so that they are received and can be checked within a few hours from the time of striking the deal. Where the products involved are more complex, and require more details to be included on the confirmation, this may not be possible; nevertheless it is in the interest of all concerned that such deals are confirmed as quickly as possible and in no case later than the next working day of the date of the deal. It is recommended that principals should inquire about confirmations not received within the expected time.

All confirmations should include the trade date, value date, the name of the counterparty and all other details of the deal, including, wherever appropriate, the commission charged by the broker.

All confirmations should state "The settlement of the deals in Fixed Income, Money Market and Rupee Derivatives are subject to FIMMDA's market conventions irrespective of the counterparty being a member of FIMMDA".

It is an accepted practice for principals to confirm directly all the details of transactions arranged through a broker who independently sends a contract/transaction confirmation to both counterparties.

It is vital that the principals, upon receipt of confirmations immediately check the confirmations carefully so that discrepancies if any are quickly found and corrected. As a general rule, confirmations should not be issued by or sent to and checked by dealers. Confirmation is a back-office function.

### **Settlement of Differences**

If all the procedures outlined above are adhered to, the incidence and size of differences could be reduced. Errors may occur, and they should be identified and corrected promptly. Failure to observe these principles could leave those responsible for bearing the cost of any differences, which may arise.

Where any difference in payment arises because of errors in the payment of funds, firms should not attempt undue enrichment by retaining the funds. In case funds are retained then compensation terms should be negotiated between the counterparties. The same principle is applicable in case of delivery of securities.

### **Rounding off**

All interest receivable/payable should be rounded off to the higher rupee if the paise component is equal to or higher than 50 paise and should be ignored if the paise component is less than 50 paise.

The rounding off of paise should also be done in respect of broken period interest receivable/payable.

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### **Bank Holidays / Market Disruption**

The list of holidays will be displayed by FIMMDA on its website. If due to unforeseen events, a particular date for which transactions have been entered into is subsequently declared as a holiday, then, while settling such claims, the principle of no undue enrichment should be followed.

Bank Annual and Semi-Annual Account Closing Day (i.e.1st April\*) – Will be treated as a normal holiday. (\* para amended on 10.07.2013)

RBI's Annual Account Closing Day (i.e. 1st July) –Will be treated as normal holiday. (This amendment is effective from 1st December 2009)

## **Banking Regulations**

### **Investment Bankers, Bankers to the Issues, Underwriters**

**Investment Bankers:** Specific divisions of banking related to the creation of capital for other companies, Investment banks underwrite new debt and equity securities for all types of corporations. Investment banks also provide guidance to issuers regarding the issue and placement of stock.

In addition to the services listed above, investment banks also help in the sale of securities in some instances. They also help to facilitate mergers and acquisitions, reorganizations and broker trades for both institutions and private investors. They can also trade securities for their own accounts.

**AIBI – Association of Investment Bankers of India:** In the early 1990s, the merchant banking industry in India witnessed a phenomenal growth with over 1500 merchant bankers registered with SEBI. In order to ensure the well being of the industry and for promoting healthy business practices, it became necessary to set up a Self Regulatory Organisation within the industry. This led to the birth of the Association of Investment Bankers of India (AIBI). AIBI was promoted to exercise overall supervision over its members in matters relating to compliance with statutory rules and regulations pertaining to merchant banking and other activities.

AIBI was granted recognition by SEBI to professional standards, for providing efficient services and to establish standard practices in merchant banking and financial services. AIBI, in consultation with SEBI, is working towards improving the compliance of statutory requirement in a systematic manner.

AIBI's primary objective is to ensure that its members render services to all its constituents within an agreed framework of ethical principles and practices. It also works as a trade body promoting the interests of the industry and of its members.

The spectrum of AIBI's activities is wide.

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AIBI is the *nodal point for the assimilation and dissemination of information relating to the merchant banking industry*. Thus AIBI ensures that its members are aware of the latest rules/guidelines issued by various statutory authorities, as also other matters of interest.

AIBI is *merchant banking industry's sole representative* to all statutory authorities, in particular, SEBI. The Chairman of AIBI is on the Primary Market Advisory Committee of SEBI.

To ensure healthy competition within the industry, AIBI has published its *Code of Conduct for Merchant Bankers*. This document sets out the broad parameters and the spirit in which the members of AIBI should conduct business.

AIBI has also produced a *Due Diligence Handbook*, which has proved to be a useful tool for merchant bankers. This handbook is currently under revision.

For the benefit of investors, AIBI has brought out an *Investor's Education Handbook*.

Concurrent with the activity of educating investors, AIBI regularly conducts/sponsors talks and seminars on financial matters.

AIBI regularly submits a *Pre-Budget Memorandum to the Finance Ministry*. This memorandum expresses the concerns of the industry and requests specific changes in various financial legislations that would help better the range of services and opportunities provided by the industry.

AIBI is also the *intra-industry arbitrator* on all matters arising between its members.

**Bankers to the Issues:** Bankers to the issue, as the name suggests, carry out all the activities of ensuring that the funds are collected and transferred to the Escrow accounts. The Lead Merchant Banker shall ensure that Bankers to the Issue are appointed in all the mandatory collection centers as specified in DIP (Disclosure and Investment Protection) Guidelines 2000. The LMB also ensures follow-up with bankers to the issue to get quick estimates of collection and advising the issuer about closure of the issue, based on the correct figures.

*SEBI Code of Conduct:*

1. A Banker to an issue shall make all efforts to protect the interests of investors.
2. A Banker to an issue shall in the conduct of its business, observe high standards of integrity and fairness.
3. A Banker to an issue shall fulfill its obligations in a prompt, ethical and professional manner.
4. A Banker to an issue shall at all times exercise due diligence, ensure proper care and exercise independent professional judgment.
5. A Banker to an issue shall not, at any time, act in collusion with other intermediaries or the issuer in a manner that is detrimental to the investor.

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6. A Banker to an issue shall endeavor to ensure that:
  - (a) Inquiries from investors are adequately dealt with;
  - (b) Grievances of investors are redressed in a timely and appropriate manner;
  - (c) Where a complaint is not remedied promptly, the investor is advised of any further steps which may be available to the investor under the regulatory system.
7. A Banker to an issue shall not
  - (a) allow blank application forms bearing brokers' stamp to be kept at the bank premises or peddled anywhere near the entrance of the premises;
  - (b) accept applications after office hours or after the date of closure of the issue or on bank holidays;
  - (c) after the closure of the public issue, accept any instruments such as cheques/demand drafts/stock invests from any other source other than the designated Registrar to the Issue;
  - (d) part with the issue proceeds until listing permission is granted by the stock exchange to the body corporate;
  - (e) delay in issuing the final certificate pertaining to the collection figures to the Registrar to the Issue, the lead manager and the body corporate and such figures should be submitted within seven working days from the issue closure date.
8. A Banker to an issue shall be prompt in disbursing dividends, interests, or any such income received or collected by him on behalf of his clients.
9. A Banker to an issue shall not make any exaggerated statement, whether oral or written to the client, either about its qualification or capability to render certain services or its achievements in regard to services rendered to other clients.
10. A banker to an issue shall always endeavour to render the best possible advice to the clients having regard to the clients' needs and the environments and his own professional skill.
11. A Banker to an issue shall not divulge to anybody either orally or in writing, directly or indirectly, any confidential information about its clients which has come to its knowledge, without taking prior permission of its clients except where such disclosures are required to be made in compliance with any law for the time being in force.
12. A Banker to an issue shall avoid conflict of interest and make adequate disclosure of his interest.
13. A Banker to an issue shall put in place a mechanism to resolve any conflict of interest situation that may arise in the conduct of its business or where any conflict of interest arises, shall take reasonable steps to resolve the same in an equitable manner.

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14. A Banker to an issue shall make appropriate disclosures to the client of its possible source or potential areas of conflict of duties and interest while acting as banker to an issue which would impair its ability to render fair, objective and unbiased services.
15. A Banker to an issue shall not indulge in any unfair competition, which is likely to harm the interests of other bankers to an issue or investors or is likely to place such other bankers to an issue in a disadvantageous position while competing for or executing any assignment.
16. A Banker to an issue shall not discriminate amongst its clients, save and except on ethical and commercial considerations.
17. A Banker to an issue shall ensure that any change in registration status/any penal action taken by Board or any material change in financials which may adversely affect the interests of clients/investors is promptly informed to the clients and any business remaining outstanding is transferred to another registered person in accordance with any instructions of the affected clients/investors.
18. A Banker to an issue shall maintain an appropriate level of knowledge and competency and abide by the provisions of the Act, regulations, circulars and guidelines of the Board. The banker to an issue shall also comply with the award of the Ombudsman passed under the Securities and Exchange Board of India (Ombudsman) Regulations, 2003.
19. A Banker to an issue shall ensure that the Board is promptly informed about any action, legal proceedings, etc., initiated against it in respect of any material breach or non-compliance by it, of any law, rule, regulation, and direction of the Board or of any other regulatory body.
20. A Banker to an issue shall not make any untrue statement or suppress any material fact in any documents, reports, papers or information furnished to the Board.
21. A Banker to an issue shall not neglect or fail or refuse to submit to the Board or other agencies with which it is registered, such books, documents, correspondence, and papers or any part thereof as may be demanded/requisitioned from time to time.
22. A Banker to an issue shall abide by the provisions of such acts and rules, regulations, guidelines, resolutions, notifications, directions, circulars and instructions as may be issued from time to time by the Central Government, the Reserve Bank of India, the Indian Banks Association or the Board and as may be applicable and relevant to the activities carried on by the banker to an issue.
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- (a) A Banker to an issue or any of his employees shall not render, directly or indirectly, any investment advice about any security in the publicly accessible media, whether real-

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time or non-real-time, unless a disclosure of its interest including long or short position in the said security has been made, while rendering such advice.

- (b) In case, an employee of the banker to an issue is rendering such advice, the banker to an issue shall ensure that he discloses his interest, the interest of his dependent family members and that of the employer including employer's long or short position in the said security, while rendering such advice.
24. A Banker to an issue or any of its directors, or employee having the management of the whole or substantially the whole of affairs of the business, shall not, either through its account or their respective accounts or through their family members, relatives or friends indulge in any insider trading.
25. A Banker to an issue shall have internal control procedures and financial and operational capabilities which can be reasonably expected to protect its operations, its clients, investors and other registered entities from financial loss arising from theft, fraud, and other dishonest acts, professional misconduct or omissions.
26. A Banker to an issue shall provide adequate freedom and powers to its compliance officer for the effective discharge of its duties.
27. A Banker to an issue shall develop its own internal code of conduct for governing its internal operations and laying down its standards of appropriate conduct for its employees and officers in the carrying out of their duties as a banker to an issue and as a part of the industry. Such a code may extend to the maintenance of professional excellence and standards, integrity, confidentiality, objectivity, avoidance of conflict of interests, disclosure of shareholdings and interests, etc.
28. A Banker to an issue shall ensure that any person it employs or appoints to conduct a business is fit and proper and otherwise qualified to act in the capacity so employed or appointed (including having relevant professional training or experience).
29. A Banker to an issue shall ensure that it has adequate resources to supervise diligently and does supervise diligently persons employed or appointed by it to conduct business on its behalf.
30. A Banker to an issue shall be responsible for the acts or omissions of its employees and agents in respect to the conduct of its business.
31. A Banker to an issue shall ensure that the senior management, particularly decision makers have access to all relevant information about the business on a timely basis.
32. A Banker to an issue also registered with the Board in other capacity shall endeavour to ensure that arm's length relationship is maintained in terms of both manpower and infrastructure between the activities carried out as banker to an issue and other permitted activities.

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33. A Banker to an issue shall not be a party to or be instrumental for—
- (a) creation of false market;
  - (b) price rigging or manipulation; or
  - (c) passing of unpublished price sensitive information in respect of securities which are listed and proposed to be listed in any stock exchange to any person or intermediary

### Underwriters

An underwriter is company or other entity that administers the public issuance and distribution of securities from a corporation or other issuing body. An underwriter works closely with the issuing body to determine the offering price of the securities buys them from the issuer and sells them to investors via the underwriter's distribution network.

Underwriters generally receive underwriting fees from their issuing clients, but they also usually earn profits when selling the underwritten shares to investors. However, underwriters assume the responsibility of distributing a securities issue to the public.

If they can't sell all of the securities at the specified offering price, they may be forced to sell the securities for less than the amount paid for them, or retain the securities themselves.

### SEBI code of conduct for underwriters

1. An underwriter shall make all efforts to protect the interests of its clients.
2. An underwriter shall maintain high standards of integrity, dignity and fairness in the conduct of its business.
3. An underwriter shall ensure that it and its personnel will act in an ethical manner in all its dealings with a body corporate making an issue of securities (hereinafter referred to in the Schedule as “the issuer”).
4. An underwriter shall endeavour to ensure that all professional dealings are effected in a prompt, efficient and effective manner.
5. An underwriter shall, at all times, render high standards of service, exercise due diligence, ensure proper care and exercise independent professional judgment.
6. An underwriter shall not make any statement, either oral or written, which would misrepresent—
  - (a) the services that the underwriter is capable of performing for its client, or has rendered to any other issuer company;
  - (b) his underwriting commitment.

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7. An underwriter shall avoid conflict of interest and make adequate disclosure of his interest.
8. An underwriter shall put in place a mechanism to resolve any conflict of interest situation that may arise in the conduct of its business or where any conflict of interest arises, shall take reasonable steps to resolve the same in an equitable manner.
9. An underwriter shall make appropriate disclosure to the client of its possible source or potential areas of conflict of duties and interest while acting as underwriter which would impair its ability to render fair, objective and unbiased services.
10. An underwriter shall not divulge to other issuer, Press or any party any confidential information about its issuer company, which has come to its knowledge and deal in securities of any issuer company without making disclosure to the Board as required under the Regulations and also to the Board of directors of the issuer company.
11. An underwriter shall not discriminate amongst its clients, save and except on ethical and commercial considerations.
12. An underwriter shall ensure that any change in registration status/any penal action taken by board or any material change in financials which may adversely affect the interests of clients/investors is promptly informed to the clients and any business remaining outstanding is transferred to another registered person in accordance with any instructions of the affected clients/investors.
13. An underwriter shall maintain an appropriate level of knowledge and competency and abide by the provisions of the Act, regulations and circulars and guidelines issued by the Board. The underwriter shall also comply with the award of the Ombudsman passed under the Securities and Exchange Board of India (Ombudsman) Regulations, 2003.
14. An underwriter shall ensure that the board is promptly informed about any action, legal proceedings, etc. initiated against it in respect of any material breach or noncompliance by it, of any law, rules, and regulations, directions of the board or of any other regulatory body.
15. An underwriter shall not make any untrue statement or suppress any material fact in any documents, reports, papers or information furnished to the Board.
- 16(a) An underwriter or any of his employees shall not render, directly or indirectly any investment advice about any security in the publicly accessible media, whether real-time or non-real-time, unless a disclosure of his interest including its long or short position in the said security has been made, while rendering such advice.
- (b) In case, an employee of an underwriter is rendering such advice, the underwriter shall ensure that he shall disclose his interest, the interest of his dependent family members and that of the employer including their long or short position in the said security, while rendering such advice.

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17. An underwriter or any of its directors, partners or manager having the management of the whole or substantially the whole of affairs of the business, shall not either through its account or their respective accounts or through their associates or family members, relatives or friends indulge in any insider trading.
18. An underwriter shall not indulge in any unfair competition, which is likely to be harmful to the interest of other underwriters carrying on the business of underwriting or likely to place such other underwriters in a dis-advantageous position in relation to the underwriter while competing for, or carrying out any assignment.
19. An underwriter shall have internal control procedures and financial and operational capabilities which can reasonably be expected to protect its operations, its clients and other registered entities from financial loss arising from theft, fraud, and other dishonest acts, professional misconduct or omissions.
20. An underwriter shall provide adequate freedom and powers to its compliance officer for the effective discharge of his duties.
21. An underwriter shall develop its own internal code of conduct for governing its internal operations and laying down its standards of appropriate conduct for its employees and officers in the carrying out of their duties. Such a code may extend to the maintenance of professional excellence and standards, integrity, confidentiality, objectivity, avoidance of conflict of interests, disclosure of shareholdings and interests, etc.
22. An underwriter shall ensure that good corporate policies and corporate governance are in place.
23. An underwriter shall ensure that any person it employs or appoints to conduct business is fit and proper and otherwise qualified to act in the capacity so employed or appointed (including having relevant professional training or experience).
24. An underwriter shall ensure that it has adequate resources to supervise diligently and does supervise diligently persons employed or appointed by it to conduct business on its behalf.
25. An underwriter shall be responsible for the acts or omissions of its employees and agents in respect to the conduct of its business.
26. An underwriter shall ensure that the senior management, particularly decision makers have access to all relevant information about the business on a timely basis.
27. An underwriter shall not be party a to or instrumental for
  - (a) creation of false market;
  - (b) price rigging or manipulation; or
  - (c) passing of unpublished price sensitive information in respect of securities which are listed and proposed to be listed in any stock exchange to any person or intermediary

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### Portfolio Managers, Wealth Advisors, Investment Advisors

#### Portfolio Managers

A portfolio manager is a body corporate which, pursuant to a contract or arrangement with a client, advises or directs or undertakes on behalf of the client (whether as a discretionary portfolio manager or otherwise), the management or administration of a portfolio of securities or the funds of the client.

The *discretionary portfolio manager* individually and *independently manages* the funds of each client in accordance with the needs of the client.

The *non-discretionary portfolio manager* manages the funds *in accordance with the directions of the client*.

#### Guidelines on Portfolio Managers:

- For registration as a portfolio manager, an applicant is required to pay a non-refundable application fee of ₹1,00,000/- by way of demand draft drawn in favour of 'Securities and Exchange Board of India', payable at Mumbai.
- The application should be in Form A along with additional information (Form A and additional information available on SEBI Website : [www.sebi.gov.in](http://www.sebi.gov.in))
- The portfolio manager is required to have a minimum net worth of ₹ 2 crore.
- Every portfolio manager is required to pay ₹ 10 lakhs as registration fees at the time of grant of certificate of registration by SEBI.
- The certificate of registration remains valid for three years. The portfolio manager has to apply for renewal of its registration certificate to SEBI, 3 months before the expiry of the validity of the certificate, if it wishes to continue as a registered portfolio manager.
- The portfolio manager is required to pay ₹ 5 lakh as renewal fees to SEBI.
- The portfolio manager, before taking up an assignment of management of funds or portfolio of securities on behalf of the client, enters into an agreement in writing with the client, clearly defining the inter se relationship and setting out their mutual rights, liabilities and obligations relating to the management of funds or portfolio of securities, containing the details as specified in Schedule IV of the SEBI (Portfolio Managers) Regulations, 1993.
- SEBI Portfolio Manager Regulations have not prescribed any scale of fee to be charged by the portfolio manager to its clients.
- However, the regulations provide that the portfolio manager shall charge a fee as per the agreement with the client for rendering portfolio management services. The fee so

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charged may be a fixed amount or a return based fee or a combination of both. The portfolio manager shall take specific prior permission from the client for charging such fees for each activity for which service is rendered by the portfolio manager directly or indirectly (where such service is outsourced).

- The portfolio manager is required to accept minimum ₹ 5 lakhs or securities having a minimum worth of ₹ 5 lakhs from the client while opening the account for the purpose of rendering portfolio management service to the client. Portfolio manager can only invest and not borrow on behalf of his clients.
- For investment in listed securities, an investor is required to open a demat account in his/her own name.
- The portfolio manager shall furnish periodically a report to the client, as agreed in the contract, but not exceeding a period of six months and as and when required by the client and such report shall contain the following details, namely:-
  - (a) the composition and the value of the portfolio, description of security, number of securities, value of each security held in the portfolio, cash balance and aggregate value of the portfolio as on the date of report;
  - (b) transactions undertaken during the period of report including date of transaction and details of purchases and sales;
  - (c) beneficial interest received during that period in respect of interest, dividend, bonus shares, rights shares and debentures;
  - (d) expenses incurred in managing the portfolio of the client;
  - (e) details of risk foreseen by the portfolio manager and the risk relating to the securities recommended by the portfolio manager for investment or disinvestment.
- This report may also be made available on the website with restricted access to each client. The portfolio manager shall, in terms of the agreement with the client, also furnish to the client, documents and information relating only to the management of a portfolio. The client has a right to obtain details of his portfolio from the portfolio manager.
- The portfolio manager should provide to the client the Disclosure Document at least two days prior to entering into an agreement with the client.
- The Disclosure Document contains the quantum and manner of payment of fees payable by the client for each activity, portfolio risks, complete disclosures in respect of transactions with related parties, the performance of the portfolio manager and the audited financial statements of the portfolio manager for the immediately preceding three years.

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- SEBI does not approve any of the services offered by the Portfolio Manager. An investor has to invest in the services based on the terms and conditions laid out in the disclosure document and the agreement between the portfolio manager and the investor.
- The Disclosure Document is neither approved nor disapproved by SEBI. SEBI does not certify the accuracy or adequacy of the contents of the Disclosure Document.
- The services of a Portfolio Manager are governed by the agreement between the portfolio manager and the investor. The agreement should cover the minimum details as specified in the SEBI Portfolio Manager Regulations. However, additional requirements can be specified by the Portfolio Manager in the agreement with the client. Hence, an investor is advised to read the agreement carefully before signing it.
- The funds or securities can be withdrawn or taken back by the client before the maturity of the contract. However, the terms of the premature withdrawal would be as per the agreement between the client and the portfolio manager.
- Portfolio managers *cannot* impose a lock-in on the investment of their clients. However, a portfolio manager can charge exit fees from the client for early exit, as laid down in the agreement.
- Portfolio manager *cannot* offer/ promise indicative or guaranteed returns to clients.
- The performance of a discretionary portfolio manager is ascertained using weighted average method taking each individual category of investments for the immediately preceding three years and in such cases performance indicator is also disclosed.
- Investors would find in the Disclosure Document the name, address and telephone number of the investor relation officer of the portfolio manager who attends to the investor queries and complaints. The grievance redressal and dispute mechanism is also mentioned in the Disclosure Document. Investors can approach SEBI for redressal of their complaints. On receipt of complaints, SEBI takes up the matter with the concerned portfolio manager and follows up with them.

## Wealth Advisors

A high-level professional service that combines financial /investment advice, accounting/tax services, retirement planning and legal/estate planning for one fee.

Clients work with a single wealth manager who coordinates with inputs from financial experts and can include coordinating advice from the client's own attorney, accountants and insurance agent. Some wealth managers also provide banking services or advice on philanthropic activities.

In general, wealth management is more than just investment advice, as it can encompass all

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parts of a person's financial life. The idea is that rather than soliciting advice from a series of professionals, high net worth individuals benefit from a holistic approach in which a single manager coordinates all the services needed to manage their money and plan for their own and/or their family's current and future needs.

The wealth manager starts by developing a plan that will maintain and increase the client's wealth based on that individual's financial situation, goals and comfort level with risk. After the original plan is developed, the manager meets regularly with clients to update goals, review and rebalance the financial portfolio, investigate whether additional services are needed and ideally, follow clients throughout their life.

Wealth managers are often part of a wealth-management firm, with access to a team of in-house experts and services, but may also be solo practitioners who rely on their own network of independent experts. Management fees vary widely and should be researched thoroughly before engaging a wealth manager.

### Investment Advisors

An investment adviser is any person or group that makes investment recommendations or conducts securities analysis in return for a fee, whether through direct management of client assets or via written publications.

An investment advisor who has sufficient assets to be registered with the SEBI is known as a Registered Investment Advisor, or RIA. Investment advisors are prohibited from disseminating advice known to be deceitful or fraudulent and from acting as a principal on their own accounts by buying and selling securities between themselves and a client without prior written consent.

Mutual fund companies are generally included in the definition of investment advisors, but stockbrokers are not (they receive fees from commissions and not asset-based compensation).

Most investment advisors charge either a flat fee for their services or a percentage of the assets being managed. In most cases, there is very limited conflict of interest between investment advisors and their clients, because the advisor will only earn more if the clients' assets base grows as a result of the advisor's recommendations and securities selection.

### SEBI (Investment Advisers) Regulations, 2013

1. The SEBI (Investment Advisers) Regulations, 2013 ("IA Regulations") were notified on January 21, 2013 and have come into effect from April 21, 2013. The IA Regulations are available on the SEBI website [www.sebi.gov.in](http://www.sebi.gov.in)

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2. The details of the investment advisers registered and the detail of the pending applications for grant of registration along with the status of the application is available on the SEBI website.

3. In terms of the IA Regulations, no person shall act as an investment adviser or hold itself out as an investment adviser unless he has obtained a certificate of registration from the Board or he is specifically exempt. Provided that "a person acting as an investment adviser immediately before the commencement of these Regulations may continue to do so for a period of six months from such commencement or, if it has made an application for a certificate within the said period of six months, till the disposal of such application."

4. All the persons acting as an investment adviser before the commencement of IA Regulations were advised to make their application for grant of registration before October 21, 2013 to continue to do so and shall comply with the requirement of obtaining a certificate of registration for acting as investment adviser under the IA Regulations.

5. Persons seeking registration under IA Regulations may file their registration application with the concerned Regional Office/Local Office of the Board for grant of registration. The addresses of offices of SEBI are available on the website at [www.sebi.gov.in](http://www.sebi.gov.in) and also on the link [http://www.sebi.gov.in/sebiweb/stpages/contact\\_us.jsp](http://www.sebi.gov.in/sebiweb/stpages/contact_us.jsp).

All the information pertaining to IA Regulations issued by SEBI from time to time are available on the website at [www.sebi.gov.in](http://www.sebi.gov.in) under "info for Investment Advisers".

## **Intraday Liquidity Management Guidelines issued by RBI**

A bank's failure to effectively manage intra-day liquidity could lead to default in meeting its payment obligations in time, which may affect not only its own liquidity position but also that of its counterparties. In the face of credit concerns or general market stress, counterparties may view the failure to settle payments as a sign of financial weakness and in turn, withhold or delay payments to the bank causing additional liquidity pressures. Given the interdependencies that exist among systems, this may lead to liquidity dislocations that cascade quickly across many systems and institutions. As such, the management of intra-day liquidity risk should be considered as a crucial part of liquidity risk management of the bank.

A bank should develop and adopt an intra-day liquidity strategy that allows it to monitor and measure expected daily gross liquidity inflows and outflows and ensure that arrangements to acquire sufficient intraday funding to meet its intraday needs is in place and it has the ability to deal with unexpected disruptions to its liquidity flows. An effective management of collateral is essential component of intra-day liquidity strategy. In this regard banks may initially be guided by the consultative document of Basel Committee on Banking Supervision on 'Monitoring indicators for intraday liquidity management' issued in July 2012 (available at <http://www.bis.org/publ/bcbs225.pdf>) and thereafter the final document as and when it is issued.

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A bank should have policies, procedures and systems to support the intra-day liquidity risk management in all of the financial markets and currencies in which it has significant payment and settlement flows, including when it chooses to rely on correspondents or custodians to conduct payment and settlement activities.

The intra-day liquidity risk management requirements as mentioned above should be put in place at the earliest and will be applicable for banks with effect from December 31, 2012 in respect of rupee liquidity and with effect from June 30, 2013 in respect of any significant foreign currencies.

Under the sub-heading *Intra-day Liquidity Position Management* of our circular DBOD.BP.No. 56/21.04.098/ 2012-13 dated November 7, 2012 on '*Liquidity Risk Management by Banks*', wherein banks were advised to develop and adopt an intra-day liquidity strategy that allows them to monitor and measure expected daily gross liquidity inflows and outflows and ensure that arrangements to acquire sufficient intraday funding to meet their intraday needs are in place and they have the ability to deal with unexpected disruptions to their liquidity flows.

They were also advised to put in place at the earliest the intra-day liquidity risk management requirements and the same were made applicable for banks with effect from December 31, 2012 in respect of rupee liquidity and with effect from June 30, 2013 in respect of any significant foreign currencies.

Further, in terms of paragraph 36 of the circular, banks were advised to be guided by the consultative document of Basel Committee on Banking Supervision on 'Monitoring indicators for intraday liquidity management' issued in July 2012 (available at <http://www.bis.org/publ/bcbs225.pdf>) and thereafter, the final document, as and when it is issued.

The BCBS has since issued the final document in this regard in April 2013. The document is a set of quantitative tools developed by the BCBS in consultation with the Committee on Payment and Settlement Systems (CPSS), to enable banking supervisors to monitor banks' intraday liquidity risk and their ability to meet payment and settlement obligations on a timely basis under both normal and stressed conditions. Accordingly, RBI's final guidelines on Monitoring Tools for intraday liquidity management are enclosed in the Annex of the above mentioned Circular. Banks will be required to report the monitoring tools, as given in this circular, to the RBI on a monthly basis from 1 January 2015 to coincide with the implementation of the LCR reporting requirements as advised vide our circular DBOD.BP.BC.No.120/21/04.098/2013-14 dated June 9, 2014 on "Basel III Framework on Liquidity Standards – Liquidity Coverage Ratio (LCR), Liquidity Risk Monitoring Tools and LCR Disclosure Standards".

It will be pertinent to mention here that while the objective of the Liquidity Coverage Ratio (LCR) is to promote the short-term resilience of the liquidity risk profile of banks, it does not include intraday liquidity within its calibration and the LCR stress scenario does not cover expected or unexpected intraday liquidity needs.

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Besides forming a key element of a bank's overall liquidity risk management, management of intra-day liquidity risk has a close relationship with the smooth functioning of the payment and settlement systems. Considering the critical importance, the imperatives of having a robust liquidity governance structure to ensure integrity of the intra-day liquidity monitoring tools hardly require to be overemphasized. Boards through their senior management should develop suitable strategy, risk management policies and practices to monitor intra-day liquidity, ensure integrity of regulatory reporting and review the efficacy of the monitoring tools.

### **RBI Guidelines on Risk Management**

#### **Market Risk**

Traditionally, credit risk management was the primary challenge for banks. With progressive deregulation, market risk arising from adverse changes in market variables, such as interest rate, foreign exchange rate, equity price and commodity price has become relatively more important. Even a small change in market variables causes substantial changes in income and economic value of banks. Market risk takes the form of:

1. Liquidity Risk
2. Interest Rate Risk
3. Foreign Exchange Rate (Forex) Risk
4. Commodity Price Risk and
5. Equity Price Risk

#### **Market Risk Management**

Management of market risk should be the major concern of the top managements of the banks. The Boards should clearly articulate market risk management policies, procedures, prudential risk limits, review mechanisms and reporting and auditing systems. The policies should address the bank's exposure on a consolidated basis and clearly articulate the risk measurement systems that capture all material sources of market risk and assess the effects on the bank.

The operating prudential limits and the accountability of the line management should also be clearly defined. The Asset-Liability Management Committee (ALCO) should function as the top operational unit for managing the balance sheet within the performance/risk parameters laid down by the Board. The banks should also set up an independent Middle Office to track the magnitude of market risk on a real time basis. The Middle Office should comprise of experts in market risk management, economists, statisticians and general bankers and may be functionally placed directly under the ALCO. The Middle Office should also be separated from Treasury Department and should not be involved in the day to day management of Treasury. The Middle Office should apprise the top management / ALCO / Treasury about adherence to

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prudential / risk parameters and also aggregate the total market risk exposures assumed by the bank at any point of time.

### Liquidity Risk

Liquidity Planning is an important facet of risk management framework in banks. Liquidity is the ability to efficiently accommodate deposit and other liability decreases, as well as, fund loan portfolio growth and the possible funding of off-balance sheet claims. A bank has adequate liquidity when sufficient funds can be raised, either by increasing liabilities or converting assets, promptly and at a reasonable cost. It encompasses the potential sale of liquid assets and borrowings from money, capital and forex markets. Thus, liquidity should be considered as a defence mechanism from losses on fire sale of assets.

The liquidity risk of banks arises from funding of long-term assets by short-term liabilities, thereby making the liabilities subject to rollover or refinancing risk.

The liquidity risk in banks manifests in different dimensions:

*Funding Risk* – need to replace net outflows due to unanticipated withdrawal/non-renewal of deposits (wholesale and retail);

*Time Risk* - need to compensate for non-receipt of expected inflows of funds, i.e. performing assets turning into non-performing assets; and

*Call Risk* - due to crystallization of contingent liabilities and inability to undertake profitable business opportunities when desirable.

The first step towards liquidity management is to put in place an effective liquidity management policy, which, *inter alia*, should spell out the funding strategies, liquidity planning under alternative scenarios, prudential limits, liquidity reporting / reviewing, etc.

Liquidity measurement is quite a difficult task and can be measured through stock or cash flow approaches. The key ratios, adopted across the banking system are:

1. Loans to Total Assets
2. Loans to Core Deposits
3. Large Liabilities (minus) Temporary Investments to Earning Assets (minus) Temporary Investments, where large liabilities represent wholesale deposits which are market sensitive and temporary Investments are those maturing within one year and those investments which are held in the trading book and are readily sold in the market.
4. Purchased Funds to Total Assets, where purchased funds include the entire inter-bank and other money market borrowings, including Certificate of Deposits and institutional deposits; and
5. Loan Losses/Net Loans.

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While liquidity ratios are the ideal indicators of liquidity of banks operating in developed financial markets, the ratios do not reveal the intrinsic liquidity profile of Indian banks which are operating generally in an illiquid market. Experiences show that assets commonly considered as liquid like Government securities, other money market instruments, etc. have limited liquidity as the market and players are unidirectional.

Thus, an analysis of liquidity involves tracking of cash flow mismatches. For measuring and managing net funding requirements, the use of maturity ladder and calculation of cumulative surplus or deficit of funds at selected maturity dates is recommended as a standard tool. The format prescribed by RBI in this regard under ALM System should be adopted for measuring cash flow mismatches at different time bands. Cash flows should be placed in different time bands based on future behaviour of assets, liabilities and off-balance sheet items. In other words, banks should have to analyze the behavioural maturity profile of various components of on / off-balance sheet items on the basis of assumptions and trend analysis supported by time series analysis. Banks should also undertake variance analysis at least, once in six months to validate the assumptions. The assumptions should be fine-tuned over a period which facilitate near reality predictions about future behaviour of on / off-balance sheet items. Apart from the above cash flows, banks should also track the impact of prepayments of loans, premature closure of deposits and exercise of options built in certain instruments which offer put/call options after specified periods. Thus, 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 could be crystallized.

The difference between cash inflows and outflows in each time period, the excess or deficit of funds becomes a starting point for a measure of a bank's future liquidity surplus or deficit, at a series of points of time. The banks should also consider putting in place certain prudential limits like the following to avoid liquidity crisis:

1. Cap on inter-bank borrowings, especially call borrowings.
2. Purchased funds vis-à-vis liquid assets.
3. Core deposits vis-à-vis Core Assets i.e. Cash Reserve Ratio, Liquidity Reserve Ratio and Loans.
4. Duration of liabilities and investment portfolio.
5. Maximum Cumulative Outflows. Banks should fix cumulative mismatches across all time bands.
6. Commitment Ratio – track the total commitments given to Corporates/banks and other financial institutions to limit the off-balance sheet exposure.
7. Swapped Funds Ratio, i.e. extent of Indian Rupees raised out of foreign currency sources.

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Banks should also evolve a system for monitoring high value deposits (other than inter-bank deposits) say ₹1 crore or more to track the volatile liabilities. Further the cash flows arising out of contingent liabilities in normal situation and the scope for an increase in cash flows during periods of stress should also be estimated. It is quite possible that market crisis can trigger substantial increase in the amount of drawdowns from cash credit/overdraft accounts, contingent liabilities like letters of credit, etc.

The liquidity profile of the banks could be analyzed on a static basis, wherein the assets and liabilities and off-balance sheet items are pegged on a particular day and the behavioural pattern and the sensitivity of these items to changes in market interest rates and environment are duly accounted for. The banks can also estimate the liquidity profile in a dynamic way by giving due importance to:

1. Seasonal pattern of deposits/loans.
2. Potential liquidity needs for meeting new loan demands, unavailed credit limits, loan policy, potential deposit losses, investment obligations, statutory obligations, etc.

### Alternative Scenarios

The liquidity profile of banks depends on the market conditions, which influence the cash flow behaviour. Thus, banks should evaluate liquidity profile under different conditions, viz. normal situation, bank specific crisis and market crisis scenario. The banks should establish benchmark for *normal situation*, cash flow profile of on / off balance sheet items and manages net funding requirements.

Estimating liquidity under *bank specific crisis* should provide a worst-case benchmark. It should be assumed that the purchased funds could not be easily rolled over; some of the core deposits could be prematurely closed; a substantial share of assets have turned into non-performing and thus become totally illiquid. These developments would lead to rating downgrades and high cost of liquidity. The banks should evolve contingency plans to overcome such situations.

The *market crisis scenario* analyses cases of extreme tightening of liquidity conditions arising out of monetary policy stance of Reserve Bank, general perception about risk profile of the banking system, severe market disruptions, failure of one or more of major players in the market, financial crisis, contagion, etc. Under this scenario, the roll-over of high value customer deposits and purchased funds could extremely be difficult besides flight of volatile deposits / liabilities. The banks could also sell their investment with huge discounts, entailing severe capital loss.

### Contingency Plan

Banks should prepare Contingency Plans to measure their ability to withstand bank-specific or market crisis scenario. The blue-print for asset sales, market access, capacity to restructure

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the maturity and composition of assets and liabilities should be clearly documented and alternative options of funding in the event of bank's failure to raise liquidity from existing source/s could be clearly articulated. Liquidity from the Reserve Bank, arising out of its refinance window and interim liquidity adjustment facility or as lender of last resort should not be reckoned for contingency plans. Availability of back-up liquidity support in the form of committed lines of credit, reciprocal arrangements, liquidity support from other external sources, liquidity of assets, etc. should also be clearly established.

### **Interest Rate Risk (IRR)**

The management of Interest Rate Risk should be one of the critical components of market risk management in banks. The regulatory restrictions in the past had greatly reduced many of the risks in the banking system. Deregulation of interest rates has, however, exposed them to the adverse impacts of interest rate risk. The Net Interest Income (NII) or Net Interest Margin (NIM) of banks is dependent on the movements of interest rates. Any mismatches in the cash flows (fixed assets or liabilities) or re-pricing dates (floating assets or liabilities), expose banks' NII or NIM to variations. The earning of assets and the cost of liabilities are now closely related to market interest rate volatility.

Interest Rate Risk (IRR) refers to the potential impact on NII or NIM or Market Value of Equity (MVE), caused by unexpected changes in market interest rates. Interest Rate Risk can take different forms:

#### **Types of Interest Rate Risk**

##### *Gap or Mismatch Risk:*

A gap or 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.

##### *Basis Risk*

Market interest rates of various instruments seldom change by the same degree during a given period of time. 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. 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 NII to expand, the banks have experienced favourable basis shifts and if the interest rate movement causes the NII to contract, the basis has moved against the banks.

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### *Embedded Option Risk*

Significant changes in market interest rates create another 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' NII. Thus, banks should evolve scientific techniques to estimate the probable embedded options and adjust the Gap statements (Liquidity and Interest Rate Sensitivity) to realistically estimate the risk profiles in their balance sheet. Banks should also endeavour to stipulate appropriate penalties based on opportunity costs to stem the exercise of options, which is always to the disadvantage of banks.

### *Yield Curve Risk*

In a floating interest rate scenario, banks may price their assets and liabilities based on different benchmarks, i.e. TBs yields, fixed deposit rates, call money rates, MIBOR, etc. In case the banks use two different instruments maturing at different time horizons for pricing their assets and liabilities, any non-parallel movements in yield curves would affect the NII. The movements in yield curve are rather frequent when the economy moves through business cycles. Thus, banks should evaluate the movement in yield curves and the impact of that on the portfolio values and income.

### *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. Banks which have an active trading book should, therefore, formulate policies to limit the portfolio size, holding period, duration, defeasance period, stop loss limits, marking to market, etc.

### *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 NII as the market interest rates move in different directions.

### *Net Interest Position Risk*

The size of non-paying liabilities is one of the significant factors contributing to profitability of banks. Where banks have more earning assets than paying liabilities, interest rate risk arises when the market interest rates adjust downwards. Thus, banks with positive net interest positions will experience a reduction in NII as the market interest rate declines and increases when interest rate rises. Thus, large float is a natural hedge against the variations in interest rates.

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### **Measuring Interest Rate Risk**

Before interest rate risk could be managed, they should be identified and quantified. Unless the quantum of IRR inherent in the balance sheet is identified, it is impossible to measure the degree of risks to which banks are exposed. It is also equally impossible to develop effective risk management strategies/hedging techniques without being able to understand the correct risk position of banks.

The IRR measurement system should address all material sources of interest rate risk including gap or mismatch, basis, embedded option, yield curve, price, reinvestment and net interest position risks exposures. The IRR measurement system should also take into account the specific characteristics of each individual interest rate sensitive position and should capture in detail the full range of potential movements in interest rates.

There are different techniques for measurement of interest rate risk, ranging from the traditional Maturity Gap Analysis (to measure the interest rate sensitivity of earnings), Duration (to measure interest rate sensitivity of capital), Simulation and Value at Risk. While these methods highlight different facets of interest rate risk, many banks use them in combination, or use hybrid methods that combine features of all the techniques.

Generally, the approach towards measurement and hedging of IRR varies with the segmentation of the balance sheet. In a well functioning risk management system, banks broadly position their balance sheet into Trading and Investment or Banking Books. While the assets in the trading book are held primarily for generating profit on short-term differences in prices/yields, the banking book comprises assets and liabilities, which are contracted basically on account of relationship or for steady income and statutory obligations and are generally held till maturity. Thus, while the price risk is the prime concern of banks in trading book, the earnings or economic value changes are the main focus of banking book.

### **Trading Book**

The top management of banks should lay down policies with regard to volume, maximum maturity, holding period, duration, stop loss, defeasance period, rating standards, etc. for classifying securities in the trading book. While the securities held in the trading book should ideally be marked to market on a daily basis, the potential price risk to changes in market risk factors should be estimated through internally developed Value at Risk (VaR) models.

The VaR method is employed to assess potential loss that could crystallize on trading position or portfolio due to variations in market interest rates and prices, using a given confidence level, usually 95% to 99%, within a defined period of time. The VaR method should incorporate the market factors against which the market value of the trading position is exposed. The top management should put in place bank-wise VaR exposure limits to the trading portfolio (including forex and gold positions, derivative products, etc.) which is then disaggregated across different desks and departments. The loss making tolerance level

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should also be stipulated to ensure that potential impact on earnings is managed within acceptable limits. The potential loss in Present Value Basis Points should be matched by the Middle Office on a daily basis vis-à-vis the prudential limits set by the Board. The advantage of using VaR is that it is comparable across products, desks and Departments and it can be validated through 'back testing'. However, VaR models require the use of extensive historical data to estimate future volatility. VaR model too may not give good results in extreme volatile conditions events and stress test has to be employed to complement VaR. The stress tests provide management a view on the potential impact of large size market movements and also attempt to estimate the size of potential losses due to stress events, which occur in the *tails* of the loss distribution. Banks may also undertake scenario analysis with specific possible stress situations (recently experienced in some countries) by linking hypothetical, simultaneous and related changes in multiple risk factors present in the trading portfolio to determine the impact of moves on the rest of the portfolio. VaR models could also be modified to reflect liquidity risk differences observed across assets over time. International banks are now estimating Liquidity adjusted Value at Risk (LaVaR) by assuming variable time horizons based on position size and relative turnover. In an environment where VaR is difficult to estimate for lack of data, non-statistical concepts such as stop loss and gross/net positions can be used.

### Banking Book

The changes in market interest rates impact earnings and economic value in the banks' banking book. Thus, given the complexity and range of balance sheet products, banks should have IRR measurement systems that assess the effects of the rate changes on both earnings and economic value. The variety of techniques ranges from simple maturity (fixed rate) and re-pricing (floating rate) to static simulation, based on current on-and-off-balance sheet positions, to highly sophisticated dynamic modeling techniques that incorporate assumptions on behavioural pattern of assets, liabilities and off-balance sheet items and can easily capture the full range of exposures against basis risk, embedded option risk, yield curve risk, etc.

### Maturity Gap Analysis

The simplest analytical techniques for calculation of IRR exposure begins with maturity gap analysis that distributes interest rate sensitive assets, liabilities and off-balance sheet positions into a certain number of pre-defined time-bands according to their maturity (fixed rate) or time remaining for their next re-pricing (floating rate). Those assets and liabilities lacking definite re-pricing intervals (savings bank, cash credit, overdraft, loans, export finance, refinance from RBI etc.) or actual maturities vary from contractual maturities (embedded option in bonds with put/call options, loans, cash credit/overdraft, time deposits, etc.) are assigned time-bands according to the judgment, empirical studies and past experiences of banks.

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A number of time bands can be used while constructing a gap report. Generally, most of the banks focus their attention on near-term periods, viz. monthly, quarterly, half-yearly or one year. It is very difficult to take a view on interest rate movements beyond a year. Banks with large exposures in the short-term should test the sensitivity of their assets and liabilities even at shorter intervals like overnight, 1-7 days, 8-14 days, etc.

In order to evaluate the earnings exposure, interest Rate Sensitive Assets (RSAs) in each time band are netted with the interest Rate Sensitive Liabilities (RSLs) to produce a repricing 'Gap' for that time band. The positive Gap indicates that banks have more RSAs than RSLs. A positive or asset sensitive Gap means that an increase in market interest rates could cause an increase in NII. Conversely, a negative or liability sensitive Gap implies that the banks' NII could decline as a result of increase in market interest rates. A negative gap indicates that banks have more RSLs than RSAs. The Gap is used as a measure of interest rate sensitivity. Positive or Negative Gap is multiplied by the assumed interest rate changes to derive the Earnings at Risk (EaR). The EaR method facilitates to estimate how much the earnings might be impacted by an adverse movement in interest rates. The changes in interest rate could be estimated on the basis of past trends, forecasting of interest rates, etc. The banks should fix EaR which could be based on last/current year's income and a trigger point at which the line management should adopt on-or off-balance sheet hedging strategies may be clearly defined.

Gap calculations can be augmented by information on the average coupon on assets and liabilities in each time band and the same could be used to calculate estimates of the level of NII from positions maturing or due for repricing within a given time-band, which would then provide a scale to assess the changes in income implied by the gap analysis.

The periodic gap analysis indicates the interest rate risk exposure of banks over distinct maturities and suggests magnitude of portfolio changes necessary to alter the risk profile. However, the Gap report quantifies only the time difference between re-pricing dates of assets and liabilities but fails to measure the impact of basis and embedded option risks. The Gap report also fails to measure the entire impact of a change in interest rate (Gap report assumes that all assets and liabilities are matured or re-priced simultaneously) within a given time-band and effect of changes in interest rates on the economic or market value of assets, liabilities and off-balance sheet position. It also does not take into account any differences in the timing of payments that might occur as a result of changes in interest rate environment. Further, the assumption of parallel shift in yield curves seldom happen in the financial market. The Gap report also fails to capture variability in non-interest revenue and expenses, a potentially important source of risk to current income.

In case banks could realistically estimate the magnitude of changes in market interest rates of various assets and liabilities (basis risk) and their past behavioural pattern (embedded option risk), they could standardize the gap by multiplying the individual assets and liabilities by how much they will change for a given change in interest rate. Thus, one or several assumptions of

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standardized Gap seem more consistent with real world than the simple Gap method. With the Adjusted Gap, banks could realistically estimate the EaR.

### Duration Gap Analysis

Matching the duration of assets and liabilities, instead of matching the maturity or repricing dates, is the most effective way to protect the economic values of banks from exposure to IRR than the simple Gap model. Duration Gap model focuses on managing economic value of banks by recognizing the change in the market value of assets, liabilities and off-balance sheet (OBS) items. When weighted assets and liabilities and OBS duration are matched, it could be seen that market interest rate movements would have almost same impact on assets, liabilities and OBS, thereby protecting the bank's total equity or net worth. 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.

Measuring the duration Gap is more complex than the simple Gap model. For approximation of duration of assets and liabilities, the simple gap schedule can be used by applying weights to each time-band. The weights are based on estimates of the duration of assets and liabilities and OBS that fall into each time band.

The weighted duration of assets and liabilities and OBS provide a rough estimation of the changes in banks' economic value to a given change in market interest rates. It is also possible to give different weights and interest rates to assets, liabilities and OBS in different time buckets to capture differences in coupons and maturities and volatilities in interest rates along the yield curve.

In a more scientific way, banks can precisely estimate the economic value changes to market interest rates by calculating the duration of each asset, liability and OBS position and weigh each of them to arrive at the weighted duration of assets, liabilities and OBS. Once the weighted duration of assets and liabilities are estimated, the duration Gap can be worked out with the help of standard mathematical formulae. The Duration Gap measure can be used to estimate the expected change in Market Value of Equity (MVE) for a given change in market interest rate.

The difference between duration of assets (DA) and liabilities (DL) is the bank's net duration. If the net duration is positive ( $DA > DL$ ), a decrease in market interest rates will increase the market value of equity of the bank. If the duration gap is negative ( $DL > DA$ ), the MVE increases when the interest rate increases but decreases when the rate declines. Thus, the Duration Gap shows the impact of the movements in market interest rates on the MVE through influencing the market value of assets, liabilities and OBS.

The attraction of duration analysis lies in the fact that it provides a comprehensive measure of IRR for the total portfolio. The duration analysis also recognises the time value of money. Duration measure is additive so that banks can match total assets and liabilities rather than

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matching individual accounts. However, Duration Gap analysis assumes parallel shifts in yield curve. For this reason, it fails to recognise the basis risk.

### **Simulation**

Many of the international banks are now using balance sheet simulation models to gauge the effect of market interest rate variations on reported earnings/economic values over different time zones. Simulation technique attempts to overcome the limitations of Gap and Duration approaches by computer modelling of the bank's interest rate sensitivity. Such modelling involves making assumptions about future path of interest rates, shape of yield curve, changes in business activity, pricing and hedging strategies, etc. The simulation involves detailed assessment of the potential effects of changes in interest rate on earnings and economic value. The simulation techniques involve detailed analysis of various components of on-and off-balance sheet positions. Simulations can also incorporate more varied and refined changes in the interest rate environment, ranging from changes in the slope and shape of the yield curve and interest rate scenario derived from Monte Carlo simulations.

The output of simulation can take a variety of forms, depending on users' need. Simulation can provide current and expected periodic gaps, duration gaps, balance sheet and income statements, performance measures, budget and financial reports. The simulation model provides an effective tool for understanding the risk exposure under variety of interest rate/balance sheet scenarios. This technique also plays an integral-planning role in evaluating the effect of alternative business strategies on risk exposures.

The simulation can be carried out under static and dynamic environment. While the current on and off-balance sheet positions are evaluated under static environment, the dynamic simulation builds in more detailed assumptions about the future course of interest rates and the unexpected changes in bank's business activity.

The usefulness of the simulation technique depends on the structure of the model, validity of assumption, technology support and technical expertise of banks.

The application of various techniques depends to a large extent on the quality of data and the degree of automated system of operations. Thus, banks may start with the gap or duration gap or simulation techniques on the basis of availability of data, information technology and technical expertise. In any case, as suggested by RBI in the guidelines on ALM System, banks should start estimating the interest rate risk exposure with the help of Maturity Gap approach. Once banks are comfortable with the Gap model, they can progressively graduate into the sophisticated approaches.

### **Funds Transfer Pricing**

The Transfer Pricing mechanism being followed by many banks does not support good ALM Systems. Many international banks which have different products and operate in various geographic markets have been using internal Funds Transfer Pricing (FTP). FTP is an internal

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measurement designed to assess the financial impact of uses and sources of funds and can be used to evaluate the profitability. It can also be used to isolate returns for various risks assumed in the intermediation process. FTP also helps correctly to identify the cost of opportunity value of funds. Although banks have adopted various FTP frameworks and techniques, Matched Funds Pricing (MFP) is the most efficient technique. Most of the international banks use MFP. The FTP envisages assignment of specific assets and liabilities to various functional units (profit centres) – lending, investment, deposit taking and funds management. Each unit attracts sources and uses of funds. The lending, investment and deposit taking profit centres sell their liabilities to and buy funds for financing their assets from the funds management profit centre at appropriate transfer prices. The transfer prices are fixed on the basis of a single curve model (MIBOR or derived cash curve, etc) so that asset-liability transactions of identical attributes are assigned identical transfer prices. Transfer prices could, however, vary according to maturity, purpose, terms and other attributes.

The FTP provides for allocation of margin (franchise and credit spreads) to profit centres on original transfer rates and any residual spread (mismatch spread) is credited to the funds management profit centre. This spread is the result of accumulated mismatches. The margins of various profit centres are:

- *Deposit profit centre:*  
Transfer Price (TP) on deposits - cost of deposits – deposit insurance- overheads.
- *Lending profit centre:*  
Loan yields + TP on deposits – TP on loan financing – cost of deposits – deposit insurance - overheads – loan loss provisions.
- *Investment profit centre:*  
Security yields + TP on deposits – TP on security financing – cost of deposits – deposit insurance - overheads – provisions for depreciation in investments and loan loss.
- *Funds Management profit centre:*  
TP on funds lent – TP on funds borrowed – Statutory Reserves cost – overheads.

For illustration, let us assume that a bank's Deposit profit centre has raised a 3 month deposit @ 6.5% p.a. and that the alternative funding cost i.e. MIBOR for 3 months and one year is 8% and 10.5% p.a., respectively. Let us also assume that the bank's Loan profit centre created a one year loan @ 13.5% p.a. The franchise (liability), credit and mismatch spreads of bank is as under:

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	Profit Centres			Total
	Deposit	Funds	Loan	
Interest Income	8.0	10.5	13.5	13.5
Interest Expenditure	6.5	8.0	10.5	6.5
Margin	1.5	2.5	3.0	7.0
Loan Loss Provision (expected)	-	-	1.0	1.0
Deposit Insurance	0.1	-	-	0.1
Reserve Cost (CRR/ SLR)	-	1.0	-	1.0
Overheads	0.6	0.5	0.6	1.7
NII	0.8	1.0	1.4	3.2

Under the FTP mechanism, the profit centres (other than funds management) are precluded from assuming any funding mismatches thereby exposing them to market risk. The credit or counterparty and price risks are, however, managed by these profit centres. The entire market risks, i.e interest rate, liquidity and forex are assumed by the funds management profit centre.

The FTP allows lending and deposit raising profit centres determine their expenses and price their products competitively. Lending profit centre which knows the carrying cost of the loans needs to focus on price only the spread necessary to compensate the perceived credit risk and operating expenses. Thus, FTP system could effectively be used to centralize the bank's overall market risk at one place and support an effective ALM modeling system. FTP also could be used to enhance corporate communication, greater line management control and create a solid base for rewarding line management.

### Foreign Exchange (Forex) Risk

The risk inherent in running open foreign exchange positions has been heightened in recent years by the pronounced volatility in forex rates, thereby adding a new dimension to the risk profile of banks' balance sheets.

Forex 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. The banks are also exposed to interest rate risk, which arises from the maturity mismatching of foreign currency positions. Even in cases where spot and forward positions in individual currencies are balanced, the maturity pattern of forward transactions may produce mismatches. Consequently banks may suffer losses as a result of changes in premia/discounts of the currencies concerned.

In the forex business, banks also face the risk of default by the counterparties or settlement risk. While such type of risk crystallization does not cause loss of principal, banks may have to undertake fresh transactions in the cash/spot market for replacing the failed transactions.

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Thus, banks may incur replacement cost, which depends upon the currency rate movements. Banks also face another risk called time-zone risk or Herstatt risk which arises out of time-lags in settlement of one currency in one centre and the settlement of another currency in another time-zone. The forex transactions with counterparties from another country also trigger sovereign or country risk.

### Forex Risk Management Measures

Set appropriate limits – open positions and gaps.

Clear-cut and well-defined division of responsibility between front, middle and back offices.

The top management should also adopt the VaR approach to measure the risk associated with exposures. Reserve Bank of India has recently introduced two statements viz. Maturity and Position (MAP) and Interest Rate Sensitivity (SIR) for measurement of forex risk exposures. Banks should use these statements for periodical monitoring of forex risk exposures.

### Capital for Market Risk

The Basle Committee on Banking Supervision (BCBS) had issued comprehensive guidelines to provide an explicit capital cushion for the price risks to which banks are exposed, particularly those arising from their trading activities. The banks have been given flexibility to use in-house models based on VaR for measuring market risk as an alternative to a standardized measurement framework suggested by Basle Committee. The internal models should, however, comply with quantitative and qualitative criteria prescribed by Basle Committee.

The Reserve Bank of India has accepted the general framework suggested by the Basle Committee and has also initiated various steps in moving towards prescribing capital for market risk. As an initial step, a risk weight of 2.5% has been prescribed for investments in Government and other approved securities, besides a risk weight each of 100% on the open position limits in forex and gold. RBI has also prescribed detailed operating guidelines for Asset-Liability Management System in banks. As the ability of banks to identify and measure market risk improves, it would be necessary to assign explicit capital charge for market risk. In the meanwhile, banks are advised to study the Basle Committee's paper on '*Overview of the Amendment to the Capital Accord to Incorporate Market Risks*' – January 1996. While the small banks operating predominantly in India could adopt the standardized methodology, large banks and those banks operating in international markets should develop expertise in evolving internal models for measurement of market risk.

The Basle Committee on Banking Supervision proposes to develop capital charge for interest rate risk in the banking book as well for banks where the interest rate risks are significantly above average ('outliers'). The Committee is now exploring various methodologies for identifying 'outliers' and how best to apply and calibrate a capital charge for interest rate risk for banks. Once the Committee finalizes the modalities, it may be necessary, at least for

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banks operating in the international markets to comply with the explicit capital charge requirements for interest rate risk in the banking book.

### **Regulatory Guidelines on Futures, Options, Forward and Swaps**

#### **Forward Rate Agreement (FRA)**

A Forward Rate Agreement is a financial contract between two parties to exchange interest payments for a 'notional principal' amount on settlement date, for a specified period from start date to maturity date. Accordingly, on the settlement date, cash payments based on contract (fixed) and the settlement rate, are made by the parties to one another. The settlement rate is the agreed bench-mark/ reference rate prevailing on the settlement date.

#### **Interest Rate Swap (IRS)**

An Interest Rate Swap is a financial contract between two parties exchanging or swapping a stream of interest payments for a 'notional principal' amount on multiple occasions during a specified period. Such contracts generally involve exchange of a 'fixed to floating' or 'floating to floating' rates of interest. Accordingly, on each payment date - that occurs during the swap period - cash payments based on fixed/ floating and floating rates, are made by the parties to one another.

#### **Interest Rate Futures (IRF)**

Interest Rate Future is a standardized, exchange-traded contract with actual or notional interest-bearing instrument(s) as the underlying asset.

#### **Foreign Exchange Forward**

A foreign exchange forward is an over-the-counter contract under which a purchaser agrees to buy from the seller, and the seller agrees to sell to the purchaser, a specified amount of a specified currency on a specified date in the future - beyond the spot settlement date - at a known price denominated in another currency (known as the forward price) that is specified at the time the contract is entered into.

#### **Currency Swaps**

A currency swap is an interest rate swap where the two legs to the swap are denominated in different currencies. Additionally the parties may agree to exchange the two currencies normally at the prevailing spot exchange rate with an agreement to reverse the exchange of currencies, at the same spot exchange rate, at a fixed date in the future, generally at the maturity of the swap.

### Currency Options

A currency option is a contract where the purchaser of the option has the right but not the obligation to either purchase (call option) or sell (put option) and the seller (or writer) of the option agrees to sell (call option) or purchase (put option) an agreed amount of a specified currency at a price agreed in advance and denominated in another currency (known as the strike price) on a specified date (European option) or by an agreed date (American option) in the future.

### Interest Rate Caps and Floors

An interest rate cap is an interest rate option in which payments are made when the reference rate exceeds the strike rate. Analogously, an interest rate floor is an interest rate option in which payments are made when the reference rate falls below the strike rate.

## Types of derivatives risks

### 1. Credit risk

Credit risk is the risk of loss due to a counterparty's failure to perform on an obligation to the institution. Credit risk in derivative products comes in two forms:

*Pre-settlement risk* is the risk of loss due to a counterparty defaulting on a contract during the life of a transaction. The level of exposure varies throughout the life of the contract and the extent of losses will only be known at the time of default.

*Settlement risk* is the risk of loss due to the counterparty's failure to perform on its obligation after an institution has performed on its obligation under a contract on the settlement date. Settlement risk frequently arises in international transactions because of time zone differences. This risk is only present in transactions that do not involve delivery versus payment and generally exists for a very short time (less than 24 hours).

### 2. Market risk

Market risk is the risk of loss due to adverse changes in the market value (the price) of an instrument or portfolio of instruments. Such exposure occurs with respect to derivative instruments when changes occur in market factors such as underlying interest rates, exchange rates, equity prices, and commodity prices or in the volatility of these factors.

### 3. Liquidity risk

Liquidity risk is the risk of loss due to failure of an institution to meet its funding requirements or to execute a transaction at a reasonable price. Institutions involved in derivatives activity face two types of liquidity risk: market liquidity risk and funding liquidity risk.

*Market liquidity risk* is the risk that an institution may not be able to exit or offset positions quickly, and in sufficient quantities, at a reasonable price. This inability may be due to

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inadequate market depth in certain products (e.g. exotic derivatives, long-dated options), market disruption, or inability of the bank to access the market (e.g. credit down-grading of the institution or of a major counterparty).

*Funding liquidity risk* is the potential inability of the institution to meet funding requirements, because of cash flow mismatches, at a reasonable cost. Such funding requirements may arise from cash flow mismatches in swap books, exercise of options, and the implementation of dynamic hedging strategies.

### **4. Operational risk**

Operational risk is the risk of loss occurring as a result of inadequate systems and control, deficiencies in information systems, human error, or management failure. Derivatives activities can pose challenging operational risk issues because of the complexity of certain products and their continual evolution.

### **5. Legal risk**

Legal risk is the risk of loss arising from contracts which are not legally enforceable (e.g. the counterparty does not have the power or authority to enter into a particular type of derivative transaction) or documented correctly.

### **6. Regulatory risk**

Regulatory risk is the risk of loss arising from failure to comply with regulatory or legal requirements.

### **7. Reputation risk**

Reputation risk is the risk of loss arising from adverse public opinion and damage to reputation.

## **Broad principles for undertaking derivative transactions**

The major requirements for undertaking any derivative transaction from the regulatory perspective would include:

- Market-makers may undertake any derivative structured product (a combination of permitted cash and generic derivative instruments) as long as it is a combination of two or more of the generic instruments permitted by RBI. The market-makers should be in a position to mark to market or demonstrate valuation of these constituent products based on observable market prices. Hence, it needs to be ensured that structured products do not contain any derivative, which is not allowed on a stand-alone basis. Moreover, second order derivatives, like swaption, option on future, compound option etc. are not permitted.

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- A user should not have a net short options position, either on a standalone basis or in a structured product, except to the extent of permitted covered calls and puts.
- All permitted derivative transactions, including roll over, restructuring and novation shall be contracted only at prevailing market rates. Mark-to-market gain/loss on roll over, restructuring, novation etc. should be cash-settled.
- All risks arising from derivatives exposures should be analyzed and documented.
- The management of derivatives activities should be an integral part of the overall risk management policy and mechanism. It is desirable that the board of directors and senior management understand the risks inherent in the derivatives activities being undertaken.
- Market-makers should have a 'Suitability and Appropriateness Policy' vis-à-vis users in respect of the products offered, on the lines indicated in these guidelines.
- Market-makers and users regulated by RBI should not undertake any derivative transaction involving the rupee that partially or fully offset a similar but opposite risk position undertaken by their subsidiaries/branches/group entities at offshore location(s).
- Market-makers may maintain cash margin/liquid collateral in respect of derivative transactions undertaken by users on mark-to-market basis, irrespective of the latter's credit risk assessment.

### Commonly used market risk limits

#### 1. Notional or volume limits

Limits based on the notional amount of derivative contracts are the most basic and simplest form of limits for controlling the risks of derivatives transactions. They are useful in limiting transaction volume, and liquidity and settlement risks. However, these limits cannot take account of price sensitivity and volatility and say nothing about the actual level of risk (in capital or earnings terms) faced by the institution. Derivative participants should not therefore use these limits as a stand-alone tool to control market risk.

#### 2. Stop loss limits

These limits are established to avoid unrealized loss in a position from exceeding a specified level. When these limits are reached, the position will either be liquidated or hedged. Typical stop loss limits include those relating to accumulated unrealized losses for a day, a week or a month.

Some institutions also establish management action trigger (MAT) limits in addition to stop loss limits. These are for early warning purposes. For example, management may establish a MAT limit at 75 per cent of the stop loss limit. When the unrealized loss reaches 75 per cent of the stop loss limit, management will be alerted to the position and may trigger certain

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management actions, such as close monitoring of the position, reducing or early closing out the position before it reaches the stop loss limits.

The above loss triggers complement other limits, but they are generally not sufficient by themselves. They are not anticipatory; they are based on unrealized losses to date and do not measure the potential earnings at risk based on market characteristics. They will not prevent losses larger than the stop loss limits if it becomes impossible to close out positions, e.g. because of market illiquidity.

### **3. Gap or maturity band limits**

These limits are designed to control loss exposure by controlling the volume or amount of the derivatives that mature or are repriced in a given time period. For example, management can establish gap limits for each maturity band of 3 months, 6 months, 9 months, one year, etc. to avoid maturities concentrating in certain maturity bands. Such limits can be used to reduce the volatility of derivatives revenue by staggering the maturity and/or repricing and thereby smoothing the effect of changes in market factors affecting price. Maturity limits can also be useful for liquidity risk control and the repricing limits can be used for interest rate management.

Similar to notional and stop loss limits, gap limits can be useful to supplement other limits, but are not sufficient to be used in isolation as they do not provide a reasonable proxy for the market risk exposure which a particular derivatives position may present to the institution.

### **4. Value-at-risk limits**

These limits are designed to restrict the amount of potential loss from certain types of derivatives products or the whole trading book to levels (or percentages of capital or earnings) approved by the board and senior management. To monitor compliance with the limits, the management calculates the current market value of positions and then uses statistical modeling techniques to assess the probable loss (within a certain level of confidence) given historical changes in market factors. There are three main approaches to calculate value-at-risk: the correlation method, also known as the variance/ covariance matrix method; historical simulation and Monte Carlo simulation.

The advantage of value-at-risk (VAR) limits is that they are related directly to the amount of capital or earnings which are at risk. Among other things, they are therefore more readily understood by the board and senior management. The level of VAR limits should reflect the maximum exposures authorized by the board and senior management, the quality and sophistication of the risk measurement systems and the performance of the models used in assessing potential loss by comparing projected and actual results. One drawback in the use of such models is that they are only as good as the assumptions on which they are based (and the quality of the data which has been used to calculate the various volatilities, correlations and sensitivities).

## 5. Options limits

These are specifically designed to control the risks of options. Options limits should include Delta, Gamma, Vega, Theta and Rho limits.

*Delta* is a measure of the amount an options price would be expected to change for a unit change in the price of the underlying instrument.

*Gamma* is a measure of the amount delta would be expected to change in response to a unit change in the price of the underlying instrument.

*Vega* is a measure of the amount an option's price would be expected to change in response to a unit change in the price volatility of the underlying instrument.

*Theta* is a measure of the amount an option's price would be expected to change in response to changes in the options time to expiration.

*Rho* is a measure of the amount an option's price would be expected to change in response to changes in interest rates.

## Recent Policy Guidelines of RBI on Basel III implementation

Basel III reforms are the response of Basel Committee on Banking Supervision (BCBS) to improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever be the source, thus reducing the risk of spill-over from the financial sector to the real economy. During Pittsburgh summit in September 2009, the G20 leaders committed to strengthen the regulatory system for banks and other financial firms and also act together to raise capital standards, to implement strong international compensation standards aimed at ending practices that lead to excessive risk-taking, to improve the over-the-counter derivatives market and to create more powerful tools to hold large global firms to account for the risks they take. For all these reforms, the leaders set for themselves strict and precise timetables. Consequently, the Basel Committee on Banking Supervision (BCBS) released comprehensive reform package titled "Basel III: A global regulatory framework for more resilient banks and banking systems" (known as Basel III capital regulations) in December 2010.

Basel III reforms strengthen the bank-level i.e. micro prudential regulation, with the intention to raise the resilience of individual banking institutions in periods of stress. Besides, the reforms have a macro prudential focus also, addressing system wide risks, which can build up across the banking sector, as well as the procyclical amplification of these risks over time. These new global regulatory and supervisory standards mainly seek to raise the quality and level of capital to ensure banks are better able to absorb losses on both a going concern and a gone concern basis, increase the risk coverage of the capital framework, introduce leverage ratio to serve as a backstop to the risk-based capital measure, raise the standards for the supervisory review process (Pillar 2) and public disclosures (Pillar 3) etc. The macro prudential aspects of Basel III are largely enshrined in the capital buffers. Both the buffers i.e. the capital

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conservation buffer and the countercyclical buffer are intended to protect the banking sector from periods of excess credit growth.

The Reserve Bank issued Guidelines based on the Basel III reforms on capital regulation on May 2, 2012, to the extent applicable to banks operating in India. The Basel III capital regulation has been implemented from April 1, 2013 in India in phases and it will be fully implemented as on March 31, 2019.

Further, on a review, the parallel run and prudential floor for implementation of Basel II vis-à-vis Basel I have been discontinued

### **Approach to Implementation and Effective Date**

The Basel III capital regulations continue to be based on three-mutually reinforcing Pillars, viz. minimum capital requirements, supervisory review of capital adequacy, and market discipline of the Basel II capital adequacy framework. Under Pillar 1, the Basel III framework will continue to offer three distinct options for computing capital requirement for credit risk and three other options for computing capital requirement for operational risk, albeit with certain modifications / enhancements.

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 Standardized Approach, Foundation Internal Rating Based Approach and Advanced Internal Rating Based Approach. The options available for computing capital for operational risk are Basic Indicator Approach (BIA), The Standardized Approach (TSA) and Advanced Measurement Approach (AMA).

Keeping in view the Reserve Bank's goal to have consistency and harmony with international standards, it was decided in 2007 that all commercial banks in India (excluding Local Area Banks and Regional Rural Banks) should adopt Standardized Approach for credit risk, Basic Indicator Approach for operational risk by March 2009 and banks should continue to apply the Standardized Duration Approach (SDA) for computing capital requirement for market risks.

Having regard to the need for up-gradation of risk management framework as also capital efficiency likely to accrue to the banks by adoption of the advanced approaches, the following time schedule was laid down for implementation of the advanced approaches for the regulatory capital measurement in July 2009.

Accordingly, banks were advised to undertake an internal assessment of their preparedness for migration to advanced approaches and take a decision with the approval of their Boards, whether they would like to migrate to any of the advanced approaches. Based on bank's internal assessment and its preparation, a bank may choose a suitable date to apply for implementation of advanced approach. Besides, banks, at their discretion, would have the option of adopting the advanced approaches for one or more of the risk categories, as per

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their preparedness, while continuing with simpler approaches for other risk categories, and it would not be necessary to adopt the advanced approaches for all the risk categories simultaneously. However, banks should invariably obtain prior approval of the RBI for adopting any of the advanced approaches.

*Effective Date:* The Basel III capital regulations are being implemented in India with effect from April 1, 2013. Banks have to comply with the regulatory limits and minima as prescribed under Basel III capital regulations, on an ongoing basis. To ensure smooth transition to Basel III, appropriate transitional arrangements have been provided for meeting the minimum Basel III capital ratios, full regulatory adjustments to the components of capital etc. Consequently, Basel III capital regulations would be fully implemented as on March 31, 2019. In view of the gradual phase-in of regulatory adjustments to the Common Equity component of Tier 1 capital under Basel III, certain specific prescriptions of Basel II capital adequacy framework (e.g. rules relating to deductions from regulatory capital, risk weighting of investments in other financial entities etc.) will also continue to apply till March 31, 2017 on the remainder of regulatory adjustments not treated in terms of Basel III norms.

### Statutory Returns to Reserve Bank of India (RBI)

Statutory Returns of the banks relating to maintenance of cash reserve and statutory liquidity ratios as required under Reserve Bank of India Act, 1934 and Banking Regulation Act, 1949 and other statements / returns are to be filed with the RBI. Various important returns to be submitted by the Bank to the Regulator are:

- Monitoring and scrutiny of Form A returns and monthly Net Demand and Time Liabilities (NDTL) statements from DBS Regional Offices (ROs) and follow-up with them/banks in case of discrepancies
- Payment of interest to Scheduled Commercial Banks (SCBs) on monthly basis on excess of Cash Reserve Ratio (CRR) maintained above the minimum statutory level of 3% of NDTL and upto the required level of CRR. Receipt of penalties from banks due to shortfalls in maintenance of required level of CRR.
- Monitoring receipt of Annexure I and III to Form VIII returns from ROs for maintenance of Statutory Liquidity Ratio (SLR) and follow up with ROs of DBS.
- Monitoring compliance with the provisions of Section 11(2) (b) of Banking Regulation Act relating to statutory liquidity requirement in respect of foreign banks in Maharashtra and Goa.
- Monitoring compliance with submission of various other statutory returns by banks in Maharashtra and Goa.
- Charging of penal interest in cases of default in SLR in respect of banks in Maharashtra and Goa and follow-up with banks and Regional Offices of DBS for recovery of penal interest in case of default on maintenance of SLR.

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- Reporting to Monetary Policy Department (MPD) of cases of waiver of penal interest.
- Attending to references received from DBS regarding position of defaults in maintenance of CRR / SLR of banks.
- Monitoring submission of various statutory returns in compliance with CRR / SLR requirements by banks; Preparation of fortnightly / monthly abstracts; Compilation of information relating to Press Communiqué in respect of banks in Maharashtra and Goa and receipt of Press Communiqué data (including Annexure A, B and C) from the ROs of DBS and its consolidation for transmission to MPD / Department of Economic Analysis and Policy (DEAP) and other user departments on fortnightly basis.
- Monitoring statements from banks on Saving Bank Accounts for time and demand liabilities portions thereof.
- Monitoring and scrutiny of Statements on Average Daily Balances of Scheduled Commercial Banks with RBI received from Department of Statistical Analysis and Computer Services (DESACS).
- Issue of instructions and attending to correspondence with MPD/banks on various issues relating to policy matters/clarifications on NDTL, eligibility of securities, maintenance of CRR/SLR etc.
- Monitoring receipt of Form IX returns from ROs and scrutiny thereof and Consolidation of Form IX in respect of all banks and submission of the consolidated data to Government.
- Issuing instructions and attending to correspondence regarding Telegraphic Transfers (TT), discounting facilities and Remittance facilities.
- Monitoring receipt of Balance Sheets of Scheduled Commercial Banks as required under Banking Regulation Act, 1949.
- Advising clearing houses / Department of Information Technology (DIT) regarding fixing limit of cheque presentation by banks based on their deposit liabilities data.

## **Overview of Regulatory Requirements SEBI (ICDR) Regulations, 2009**

The SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2009 are applicable for public issues; rights issues, preferential issues; issue of bonus shares by a listed issuers; qualified institutions placement by listed issuers and issue of Indian Depository Receipts.

### **General conditions for public issues and rights issues**

An issuer cannot make a public issue or rights issue of equity shares and convertible securities under the following conditions:

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- (a) If the issuer, any of its promoters, promoter group or directors or persons in control of the issuer are debarred from accessing the capital market by SEBI.
- (b) If any of the promoters, director or the person in control of the issuer was or also is a promoter, director or person in control of any other company which is debarred from accessing the capital market under the order or directions made by SEBI.
- (c) If the issuer of convertible debt instruments is in the list of willful defaulters published by the RBI or it is in default of payment of interest or repayment of principal amount in respect of debt instruments issued by it to the public, if any, for a period of more than 6 months.
- (d) Unless an application is made to one or more recognized stock exchanges for listing of equity shares and convertible securities on such stock exchanges and has chosen one of them as a designated stock exchange. However, in case of an initial public offer, the issuer should make an application for listing of the equity shares and convertible securities in at least one recognized stock exchange having nationwide trading terminals.
- (e) Unless it has entered into an agreement with a depository for de-materialization of equity shares and convertible securities already issued or proposed to be issued.
- (f) Unless all existing partly paid-up equity shares of the issuer have either been fully paid up or forfeited.
- (g) Unless firm arrangements of finance through verifiable means towards 75% of the stated means of finance, excluding the amount to be raised through the proposed public issue or rights issue or through existing identifiable internal accruals, have been made.

TWO latest amendments to the ICDR Regulations, 2009 are as follows:

### 1. Amendments made in 2014

On 4 February 2014, SEBI issued a Notification amending the SEBI (Issue of Capital and Disclosure Requirements) Regulations, 2009 ('ICDR Regulations') to make grading of an initial public offer ('IPO') by one or more credit rating agencies voluntary by companies. In addition to such amendment, SEBI also altered the format of the Statement of Assets and Liabilities that needs to be disclosed by issuing companies in their offer document.

The amendment came into force from 5 February 2014.

#### Overview of the Amendments

##### *(a) IPO Grading made voluntary*

Chapter III of the ICDR Regulations lists out the eligibility requirements applicable to a public issue. Regulation 26 of Chapter III enumerates the requirements in case of an IPO. Sub-regulation (7) of Regulation 26 provides the following:

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*"No issuer shall make an initial public offer, unless as on the date of registering prospectus or red herring prospectus with the Registrar of Companies, the issuer has obtained grading for the initial public offer from at least one credit rating agency registered with the Board."*

Such mandatory grading had to be disclosed by companies in the prospectus / red herring prospectus of the IPO.

This sub-regulation has been substituted with the following:

*"(7) An issuer making an initial public offer may obtain grading for such offer from one or more credit rating agencies registered with the Board."*

As can be seen from the above, the mandatory requirement of obtaining grading for an IPO before issuing the prospectus / red herring prospectus with the Registrar of Companies has now been made recommendatory/voluntary by companies coming out with an IPO.

### *Rationale for the Amendment*

The amendment has been introduced in the wake of the slowdown in the primary market since January 2010. The necessity of IPO grading had kept out many companies from gaining access to the primary market. The BSE IPO index, which tracks the value of companies for two years after they list, fell over 37% to 1,300 between 4 January 2010 and 31 December 2011. 82 out of the 112 companies which came out with IPOs in the year 2010 and 2011 are trading below their issue price. However, the BSE IPO index has risen by 28% to 1679 in the year 2012, with just 2 out of 17 companies listed were trading below their issue price. The major IPO that came out in 2013 was from Just Dial Limited which is currently witnessing a gain % of 151.19.

Such a move may undermine the interest of the investors and can act as a deterrent to informed investment decision by investors. Credit rating acts as a benchmark based on which investments are made. Credit rating agencies used various parameters to determine the grading of a company. A higher grade meant that the company had strong fundamentals. Such an assessment would now not be possible, as companies with weaker fundamentals would prefer to avoid such a process altogether leading to misguided investment.

It is believed that this voluntary option could have been prescribed for certain classes or scale of companies, for instance, companies with a certain net worth or capital or volume and quantum of the proposed issue.

### *(b) Amendment to Statement of Assets and Liabilities*

The format of the Statement of Assets and Liabilities was provided in sub-para (IX) in para 2 of Part A to Schedule VIII of the ICDR Regulations. The Statement was divided under 5 heads, namely (1) Fixed Assets, (2) Current assets, loans and advances, (3) Liabilities and Provisions, (4) Net Worth, (5) Represented by (*based on net worth*).

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The present amendment revised such format to similar lines with the format of Balance Sheet under Part I Schedule III of the Companies Act, 2013. As per the amendment, the heads have been divided into 5 categories namely, (1) Equity & Liabilities, (2) Non Current Liabilities, (3) Current Liabilities, (4) Non-Current Assets, and (5) Current Assets. The calculation of 'net worth', as shown in the previous Statement, has been done away with.

### 2. Amendments made in 2015

No. SEBI/LAD-NRO/GN/2015-16/18.— In exercise of the powers conferred by section 30 of the Securities and Exchange Board of India Act, 1992 (15 of 1992), the Board hereby makes the following Regulations to further amend the Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2009, namely:-

1. These regulations may be called the SEBI (Issue of Capital and Disclosure Requirements) (Sixth Amendment) Regulations, 2015.
2. They shall come into force on the date of their publication in the Official Gazette.
3. They shall be applicable to issuers filing offer documents with the Registrar of Companies on or after the date of commencement of these Regulations.
4. In the Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2009, in Schedule XI, in Part A, in para (10), in clause (b), sub-clause (iii), shall be substituted with the following, namely:-

"(iii) in case of allocation above ₹250 crore a minimum of 5 such investors and a maximum of 15 such investors for allocation upto ₹250 crore and an additional 10 such investors for every additional ₹250 crore or part thereof, shall be permitted, subject to a minimum allotment of ₹5 crore per such investor."

## Latest Foreign Direct Investment Policy

India has already marked its presence as one of the fastest growing economies of the world. It has been ranked among the top 3 attractive destinations for inbound investments. Since 1991, the regulatory environment in terms of foreign investment has been consistently easing to make it investor-friendly.

### **Recent Policy Measures:**

- 100% FDI allowed in medical devices
- FDI cap increased in insurance and sub-activities from 26% to 49%
- 100% FDI allowed in the telecom sector.
- 100% FDI in single-brand retail.
- FDI in commodity exchanges, stock exchanges and depositories, power exchanges,

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petroleum refining by PSUs, courier services under the government route have now been brought under the automatic route.

- Removal of restrictions in tea plantation sector.
- FDI limit raised to 74% in credit information & 100% in asset reconstruction companies.
- FDI limit of 26% in defence sector raised to 49% under Government approval route. Foreign Portfolio Investment up to 24% permitted under automatic route. FDI beyond 49% is also allowed on a case to case basis with the approval of Cabinet Committee on Security.
- Construction, operation and maintenance of specified activities of Railway sector opened to 100% foreign direct investment under automatic route.

### **Types of Investors**

#### **INDIVIDUAL:**

- FVCI
- Pension/Provident Fund
- Financial Institutions

#### **COMPANY:**

- Foreign Trust
- Sovereign Wealth Funds
- NRIs / PIOs

#### **FOREIGN INSTITUTIONAL INVESTORS:**

- Private Equity Funds
- Partnership / Proprietorship Firm
- Others

*Note: Citizens or entities from Bangladesh & Pakistan can invest only under the government route; also investors from Pakistan cannot invest in defence, space, atomic energy and sectors prohibited for foreign investment.*

#### **Steps involved in investment**

- Identification of structure
- Central Government approval if required
- Setting up or incorporating the structure

## Treasury – Regulation, Supervision and Compliance

- Inflow of funds via eligible instruments and following pricing guidelines
- Meeting reporting requirements of RBI and respective Act
- Registrations/obtaining key documents like PAN etc.
- Project approval at state level
- Finding ideal space for business activity based on various parameters like incentives, cost, availability of man power etc.
- Manufacturing projects are required to file Industrial Entrepreneur's Memorandum (IEM), some of the industries may also require industrial license.
- Construction/renovation of unit
- Hiring of manpower
- Obtaining licenses if any
- Other state & central level registrations
- Meeting annual requirements of a structure, paying taxes etc.

### **Aspects of Taxation**

#### DIRECT TAXES:

- The investor is required to pay tax on net income earned in India. The rates of taxes differ among structures.

#### COMPANY:

- The company incorporated in India is required to pay 30% tax+surcharge+education cess on net income earned. It is also required to deduct tax on profits distributed @15.5%+surcharge+education cess.

#### BRANCH OFFICE / PROJECT OFFICE / LIAISON OFFICE OR PERMANENT ESTABLISHMENT:

- The fixed place of business in India is treated as a permanent establishment and is required to pay tax @40%+surcharge + education cess. There is no tax on profits distributed.

#### LLPs:

- LLPs are required to pay tax @30%+surcharge + education cess. There is no tax on profits distributed.

#### MINIMUM ALTERNATE TAX:

- 18.5%+SC+EC- The Indian tax law requires MAT to be paid by corporations in cases where the tax payable according to the regular tax provisions is less than 18.5% of their

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book profits. However MAT credit (MAT-actual tax) can be carried forward for next 10 years for set-off against regular tax payable during the subsequent years subject to certain conditions.

*Note: Transactions between associated enterprises needs to follow transfer pricing regulations.*

### **Incentives**

#### **CENTRAL GOVERNMENT INCENTIVES:**

- Investment allowance (additional depreciation) at the rate of 15 per cent to manufacturing companies that invest more than INR 1 billion in plant and machinery available till to 31.3.2015.
- Incentives available to units set-up in SEZ, NIMZ etc. and EOUs.
- Exports incentives like duty drawback, duty exemption/remission schemes, focus products & market schemes etc.
- Areas based incentives like units set-up in north east region, Jammu & Kashmir, Himachal Pradesh, and Uttarakhand.
- Sector specific incentives like M-SIPS in electronics.

#### **STATE GOVERNMENT INCENTIVES:**

- Each State Government has its own incentive policy, which offers various types of incentives based on the amount of investments, project location, employment generation, etc. The incentives differ from State to State and are generally laid down in each State's industrial policy.
- The broad categories of State incentives include: stamp duty exemption for land acquisition, refund or exemption of value added tax, exemption from payment of electricity duty etc.

## **Foreign Exchange Management Act, 1999**

An Act to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for promoting the orderly development and maintenance of foreign exchange market in India.

### **Some of the important provisions**

#### **Dealing in foreign exchange, etc.**

Save as otherwise provided in this Act, rules or regulations made there under, or with the general or special permission of the Reserve Bank, no person shall-

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- deal in or transfer any foreign exchange or foreign security to any person not being an authorized person;
- make any payment to or for the credit of any person resident outside India in any manner;
- receive otherwise through an authorized person, any payment by order or on behalf of any person resident outside India in any manner. Explanation-where any person in, or resident in, India receives any payment by order or on behalf of any person resident outside India through any other person (including an authorized person) without a corresponding inward remittance from any place outside India, then, such person shall be deemed to have received such payment otherwise than through an authorized person;
- enter into any financial transaction in India as consideration for or in association with acquisition or creation or transfer of a right to acquire, any asset outside India by any person. Explanation.- "financial transaction" means making any payment to, or for the credit of any person, or receiving any payment for, by order or on behalf of any person, or drawing, issuing or negotiating any bill of exchange or promissory note, or transferring any security or acknowledging any debt.

### **Holding of foreign exchange, etc.**

Save as otherwise provided in this Act, no person resident in India shall acquire, hold, own, possess or transfer any foreign exchange, foreign security or any immovable property situated outside India.

### **Current account transactions.**

Any person may sell or draw foreign exchange to or from an authorized person if such sale or drawal is a current account transaction: Provided that the Central Government may, in public interest and in consultation with the Reserve Bank, impose such reasonable restrictions for current account transactions as may be prescribed

### **Capital account transactions.**

- Subject to certain provisions mentioned in the Act any person may sell or draw foreign exchange to or from an authorized person for a capital account transaction.
- The Reserve Bank may, in consultation with the Central Government, specify
  - any class or classes of capital account transactions which are permissible;
  - the limit up to which foreign exchange shall be admissible for such transactions: Provided that the Reserve Bank shall not impose any restriction on the drawal of foreign exchange for payments due on account of amortization of loans or for depreciation of direct investments in the ordinary courts of business.

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- Without prejudice to the generality of the provisions in the Act, the Reserve Bank may, by regulations, prohibit, restrict or regulate the following
  - transfer or issue of any foreign security by a person resident in India;
  - transfer or issue of any security by a person resident outside India;
  - transfer or issue of any security or foreign security by any branch, office or agency in India of a person resident outside India;
  - any borrowing or lending in rupees in whatever form or by whatever name called;
  - any borrowing or lending in rupees in whatever form or by whatever name called between a person resident in India and a person resident outside India;
  - deposits between persons resident in India and persons resident outside India;
  - export, import or holding of currency or currency notes;
  - transfer of immovable property outside India, other than a lease not exceeding five years, by a person resident in India;
  - acquisition or transfer of immovable property in India, other than a lease not exceeding five years, by a person resident outside India;
  - giving of a guarantee or surety in respect of any debt, obligation or other liability incurred
- by a person resident in India and owed to a person resident outside India; or
- by a person resident outside India.
- A person resident in India may hold, own, transfer or invest in foreign currency, foreign security or any immovable property situated outside India if such currency, security or property was acquired, held or owned by such person when he was resident outside India or inherited from a person who was resident outside India.
- A person resident outside India may hold, own, transfer or invest in Indian currency, security or any immovable property situated in India if such currency, security or property was acquired, held or owned by such person when he was resident in India or inherited from a person who was resident in India.
- A person resident outside India may hold, own, transfer or invest in Indian currency, security or any immovable property situated in India if such currency, security or property was acquired, held or owned by such person when he was resident in India or inherited from a person who was resident in India.

### **Export of goods and services.**

- Every exporter of goods shall-

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- furnish to the Reserve Bank or to such other authority a declaration in such form and in such manner as may be specified, containing true and correct material particulars, including the amount representing the full export value or, if the full export value of the goods is not ascertainable at the time of export, the value which the exporter, having regard to the prevailing market conditions, expects to receive on the sale of the goods in a market outside India;
- furnish to the Reserve Bank such other information as may be required by the Reserve Bank for the purpose of ensuring the realization of the export proceeds by such exporter.
- The Reserve Bank may, for the purpose of ensuring that the full export value of the goods or such reduced value of the goods as the Reserve Bank determines, having regard to the prevailing market conditions, is received without any delay, direct any exporter to comply with such requirements as it deems fit.
- Every exporter of services shall furnish to the Reserve Bank or to such other authorities a declaration in such form and in such manner as may be specified, containing the true and correct material particulars in relation to payment for such services

### **Realization and repatriation of foreign exchange.**

Save as otherwise provided in this Act, where any amount of foreign exchange is due or has accrued to any person resident in India, such person shall take all reasonable steps to realize and repatriate to India such foreign exchange within such period and in such manner as may be specified by the Reserve Bank.

### **Exemption from realization and repatriation in certain cases.**

The provisions of sections 4 and 8 of the Act shall not apply to the following, namely:-

- possession of foreign currency or foreign coins by any person up to such limit as the Reserve Bank may specify;
- foreign currency account held or operated by such person or class of persons and the limit up to which the Reserve Bank may specify;
- foreign exchange acquired or received before the 8th day of July, 1947 or any income arising or accruing thereon which is held outside India by any person in pursuance of a general or special permission granted by the Reserve Bank;
- foreign exchange acquired from employment, business, trade, vocation, services, honorarium, gifts, inheritance or any other legitimate means up to such limit as the Reserve Bank may specify; and
- such other receipts in foreign exchange as the Reserve Bank may specify.

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### **Authorized person**

- The Reserve Bank may, on an application made to it in this behalf, authorize any person to be known as authorized person to deal in foreign exchange or in foreign securities, as an authorized dealer, money changer or off-shore banking unit or in any other manner as it deems fit.
- An authorization under this section shall be in writing and shall be subject to the conditions laid down therein.
- An authorization granted may be revoked by the Reserve Bank at any time if the Reserve Bank is satisfied that-
  - it is in public interest so to do; or
  - the authorized person has failed to comply with the condition subject to which the authorization was granted or has contravened any of the provisions of the Act or any rule, regulation, notification, direction or order made there under:
- Provided that no such authorization shall be revoked on any ground unless the authorized person has been given a reasonable opportunity of making a representation in the matter.
- An authorized person shall, in all his dealings in foreign exchange or foreign security, comply with such general or special directions or orders as the Reserve Bank may, from time to time, think fit to give, and, except with the previous permission of the Reserve Bank, an authorized person shall not engage in any transaction involving any foreign exchange or foreign security which is not in conformity with the terms of his authorization under this section.
- An authorized person shall, before undertaking any transaction in foreign exchange on behalf of any person, require that person to make such declaration and to give such information as will reasonably satisfy him that the transaction will not involve and is not designed for the purpose of any contravention or evasion of the provisions of this Act or of any rule, regulation, notification, direction or order made there under, and where the said person refuses to comply with any such requirement or make only unsatisfactory compliance therewith, the authorized person shall refuse in writing to undertake the transaction and shall, if he has reason to believe that any such contravention or evasion as aforesaid is contemplated by the person, report the matter to the Reserve Bank.
- Any person, other than an authorized person, who has acquired or purchased foreign exchange for any purpose mentioned in the declaration made by him to authorized person does not use it for such purpose or does not surrender it to authorized person within the specified period or uses the foreign exchange so acquired or purchased for any other purpose for which purchase or acquisition or foreign exchange is not permissible under the provisions of the Act or the rules or regulations or direction or

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order made there under shall be deemed to have committed contravention of the provisions of the Act for the purpose of this section.

### **Reserve Bank's powers to issue directions to authorized person.**

(1) The Reserve Bank may, for the purpose of securing compliance with the provisions of this Act and of any rules, regulations, notifications or directions made there under, give to the authorized persons any direction in regard to making of payment or the doing or desist from doing any act relating to foreign exchange or foreign security.

- The Reserve Bank may, for the purpose of ensuring the compliance with the provisions of this Act or of any rule, regulation, notification, direction or order made there under, direct any authorized person to furnish such information, in such manner, as it deems fit.
- Where any authorized person contravenes any direction given by the Reserve Bank under this Act or fails to file any return as directed by the Reserve Bank, the Reserve Bank may, after giving person a penalty which may extend to ten thousand rupees and in the case of continuing contravention with an additional penalty which may extend to two thousand rupees for every day during which such contravention continues. reasonable opportunity of being heard, impose on the authorised

### **Power of Reserve Bank to inspect authorised person.**

- The Reserve Bank may, at any time, cause an inspection to be made, by any officer of the Reserve Bank specially authorised in writing by the Reserve Bank in this behalf, of the business of any authorised person as may appear to it to be necessary or expedient for the purpose of
  - verifying the correctness of any statement, information or particulars furnished to the Reserve Bank;
  - obtaining any information or particulars which such authorised person has failed to furnish on being called upon to do so;
  - securing compliance with the provisions of this Act or of any rules, regulations, directions or orders made there under.
- It shall be the duty of every authorised person, and where such person is a company or a firm, every director, partner or other officer of such company or firm, as the case may be, to produce to any officer making an inspection, such books, accounts and other documents in his custody or power and to furnish any statement or information relating to the affairs of such person, company or firm as the said officer may require within such time and in such manner as the said officer may direct.

### **Penalties**

- If any person contravenes any provision of this Act, or contravenes any rule, regulation, notification, direction or order issued in exercise of the powers under this Act, or

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contravenes any condition subject to which an authorization is issued by the Reserve Bank, he shall, upon adjudication, be liable to a penalty up to thrice the sum involved in such contravention where such amount is quantifiable, or up to two lakh rupees where the amount is not quantifiable, and where such contravention is a continuing one, further penalty which may extend to five thousand rupees for every day after the first day during which the contravention continues.

- Any Adjudicating Authority adjudging any contravention, may, if he thinks fit in addition to any penalty which he may impose for such contravention direct that any currency, security or any other money or property in respect of which the contravention has taken place shall be confiscated to the Central Government and further direct that the foreign exchange holdings, if any, of the persons committing the contraventions or any part thereof, shall be brought back into India or shall be retained outside India in accordance with the directions made in this behalf. Explanation. For the purposes of this sub-section, "property" in respect of which contravention has taken place, shall include-
  - deposits in a bank, where the said property is converted into such deposits;
  - Indian currency, where the said property is converted into that currency; and
  - any other property which has resulted out of the conversion of that property.

### **Enforcement of the orders of Adjudicating Authority**

Subject to the provisions of sub-section (2) of section 19 of the Act, if any person fails to make full payment of the penalty imposed on him under section 13 within a period of ninety days from the date on which the notice for payment of such penalty is served on him, he shall be liable to civil imprisonment.

- No order for the arrest and detention in civil prison of a defaulter shall be made unless the Adjudication Authority has issued and served a notice upon the defaulter calling upon him to appear before him on the date specified in the notice and to show cause why he should not be committed to the civil prison, and unless the Adjudicating Authority, for reasons in writing, is satisfied-
  - that the defaulter, with the object or effect of obstructing the recovery of penalty, has after the issue of notice by the Adjudicating Authority, dishonestly transferred, concealed, or removed any part of his property, or
  - that the defaulter has, or has had since the issuing of notice by the Adjudicating Authority, the means to pay the arrears or some substantial part thereof and refuses or neglects or has refused or neglected to pay the same.
- Notwithstanding anything a warrant for the arrest of the defaulter may be issued by the Adjudicating Authority if the Adjudicating Authority is satisfied, by affidavit or otherwise, that with the object or effect of dealing the execution of the certificate the defaulter is likely to abscond or leave the local limits of the jurisdiction of the Adjudicating Authority.

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- Where appearance is not made pursuant to a notice issued and served, the Adjudicating Authority may issue a warrant for the arrest of the defaulter.
- A warrant of arrest issued by the Adjudicating Authority may also be executed by any other Adjudicating Authority within whose jurisdiction the defaulter may for the time being be found.
- Every person arrested in pursuance of a warrant of arrest shall be brought before the Adjudicating Authority issuing the warrant as soon as practicable and in any event within twenty-four hours of his arrest (exclusive of the time enquired for the journey): Provided that, if the defaulter pays the amount entered in the warrant of arrest as due and the costs of the arrest to the officer arresting him, such officer shall at once release him. Explanation- where the defaulter is a Hindu undivided family, the karta thereof shall be deemed to be the defaulter.
- When a defaulter appears before the Adjudicating Authority pursuant to a notice to show cause or is brought before the Adjudicating Authority under this section, the Adjudicating Authority shall give the defaulter an opportunity showing cause why he should not be committed to the civil prison.
- Pending the conclusion of the inquiry, the Adjudicating Authority may, in his discretion, order the defaulter to be detained in the custody of such officer as the Adjudicating Authority may think fit or release him on his furnishing the security to the satisfaction of the Adjudicating Authority for his appearance as and when required.
- Upon the conclusion of the inquiry, the Adjudicating authority may make an order for the detention of the defaulter in the civil prison and shall in that event cause him to be arrested if he is not already under arrest: Provided that in order to give a defaulter an opportunity of satisfying the arrears, the Adjudicating Authority may, before making the order of detention, leave the defaulter in the custody of the officer arresting him or of any other officer for a specified period not exceeding fifteen days, or release him on his furnishing security to the satisfaction of the Adjudicating Authority for his appearance at the expiration of the specified period if the arrears are not satisfied.
- When the Adjudicating Authority does not make an order of detention, he shall, if the defaulter is under arrest, direct his release.
- Every person detained in the civil prison in execution of the certificate may be so detained,-
  - where the certificate is for a demand of an amount exceeding rupees one crore, up to three years, and
  - in any other case, up to six months: Provided that he shall be released from such detention on the amount mentioned in the warrant for his detention being paid to the officer-in-charge of the civil prison.

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- A defaulter released from detention shall not, merely by reason of his release, be discharged from his liability for the arrears, but he shall not be liable to be arrested under the certificate in execution of which he was detained in the civil prison.
- A detention order may be executed at any place in India in the manner provided for the execution of warrant of arrest under the Code of Criminal Procedure, 1973 (2 of 1974).

### **Power to compound contravention**

- Any contravention under section 13 of the Act may, on an application made by the person committing such contravention, be compounded within one hundred and eighty days from the date of receipt of application by the Director of Enforcement or such other officers of the Directorate of Enforcement and officers of the Reserve Bank as may be authorised in this behalf by the Central Government in such manner as may be prescribed.
- Where a contravention has been compounded, no proceeding or further proceeding, as the case may be, shall be initiated or continued, as the case may be, against the person committing such contravention under that section, in respect of the contravention so compounded.

### **Presumption as to documents in certain cases**

Where any document-

1. is produced or furnished by any person or has been seized from the custody or control of any person, in either case, under this Act or under any other law; or
2. has been received from any place outside India (duly authenticated by such authority or person and in such manner as may be prescribed) in the course of investigation of any contravention under this Act alleged to have been committed by any person, and such document is tendered in any proceeding under this Act in evidence against him, or against him and any other person who is proceeded against jointly with him, the court or the Adjudicating Authority, as the case may be, shall-
  - presume, unless the contrary is proved, that the signature and every other part of such document which purports to be in the handwriting of any particular person or which the court may reasonably assume to have been signed by, or to be in the handwriting of, any particular person, is in that person's handwriting, and in the case of a document executed or attested, that it was executed or attested by the person by whom it purports to have been so executed or attested;
  - admit the document in evidence notwithstanding that it is not duly stamped, if such document is otherwise admissible in evidence;

**Suspension of operation of this Act**

- If the Central Government is satisfied that circumstances have arisen rendering it necessary that any permission granted or restriction imposed by this Act should cease to be granted or imposed, or if it considers necessary or expedient so to do in public interest, the Central Government may, by notification, suspend or relax to such extent either indefinitely or for such period as may be notified, the operation of all or any of the provisions of this Act.
- Where the operation of any provision of this Act been suspended or relaxed indefinitely, such suspension or relaxation may, at any time while this Act remains in force, be removed by the Central Government by notification.
- Every notification issued under shall be laid, as soon as may be after it is issued, before each House of Parliament, while it is in session, for a total period of thirty days which may be comprised in one session or in two or more successive sessions, and if, before the expiry of the session immediately following the session or the successive sessions aforesaid, both Houses agree in making any modification in the notification or both Houses agree that the notification should not be issued, the notification shall thereafter have effect only in such modified form or be of no effect, as the case may be; so, however, that any such modification or annulment shall be without prejudice to the validity of anything previously done under that notification.

**Power of Central Government to give directions**

For the purposes of this Act, the Central Government may, from time to time, give to the Reserve Bank such general or special directions as it thinks fit and the Reserve Bank shall, in the discharge of its functions under this Act, comply with any such directions.

**Contravention by companies**

- Where a person committing a contravention of any of the provisions of this Act or of any rule, direction or order made there under is a company, every person who, at the time the contravention was committed, was in charge of, and was responsible to, the company for the conduct of the business of the company as well as the company, shall be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly;
- where a contravention of any of the provisions of this Act or of any rule, direction or order made there under has been committed by a company and it is proved that the contravention has taken place with the consent or connivance of, or is attributable to any neglect on the part of, any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of the contravention and shall be liable to be proceeded against and punished accordingly.

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Explanation.

- (i) "company" means any body corporate and includes a firm or other association of individuals; and
- (ii) "director", in relation to a firm, means a partner in the firm.

(Note: for full details and clarifications, please refer bare Act)

### Disclosures in Banks Balance Sheet on Treasury

In order to help in the creation of a central database on private placement of debt, a copy of all offer documents should be filed with a credit information company, which has obtained Certificate of Registration from the Reserve Bank and of which the bank is a member, by the investing banks. Further, any default relating to interest/ installments in respect of any privately placed debt should also be reported to a credit information company, which has obtained Certificate of Registration from the Reserve Bank and of which the bank is a member, by the investing banks along with a copy of the offer document.

Banks should disclose the details of the issuer composition of non-SLR investments and the non-performing non-SLR investments in the 'Notes on Accounts' of the balance sheet, as indicated in the following **Annex V**:

Banks should make the following disclosures in the 'Notes on Accounts' of the balance sheet in respect of their non-SLR investment portfolio, with effect from the financial year ending 31 March ----.						
<b>(i) Issuer composition of Non SLR investments</b>						
(₹ in crore)						
No.	Issuer	Amount	Extent of private placement	Extent of 'below investment grade' securities	Extent of 'unrated' Securities	Extent of 'unlisted' securities
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	PSUs					
2	FIs					
3	Banks					
4	Private corporates					
5	Subsidiaries/ Joint ventures					

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6	Others					
7	Provision held towards depreciation		X X X	X X X	X X X	X X X
	Total *					

**NOTE:** 1. \* Total under column 3 should tally with the total of investments included under the following categories in Schedule 8 to the balance sheet:

Shares

Debentures & Bonds

Subsidiaries/ joint ventures

Others

2. Amounts reported under columns 4, 5, 6 and 7 above may not be mutually exclusive.

### ii) Non performing Non-SLR investments

<i>Particulars</i>	<i>Amount (₹ Crore)</i>
Opening balance	
Additions during the year since 1 <sup>st</sup> April	
Reductions during the above period	
Closing balance	
Total provisions held	

## Trading and Settlement in Corporate Debt Securities

As per the SEBI guidelines, all trades with the exception of the spot transactions, in a listed debt security, shall be executed only on the trading platform of a stock exchange. In addition to complying with the SEBI guidelines, banks should ensure that all spot transactions in listed and unlisted debt securities are reported on the NDS and settled through the CCIL from a date to be notified by the Reserve Bank.

All OTC trades in corporate bonds shall necessarily be cleared and settled through the *National Securities Clearing Corporation Ltd. (NSCCL)* or *Indian Clearing Corporation Ltd. (ICCL)* or *MCX-SX Clearing Corporation Ltd. (MCX-SX CCL)* as per the norms specified by the NSCCL, ICCL and MCX-SX CCL from time to time.

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### **Repo in Corporate Debt Securities**

Eligible entities as per detailed guidelines issued by RBI can undertake repo in corporate debt securities which are rated 'AA' or above (or such other equivalent rating for instruments of maturity below one year) by the rating agencies, that are held in the security account of the repo seller, in demat form.

### **Settlement of OTC Transactions - in Certificates of Deposit (CDs) and Commercial Papers (CPs)**

Banks shall report their OTC transactions in CDs and CPs on the FIMMDA reporting platform within 15 minutes of the trade for online dissemination of market information.

Further, all OTC trades in CDs and CPs shall necessarily be cleared and settled through the National Securities Clearing Corporation Limited (NSCCL) or Indian Clearing Corporation Limited (ICCL) or MCX-SX Clearing Corporation Limited (MCX-SX CCL) as per the norms specified by NSCCL, ICCL and CCL from time to time.

### **Limits on Banks' Exposure to Capital Markets**

#### **A. Solo Basis**

The aggregate exposure of a bank to the capital markets in all forms (both fund based and non-fund based) should not exceed 40 per cent of its net worth as on March 31 of the previous year. Within this overall ceiling, the bank's direct investment in shares, convertible bonds / debentures, units of equity-oriented mutual funds and all exposures to Venture Capital Funds (VCFs) [both registered and unregistered] should not exceed 20 per cent of its net worth.

#### **B. Consolidated Basis**

The aggregate exposure of a consolidated bank to capital markets (both fund based and non-fund based) should not exceed 40 per cent of its consolidated net worth as on March 31 of the previous year. Within this overall ceiling, the aggregate direct exposure by way of the consolidated bank's investment in shares, convertible bonds / debentures, units of equity-oriented mutual funds and all exposures to VCFs ([both registered and unregistered]) should not exceed 20 per cent of its consolidated net worth.

The above-mentioned ceilings are the maximum permissible and a bank's Board of Directors is free to adopt a lower ceiling for the bank, keeping in view its overall risk profile and corporate strategy. Banks are required to adhere to the ceilings on an ongoing basis.

### **FEDAI Guidelines for Merchant Quotes**

Foreign exchange transactions in the foreign exchange market can be broadly divided into two kinds:

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1. Merchant transactions and
2. Inter bank transactions. While the dealing of a bank with its customer is known as merchant business or merchant transactions and the rates quoted in such transactions are called 'merchant rates', the foreign exchange transaction between banks are known as interbank transactions and the rates quoted in such transactions are known as 'interbank rates'.

*When a merchant transaction takes place:* The exporter in order to convert his sale proceeds received in the form of foreign currency into domestic currency approaches the banker of his country. Similarly, the importer approaches his banker in his country to convert the domestic currency into foreign currency. Such transaction also takes place when a resident approaches his bank to convert foreign currency received by him into home currency and vice versa. In both the deals the banks book a profit. These explain the existence of a distinct relationship between merchant rates and interbank rates. The prevailing interbank rate becomes the basis for merchant rates.

The merchant business in which the contract with the customer to buy or sell foreign exchange is agreed to and executed on the same day is known as 'ready transaction' or 'cash transaction'. As in the case of inter bank transactions, a 'value next day' contract is deliverable on the next business day and a 'spot contract' is deliverable on the second succeeding business day following the date of the contract. Most of the transactions with customers are on ready basis. In practice, the terms 'ready' and 'spot' are used synonymously to refer to transactions concluded and executed on the same day.

### **Basis for Merchant Rates**

When the bank buys foreign exchange for the customer, it sells the same in the interbank market at better rates and thus makes a profit out of the deal. In the interbank market, the bank will accept the rate as dictated by the market. It can therefore sell foreign exchange in the market at the market buying rate for the currency concerned. Thus the interbank buying rate forms the basis for quotation of buying rate by the bank to its customer. In the same manner, when the bank sells foreign exchange to the customer, it meets the commitment by purchasing the required foreign exchange from the interbank market. It can acquire foreign exchange from the market at the market selling rate. Therefore, the interbank selling rate forms the basis for quotation of selling rate to the customer by the bank. The interbank rate on the basis of which the bank quotes its merchant rate is known as base rate.

### **Exchange Margin:**

When a merchant customer approaches his banker for foreign exchange and if the bank quotes the base rate to the customer, it makes no profit. On the other hand, there are administrative costs involved in the transaction. Moreover, the deal with the customer takes place first and only after acquiring or selling the foreign exchange from/to the customer, the

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bank goes to the interbank market to sell or acquire the foreign exchange required to cover the deal with the customer. Between these transactions there will be time gap of say an hour or two and the exchange rates are fluctuating constantly and by the time the deal with the market is concluded, the exchange rate might have turned adverse to the bank. Under such circumstances, to cover the administrative cost, to overcome the exchange fluctuation and gain some profit on the transaction to the bank sufficient margin need to be built into the rate. This is done by loading exchange margin to the base rate. The quantum of margin that is built into the rate is determined by the bank concerned, keeping with the market trend.

FEDAI has standardized the exchange margin to be charged by the banks and the banks are free to load margins within the range. The FEDAI fixed margins are:

1. TT Purchase rate 0.025% to 0.080%
2. Bills Purchase rate 0.125% to 0.150%
3. TT Selling rate 0.125% to 0.150%
4. Bills selling rate 0.175% to 0.200%

(Over TT selling rate)

### ***Fineness of Quotation:***

The exchange rate is quoted upto 4 decimals in multiples of 0.0025. The quotation is for one unit of foreign currency except in the case of Japanese Yen, Belgian Franc, Italian Lira, Indonesian Rupiah, Kenyan Shilling, Spanish Peseta and currencies of Asian Clearing Union countries (Bangladesh Taka, Myanmar Kyat, Iranian Riyal, Pakistani Rupee and Sri Lankan Rupee) where the quotation is per 100 units of the foreign currency concerned. Examples of valid quotations are:

USD 1 = ₹ 43.2350

GBP 1 = ₹ 63.3525

EUR 1 = ₹ 43.5000

JPY 100 = ₹ 35.6075

While computing the merchant rates, the calculations can be made upto five places of decimal and finally rounded off to the nearest multiple of 0.0025. For example, if rate for US dollar works out to ₹ 43.12446 per dollar, it can be rounded off to ₹ 43.1250. The rupee amount paid to or received from a customer on account of exchange transaction should be rounded off to the nearest rupee, i.e., up to 49 paise should be ignored and 50 to 99 paise should be rounded off to higher rupee (Rule 7 of FEDAI).

## **Different Modes Of Foreign Exchange Remittances**

The flow of foreign exchange may take the form either moving into the country as a result of purchase transaction or moving out of the country as a result of a sale transaction. In either

case the remittances could take place through various forms. The different forms of remittances are:

1. Demand draft
2. Mail transfer
3. Telegraphic transfer and
4. Personal cheques.

### **Types of Buying Rates**

In a purchase transaction the bank acquires foreign exchange from the customer and pays him in Indian rupees. Under such circumstances, while some of the purchase transactions result in the bank acquiring foreign exchange immediately, some may take time in the acquisition of foreign exchange. Say for instance, if the bank pays a demand draft drawn on it by its correspondent bank, there is no delay because the foreign correspondent bank would have already credited the nostro account of the paying bank while issuing the demand draft. On the other hand, if the bank purchases an 'On demand' bill from the customer, it has first to be sent to the drawee's place for collection. The bill will be sent to the correspondent bank for collection. The correspondent bank will present the bill to the drawee. The nostro account of the bank with its correspondent bank is credited only when the drawee makes payment against the bill. Suppose this takes 20 days, the bank will acquire foreign exchange only after 20 days. Based on the time of realization of foreign exchange by the bank, the bank quotes two types of buying rates:

1. TT Buying Rate
2. Bill Buying Rate.

### **TT Buying Rate (TT stands for Telegraphic Transfer)**

When there is no delay involved in the realization of foreign exchange by the bank then the rate applicable in such a transaction is TT Buying rate. In other words, the banks account with the overseas bank would have already been credited with the amount. In order to arrive at the TT buying rate, the exchange margin is deducted from the inter bank buying rate. Though the name implies telegraphic transfer, it is not necessary that the proceeds of the transaction are received by telegram. Any transaction where no delay is involved in the bank acquiring the foreign exchange will be done at the TT rate. Transactions where TT rate is applied are:

1. Payment of demand drafts, mail transfers, telegraphic transfers, etc. drawn on the bank where bank's nostro account is already credited;

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2. Foreign bills collected. When a foreign bill is taken for collection, the bank pays the exporter only when the importer pays for the bill and the bank's nostro account abroad is credited;
3. Cancellation of foreign exchange sold earlier. For instance, the purchaser of a bank draft drawn on New York may later request the bank to cancel the draft and refund the money to him. In such case, the bank will apply the TT buying rate to determine the rupee amount payable to the customer.

The method of calculating TT buying rate for foreign exchange to be purchased for US dollars is as under:

### TT Buying Rate

Dollar / Rupee market spot buying rate	= ₹ .....
Less: Exchange margin	= ₹ .....
TT Buying rate	= ₹ .....

Rounded off to nearest multiple of 0.0025.

### Bill Buying Rate

When a foreign bill is purchased the rate applicable would be bill buying rate. Under this, when a bill is purchased, the proceeds will be realized by the bank after the bill is presented to the drawee at the overseas center. In the case of a usance bill the proceeds will be realized on the due date of the bill which includes the transit period and the usance period of the bill. Let us suppose that a sight bill on London is purchased; the realization will be after a period of about 20 days (transit period) and the bank would be able to dispose of the foreign exchange only after this period. Therefore, the rate quoted to the customer would be based not on the spot rate in the interbank market, but on the interbank rate for 20 days forward. Similarly, if the bill purchased is 30 days usance bill, then the bill will be realized after about 50 days (20 days transit plus 30 days usance bill, period). Therefore, the bank would be able to dispose of foreign exchange only after 50 days; the rate to the customer would be based on the interbank rate for 50 days forward.

It is important in this context that while loading the bills buying rate with forward margin two points need to be taken into account. First, forward margin is normally available for periods of a calendar month and not for 20 days etc. Secondly, forward margin may be at a premium or discount. Premium is to be added to the spot rate and discount should be deducted from it. Since the bank's aim is to book profit, while making calculations, the bank will see that the period for which forward margin is loaded is beneficial to the bank.

Let us suppose that on 23rd January interbank quotation for US dollar was as under:

Spot USD 1 = ₹ 43.5000/5500

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Spot/January 2000/2100

Spot /February 5000/5100

/March 7500/7600

The bank wants to calculate bill buying rate for a sight bill. The transit period is, say 20 days. The bill will fall due on 12th February. Apparently, the forward rate relevant is spot/February rate as this is valid for the entire month of February. However, it should be noted that forward dollar is at premium. The customer will be getting more rupees per dollar under the forward rate than under the spot rate. As we have already seen, the forward premium represents the interest differential. The Spot/February forward premium includes interest differential up to the last day of February. As this benefit does not fully accrue on 12th February, when the bill is expected to mature, the bank will not concede premium up to this month. It will concede premium only up to the last completed month and base its bill buying rate for dollar on the Spot/January forward rate. [If the bank takes Spot/February forward premium, the base rate will be ₹44.0000. By taking only Spot/January premium, the bank offers only ₹ 43. 7000 per dollar, which is beneficial to the bank.] In case of a 30 days' usance bill submitted on the same date, the expected due date (called the notional due date) is 14th March. The bank will concede premium only up to February. Thus, where the foreign currency is at premium, while calculating the bill buying rate, the bank will round off the transit and usance periods to lower month.

Let us assume that on 18th April, the dollar is at discount and the quotation in the interbank market is as under:

Spot USD 1 = ₹ 42.7500/8000

Spot/April 1300/1200

/May 3000/2900

/June 5500/5400

Let us consider an example that the bank is required to quote a rate for purchasing a sight bill on New York. Transit period is 20 days. The bill will fall due on 8th May. Since dollar is at discount, forward dollar fetches lesser rupees than spot dollars. In other words, longer the forward period involved, the bank is able to get dollar from the customer at cheaper rate. Therefore, the bank will deduct discount up to May end while quoting for this bill. In case of a usance bill for 30 days, the due date falls on 7th June. The bank will base its rate to the customer on Spot/June forward rate. Here, the due date of the bill is rounded off to the higher month, i.e., end of the month in which it falls. Thus, where the foreign currency is at discount, while calculating the bill buying rate, the bank will round off the transit and usance periods to higher month.

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It is important to keep in mind the rule for loading forward margin in the bill buying rate : For calculating bill buying rate, if the forward margin is at premium round off the transit period and usance period to lower month; if the forward margin is at discount round off the forward margin to the higher month.

In the TT buying rate, the bank would include exchange margin in the rate quoted to the customer while quoting for purchase of bills also. The margin may be slightly higher than that for TT buying rate.

It could be observed that there will be more than one bill rate, each for a different period of usance of the bill. The method of calculating bill buying rate is as follows:

Bill Buying Rate

Dollar/Rupee market spot buying rate = ₹ .....

Add : Forward premium

(For transit and usance; rounded off to lower month)

OR

Less: Forward discount

(For transit and usance: rounded off to higher month)

± ₹..... = ₹ .....

Less: Exchange margin - ₹ .....

Bill buying rate = ₹ .....

Rounded off to the nearest multiple of 0.0025

### Recovery of Interest on Bills Purchased

When the bank buys a bill from the customer, it immediately pays him in Indian rupees. The bank is entitled to claim interest from the customer from the date of purchase of the bill till the bill realized and credited to the nostro account of the bank with correspondent bank abroad.

On the rupee value of the bill purchased, on the date of purchase itself, the bank should collect separately, by debit to customer's account, the interest on the bill up to its anticipated due date (called the 'notional due date') comprising:

1. the normal transit period;
2. the usance of the bill; and
3. the grace period, if applicable at the place where the bill is drawn payable.

The normal transit period is the period of transit allowed by FEDAI for bills drawn on different countries. The rate of interest to be collected will be determined by the bank concerned

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subject to the directives of Reserve Bank in this regard. Interest shall also be rounded off to the nearest rupee.

Rate value of bill x Rate of Interest x Number of days 100 x 365

For the bill in Example assuming an interest rate of 10% p.a., the interest recovered on purchase of the bill would be as follows:

4298,750 x 10 x 20

100 x 365

=₹ 23,555

### Types of Selling Rates:

In a sale transaction when the bank sells foreign exchange it actually receives Indian rupees from the customer and parts with foreign currency. The sale is effected by issuing a payment instrument on the correspondent bank with which it maintains the nostro account. Immediately on sale, the bank buys the requisite foreign exchange from the market and gets its nostro account credited with the amount so that when the payment instrument issued by it is presented to the correspondent bank it can be honored by debit to the nostro account. Therefore for all sales on ready/spot basis to the customer, the bank resorts to the interbank market immediately and the base rate is the interbank spot selling rate. However, depending upon whether the sale involves handling of documents by the bank or not, two types of selling rates are quoted in India. They are:

1. TT selling rate; and
2. Bills selling rate.

### TT Selling Rate

This is the rate applicable for all transactions which do not involve handling of documents by the Transactions for which this rate is quoted are:

1. Issue of demand drafts, mail transfers, telegraphic transfers, etc., other than for retirement of an import bill; and
2. Payment made for an import transaction where documents were received directly by the importer;
3. Cancellation of a purchase transaction.

The TT selling rate to the customer is calculated on the basis of interbank selling rate by adding exchange margin to the interbank rate.

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### Bills Selling Rate

This rate is to be used for all transactions which involve handling of documents by the bank: for example, payment against import bills.

This bills selling rate is calculated by adding exchange margin to the TT selling rate. That means the exchange margin enters into the bills selling rate twice, once on the interbank rate and again on the TT selling rate.

The method of calculating selling rate is given below:

Selling Rates (TT and Bills Selling)	
Dollar / Rupee market spot selling rate	= Rs. ....
Add : Exchange margin for TT selling rate	+ Rs. ....
TT Buying rate	= Rs.
.....	
Add : Exchange margin for Bills selling rate	+ Rs. ....
Bills Selling Rate	= Rs. ....
Rounded off to nearest multiple of 0.0025 and quoted to customer.	

### Some aspects of exchange quotation

#### Spread Between TT Rates:

While making exchange quotations the banks have the discretion to include the exchange margin at rates determined by them. However, the maximum spread between TT buying and TT selling rates quoted to the customers shall be as follows:

Name of Currency	Current maximum spread between customer rates for TT buying and TT selling from the mean TT rate (taking both sides together)
(i) US dollar	1 %
(ii) Pound sterling, Deutsche mark, Japanese yen, French franc, Swiss franc, Dutch guilder and Australian dollar	2 %
(iii) Other currencies	No limit at present, but banks shall keep the rate spread to the minimum.

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The banks are however, free to quote to customers rates which are better than those warranted by the spread limits.

Let us call the currency (other than US dollar) for which the exchange rate is calculated (Calculation of ready rates) as the 'foreign currency'. Suppose a customer tenders a foreign current bill for purchase by the bank. In the case of a foreign currency being tendered by the customer, the bank should first get foreign currency converted to US dollar in the international market. In other words, it has to buy dollars in the international market against foreign currency. The bank can do so at the market selling rate for dollar. Therefore the merchant rate for the foreign currency would be calculated by crossing the dollar selling rate against the foreign currency in the international market and dollar buying rate against rupee in the interbank market. The method of calculating ready rates thus is tabulated below.

TT Buying Rate	
Dollar / Rupee market spot buying rate	= Rs. ....
Less : Exchange margin	- Rs. ....
TT Buying rate for dollar	= Rs. ....
Dollar/Foreign Currency market spot selling rate	= FC ....
TT buying rate for Foreign Currency = (1) divided by (2)	= Rs. ....
Rounded off to nearest multiple of 0.0025.	

Bill Buying Rate	
Dollar/Rupee market spot buying rate	Rs. ....
Add : Forward premium ( for transit and usance Periods; rounded off to lower month)	
OR	
Less : Forward discount (for transit and usance Periods; rounded off to higher month)	± Rs. ....

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Less : Exchange margin	- Rs. ....
Bill buying rate for dollar	= Rs. ....
Dollar/Foreign currency market spot selling rate	= FC .....
Add : Forward premium (for transit and usance periods : Rounded off to higher month)	
OR	
Less : Forward discount (for transit and usance periods; Rounded off to lower month)	± FC .....
	= FC .....
Bill buying rate for foreign currency = (1) Divided by (2) (2)	= Rs. ....
Rounded off to nearest multiple to 0.0025.	

### **Selling Rates**

When the bank sells foreign exchange (other than dollar) to the customer, it has acquired the required foreign currency in the international market by selling equivalent US dollars. The bank can sell US dollars in the international market the market buying rate for US dollars against the foreign currency concerned dollars required to effect this sale have to be acquired in the interbank market the market selling rate. Therefore, in calculating the merchant selling rate foreign currency the relevant rates are dollar buying rate against the foreign currency concerned in the international market and dollar selling rate against rupees the interbank market.

## **RBI Guidelines on Internal Control**

### **General**

Foreign Exchange dealing is a highly specialized function and has to be performed only by well trained personnel. Typically, a Dealing Department should consist of dealers, mid and back offices staff, which is responsible for the follow up of the deals made by the dealers. The need for effective control over the dealing operations is of great importance as possibilities exist for manipulation of exchange rates, dealing positions, mismatches, etc.

### **Segregation**

The cardinal principle of operational procedures in the area of trading activities is the clear functional segregation of Dealing, Mid-Office, Back-Office (Processing and Control), Accounting and Reconciliation.

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In respect of banks which trade actively and offer the whole range of products, dealing activities may be segregated as under:

- (i) Front Office - Dealing Room
- (ii) Mid - Office - Risk Management; Accounting Policies and Management Information System
- (iii) Back Office - Settlement, Reconciliation, Accounting

### **Selection and Training of Dealers**

Onerous responsibility rests upon the dealers as the manner of handling the foreign exchange business of the bank can make all the difference to the bank and its customers. Adequate care therefore needs to be exercised while selecting and grooming the dealers. Management should provide opportunities to the dealing room staff to get continuously updated on global market trends in forex and derivatives trading and risk control.

While drafting personnel from other banks or organizations as dealers their antecedents should be carefully verified from the standpoint of integrity.

### **Electronic Data Processing (EDP)**

The data processing systems used must be appropriate to the nature and volume of activities and programmed to ensure functional separation. Access rules for performing distinct functions should be defined in detail and drawn up by persons unconnected with the dealing activity. Confidentiality of the data in the systems may be ensured in the case of outsourcing of IT services to external agencies.

Where data is recorded direct in an EDP system, it must be ensured that dealers are enabled to enter transactions solely through identification. The trading date, time and transaction serial number must be entered automatically by the system, which must be made impossible for the dealer to alter without proper authorization. If the dealer deviates from the specified norms while entering transaction data, this must be approved in each case by an official not connected with the dealing office.

Deals concluded after the Back Office has closed recording for the day (late deals) are to be marked as such and included in that day's position. A late deal slip must be passed immediately to an official unconnected with the dealer.

### **Duties of Dealers**

The dealer has to operate according to the guidelines laid down by the management. Ideally dealers may confer before work starts on the trend in the overnight markets in the light of the news bag and the bank's own business and arrive at a tentative view of the market. It is essential that efficient communication channels be provided for dealers to facilitate consultations with designated authorities.

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### **Dealing Procedure**

The dealers should not be entrusted with accounting work. Deals struck should be recorded on printed deal slips. The deal slips should indicate the name of the broker (if any), and the counterparty bank, currencies, amounts, time, deal rate due dates and other necessary particulars depending on the type of product traded, under authentication of the dealer. The deal slips should be passed on without delay to the Back Office for further processing. Banks are free to devise the format of the slips. In an automated system, hard copies of deal slips may not be required.

### **Voice Recording**

Experience has shown that recourse to taped conversation proves invaluable to the speedy resolution of differences. It is, therefore, desirable to introduce voice recorders in the dealing rooms. The tapes may be preserved for at least two months and where a dispute has been raised, until the issue is resolved. Access to the equipment and tapes should be subject to strict control.

### **Rotation of Dealers**

The tenure and rotation of duties of dealers may be decided by the individual bank management which may, however, be documented in the bank's internal control policies. Further, a system of an annual compulsory two-week (or longer) continuous break should be maintained so that no dealer remains at the job continuously.

### **Code of Conduct**

Authorized Dealers should conduct their activities with utmost prudence and integrity. Authorised Dealers must ensure that the staff concerned in the dealing room understand and abide by the Code of Conduct prescribed by FEDAI and FIMMDA. Dealers should be required to acknowledge in writing that they have read, understood and would observe the Code. It must be made clear to them that disciplinary actions could be taken against those who breach the Code. All dealers should furnish an undertaking to conform to the Codes of Conduct.

### **Code of conduct for Electronic Order Matching System (EOMS)**

In the Indian forex broking service space, voice brokers are accredited by the FEDAI. With the advent and wide spread usage of technology, electronic forex broking and order matching systems have arrived in the forex market. As service providers were not subject to any regulation, FEDAI in 2009, evolved a Code of Conduct and Rules for self-regulation by EOMS. This has been communicated to the service providers to whom the Code is applicable with effect from January 1, 2010.

### **Back Office**

The Back Office should ensure the following:

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- (a) Independent confirmation of contracts is obtained for deals other than those put through the Clearing Corporation of India Ltd (CCIL), which are matched by CCIL from the counterparty banks and subject to exchange of one time bilateral agreement between them and duly verified for correctness and in no case the dealers sign the confirmation. In regard to Cash/Tom/Spot contracts, confirmations may not be followed-up, if the amounts thereof have already been received in the Nostro accounts.
- (b) Discrepancies noticed are rectified on the same day.
- (c) It should be ensured that there is no backlog of confirmation of deals.
- (d) In respect of computer generated deal confirmation slips, which are not signed, banks issuing such confirmations execute a stamped agreement in favour of the counterparty banks assuming responsibilities for errors/ omissions.
- (e) As most of the deals at present are put through online, pipeline transactions may be 'nil' or very few. The need for submitting a statement of true currency position is left to the discretion of the bank management.
- (f) The Position and Funds Registers are continuously updated on the basis of deal slips and the reports of business flowing in from the branches, to assist the efficient transmission of information to the dealing room and the management.
- (g) In such of those banks where the system does not provide the facility, Rate-Scan reports are prepared at least thrice a day (viz. at opening hours, afternoon and closing hours) and deals at wide variance with the ongoing market rates are enquired into.

### Dealings in Exchange Traded Currency Products

The Currency Futures in the USD/INR pair were introduced in India in August 2008 through recognized exchanges, regulated by the SEBI. Subsequently, Currency futures in the Euro/INR, JPY/INR and GBP/INR pairs and Currency Options in the USD/INR pair have also been introduced.

Exchanges would normally require margin amounts to be deposited with them for trading in their products. The margin amount would vary, depending upon currency volatility and other factors. At the end of business each day, the exchanges, based on closing prices, publish a daily settlement price, on the basis of which individual client's MTM may be computed.

Banks dealing in exchange traded products on behalf of their customers must ensure that the margin amounts required by the exchanges are recovered from their customers, as also the negative MTM, based on the daily settlement price. For proprietary trading portfolios in exchange traded products, banks must ensure revaluation of their portfolios on a daily basis, and apply stop loss norms as deemed fit, to these positions. All guidelines of the RBI, SEBI as well as extant regulatory guidelines, must be adhered to.

## **Dealings through Exchange Brokers**

### **Exchange Brokers – Prohibitions**

Exchange brokers, being intermediaries, are prohibited from acting as principals and maintaining positions in foreign currencies. Banks should therefore refrain from doing anything which may result in the brokers taking over the function of dealers/ intermediaries.

### **Deals through Brokers – Confirmation**

Brokers' notes should be received promptly before the close of business on the day on which the deals are concluded and exceptionally before the opening hours of the succeeding day. These should be checked and reconciled the same day.

### **Nomination of Brokers**

Nomination of brokers for deals not put through their medium is not permitted.

### **Brokers' Panels**

As a general rule, Authorised Dealer banks should not discriminate between recognized brokers for business offered at competitive terms. Ideally, at least 5/6 brokers should be empanelled and the panel should be reviewed annually, taking into account the nature and volume of the business done through the brokers, their market reputation, credit worthiness, etc.

### **Complaints**

Any complaint from any source against the dealers must be promptly investigated.

Serious complaints alleging acceptance of gifts and other favours (or any other gratification) by the dealers should be put up to the appropriate authorities for necessary action. All such cases should be reported to the Central Offices of the Department of Banking Supervision and Customer Service Department of the Reserve Bank of India, indicating the nature of actions taken.

### **Payment of Brokerage Claims**

The accounting department should maintain a broker-wise record showing details of the forex dealings made by the dealers. The staff of the dealing department should not have anything to do with the scrutiny and passing or payment of brokerage claims.

### **Brokerage Statements**

A monthly statement showing broker-wise payments together with a statement for the preceding twelve months should be put up to the management. Changes in the panel of brokers may also be indicated in the report.

## Malpractices by Brokers

Complaints relating to malpractices by brokers should be promptly brought to the notice of the Foreign Exchange Dealers Association of India, Mumbai.

## Risk Control and Risk Management

### Introduction

In the wake of the major relaxation in foreign exchange management and the freedom given to Authorised Dealer banks to offer new forex products, focus on risks seems appropriate. Greater emphasis therefore will have to be laid on assessing, and managing risk. Authorised Dealers should offer products (structured or otherwise) to the customers strictly as per the extant Reserve Bank's Guidelines.

### Requirements of the system

The risk control and risk management systems must be designed in accordance with the scale, complexity and risk content of the trading activities being conducted or envisaged.

### Responsibilities of the Senior Management

Transactions in different hedging products (forwards and derivatives) have to be closely overseen by the senior management. Dealing in any new product or any change in the existing product design should have prior approval from the competent authority. Banks should have policies approved by the Board or a Committee so authorised in this regard by the Board, encompassing control processes guiding the activities.

The policies should detail the type and nature of the activity authorised, articulate the risk tolerance of the bank through comprehensive risk limits and require regular risk position and performance reporting within the following broad parameters which should be subject to periodical review. The policy of the banks to be approved as above should inter-alia, include the following:

- (a) the business strategies on which trading in the individual product groups is based;
- (b) the markets in which trading is allowed;
- (c) the nature, scope, legal framework and documentation of trading activities;
- (d) the list of counterparties with whom trade may be conducted;
- (e) the procedures for measuring, analyzing, monitoring and managing the risks;
- (f) ceilings for risk positions according to the type of business or risk organizational unit or portfolio;

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- (g) the procedure for reacting to (i) any overshooting of the limits and (ii) to extreme market developments;
- (h) the functions and responsibilities of individual members of staff and work units;
- (i) internal accounting and external/internal reporting;
- (j) staffing and technical equipment;
- (k) the internal control and monitoring system;
- (l) the maintenance of confidentiality in respect of trades;
- (m) 'Suitability and Appropriateness' guidelines;
- (n) electronic trading platforms;
- (o) access control to dealing room, with audit trails,
- (p) access control management and review.

It is essential that there must be a written acknowledgement of these guidelines from the members of the staff confirming that they have noted the relevant instructions applicable to them.

The bank should have an effective process of evaluation and review of the risks involved in various trading activities undertaken by the dealers, in respect of all hedging products. Some of these risks are mentioned below.

### **Credit Risk**

Credit risk (Pre Settlement and Settlement) is the risk of loss due to inability or unwillingness of the counterparty to meet its obligation. This risk can be effectively managed through fixing of counterparty limits, appropriate measurement of exposures, ongoing credit evaluation and monitoring, and following sound operating procedures.

#### **(a) Pre-settlement Risk**

Pre settlement risk is the risk of loss due to counterparty defaulting on a contract during the life of the transaction. The exposure is also referred to as the replacement cost. The level of this exposure varies throughout the life of the hedging product and is known with certainty only at the time of default. A key tool for the effective management of this risk is the fixation of exposure limits on counterparties.

#### **(b) Settlement Risk**

Settlement risk is the risk of loss which arises when a bank performs its obligation under a contract prior to the counterparty doing so. The risk frequently arises in international transactions because of time zone differences. The failure to perform may be due to

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operational breakdown, counterparty default or legal impediments. Banks should, therefore, monitor and control settlement risk very effectively.

### **Liquidity Risk**

Liquidity risk is the risk that the bank will be unable to meet its funding requirements or execute a transaction at a reasonable price.

Market liquidity risk is the risk of a bank not being able to exit or offset positions quickly at a reasonable price.

### **Gap Risk/Interest Rate Risk**

These are risks arising from adverse movements in implied interest rates or actual interest rates differentials that arise through transactions involving foreign currency deposits, forward contracts, currency swaps, forward rate agreements, forward delta equivalent of currency options trades, and through numerous other currency and interest rate derivatives.

### **Legal Risk**

In addition to the foregoing risks, there is legal risk, which exists in all kinds of financial markets. It is probably more so in foreign exchange and interest rates given their inherent volatility. It is, therefore, extremely important that banks as also the corporates dealing in these products take such steps as would sufficiently protect them from the legal standpoint.

The surest way to do so is to insist on exchange of internationally accepted Master Agreements such as ISDA, IFEMA, and ICOM between the parties to be supported by other relevant documentation.

### **Operational Risk**

The data processing system used must be appropriate to the nature and volume of trading activities. A written contingency plan has to ensure, among other things, that in the event of a break down of the equipment back up facilities can be deployed at a short notice. ( Refer DBOD Circular on 'Comprehensive Guidelines on Derivatives' dated April 20, 2007)

### **The risk management process**

Banks should have a comprehensive and adequate risk management procedure covering both trading and non trading activities. This procedure should enable the management to assess exposures on a consolidated basis. It should be easily understood by the dealers, back office, mid office staff, senior management and the Board of Directors. Such a procedure will assist in limiting and monitoring risk taking activities at all levels.

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### Limiting risks

Global limits should be set up for the bank's local interbank business as well as its transactions in the overseas markets. The 'limits' system should be consistent with the banks overall risk management process, expertise and the adequacy of its capital to undertake such activities. At present the net open exchange position limit and the Gap limits for maturity mismatches fixed by each bank require approval of the Reserve Bank.

Management has to set an upper limit for losses, bearing in mind the bank's capital and earnings performance. Based on the risk control analysis and the upper limit for losses, a system of risk containing limits is to be set up which should be related both to credit risks and to market price risks. Overall limits are to be set and approved by the management for each category of risks.

Appropriate Value-at-Risk (VaR) models need to be used for quantifying the extent of market risk for a given level of confidence. Periodic review of existing models (such as VaR) including assumptions used should be done to test the robustness. Further, banks should maintain appropriate internal control systems, for managing pre - settlement credit risk. For settlement risk, whenever there is a central counterparty recognized as such, the risk weight would be subject to the Reserve Bank norms and in all other cases, the nominal exposure may be equal to actual credit risk.

The banks must adhere to the following risk-containment measures:

- The bank should ensure that every dealer is advised promptly of the limit allocated to him.
- All deals done should be accounted for against the corresponding limits. All the individual positions are to be aggregated into overall risk position at the close of business each day with a view of ensuring that the same does not exceed the overnight limit authorised by the management and NOPL and AGL approved by the Reserve Bank.
- The limits when exceeded should be promptly reported to appropriate senior management and got approved. Banks should therefore have an adequate control system in this regard.
- Any breach of regulatory limits should be promptly reported to Reserve Bank of India, Foreign Exchange Department, C.O., Mumbai.

### Reporting System - Management Information System (MIS)

An accurate, and timely MIS, is *sine qua non* to a bank's risk management process. An effective MIS should facilitate a bank's monitoring of compliance with internal controls and regulating requirements and provide reasonable comfort that these are being complied with.

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The bank's risk exposures should be reported to senior management/Board. In adverse market conditions, more frequent reports should be placed before Board/Committee. Monitoring and reporting should be undertaken by officials who are not directly concerned with the trading activities. Exposure and profit and loss statement should be submitted to the senior management. In times of volatile market conditions, such reports should be submitted more frequently so that the senior management is fully apprised of the levels of activities and the risk involved.

### Documentation and Record Keeping

As regards documentation with counterparty banks and with clients, banks are to be guided by the following course of action:

- (a) Forward exchange contracts with tenor not exceeding 13 months
  - (i) Contracts between banks and customers-  
Banks should obtain specific individual contract note (duly stamped), for each transaction containing the detailed terms of the contract such as amount, rate, value /delivery date, etc.
  - (ii) Inter- bank deals-  
With regard to forward exchange contracts between banks, unsigned computer generated confirmations be exchanged backed by 'one time' stamped letter of indemnity executed in favour of the counterparty banks as per FEDAI guidelines.
- (b) Forward exchange contracts where the tenor exceeds 13 months
  - (i) Contracts between banks and retail/individual customers-  
As given at (a) (i) above.
  - (ii) Inter -bank deals and contracts with other customers-  
Banks should enter into International Swaps and Derivative Association (ISDA) Master Agreement.
- (c) All other derivative transactions
  - (i) Contracts between banks and retail / individual customers-  
As given at (a) (i) above.
  - (ii) Inter- bank deals and contracts with other customers-  
Banks should enter into International Swaps and Derivative Association (ISDA) Master Agreement.

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### **Note:**

1. If member banks have entered into International Currency Options Market Agreement (ICOM), they may continue with it for all option transactions.
2. In regard to spot interbank deals, confirmation may not be insisted upon if the amounts thereof have been received in the Nostro account.
3. In respect of item numbers (a) (I), (II) and (b) (I), member banks who have obtained International Foreign Exchange Master Agreement (IFEMA) or International Swaps and Derivative Association (ISDA) Master Agreement may continue with the same, if so desired.
4. In respect of (b) and (c), ISDA Master Agreement would be in force till altered by mutual consent. Banks should however obtain specific signed confirmation for each transaction which should detail the terms of the contract such as amount, rate, value date, etc. duly signed by the authorised signatories.

Banks should obtain Board Resolution from their corporate clients specifically authorizing their officials to deal and execute contracts (including derivatives).

Banks should also establish processes (checklists, tickler files, etc.) to ensure proper documentation to support these transactions and to monitor and control receipt of the documents.

### **Preservation of Records**

All business, control and monitoring records should be preserved up to the existing statutory retention periods. Wherever statutory retention periods are not stipulated they are to be preserved as per the internal guidelines of the bank management. Back-up of crucial information and data should be done and preserved according to the IT policy of the bank.

## **Evaluation of Foreign Exchange Profits and Losses**

### **Methods of Evaluation**

The uniform standard Accounting Procedure for evaluation of profit/loss of foreign exchange transactions drawn up by the FEDAI and approved by the RBI should be strictly adhered to and valuation undertaken at least at the end of each month and on the balance sheet date.

The evaluation should disclose the actual profit/loss under different heads such as exchange trading, interest income, commission, etc.

## **Reconciliation of 'Nostro' Balances**

### **Importance of Reconciliation**

Reconciliation of 'Nostro' Account balances is an essential control function and is intended to ensure that every transaction undertaken by the bank in its Nostro account has been correctly executed.

The basic records for reconciliation are bank statements which should be received at least every week and, the mirror account. Reconciliation must be done choosing the same date for Mirror accounts and foreign bank statements. Action on un-reconciled items must be taken on an on-going basis and any delay in this regard will render reconciliation more difficult, particularly, because the correspondent banks/ branches abroad employ computerized accounting systems and micro-filming procedure. Bank references quite often also involve additional costs apart from further avoidable delay.

To minimize the number of un-reconciled items it is the practice of the banks to put transactions in suspense account such as Export bills purchased, Export bills discounted, Drafts / Travellers cheques issued, Advance bills received, Inward bills/ drafts etc. As a further measure for simplification, some banks have permitted more branches to maintain independent Nostro accounts with different correspondent banks. While it is advisable for banks with a large network to adopt both measures, the management at each office maintaining Nostro accounts should be required to exercise the requisite control over reconciliation and the suspense accounts. The records of reconciliation must be held under safe custody and preserved for a sufficiently long period for reference.

It should be ensured that no set-off of debit or credit items has been made/any un-reconciled item written off or appropriated to profit & loss except as permitted under the Reserve Bank guidelines.

### **Management Control**

A monthly report should be submitted by Reconciliation Department indicating the progress made in reconciliation of Nostro account balances highlighting special features such as large un-reconciled items, age-wise grouping of items, etc.

## **Management of Risk Arising in Rupee (Vostro) Accounts**

Control over vostro accounts too covers various aspects, viz. funds flow into the accounts, observance of discipline in credit lines extended to the correspondent bank, concealed overdrafts (and recovery of interest there against), apart from periodical evaluation of credit risks.

Banks should assess their credit risks periodically say, at least once in twelve months vis-à-vis their correspondent banks whether or not they maintain Rupee accounts.

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The credit risks arising from drawings on branches can be significant unless proper control is exercised over the flow of the paid drafts, etc. to the account maintaining office from the drawee branches. Such risks can be minimized by adoption of one or more of the following measures:

- (i) Reduction in the number of branches on whom drafts, etc. can be drawn.
- (ii) Imposition of suitable limits for drawing or for aggregate drawings during a day.
- (iii) Securing draft, etc. issued advices from the correspondent.
- (iv) Decentralization of Vostro accounts by opening subsidiary or independent accounts at other important offices.
- (v) Arrangements for advice over expeditious mode of communication of large payments by paying branches.
- (vi) Prompt value-dating.
- (vii) As far as possible, bringing all the drawee branches under Core Banking Solution.
- (viii) On-line monitoring of funds position to avoid concealed overdrafts in vostro accounts.

### **Special Aspects for Vostro Account Monitoring**

Close monitoring of funds flow in Vostro account is required with a view to averting hot money flows on the one hand and speculative dealing in the Rupee on the other. Apart from this, the accounts should be monitored for quickly identifying sudden changes in volume of operations, changes in nature of operations, etc. so that discreet enquiries can be made about the cause for the changes. Any unusually large operations (whether credits or debits) in inactive or the less active Vostro accounts should be promptly looked into to ensure that they are genuine operations.

### **Confirmation of balances**

It is an essential feature of customer service to the overseas banks maintaining Vostro accounts to send out certificates of balance and obtain confirmation thereof periodically. It should be ensured that the confirmations duly signed by the authorised signatory of the bank are received in time and are kept on record. Authenticated SWIFT confirmation may also be acceptable.

### **Control over Miscellaneous Aspects of Dealing Operations**

#### **Dealing Hours**

The dealing hours for USD/INR transactions should be as per FEDAI guidelines in force. In respect of cross- currency transactions, if dealers are required to work longer hours it is essential that the managements lay down the extended working hours.

## **Off-premises and After Office Hours Trading**

The bank should embed in its policy document whether deals done off-premises and after office hours are permissible. If such transactions are permitted, adequate controls should be put in place to ensure that transactions are executed by authorised personnel and within the approved limits.

Particulars of these transactions must be entered into the bank's account at the earliest.

The bank should also lay down clear guidelines regarding use of other communication equipments, if permitted, such as mobiles, chat facility on internet, etc., for dealings after office hours, and regarding primary record of the transaction. (Regarding preservation of records refer to Para 3.8)

### **Substitution of names of banks in inter-bank contracts**

Substitution of one bank by another in inter-bank contracts by broker is not a recognized practice as brokers operate on the specific instruction of the dealers and not vice versa. Substitution is, therefore, prohibited.

## **Auditing**

### **Internal Audit**

The nature and scope of internal audit varies widely between banks. However, its work will generally be designed to ensure that established procedures are adhered to and are operating effectively. Thus, an important part of its work will be to review the adequacy and timeliness of key management reports, such as those relating to limit excesses and maturity periods, and to ensure that appropriate action is initiated in response to this information. Other tasks of the internal audit department will include statutory and regulatory compliance reviews, data processing control reviews, and back-office efficiency reviews. For the internal audit function to be beneficial it is essential that its reports are submitted promptly to senior management.

The officers drafted for audit should have the requisite expertise, knowledge and experience.

### **System Audit**

Special audit of the Dealing Room and the system in operation should be conducted at least once in a year. Typically, the areas tested during this audit should include the following:

- (i) Dealing-room procedures to ensure that all deals executed are promptly captured by the accounting system.
- (ii) Reconciliation of foreign exchange positions between the dealers' records and the accounting system.

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(iii) Review of incoming deal confirmations.

(iv) Full scrutiny of sample deals.

Compliance with the minimum requirements is to be checked at irregular, appropriate intervals by the auditors. The main audit areas listed below should be subjected to a risk-based audit once a year:

- limit system
- determination and reconciliation of positions and results
- changes in the EDP systems
- completeness, correctness and timeliness of the internal reporting system
- functional separation
- degree to which transactions are in line with market conditions
- confirmations and counter-confirmations

### Concurrent Audit

As advised by the Reserve Bank from time to time, concurrent audit is to be regarded as a part of AD's early-warning signal system to ensure timely detection of irregularities and lapses aimed at prevention of fraudulent transactions at branches undertaking foreign exchange transactions. Bank's management shall bestow serious attention on the implementation of the same. While minor irregularities pointed out by the concurrent auditors are to be rectified on the spot, serious irregularities should be reported to the Controlling Authority for immediate action.

The bank shall ensure that concurrent auditors of the branches undertaking foreign exchange transactions are also fully conversant with the provisions of FEMA and the Rules/ Regulations/ Notifications/ Directives issued under it.

#### **A BRIEF ON "NET STABLE FUNDING RATIO" & RBI GUIDELINES**

*Introduction:* Against the backdrop of the global financial crisis that started in 2007, the Basel Committee on Banking Supervision (BCBS) proposed certain reforms to strengthen global capital and liquidity regulations with the objective of promoting a more resilient banking sector. Let's understand the impact of this crisis on the global banking ecosystem in order to understand the events that led to the introduction of the NSFR guidelines. The 2007–08 global financial crisis exposed shortcomings in the management of market liquidity and funding risk in individual banks. Banks' asset and liability structures proved to be highly vulnerable to market shocks, investor runs and breakdowns in wholesale funding markets. This, in part, reflected banks' increasing reliance on short-term wholesale funding as a

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means to enlarging their balance sheets over the past 20 years. The global financial crisis which led to the failure of large financial institutions exposed the havoc liquidity risk can wreak. The widely used practice of funding long-term investments with short-term funding sounded profitable in normal-to-good market circumstances. However, over-reliance on short-term funding requires continuous efforts to refine investments and the quality of collateral posted against raised funding. Under stressed market circumstances, short-term funding opportunities become especially volatile. For a financial institution faced with sudden depreciation in asset quality and market confidence, two challenges will typically emerge.

1. The cost of short-term funding will spike due to the increasing requirement for collateral to be posted under stressed market conditions.
2. Long-term assets, which are still otherwise profitable, become non-viable due to sharp increases in short-term funding costs.

It goes without saying that under such stressed circumstances, the chances of new long-term funding become remote. Hitting the financial world in both depth and breadth, the crisis also revealed the dangers of mixing terms for funding and investments. The higher margin earned by funding short term and investing long term is not really a risk-free arbitrage. There were two hard lessons learnt in 2008 in terms of liquidity risk.

1. The assets held should be liquid and of good quality. Assets with deep market liquidity are more likely to be sold at any time without much discounting or value depreciation as and when funding starts drying up.
2. Higher earning long-term assets should have stable long-term funding sources, as opposed to leveraging only short term and unsecured funding sources. Banks relied less on their own capital raising efforts and traditional monetary liabilities, such as insured and non-insured deposits, while at the same time invested more of these borrowed funds in assets that proved to be less liquid. In response, regulators have stepped up their efforts to rein in banks' excess liquidity risk exposures.

### **Given below is a timeline of events that lead to the introduction of NSFR.**

December 2010

The BCBS released draft guidelines on NSFR.

January 2014

The BCBS published a consultative document on NSFR. The committee underwent a rigorous process of reviewing the standard and its implications on the functioning of the financial markets and the economy, concluding with a consultative document on NSFR in January 2014.

October 2014

BCBS released a final version of NSFR. Following a rigorous review to address any

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unintended consequences for financial market functioning in the economy and on improving its design with respect to several key issues, notably (i) the impact on retail business activities; (ii) the treatment of short-term matched funding of assets and liabilities; and (iii) analysis of sub-one year buckets for both assets and liabilities, the BCBS published the final rules on NSFR in October 2014.

May 2015

The Reserve Bank of India (RBI) released draft guidelines on NSFR under the Basel III Framework on liquidity standards for banks and requested comments on the same.

May 2018

The RBI released final guidelines on NSFR under the Basel III Framework, taking into account the Indian conditions.

### **Meaning and objective:**

Liquidity supervision was one of the key considerations behind the introduction of liquidity coverage ratio (LCR) and NSFR, as part of the Basel III Framework. Let's understand what both of these mean:

- LCR requires banks to hold sufficient high-quality liquid assets to cover their total net cash outflows over 30 days.
- NSFR will require the available amount of stable funding to exceed the required amount of stable funding for a one-year period of extended stress.

While the RBI introduced final guidelines on LCR in the year 2015, it gave banks a timeline to comply with the minimum required level of 100% for LCR till 1 January 2019. The RBI has now issued final guidelines on NSFR and the date of implementation, as stated by the Regulator, would be notified in due course.

NSFR has primarily been introduced with an objective of establishing a minimum acceptable amount of stable funding based on the liquidity characteristics of an institution's assets and activities over a one-year period. A sustainable funding structure is intended to reduce the probability of erosion of a bank's liquidity position due to disruptions in a bank's regular sources of funding that would increase the risk of its failure and potentially lead to broader systemic stress. NSFR limits over-reliance on short-term wholesale funding, encourages better assessment of funding risk across all on and off balance sheet items.

### **What does NSFR mean?**

As per the final guidelines, the Regulator has defined NSFR as the amount of available stable funding (ASF) relative to the amount of required stable funding (RSF).

The guidelines require banks to maintain the below ratio of NSFR at all times:

$NSFR = ASF \geq 100\% RSF$  (Refer Appendix 1 for ASF and RSF components and factors.)

Further, the guidelines also define ASF as the portion of capital and liabilities expected to be reliable over the time horizon considered by NSFR, which extends to one year. The amount of RSF of a specific institution is a function of the liquidity characteristics and residual maturities of the various assets held by that institution as well as those of its off balance sheet exposures.

While NSFR should be equal to at least 100% on an ongoing basis, this would be supplemented by supervisory assessment of the stable funding and liquidity risk profile of a bank. On the basis of such assessment, the RBI may require an individual bank to adopt more stringent standards to reflect its funding risk profile and its compliance with the sound principles issued vide circular 'Liquidity Risk Management by Banks' dated 7 November, 2012.

### **Industry concerns**

NSFR is designed to encourage and incentivize banks to use stable sources to fund their activities. It helps to reduce dependence on short-term wholesale funding during times of buoyant market liquidity and encourages better assessment of liquidity risk across all on and off balance sheet items. NSFR requires a minimum amount of stable sources of funding at a bank relative to the liquidity profiles of the assets, as well as the potential for contingent liquidity needs arising from off-balance sheet commitments over a one-year period.

The implications here would pertain to the type of current short-term markets available for banks to provide liquidity, the type of long-term markets needed, the cost of deposit and the impact on the profitability of banks.

Further, as banks go on increasing the risk weighted asset portfolio to meet the growing economy's credit requirements, they would need additional capital funds under Basel III. The important questions to be asked here are: Can individual banks access the capital market to raise the required capital funds? How do current ownership structures and valuations impact banks' capital raising proposals? Should the government retain majority ownership? How should the government capitalize public sector banks? What are the options before the government?

In the context of the Indian economy, growth and financial stability seem to be two conflicting goals. The Indian economy is transforming structurally and moving towards rapid growth, although it is also witnessing some seasonal down trends. The Indian economy is likely to see higher growth in the coming years, which will enhance the demand for credit. Further, the RBI and the government are continuously working on financial inclusion, aiming to bring several millions of the population under the ambit of the organized financial system. This will also enhance the population's credit requirements. What all this means is that banks need to maintain higher capital requirements as per Basel III at a time when credit demand is going to expand rapidly. The concern is that this will raise the cost of credit and hence militate against growth.

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Overall, the final guidelines on NSFR would positively impact Indian banks' ability to withstand systemic stress and absorb shocks when there is a lack of liquidity and funding in the system. NSFR gives a punitive treatment to funding obtained from financial institutions and, going forward, this may impact the interconnectivity of banks/financial institutions, hence mitigating the risk of stress spreading from one bank to another and ending up with a full-blown crisis. Indian banks would need to significantly invest in their IT infrastructure and processes to generate, monitor and analyse NSFR. With massive amounts of data and multiple metrics (apart from NSFR) and templates required to be populated, banks would look to harmonize their data flows and systems by creating central repositories of all data for the bank from which these metrics can be computed. Banks will need to revisit their balance sheet management strategies, given the differential treatment of assets and liabilities according to the tenor, counterpart type, product type and liquidity. This may lead to banks cleaning up their balance sheets with more liquid assets and stable funding. The asset liability management (ALM) function would need to take into consideration the impact of its strategies on NSFR. Since NSFR rewards longer tenor funding profiles, this would impact the pricing of such funding in the market given the increase in demand. This can have a negative impact on the net interest income of the bank as the cost of funding will go up, given that longer term borrowings are costlier as opposed to short term borrowings.

### **Illustrative Checklist for the verification of the aspects of the Treasury / Investments of the Bank**

#### **Investment Policy**

Verify if the Bank has a Board Approved Investment Policy in place and the same has been reviewed on annual basis.

Verify if the Investment policy has been framed in concurrence with RBI guidelines.

#### **Prudential Limits**

Verify if the Bank has adhered to the prudential limits relating to investments as prescribed by RBI from time to time and Internal Policies.

#### **Income Calculation & Accounting**

Verify if the Income on various Investments has been correctly calculated and recorded in the Books of Account taking into consideration RBI guidelines issued from time to time and Accounting Policies followed by Bank.

#### **Verification of Investments**

Verify the investments physically and/or with the available holding statements/confirmations.

#### **Classification/ Valuation**

RBI Master Circular Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Banks

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### **Classification:**

Check entire investment portfolio is classified under three categories viz: AFS, HFT & HTM.

### **Sale/Transfer/Shifting:**

Verify there are no securities held in the HFT for more than 90 days. Verify there has been no shifting of securities to/from HTM Portfolio without the approval of the Board beyond the allowed percentage as per the RBI i.e. 5% of the HTM Portfolio is allowed only in the beginning of the year.

Shifting in excess of 5% of the HTM Portfolio, the Bank should disclose in the Notes to Accounts the Market Value of Investments held in HTM and also indicate the Book Value in excess of Market Value to the extent not provided for.

Profit & Loss from the HFT & AFS Category of Investments is taken to P&L Account.

### **Valuation:**

Check that Valuation of various securities has been performed in line with the RBI Master Circular – Prudential Norms for Classification, Valuation & Operation of Investment Portfolio of Banks.

- HTM Portfolio is carried at acquisition cost unless it is more than the face value, in which case the premium should be amortised over the period remaining.
- AFS has to be marked to market on quarterly or frequent intervals. To arrive at Net Appreciation or Net Depreciation in the portfolio, the securities under same classification can be aggregated to arrive at the Net Appreciation or Net Depreciation No set off can be done for the Depreciation of one classification against the other.
- Net Depreciation to be provided for and Net Appreciation to be ignored.
- HFT also has to be marked to market on monthly or more frequent intervals.

### **Verification of Non-Performing Investments (NPI)**

Verify that the investments are classified as NPI as per the extant guidelines issued by RBI from time to time.

### **Regulatory Returns**

Verify the accuracy of all the Regulatory Returns submitted to the RBI and also verify whether the same have been submitted within the deadlines.

### **Computation of SLR & CRR**

Verify the mechanism and accuracy of the Computation of NDLT and SLR & CRR and compliance thereof.

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### Disclosure Requirements

Verify the following disclosures required to be made to the Notes to Accounts have been made and made accurately.

1. Details regarding Securities sold under Repo and Purchased against Reverse Repo.
2. Details of the issuer composition of non SLR investments and the non-performing non-SLR investments.
3. Details of Transfer of Securities from HTM portfolio to AFS in excess of 5%, Banks should disclose the market value of the Investments and Book Value in excess of Market value for which provision is not been made.
4. Details of corporate debt securities lent or acquired under repo or reverse repo transactions.
5. In respect of the Non SLR Securities portfolio, the issuer details in the format prescribed vide RBI Master Circular on Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Banks.
6. Penalty paid to Reserve Bank of India during the financial year.

**Illustrative Audit Checklist for Capital Adequacy** The checklist is only illustrative in nature. Members are expected to exercise their professional judgment while using the checklist depending upon facts and circumstances of each case.

Audit Procedures	
<b>CET 1, AT 1 and Tier II</b>	
1. Tally the balances in the various elements of Capital from the trial balance/ groupings/ draft financial statements.	
2. Check whether various instruments comply with the guidelines as laid down in the Master Circular by referring to the Terms of Offer and whether the same are approved by the Board or other appropriate committee	
3. Check whether appropriate discounting has been applied in the case of instruments issued.	
4. In case of foreign banks, examine whether the undertaking has been obtained that the bank would not remit abroad the funds received and shown as Capital Reserve or Remittable Surplus.	

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<p>5. Examine whether various limits upto which individual elements are to be included in CET1, AT1 and Tier II capital as laid down in the Master Circular are adhered to.</p>	
<p>6. Verify various deductions with the balances in the audited accounts and check the same for limits and eligibility (e.g. securitization exposure) as laid down in the Master Circular.</p>	
<p>7. Verify the correctness of progressive discount based on the remaining maturity of instruments eligible for AT1 and Tier II.</p>	
<b>Capital Charge on Credit Risk</b>	
<p>The capital charge for credit risk is the sum total of the capital charge to be maintained in respect of the following:</p> <ul style="list-style-type: none"> <li>• On balance sheet items.</li> <li>• Off balance sheet items.</li> <li>• Failed transactions.</li> <li>• NPAs.</li> <li>• Securitization transactions. duly adjusted for haircuts based on the nature of the collateral.</li> </ul>	
<b>Risk Weights – On Balance Sheet Items</b>	
<p>The risk weights for all on balance sheet items need to be determined based on the credit ratings assigned by the rating agencies chosen by the RBI.</p>	
<p>1. Reconcile the balances of various advances and other operating receivables where there is a credit risk and which are considered for calculation with the following schedules in the financial statements to ensure completeness:</p> <ul style="list-style-type: none"> <li>• Schedule 6 – Cash and balances with Reserve Bank of India.</li> <li>• Schedule 7- Balances with Banks and Money at Call and Short Notice.</li> <li>• Schedule 9- Advances.</li> <li>• Schedule 11(vi) – Other Assets – Others.</li> </ul>	

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2. Review and document the process of compilation and mapping of the various items on balance sheet based on the categories and their risk weights together with the appropriate ratings and / or other conditions, as applicable.	
3. For a sample of transactions verify the ratings with the letters issued by the rating agencies and accordingly check the correctness of the risk weights assigned.	
4. In cases where the risk weights are dependent on the fulfilment of certain conditions (other than ratings) verify the compliance therewith based on the appropriate documentary evidence. (e.g. claims on banks, regulatory retail portfolio, claims against residential property etc.)	
5. Verify the validity of guarantees issued by Central or State Government. Verify whether the bank has properly classified claims on State Government and claims guaranteed by State Government due to difference risk weight.	
6. Verify the correctness of claims on CGTSI and ECGC.	
7. Verify the classification of loans – restructured loans/ NPAs/ NBFC/ CRE/ CRE-RH etc.	
8. Verify LTV ratio on a test check basis in respect of housing loans.	
<b>Risk Weights – Off Balance Sheet Items</b>	
<p>The risk weight for all off balance sheet credit exposures is generally calculated as a two-step process as under, separately for market and nonmarket related exposures:</p> <ul style="list-style-type: none"> <li>• The notional amount is converted into a credit equivalent amount by multiplying the amount by the specified credit conversion factor (for non-market transactions) or by applying the current exposure method (for market related transactions).</li> </ul>	

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<ul style="list-style-type: none"> <li>• The resulting credit equivalent amount is multiplied by the risk weight applicable to the counterparty or the purpose for which finance is extended or the type of asset, whichever is higher.</li> </ul> <p>Where the exposure is secured by eligible collateral or guarantee, the credit risk mitigation guidelines may be applied.</p>	
<p>1. Reconcile the balances of the various off balance sheet exposures which are considered for calculation with the financial statements, especially the schedule of contingent liabilities</p>	
<p>2. Review and document the process of compilation and mapping of the various off balance sheet item based on the nature of the instruments.</p>	
<p>3. For a sample of non-market transactions, check the calculations of the credit equivalent amount with specified credit conversion factor based on the nature of the instrument. Check the necessary documentation to confirm the nature of the instrument</p>	
<p>4. For a sample of market related transactions, check the necessary documentation to confirm the nature of the contract and accordingly check the calculations for the current credit exposure and the potential future exposure.</p>	
<p>5. Verify the classification of Financial and Performance Guarantee by perusing the sample guarantee issued by the branches.</p>	
<p>6. Verify whether bills accepted under Letter of Credit is assigned 100% risk weight as CCF.</p>	
<p>7. Verify whether the bank has proper control for accounting Buyer's credit/ Letter of Comfort.</p>	
<p>8. Verify the correctness of undrawn exposures.</p>	
<p><b>Capital Charge – Failed Transactions</b></p>	
<p>1. Review and document the procedures for tracking and monitoring the credit risk exposure arising from unsettled transactions, both on</p>	

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Delivery Versus Payment (DVP) and non DVP basis.	
2. For a sample of DVP transactions, examine whether the settlement has taken place on a timely basis. In case of delays, check the calculation of the capital charge by multiplying the positive current exposure by the prescribed factor depending upon the number of days delayed.	
3. For a sample of non-DVP transactions, examine whether the settlement has taken place as per the contracted maturity. In case of delays, ascertain whether any payment made is considered as a loan and the appropriate risk weight is considered. In case of settlement beyond five days ascertain whether the full amount is deducted from the capital	
<b>Risk weights – NPAs</b>	
1. Review and document the procedures for identifying the unsecured portion of NPAs separately for qualifying residential mortgages and others.	
2. For a sample of residential mortgages which are NPAs, examine whether they meet with the qualifying criteria with regard to the LTV ratio and other factors and accordingly check the assignment of the risk weight for the unsecured portion depending upon the level of provisioning.	
3. For a sample of NPAs other than residential mortgages check the assignment of the risk weight based on the level of provisioning.	
4. In respect of 3 above for identifying the secured portion examine whether only eligible collateral are considered and the same are properly documented and the bank has a clear and marketable title to realize the same.	
5. Verify whether bucketing in difference risk weight in respect of NPAs based on NPA provision is carried out by the system and verify	

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the correctness of classification on a test check basis	
<b>Capital Charge – Securitization transactions</b>	
Banks are required to hold regulatory capital after adjusting the prescribed deductions eligible against all securitization exposures including those arising from provision of credit mitigants, investment in asset backed securities, retention of subordinated tranche and extension of liquidity facility or credit enhancement.	
Examine whether the securitization transactions fulfil the requirements as prescribed in Master Circular on “Prudential Guidelines on Capital Adequacy and Market Discipline - New Capital Adequacy Framework” (extract of the ‘Revision to the Guidelines on Securitization Transactions’, issued vide circular DBOD.No.BP.BC.103/21.04.177/ 2011-12 dated May 07, 2012 on ‘Revision to the Guidelines on Securitization Transactions’) to be eligible for deduction from capital.	
1. Based on the above, for a sample of transactions / deals examine whether the prescribed deduction from both CET 1, AT I and Tier II capital has been correctly done based on the rating and the level of provisions. Review the necessary documentation in support of the same.	
2. Based on the above ascertain whether the appropriate risk weights have been assigned.	
<b>Collateral Risk Management and Credit Risk Mitigation</b>	
The objective of collateral risk management is to ensure that only the eligible collateral are considered for netting off which are adjusted for volatility depending upon the nature of the capital and further subjected to various types of haircuts for different categories of mismatches like currency and tenor mismatches.	

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<p>1. Review and document the process for collateral risk management as appropriate and relevant including but not limited to:</p> <ul style="list-style-type: none"> <li>• Ageing reports.</li> <li>• Confirmation procedures.</li> <li>• Control of documents.</li> <li>• Compliance with covenants.</li> <li>• Audit of collateral by independent agencies.</li> </ul>	
<p>2. Examine whether the bank has complete legal rights to enforce the security including specific lien and is subject to haircuts for residual tenor mismatch and currency mismatch. Check the necessary documentation in respect thereof.</p>	
<p><b>Capital Charge for Market Risk</b></p>	
<p>Capital charge for market risk involves computation of the capital charge on interest rate related instruments and equities in the trading book and foreign exchange risk, including gold and other precious metals. Accordingly, the following would be covered:</p> <ul style="list-style-type: none"> <li>• Securities under the HFT and AFS category.</li> <li>• Open gold and FX position limits.</li> <li>• Trading position in derivatives.</li> <li>• Derivatives entered into for hedging trading book exposures.</li> </ul>	
<p><b>Interest Rate – General Market Risk</b></p>	
<p>The capital requirement for general market risk is the sum of the following four components:</p> <ol style="list-style-type: none"> <li>(i) Net short (only derivatives) or long position in the trading book.</li> <li>(ii) Small proportion of matched position for each time band. (vertical disallowance)</li> <li>(iii) A larger proportion of the matched positions across different time bands. (horizontal disallowance)</li> <li>(iv) Net change for positions in options where applicable.</li> </ol>	

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<p>1. Reconcile the balances considered for calculation of the general interest rate risks trading book positions with the figures reported in the financial statements.</p>	
<p>2. Review and document the process for computation of the price sensitivity (modified duration) for each instrument and test check the calculations for a sample of instruments.</p>	
<p>3. Review the process of capturing the above data into different time bands based on the maturity and accordingly apply the prescribed change in yield and check the calculations for the resulting capital charge and the consequential vertical and horizontal disallowances.</p>	
<p><b>Interest Rate – Specific Risk</b></p>	
<p>The specific interest rate capital charge for different types of debt securities / issuers is prescribed separately for the following categories:</p> <ul style="list-style-type: none"> <li>• Central, State and Foreign government bonds under HFT and AFS category.</li> <li>• Banks bonds under HFT and AFS category.</li> <li>• Corporate bonds and securitized debt under HFT and AFS category.</li> </ul>	
<p>1. Reconcile the balances of government securities under AFS and HFT considered for computation of specific interest rate capital charge with the financial statements.</p>	
<p>2. Review and document the process of compilation of data in respect of various types of government securities under AFS and HFT based on the type of investment and the residual maturity.</p>	
<p>3. For a sample of transactions in respect of the above, verify the allocation percentage of the specific risk capital based on the type of investment and residual maturity based on the verification of the relevant documentation.</p>	

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4. Reconcile the balances of bonds issued by banks under AFS and HFT considered for computation of specific interest rate capital charge with the financial statements.	
5. Review and document the process of compilation of data in respect of various types of bonds issued by banks held as investments under AFS and HFT based on the following parameters: <ul style="list-style-type: none"> <li>• Level of capital adequacy.</li> <li>• Nature of the bank (scheduled or nonscheduled).</li> <li>• Residual maturity.</li> </ul>	
6. For a sample of transactions in respect of the above, verify the allocation percentage of the specific risk capital based on the various parameters based on the verification of the relevant documentation.	
7. Reconcile the balances of corporate bonds and securitized debt under AFS and HFT considered for computation of specific interest rate capital charge with the financial statements	
8. Review and document the process of compilation of data in respect of corporate bonds and securitized debt instruments held as investments under AFS and HFT based on the following parameters: <ul style="list-style-type: none"> <li>• Rating assigned.</li> <li>• Nature of the investment.</li> <li>• Residual maturity</li> </ul>	
9. For a sample of transactions in respect of the above, verify the allocation percentage of the specific risk capital based on the various parameters based on the verification of the relevant documentation.	
<b>Equity – General and Specific Market Risk</b>	
A uniform percentage of 9% is currently attracted for the gross equity position for both specific and general risks.	

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<b>Foreign Exchange and Gold</b>	
These currently attract a risk weight of 100% which is in addition to the capital charge for credit risk for on and off balance sheet items.	
<p>1. Check the computation of the net open position in each currency as a summation of the following:</p> <ul style="list-style-type: none"> <li>• Net spot position.</li> <li>• Net forward position.</li> <li>• Guarantees and similar instruments.</li> <li>• Net future expenses / incomes not yet accrued but fully hedged</li> </ul>	
<p>2. Based on the calculations of the market risk for each of the above check the computation of the aggregate capital charge of market risks.</p> <p>Interest rate risk</p> <p>a) General market risk</p> <ul style="list-style-type: none"> <li>• Net position</li> <li>• Horizontal disallowance</li> <li>• Vertical disallowance</li> </ul> <p>b) Specific market risk Specific and general market equity risk Foreign Exchange and gold.</p>	
<b>Capital Charge for Exposure to Entities with Unhedged Foreign Exchange Exposures (UFCE)</b>	
<p>1. Ascertain the amount of the UFCE: UFCE may exclude items which are effective hedge against each other viz. financial hedge and natural hedge. (On Sample basis, the UFCE considered by the Bank can be verified with the certificates issued by the statutory auditor of the borrower entities, which is usually taken by the Bank from them on a quarterly/ half yearly basis.)</p> <p>2. Estimate the extent of likely loss.</p> <p>3. Estimate the riskiness of the unhedged position and provide appropriately:</p>	

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Likely Loss/EBID (%)	Incremental Provisioning Requirement on the total credit exposures over and above extant standard asset provisioning	Incremental Capital Requirement	
Upto 15 per cent	0	0	
More than 15 per cent and upto 30 per cent	20 bps	0	
More than 30 per cent and upto 50 per cent	40 bps	0	
More than 50 percent and upto 75 per cent	60 bps	0	
More than 75 per cent	80 bps		
Banks should calculate the incremental provisioning and capital requirements at least on a quarterly basis. However, during the periods of high USD-INR volatility, the calculations may be done on a monthly basis.			
<b>Capital Charge for Operational Risk</b>			
Currently banks are required to maintain capital charge for operational risk at 15% of the average gross income for the last three financial years			

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1. Obtain the computation of the gross total income and verify the same from the respective years audited financial statements.	
2. Examine whether the various deductions from the net profit are appropriately considered.	
<ul style="list-style-type: none"><li>• For computing the gross income for determining the capital to be held against operational risk, there is a clarification that the same should be considered based on the average of the last three financial years. However, there is no clarity as to whether this includes the current financial year though the better practice would be to consider the average of the preceding three years.</li></ul>	

### Check Your Progress

1. Give an example of an embedded option risk.
2. Give an example of net interest position at risk.
3. What are the differences between non-financial and financial risks?
4. How can a Gap statement be used to measure risk to profitability?
5. How interest rate risk is managed?
6. What are the other controls required for smooth dealing operations?
7. What do you understand by Swap Transaction? How are various exchange positions are adjusted through swap deals?
8. What Infrastructure should be provided to the dealers for efficient and profitable working?
9. What is the place of Risk Management in the Investment Policy? Write a brief note on the following risks.
  - o Market Risk
  - o Counter-party Risk
10. What are permanent category securities and how are they are valued for the purpose of balance sheet?

**Choose the appropriate answers to the following questions from the options given below:**

1. Banks generally maintain a stock of foreign currency for the purpose of merchant business, as it is not convenient to buy and sell from inter-bank market?
  - (a) True
  - (b) False\*

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2. Buying and selling foreign currency from/to customers constitutes a major source of fee-based income from the banks?
  - (a) True\*
  - (b) False
3. The difference between buying and selling rate is called;
  - (a) Spread
  - (b) Profit
  - (c) "b" only
  - (d) "a" and "b" both\*
4. What is Open Position?
  - (a) Any residual position of a bank at the end of the day-Overbought
  - (b) Any residual position of a bank at the end of the day-Oversold
  - (c) None of the above
  - (d) A and B both\*
5. Which of the following is true?
  - (a) RBI permits trading subject to certain conditions\*
  - (b) A dealer can deal both in secondary and primary markets
  - (c) A dealer can deal with Primary Markets
  - (d) None of the above
6. Which of the following is not the primary source of income for bank treasury?
  - (a) Buying and selling of foreign exchange
  - (b) Interest on loans and advances\*
  - (c) Interest on money market lending
  - (d) All of the above
7. Treasury profits are increasingly derived from market operations involving (which one is not true)
  - (a) Buying and Selling of Securities
  - (b) Borrowing and lending on securities
  - (c) Investing in Loans\*
  - (d) All of the above

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8. Which of the following is not true?
- (a) Mid office is not responsible for settlements.
  - (b) Back Office does not monitor balances in Nostro Accounts.\*
  - (c) Front office frame the Investment Policy
  - (d) None of the above
9. Which of the following is a major risk in speculative trading?
- (a) Operational risk
  - (b) Credit risk
  - (c) Price risk\*
  - (d) None of the above

## Treasury – Auditing

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In recent years, treasuries have emerged as profit centres for banks and corporates and are considered an important strategic business unit of all organizations, as they have started trading in various instruments, be it in the forex market, money market or derivative market. The volume of business and transactions handled by them is usually very large and, hence, has potential for high profits and high risks. This makes treasury a specialized area, with a lot of focus on profit and regulatory compliance. Because of its impact on the whole balance of organizations, there is a lot of focus on the functioning of the treasury department. Precisely for this reason, organizations have put in place a rigorous internal inspection and audit system that serves to mitigate their operational risks, and ensures regulatory compliances. The Regulator also appreciates the importance and significance of treasuries, and undertakes periodical scrutiny of their books through detailed inspections.

### Internal Audit and External Audit

The treasury function is also subject to a mandatory system of concurrent audit by external auditors. Auditors of repute with expertise in treasury functioning are appointed by banks to conduct concurrent audits of their treasuries. The concurrent audit goes on even while the treasury is functioning, and is called micro audit. Concurrent audit looks at each transaction to ensure adherence to set procedures related to various exposure limits, dealer limits, and the various processes. The reports of such audit are generally submitted once a month directly to the head office of the corporate. The treasuries are under obligation to provide all details and information to the auditors, and offer valid explanation for all its actions.

The rectification reports have also to be submitted expeditiously to the competent authority. The closure of these periodical reports is also very important, for the regulator has to look at them to gauge the extent of regulatory compliance by the treasury.

The nature of the concurrent and external audits has changed over time. Now it is more of a risk-based audit than a transaction-based inspection. The auditors identify the risks in various situations of the treasury, and grade them as low, medium and high and also quantify their impact on the corporate. They also identify the direction of the risk by stating categorically whether the risk is rising, falling, or stable. The risk-based scrutiny of treasuries is very helpful to the management for understanding the level of operational and other risks that banks are driven to assume by them. Under the risk-based audit, the auditors try to assess the competence levels of the personnel manning the treasuries to ascertain their suitability for the

job, and the dangers they pose to a bank in terms of its operational risks. They also focus on the training and skill-up-gradation programs of key personnel in dealing room and mid office, and the report on skill gaps. The underlying principle of the risk-based audit is to identify new risks as they appear, and put in place effective systems to address and mitigate them.

### **Audit objectives**

- Ensure that an entity frames policies and procedures relating to all treasury activities and review them for adequacy and coverage.
- Determine whether management has planned liquidity needs for both normal operating conditions and emergency situations.
- Ensure that adequate physical and access control procedures are in place in Treasury department.
- Verify that satisfactory controls exist in the processing of deals.
- Ascertain that an entity receives favourable rates for all its deals.
- Check that there is accurate recording and accounting of positions of the Treasury Department.
- Ensure that proper documentation procedures and filing systems are in place.
- Ensure that limits are set for different procedures and that they are adhered to in a consistent manner.
- Verify that any violations are promptly reported and dealt with.
- Ensure that reconciliation is undertaken timely and accurately.

### **Internal Audit of Treasury**

In-depth monitoring by the internal auditing function is an important part of the internal control and management system. Internal auditing supports senior management by means of independent auditing and advice. This provides a comprehensive and differentiated judgment of the risk position and contributes to the security, value growth and improvement of business processes. However, internal auditing often only fulfils this duty for the traditional managerial business processes such as the purchasing, production and sales triad, or the connection between accounting and financial controlling.

Treasury generally manages to occupy a shadowy existence in the internal auditing plan. The scope and depth of the auditing activities mostly do not match the risk potential it contains.

Recent key events such as blacklisted payments and bank accounts, incorrect accounting procedures, losses from the late discovery of trader speculation or entering into structured

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financial products as well as incorrect assessment of the risks of sub-prime investments, are reasons enough to investigate this phenomenon.

The reasons for the frequently neglected treatment of treasury and the latent underestimation of the risk potential are manifold. The notorious understaffing of internal auditing does not for example allow an expansion of the necessary know-how of the financial processes and financial risks by an intensive concern with treasury.

Internal Auditors in a Treasury Department perform the following functions:

### **Functions**

#### **1. Physical controls**

- (a) Observe that entry into the dealing room (in case there is one) is restricted to authorized personnel only
- (b) In the case of physical securities, to
  - Verify whether there are procedures for safekeeping of valuables and they are working effectively.
  - Examine that movement of securities is recorded and updated.
- (c) Ensure that securities are verified before signing the security movement form.

#### **2. Authorization**

- (a) For entities having dealing rooms and dealing for others:
  - (i) Check that all sampled deals are authorized at the proper levels of authority against the deal slip (Chief Dealer or Treasury Manager).
  - (ii) Ensure that alterations and cancellations on deal slips are authorized.
  - (iii) Ensure that an acknowledged copy is taken from the clients.
  - (iv) Observe that a copy deal slip is sent for second authorization to the Back Office Manager.
- (b) For other entities:
  - (i) Ensure that proper authorization levels are set for treasury operations.
  - (ii) Observe and verify whether the above procedure is followed.
  - (iii) Verify whether authority limits have been set.

#### **3. Recording Control**

- (a) Control over documents

- Verify that all money market deals are recorded timely and accurately at the correct monetary value.
  - Inspect and ensure that filed copies are pre-numbered and continuous for ease of reference and continuity in document filing.
  - Verify that all the documents and statements have been received from concerned parties (brokers, bankers, lenders etc.) and properly filed in a logical sequence.
- (b) Control over Accounting Procedures
- Verify that adequate systems are in place to track all matured investments.
  - Check for accurate recording and accounting of positions.
  - Verify that an independent person checks the recording of postings.
  - Trace all deals to the General Ledger and re-compute interest calculations.
  - Check that account reconciliation is done and time frame is set for clearing all outstanding items.
  - Inspect source documents for accuracy of information on source documents and ascertain that they are initialed as evidence of checking.

**4. Segregation of Duties**

- Check and ascertain that segregation of duties is in place. Under no circumstances should staff be involved in initiating deals, checking or receiving the related documents.
- Check that there is segregation between the functions of authorization, execution and recording of transactions.
- Do an overall assessment and ensure that management supervision is practiced where segregation of duty is not possible.
- In cases where management override has taken place , ensure that satisfactory reasons for doing so were recorded.

**5. Limits**

1. Check counter-party exposure limit for all brokers, lenders, etc.
2. Check deal limits, that is the-maximum amount a person can transact without seeking higher-level approval.
3. Check a product limit that is the maximum exposure an entity should have in a particular instrument or product.
4. Check sector limits, that is, the maximum investment in a particular sector.

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### **6. Reconciliations**

1. Check that all printed reconciliations are filed in a sequential order.
2. Select a sample for verification.
  - Trace each individual item to the recon.
  - Follow up each item and note when it is cleared off the reconciliation. Establish that proper procedure on clearing the outstanding item are set and followed.
  - Establish that only outstanding items are to be carried on reconciliation.
  - Trace items from the recon to the General Ledger and see to it that they have been included in the management accounts.
3. Trace monthly figures to the management accounts and compare the figures for accuracy in compilation
4. Check opening balances in the General Ledger and establish continuity of balances at closing periods.

### **7. Processing**

- Examine deals from the front office and establish that they are confirmed by the back office manager
- Trace the selected deals to the filing system and establish that a systematic filing is in place.
- Examine third party payments and establish that a letter of instruction to that effect is filed.
- Establish that outward confirmations are recorded in a Register.

### **8. Bank Cheques**

- Verify whether unused bank cheques are kept under lock at all times.
- Ensure that bank cheques for outward payments are documented fully. (Two Confirmation Letters)
- Observe that a limited number of personnel have access to the bank Cheque pad currently in use.
- Inquire the cheque signing limits and ensure they are adhered to.

## Departments

The effectiveness of treasury management is measured by the successful identification, monitoring and control of risk activities. The internal auditor should focus on the risk implications of the analysis and reporting of treasury activities.

(a) The treasury organization:

- Review of the effectiveness of the current organization.
- Evaluation of adequacy of Treasury policy and procedures related to documentation;
- Evaluation of procedures and practices for effectiveness, appropriateness, and security.
- Review and assess that adequate segregation of duties in the treasury function exists;
- Review and assess reporting of treasury positions in terms of detail and frequency;
- Review the adequacy of safeguarding company's cash assets;
- Review and assess reconciliation, recording, monitoring processes;
- Review and assess authorization levels within the treasury function; and
- Review and assess the systems utilized to undertake the treasury functions.

(b) Bank services

- Review of the current bank services for appropriateness to stated needs, as defined by the treasury staff.

Bank service charges:

- Review of the organization's bank charges, as detailed on bank account analysis statements and other bank information for appropriateness for the services offered.
- Compensation methods and levels are evaluated and compared with standard benchmarks (wherever possible).

(c) Cash flow forecasting activities:

- Review of the effectiveness of the organization's cash flow forecasting activities measured against plan, trended over a period of time.
- Evaluation of its impact on investing and/or borrowing activities.

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- (d) Investment activities:
- Review of investment strategies and activities;
  - Review of organization's investment policy and guidelines for reasonability and effectiveness;
  - Comparison of yields on investments with appropriate standard benchmarks to measure performance;
  - To make sure that the organization has established procedures for
  - Reviewing and assessing performance benchmarks,
  - Reviewing and assessing credit structures,
  - Reviewing and assessing product management, and
  - Reviewing and assessing liquidity management.
- (e) Borrowing activities:
- Review of various aspects of current credit lines,
  - Comparison of actual vs. planned credit line usage,
  - Effectiveness of the organization's borrowing policy, and levels of compensation,
  - To make sure that average loan price is compared with appropriate standard rates to measure performance.
  - To see whether an organization has established procedures for
    - Reviewing and assessing its borrowings strategy;
    - Reviewing and assessing its borrowing limits;
    - Reviewing and assessing interest rate risk management;
    - Reviewing and assessing its debt to equity ratio; and
    - Reviewing and assessing the composition of borrowings.
- (f) Financial risk management activities:
- Evaluation of the steps and strategies of an organization's financial risk management activities;
  - Comparison of risk management activities with appropriate standard benchmarks;
- (g) Foreign exchange risk management activities
- Assessment of the foreign exchange policies in relation to their effectiveness in reducing the impact of exchange rate variances on the reported annual earnings and operating cash flow.

## Treasury Operations - Systems Audit

The objectives of the System Audit are to evaluate

- the adequacy and effectiveness of various controls in the developed system;
- reliability, integrity and authenticity of data;
- aspects relating to the availability of data and information security;
- extent of incorporation of treasury rules in the developed applications; and
- extent of availability of documentation necessary for smooth operation of the system.

Treasury operations represent all activities relating to the purchase, sale, borrowing and lending of financial instruments like securities, money market instruments or derivative instruments. Investments usually enter into such transactions for the purpose of hedging risk exposures or for meeting customers' needs. At times, they also carry out trading activities of financial instruments (including derivatives) with the intention of deriving gain from changes in market price parameters (for example, foreign exchange rates, interest rates, equity prices) over time. Corporates manage and control their treasury activities on the basis of the various risks involved rather than on the basis of the particular type of financial instrument.

(a) The auditor should consider the investment policy of the company describing the nature of treasury operations proposed to be undertaken by the company as well as setting out the limits/authorization for such operations.

(b) The auditor should obtain information regarding the scale, volume, complexity and risk of treasury activities. He has also to understand the significance of treasury activities relative to other business of the corporates and the framework within which the treasury activities take place. Treasury operations involve transactions that are recorded by IT systems. Consequently, the auditor should test whether key processing controls and procedures are operating effectively before assessing the level of inherent and control risks of the company.

(c) The auditor should ensure the accuracy of recording transactions and related profits and losses. Verification process includes

- reference to deal tickets and confirmation slips;
- the completeness of transactions and proper reconciliation between the front office and accounting systems of open positions at the period end;
- the existence of outstanding positions by means of third party confirmations at an interim date or at the period end;
- the appropriateness of the exchange rates, interest rates or other underlying market rates used at the period end date to calculate unrealized gains and losses;

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- the appropriateness of the valuation models and assumptions used to determine the fair value of financial instruments outstanding at the yearend; and
  - the appropriateness of the accounting policies used, particularly around income recognition and the distinction between hedged and trading instruments.
- (d) Specific audit risks in treasury operation mentioned hereafter are.
- Newly traded instruments are ordinarily subject to careful review by an auditor, who should obtain a list of all new products traded during the period. Smooth flow of the new transactions through the controls system should be ensured in the relevant IT systems.
  - The auditor should seek the assistance of IT experts for appropriate skills and knowledge for testing of systems and relevant account balances with regard to the volume of data the Corporates use in their IT system for maintaining treasury operations.
  - The auditors should see that the purpose of transaction, whether speculative or hedging has been identified at the initial stage, so as to apply the correct accounting treatment. They should ensure the presentation and disclosures of transaction entered into by the Corporates in accordance with the relevant accounting requirements.
  - The auditor might test all portfolio valuations as of the date of the financial statements. He should have a clear understanding of the entity's process of determining fair value of its instruments.
  - IT system plays an important role in the valuation process of various instruments. The auditor should check the controls, security procedures for valuation models, significant assumptions used in determining fair value, as well as the process used to develop and apply management's assumptions, including whether management uses available market information for developing assumptions and controls over the consistency, timeliness, completeness and reliability of data used in valuation models.
  - The auditor should ordinarily test the valuation models used, including the controls surrounding their operation, and consider whether details of individual contracts, valuation rates and assumptions are appropriately entered into such model documents supporting management's assumptions.
  - Considering the global economic scenario and volatile market conditions, sometimes it may be difficult to predict with a sufficient degree of certainty the price correlation with other offsetting instruments used by the Corporates to hedge their positions. The models used for valuing such instruments may not operate properly in such conditions. The complexity of certain instruments requires specialized skill and knowledge. If the auditor does not have the professional competence to perform the necessary audit procedures, he should seek advice from experts.

- The auditor must pay particular attention to establishing the ownership of instruments held in the bearer form. He should consider the need for physical inspection or confirmation with external custodians and the reconciliation of the related amounts with the accounting records.

### Documentation and Internal Audit

An effective treasury management helps in the achievement of business and service objectives. For it eliminates processing bottlenecks and inefficiencies that cause delays in mobilizing internal funds. Some of the activities of treasury management operation are as follows:

- Evaluating the adequacy of financial control environment.
- Evaluating the adequacy of financial and accounting controls.
- Functions and processes in treasury include
  - Cash Flow (daily balances and long term forecasting) to give an assessment of future borrowing requirements and help in the timing and planning of borrowing and investment decisions.
  - Investing surplus funds in approved investments.
  - Short term borrowing
  - Funding of capital payments through borrowing, capital receipts, grants, or leasing.
  - Management of debt and capital financing charges through debt restructuring and associated techniques.
  - Interest rate exposure management.
  - Dealing procedures related to brokers and banks.
  - Foreign exchange risk management to reduce the impact of exchange rate variations on earnings.

The treasury management function should frame policies for:

- Risk management
- Best value and performance measurement
- Decision-making and analysis
- Approved instruments, methods and techniques
- Organization , clarity and segregation of responsibilities, and dealing arrangements

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- Reporting requirements and management information arrangements
- Budgeting, accounting and audit arrangements
- Cash and cash flow management
- Staff training and qualifications
- Corporate governance

### Detailed Activities Check List

<b>General requirements</b>
Whether the entity has a policy for all treasury activities.
Whether the policy is commensurate with the nature of operations and adequately covers all its activities.
Interview selected treasury and accounting personnel.
Review internal control report and prior audit reports.
Verify whether follow up activities have been undertaken and issues related to past reports have been satisfactorily resolved.
Review management reports.
Review reconciliation of cash and investments.
Are there policies for interest rate risk management?

<b>Specific Areas</b>
Foreign Exchange risk management
Whether there are policies and procedures for foreign exchange risk management
Review whether the policy is effective in controlling and monitoring risk.
Are there predefined limits for different types of instruments?
Are their policies that establish authority levels for approval of transactions?
Has the entity identified the counterparty to conduct foreign exchange transactions?
Who is authorized to approve hedging strategies, and the amount to be hedged?
Is there adequate segregation of duties?
Review the method adopted by an entity to account for foreign exchange transactions.
Are the counterparty banks informed of the names of employees authorized to execute foreign exchange transactions?

## Treasury – Auditing

Is there a system to track exposure in foreign exchange? Are timely reports from the system available to the decision makers?
Analyze the gains and losses from foreign exchange transactions.

<b>Investments</b>
Review the investment strategy. Is the strategy followed in letter and spirit?
Are authority levels set for investment in different instruments and their monetary limits?
Obtain the list of investments.
Analyze the investment portfolio statements.
Are all investments in the name of the entity? If not, review whether it has valid reasons for not doing so.
Verify that the entity has all the documents about ownership of investments.

<b>Cash management</b>
Obtain bank statements.
Review the statement of investments.
Review the liquidity position
Who is/are responsible for cash management?
Does the entity follow any specific technique for borrowing /investing short term funds?
Who is authorized to devise a strategy for deployment of surplus funds?
Does the entity utilize third party investment managers? Are reasons for their selection recorded in writing?
How does the entity control the investment managers' activities?
Are the investment managers apprised of the investment policies of the entity? How does the entity ensure compliance with them?
How is the performance of internal/external investment managers evaluated?
Is there adequate segregation of duties?
Review the accounting treatment of various transactions
Whether monthly statements are reconciled?
Is there an effective procedure for following up with the un-reconciled items?

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### **Source of revenue**

- (a) The auditor should review sources of revenue and the accuracy and completeness of the accounting record of the corporates relating to such transactions.
- (b) The auditor should verify the existence and operative effectiveness of key controls for the risk arising from such transactions.
- (c) The auditor also should consider whether the relationship between the types of securities owned and the related income is reasonable; and all significant gains and losses from sales and revaluations have been reported in accordance with the financial reporting framework.

### **Investments**

- (a) The auditor should consider the RBI prudential norms and guidelines with regard to accounting for investments. There should be a properly implemented investment policy.
- (b) The criteria to classify the investments as current investments and long-term investments should be clearly spelt out at the time of making the investments.
- (c) There should not be interclass transfer on an ad hoc basis and, if necessary, it should be done only at the beginning of each half year with the approval of the Board and the transfer should be scrip-wise at book value or market value, whichever is lower. Depreciation, if any, in each scrip shall be provided and appreciation, if any, should be ignored and there should not be netting off of any gain in one scrip against depreciation in scrip.
- (d) Investment should be grouped under appropriate categories as defined in the financial applicable reporting framework. Valuation of quoted investments in each category shall be considered scrip-wise and cost and market value aggregated for all investments in each category. If the aggregate market value for the category is less than the aggregate cost for that category, net depreciation shall be provided for or charged to the profit and loss account. If aggregate market value for the category exceeds the aggregate cost for the category, the net appreciation shall be ignored. Depreciation in one category of investments shall not be set off against appreciation in any other category.
- (e) Unquoted equity shares in the nature of current investments shall be valued at cost or break-up value, whichever is lower. However, non-banking financial companies may substitute fair value for the break-up value of shares, if considered necessary. Where the balance sheet of the investee company is not available for two years, such shares shall be valued at one Rupee only.

## **Limit Setup for Existing / New Corporates**

An important element of credit risk management is to establish exposure limits for single obligors and group of connected obligors. Institutions are expected to develop their own limit structure while remaining within the exposure limits. The size of the limits should be based on the credit strength of the obligor, genuine requirement of credit, economic conditions and the institution's risk tolerance. Appropriate limits should be set for respective products and activities. Institutions may establish limits for a specific industry, an economic sector or a geographic region to avoid concentration risk.

Sometimes, the obligor may want to share its facility limits with its related companies. Institutions should review such arrangements and impose necessary limits, if the transactions are frequent and significant.

Credit limits should be reviewed regularly, at least annually or more frequently if the obligor's credit quality deteriorates. All requests for increase in credit limits should be adequately substantiated.

The Group's policies on financial risk management are clearly defined and consistently applied. They are a fundamental part of the Group's long term strategy, covering areas such as foreign exchange risk, interest rate risk, commodity price risk, credit risk, liquidity risk and capital management. Strict limits on the size and type of transactions permitted are laid down by the Boards of Corporates and are subject to rigorous internal controls.

## **Treasury management and policies**

Treasury operates as a service to the businesses of the corporate and not as a profit centre. The corporate does not acquire or issue derivative financial instruments for trading or speculative purposes; nor does it believe that it has material exposure to such trading or speculative holdings through its investments in joint ventures and associates.

Derivatives are used to separate funding and cash management decisions from currency exposure and interest rate management. Bank counterparty exposures are managed within allocated credit limits. Investment, funding and cash management activities are managed and coordinated by the treasury. Corporate funding and overall strategic management of corporate's balance sheet is managed by the treasury.

## **Treasury policies**

### **Interest rates**

Corporate interest rate management policy is generally to borrow and invest at floating interest rates. This approach is based on historical correlation between interest rates and commodity prices. In some circumstances, a higher proportion of fixed-rate funding may be considered appropriate to the company.

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### **Foreign exchange**

Corporate shareholders' equity, earnings and cash flows are influenced by a wide variety of currencies due to the geographic diversity of the Group's sales and the countries in which it operates. The US dollar, however, is the currency in which the majority of the Group's sales are denominated.

Operating costs are influenced by the currencies of those countries where the Group's mines and processing plants are located and also by those currencies in which the costs of imported equipment and services are determined. The Australian and Canadian dollars are the most important currencies (apart from the US dollar) influencing costs. In any particular year, currency fluctuations may have a significant impact on corporate financial results. A strengthening of the US dollar against the currencies in which the Group's costs are partly determined has a positive effect on corporate's underlying earnings.

Given the dominant role of the US currency in the Group's affairs, the US dollar is the currency in which financial results are presented both internally and externally. It is also the most appropriate currency for financing the Group's operations. Borrowings and cash are predominantly denominated in US dollars, either directly or through the use of derivatives.

### **Commodities**

The Group's normal policy is to sell its products at the prevailing market prices. Exceptions to this rule are subject to strict limits laid down by the corporate Board and to rigid internal controls.

### **Credit**

The Group is exposed to credit risk from its operating activities (primarily from customer receivables) and from its financing activities, including investments in government securities, deposits with banks and financial institutions, other short-term investments, interest rate and currency derivative contracts and other financial instruments.

Customer credit risk is managed by each business unit subject to corporate established policy and procedures and controls relating to customer credit risk management. Credit limits are established for all customers based on internal or external rating criteria.

Where customers are rated by an independent credit rating agency, these ratings are used to set credit limits. In situations where no independent credit rating exists, the credit quality of the customer is assessed based on an extensive credit rating scorecard.

Outstanding customer receivables are regularly monitored and, credit concerns, if any, are brought to the attention of senior management. High risk shipments to major customers are generally covered by letters of credit or other forms of credit insurance.

Credit risk from investments in government securities or money market funds and balances with banks and financial institutions is managed by the Group treasury in accordance with a

Board-approved policy. Investments of surplus funds are made only with the approved counterparties and within credit limits assigned to each counterparty, mainly based upon specific assessment criteria. Counterparty credit limits are reviewed by the corporate Board at least annually. The limits are set to minimize the concentration of credit risk and thus to mitigate the potential for financial loss through counterparty failure.

### **Liquidity and Capital**

The Group's overriding objective when managing capital is to safeguard the business as a going concern while maximizing returns for the companies' shareholders. In practice, this involves regular reviews by their Boards and senior management.

These reviews take into account the Group's strategic priorities, economic and business conditions and opportunities that are identified to invest across all points of the commodities cycle, and the focus on the progressive dividend policy, and other forms of shareholder return whilst also striving to maintain the Group's "A-" credit rating. The resulting capital structure provides the Group with a high degree of financial flexibility at a low cost of capital.

To maintain an "A-" credit rating, the Group considers various financial metrics including the overall level of borrowings and their maturity profile, liquidity levels, total capital, cash flow, EBITDA and interest cover ratios either on a statutory reported basis or as expected to be adjusted by the credit rating agencies.

### **Limits on Brokers**

The forex brokers are accredited by Foreign Exchange Dealers' Association of India (FEDAI), and banks use their services to obtain finer rates, and to improve the ease of functioning in their dealing rooms. As a prudent policy, corporates keep in place restrictions on the quantum of business routed through approved brokers or on the quantum of brokerage paid to them. In the case of securities, and bond market the corporates follow a procedure for fixing an appropriate limit for each broker, such that all transactions are not routed through a single broker. This helps in avoiding concentration.

### **Limits on SWIFT Transmission**

Threshold limits are put in place for different currencies, beyond which transmission through SWIFT is captured and separately authorized. This enables a bank to monitor unusually large transmissions and acts as a check on its back office.

### **Limits on Dealers**

Limits may be placed on individual dealers for each deal, or one currency may be assigned to one dealer, or cumulative trading volumes may be defined to mitigate and monitor operational

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risks. Job rotation policies and compulsory leave arrangements for dealers are some of the measures used to have an effective check on dealers.

### Funding and Capital Markets Benefits through Treasury Operations

Key activities	Key benefits
Optimization of capital structure	Optimization of Weighted Average Cost of Capital (WACC)
Manage short, medium and long-term investments	Maximize yield on assets
Ensure adequate liquidity to support the business	Minimize interest expense
Ensure adequate liquidity to meet obligations as they fall due	Access to capital at the right time, price and conditions
Arrange liquidity for strategic events such as M&A, Divestiture and JV's	Removal of concentration risks
Diversify capital sources, partners and maturities	Ensure good credit ratings
Portfolio management of debt, derivatives and investments	Ensure limits accurately reflecting the borrowing requirement (thus minimizing commitment fees)
Ensure that contractual terms and covenants do not constrain business	Ensure that hedging matches the funding profile (no over hedging)

### Financial Risk Management Benefits through Treasury Operations:

Key activities	Key benefits
Seek natural hedges and offsets within e business	Visibility of financial risks on an enterprise basis
Interest Rate risk management	Minimize external hedging requirement
FX risk management	Minimize impact of external risk on P&L and Balance Sheet
Commodity risk management Counterparty risk management	Reduce volatility Access to capital at the right time, price and conditions
Credit risk management	Improve asset quality
Liquidity risk management	Create 'risk aware' culture

Pension risk management	Certainty facilitates better decisions
Work with the business to de-risk contracts and avoid bad debts	Scenario planning and stress testing avoid surprises
Involvement in business insurance	

### Un-secured / Balance Sheet and Collateral based Limits set-up

Collateral refers to the asset obtained by a bank to secure a loan or advance. This is done to mitigate the risk of default by a borrower. Banks also use the value of the collateral to ascertain the amount of funds that can be advanced to a borrower. Collaterals are of various types such as property, vehicles, marketable securities, deposits, etc.

Limits and Collateral Management provides for definition of various collateral types, collateral categories and sub-categories. There are various preferences which can be defined at the collateral category level. For example, hair cut percentage to arrive at bank value, whether valuation and title search are applicable, whether charge creation is required, etc.

After defining the collateral types and categories, the details required for setting up a collateral record include collateral description, estimated market value, and ownership details, address details, etc. Optional additional details specific to the collateral type/category can also be captured, for example for a property type of collateral, details such as number of rooms, year of construction/ date of purchase, dimensions of the property etc. can be captured. Similarly for guarantee type of collaterals, the guarantor's name and supporting collateral to the guarantee can be recorded. Charge details applicable to the collateral such as charge type, priority etc. can also be captured along with other bank charges.

- New collateral types have also been introduced. For example, Agriculture, License, Current Assets, Aircraft, Insurance, and Ship.
- New collateral categories have been added to the existing collateral types. For example, Rural under Property type, Computer Software, and Hardware under Fixed Asset type.
- Multiple charge types are allowed to be setup for a collateral category, with one being selected as default.
- Multiple charge types are allowed to be setup for a collateral category, with one being selected as default.
- Modification of address details is allowed. Modification of collateral owners is also allowed (with validations).
- Linkage of external term deposit and proposed term deposit to the type of deposit collateral.

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- Notice days for collateral expiry.
- Introduction of new security types of debentures or bonds, certificates (in addition to the existing security type of shares or stock).
- Introduction of Bank Value Hair Cut percentage at the security level.
- Addition of Probable Match criterion in the collateral de-dupe maintenance (any one or more of the de-dupe parameters can be selected for checking the 'probable match').

### **Setup Limits**

Limits and Collateral Management (LCM) allows for setting up of one or multiple credit facilities for a customer. Limits can be set for each facility granted to him. . The bank can set up credit facilities for its various products, like loans, foreign exchange, overdrafts, trade finance, etc. Bank users can capture the limit amount and limit currency, along with the limit start date, limit expiry date, date for first disbursement, date for last disbursement, credit risk score, risk grade and effective dates as applicable to their credit facility. The solution supports creation of facilities of revolving and non-revolving types.

In case of a revolving type, once the repayment is made, the amount of limit will be automatically reinstated to the extent of repayment whereas in the case of non revolving line the limit will not be available for further draw down.

A unique borrowing entity can be created for a customer or a group of customers and an overall limit can be assigned to it. . The setting of this limit, however, is optional. But if the limits are set, then the application will validate the limits defined for each credit facility against the overall limit granted to the entity.

Within a Credit facility, several sub-facilities can be defined for a Product Group or across a combination of Product Groups. Each sub-facility can act as a parent facility for an additional level of sub facility, resulting in the definition of limits at multiple levels. Accounts are linked at the lowest level of limits.

Limits and Collateral Management also supports definition of temporary overdraft limits and limits for advance against unclear funds (AUF). Both the TOL and AUF limits are defined at the account level.

### **Utilization of Limits**

Utilization management is used for keeping an on-line check on the usage of credit limits. This ensures that a customer's liability to the bank at any given point of time remains within the stipulated limit. The exposure tracking mechanism in utilization management helps to track the exposure of the selected borrowing entity or customers.

The application provides a view of the Effective Line Amount, Available Amount, Utilization Amount, Transferred amount and Blocked amount and Outstanding Exposure. The application tracks all transactions initiated from various modules which impacts credit facility through increase or decrease in utilization.

In case of Revolving type of Facility, the Increase utilization will increase the Utilization amount and Outstanding Exposure Amount and decrease the Available amount with the corresponding Amount for the associated Borrowing Entity and Credit Facility. Whereas the Decrease utilization will decrease the utilization and Outstanding Exposure Amount and Increase the Available amount for the associated Borrowing Entity and Credit Facility.

In case of Non Revolving type of facility, the decrease utilization will only decrease the outstanding exposure amount and will not increase the corresponding available amount and also will not decrease the utilization amount.

If the Borrowing Entity and credit facility has an associated parent facility, then utilization will be tracked and updated at all the parent levels by the application automatically.

### **Audit of Regulatory Compliance in particular Foreign Exchange Risk Management**

With respect to foreign exchange derivatives involving rupees, residents have access to foreign exchange forward contracts, foreign currency-rupee swap instruments and currency options both cross currency as well as foreign currency-rupee. In the case of derivatives involving only foreign currency, a range of products such as Interest Rate Swaps, Forward Contracts and Options are allowed. While these products can be used for a variety of purposes, the fundamental requirement is the existence of an underlying exposure to foreign exchange risk, i.e., derivatives can be used for hedging purposes only.

The RBI has also formulated guidelines to simplify procedural/documentation requirements for the Small and Medium Enterprises (SME) sector. In order to ensure that SMEs understand the risks of, these products, only banks with which they have credit relationship are allowed to offer such facilities. These facilities should also have some relationship with the turnover of the entity. Similarly, individuals have been permitted to hedge up to USD 100,000 on self-declaration basis. Authorized Dealer (AD) banks may also enter into forward contracts with residents in respect of transactions denominated in foreign currency but settled in Indian Rupees, including hedging the currency indexed exposure of importers in respect of customs duty payable on imports and price risks on commodities with a few exceptions. Domestic producers/users are allowed to hedge their price risk on aluminum, copper, lead, nickel and zinc as well as aviation turbine fuel in international commodity exchanges based on their underlying economic exposures. Authorized dealers are permitted to use innovative products like cross-currency options, interest rate swaps (IRS) and currency swaps, caps/collars and forward rate agreements (FRAs) in the international foreign exchange market. Foreign

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Institutional Investors (FII), person's resident outside India having Foreign Direct Investment (FDI) in India and Non-resident Indians (NRI) are allowed access to the forwards market to the extent of their exposure in the cash market. Hedging Instruments for Indian Firms the recent period has witnessed amplified volatility in the INR-US exchange rates in the backdrop of the sub-prime crisis in the US and increased dollar-inflows into the Indian stock markets. In this context, the paper has attempted to study the choice of instruments adopted by prominent firms to stem their foreign exchange exposures.

Derivative use for hedging is only to increase due to the increased global linkages and volatile exchange rates. Firms need to look at instituting a sound risk management system and also need to formulate their hedging strategy that suits their specific firm characteristics and exposures.

In India, regulation has been steadily eased and turnover and liquidity in the foreign currency derivative markets has increased, although the use is mainly in shorter maturity contracts of one year or less. Forward and option contracts are the more popular instruments. Regulators had initially only allowed certain banks to deal in this market, but now Corporates can also write option contracts. There are many variants of these derivatives which investment banks across the world specialize in, and as the awareness and demand for these variants increases, the RBI would have to revise regulations.

For now, Indian companies are actively hedging their foreign exchange risks with forwards, currency and interest rate swaps and different types of options such as call, put, cross currency and range-barrier options. The high use of forward contracts by Indian firms also highlights the absence of a rupee futures exchange in India. However, the Dubai Gold and Commodities Exchange in June, 2007 introduced Rupee-Dollar futures that could be traded on its exchanges and had provided another route for firms to hedge on a transparent basis.

## **New Norms in Internal Audit or COSO (Committee of Sponsoring Organizations)**

The **Committee of Sponsoring Organizations of the Tread way Commission (COSO)** is a joint initiative of five private sector organizations, established in the United States, dedicated to providing thought leadership to executive management and governance entities on critical aspects of organizational governance, business ethics, internal control, enterprise risk management, fraud, and financial reporting. COSO has established a common internal control model against which companies and organizations may assess their control systems. COSO is supported by five supporting organizations, including the Institute Management Accountants (IMA), the American Accounting Association (AAA), the American Institute of Certified Public Accountants (AICPA), the Institute of Internal Auditors (IIA), and Financial Executives International (FEI).

The COSO framework involves several key concepts:

- Internal Control is a *process*. It is a means to an end, not an end in itself.
- Internal control is affected by *people*. It is not merely policy, manuals, and forms, but people at every level of an organization.
- Internal control can be expected to provide only *reasonable assurance*, not absolute assurance, to an entity's management and Board.
- Internal control is geared to the achievement of *objectives* in one or more separate but overlapping categories.

The COSO framework defines internal control as a process, effected by an entity's Board of directors, management and other personnel, designed to provide "reasonable assurance" regarding the achievement of objectives in the following categories:

- Effectiveness and efficiency of **operations**
- Reliability of **financial reporting**
- **Compliance** with applicable laws and regulations.
- Safeguarding of Assets (MHA)

The COSO internal control framework consists of five interrelated components derived from the way management runs a business. **According to COSO, these components provide an effective framework for describing and analyzing the internal control system implemented in an organization** as required by financial regulations. The five components are the following:

**Control environment:** The control environment sets the tone of an organization, influencing the control consciousness of its people. It is the foundation for all other components of internal control, providing discipline and structure. Control environment factors include the integrity, ethical values, management's operating style, delegation of authority systems, as well as the processes for managing and developing people in the organization.

**Risk assessment:** Every entity faces a variety of risks from external and internal sources that must be assessed. A precondition to risk assessment is the establishment of objectives and thus risk assessment is the identification and analysis of relevant risks to the achievement of assigned objectives. Risk assessment is a prerequisite for determining how the risks should be managed.

**Control activities:** Control activities are the policies and procedures that help ensure that management directives are carried out. They help ensure that necessary actions are taken to address the risks that may hinder the achievement of an entity's objectives. Control activities occur throughout the organization, at all levels and in all functions.

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They include a range of activities as diverse as approvals, authorizations, verifications, reconciliations, review of operating performances, security of assets and segregation of duties.

**Information and communication:** Information systems play a key role in internal control systems as they produce reports, including operational, financial and compliance-related information that make it possible to run and control business. In a broader sense, effective communication must ensure that information flows down, across and up the organization. For example, formalized procedures exist for people to report suspected frauds. Effective communication should also be ensured with external parties, such as customers, suppliers, regulators and shareholders, about related policy positions.

**Monitoring:** Internal control systems need to be monitored by a process that assesses the quality of the system's performance over time. This is accomplished through ongoing monitoring activities or separate evaluations. Internal control deficiencies detected through these monitoring activities should be reported upstream and corrective actions taken to ensure continuous improvement of the system.

In November 2010, COSO announced a project to review and update the *Internal Control — Integrated Framework* to make it more relevant in the increasingly complex business environment. The five framework components remain the same. A new feature in the updated framework is that the internal control concepts introduced in the original framework will now be codified into 17 principles, explicitly listed among the five components. Changes to the framework include internal controls over technology, such as email and the Internet, which were not in widespread use when the original framework was issued in 1992. Along with the updated Framework, COSO intends to publish the following documents:

- *Internal Control over External Financial Reporting (ICEFR): Compendium of Approaches and Examples developed* to assist users when applying the framework to external financial reporting objectives.
- *Illustrative Tools* developed to assist users when assessing the effectiveness of a system of internal control based on requirements listed in the updated Framework.

## Compliance Guidelines with regard to Investments of Banks

With the introduction of prudential norms on capital adequacy, income recognition, asset classification and provisioning requirements, the financial position of banks in India has improved in the last few years. Simultaneously, trading in securities market has improved in terms of turnover and the range of maturities. In view of these developments and also taking into consideration the evolving international practices, the Reserve Bank of India (RBI) has issued guidelines on classification, valuation and operation of investment portfolio by banks from time to time, as detailed below:

## Investment Policy

(i) Banks should frame Internal Investment Policy Guidelines and obtain their Board's approval. The investment policy may be suitably framed / amended to include Primary Dealer (PD) activities also. Within the overall framework of the investment policy, the PD business undertaken by a bank will be limited to dealing, underwriting and market-making in Government Securities. Investments in Corporate/ PSUs/ FIs bonds, Commercial Papers, Certificate of Deposits, debt mutual funds and other fixed income securities will not be deemed to be part of PD business. The investment policy guidelines should be implemented to ensure that operations in securities are conducted in accordance with sound and acceptable business practices. While framing their investment policy, banks have to follow the guidelines given below:

- (a) Banks may sell a government security already contracted for purchase, provided:
- (i) The purchase contract is confirmed prior to the sale,
  - (ii) The purchase contract is guaranteed by CCIL or the security is contracted for purchase from the Reserve Bank and,
  - (iii) The sale transaction will settle either in the same settlement cycle as the preceding purchase contract, or in a subsequent settlement cycle so that the delivery obligation under the sale contract is met by the securities acquired under the purchase contract (e.g. when a security is purchased on T+0 basis, it can be sold on either T+0 or T+1 basis on the day of the purchase; if however it is purchased on T+1 basis, it can be sold on T+1 basis on the day of purchase or on T+0 or T+1 basis on the next day).

For purchase of securities from the RBI through Open Market Operations (OMO), no sale transactions should be contracted prior to receiving its confirmation of the deal/advice of allotment.

- In addition to the above, the Scheduled Commercial Banks (other than RRBs and LABs) and Primary Dealers have been permitted to short sell Government securities.
  - Further, the NDS-OM members have been permitted to transact on 'When Issued' basis in Central Government dated securities.
- (b) Banks successful in the auction of primary issue of government may enter into contracts for sale of allotted securities.
- (c) The settlement of all outright secondary market transactions in Government Securities will be done on a standardized T+1 basis effective May 24, 2005.

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- (d) All the transactions put through by a bank, either on outright basis or ready forward basis and whether through the mechanism of Subsidiary General Ledger (SGL) Account or Bank Receipt (BR), should be reflected on the same day in its investment account and, accordingly, for SLR purpose wherever applicable. With a view to bringing in uniformity in the methodology of accounting for investments in Government securities, banks should follow 'Settlement Date' accounting for recording purchase and sale of transactions in them.
- (e) The brokerage on the deal payable to the broker, if any, (if the deal was put through with the help of a broker) should be clearly indicated on the notes/ memoranda put up to the top management seeking approval for putting through the transaction and a separate account of brokerage paid, broker-wise, should be maintained.
- (f) For issue of BRs, banks should adopt the format prescribed by the Indian Banks' Association (IBA) and strictly follow the guidelines prescribed by them in this regard. The banks, subject to the above, could issue BRs covering their own sale transactions only and should not issue BRs on behalf of their constituents, including brokers.
- (g) Banks should be circumspect while acting as agents of their broker clients for carrying out transactions in securities on their behalf.
- (h) Any instance of return of SGL form from the Public Debt Office of the Reserve Bank for want of sufficient balance in the account should be immediately brought to its notice with the details of transactions.
- (i) Banks desirous of making investment in equity shares/ debentures should observe the following guidelines:
  - 1. Build up adequate expertise in equity research by establishing a dedicated equity research department, as warranted by their scale of operations;
  - 2. Formulate a transparent policy and procedure for investment in shares, etc., with the approval of the Board; and
  - 3. The decision in regard to direct investment in shares, convertible bonds and debentures should be taken by the Investment Committee set up by the bank's Board. The Investment Committee should be held accountable for the investments made by the bank.
- (ii) With the approval of respective Boards, banks should clearly lay down the broad investment objectives to be followed while undertaking transactions in securities on their own investment account and on behalf of clients, clearly define the authority to put through deals and procedure to be followed for obtaining the sanction of the appropriate authority, and procedures to be followed while putting through deals, various prudential exposure limits and

the reporting system. While laying down such investment policy guidelines, banks should strictly observe the Reserve Bank's detailed instructions with regard to the following:

- STRIPS
- Ready Forward (buy back) deals in G-Sec
- Transactions through Subsidiary General Ledger A/c
- Use of Bank Receipts
- Retailing of Government Securities
- Internal Control System
- Dealings through Brokers
- Audit, Review and Reporting

(iii) The aforesaid instructions will be applicable mutatis mutandis, to the subsidiaries and mutual funds established by banks, except where their operations are contrary to or inconsistent with specific regulations of the Securities and Exchange Board of India (SEBI) and the RBI.

## **Issues in Management of Integrated Treasury**

Integrated treasury is a holistic approach to funding the balance sheet and deployment of funds across the domestic as well as global money and forex markets. This approach enables a Corporate to optimize its asset-liability management and also capitalize on arbitrage opportunities.

Traditionally, the forex dealing room of the corporate manages foreign exchange dealings mainly arising out of business transactions and consequent cover operations in interbank market. The domestic treasury / investment operations were independent of its forex dealing. The treasury also undertook investment in government and non-government securities.

The need for integration of forex dealing and domestic treasury operations has arisen on account of interest rate deregulations, liberalization of exchange control, development of forex market, introduction of derivative products and technological advancement in settlement systems and dealing environment. The integrated treasury performs not only the traditional roles of forex dealing room and treasury unit but also many other functions.

The treasury branch is manned by the front-office, mid-office, back-office and audit group. The dealers and readers constitute the front-office. In the course of their buying and selling transactions, they are the first point of interface with other participants in the market (dealers of other banks, brokers and customers). They report to their department heads. They also interact among themselves to exploit arbitrage opportunities. A mid-office set-up, independent of the treasury unit, acts as the unit responsible for risk monitoring, measuring and analysis

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and reports directly to the top Management for control. This unit provides risk assessment to Asset Liability Committee (ALCO) and is responsible for daily tracking of risk exposures, individually as well as collectively.

The back-office undertakes accounting, settlement, and settlement and reconciliation operations. The audit group independently inspects / audits daily operations in the treasury department to ensure adherence to internal / regulatory systems and procedures.

Many banks in India have taken the initiative to set up their integrated treasury operations supported by infrastructural facilities like Reuters / Telerate / Bloomberg System, hotlines, Dealing Boards, Internet etc., and dedicated software for integrated treasury. Payment systems like Negotiated Dealing System (NDS), Clearing Corporation of India Limited (CCIL) and new initiatives like Real Time Gross Settlement System (RTGS) are already in place.

### **Co-ordination: Internal and External Treasury Audit**

Proper coordination can lead to efficient and effective audits as there is no unnecessary duplication of efforts and auditors can focus on other tasks. With increasing scandals and frauds, regulators are specifying more of new requirements to increase the accuracy of financial reports. In this environment, coordination between auditors is one of the methods by which companies can improve their perceived trustworthiness.

### **Varied strengths increase effectiveness**

By the nature of their responsibilities, internal auditors spend a lot of time working for the same company. This gives them a better understanding of the culture and working of the organization. They notice things and come across instances, which the external auditor is unable to see during his visits. The external auditors, on the other hand, have exposure to wider variety of financial issues as they have multiple clients. External auditors may therefore discover and solve issues that internal auditors may not even know of.

### **Increase in efficiency**

Coordination increases efficiency. When the audit is not properly coordinated, external auditors may duplicate work already performed by the internal auditors. This redundancy causes higher audit fees but does not increase the effectiveness of the audit. Similarly, internal auditors may duplicate external auditor's work, which results in wasted internal audit time. Coordination increases the probability that the information that companies release is accurate. The synergies realized through improved coordination between the two add value to a company's shareholders.

***Better audit coverage***

It is expected that elimination of redundant work will leave time and resources for better audit coverage.

***Cost reduction***

Coordination reduces the time and efforts which the external auditor would expend on redundant work thus, reducing the audit fees. In most cases, the savings from co-ordination are greater than the cost incurred by the internal audit function to perform the work on which the external auditors rely.

***Better understanding of each other's work***

Coordination would imply that the auditors communicate and consult with each other about their plans and findings. This will lead to a clearer understanding of their respective audit roles and requirements.

## **Building co-operation between Internal & External Auditor**

**Approval**

External and internal auditors owe allegiance to different set of people. The internal auditor is accountable to the management. Either the management or any other body in charge of governance decides the internal auditor's scope of work. When the external auditor needs assistance from the internal auditor, he has to first inform the management /governing body and seek its approval.

**Commitment**

Both the auditors work with different objectives and responsibilities. They are accountable to a different set of people. Given this situation, the need for coordination requires commitment. They have to adjust and plan the work to satisfy each other's needs.

**Communication**

Communication is the sine qua non for the success of any coordination process. There should be frequent and open communication between internal and external auditors. They should decide on timing and nature of communication, which may be written or electronic or face to face or telephonic or combination of whatever format is suitable. The auditors can have regular meetings to plan for identification of opportunities for cooperation, elimination of duplication of work and should agree on methods to share information and other findings. Even where internal and external auditors are not working together in a particular area there may be circumstances where they wish to consult with each other on particular issues or on specific audit findings. The coordination plans and procedures should ideally be accepted by

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both parties, and documented and approved by the governing body/management of the company.

### **Trust**

There needs to be mutual confidence between both groups of auditors. This confidence is enhanced when the auditors are members of professional bodies and are bound by their professional standards and code of conduct. When the external auditor requires direct assistance or needs to rely on the work in a certain area, he may conduct procedures to get specific assurance from the Company. There also needs to be confidence that any information exchanged is treated professionally and with integrity.

Areas of co-operation between Internal and External Auditors

- Internal control
- Corporate governance
- Reporting and financial statements
- Compliance with laws
- Anti-Fraud measures
- Performance indicators
- Testing
  - systems
  - programs
- Liaison between company and external auditors
  - Ensure that all information, documentation is provided to internal auditors
  - Audit of dispersed organizations
  - Follow up on audit issues and implementation of recommendations

### **A BRIEF ON DOMESTIC TREASURY DEPARTMENT AUDIT PROCESS**

#### **Audit Approach and Procedures**

The auditor's primary objective in audit of investments is to satisfy themselves as to their existence and valuation. Examination of compliance with statutory and regulatory requirements is also an important objective in audit of investments in as much as non-compliance may have a direct and material impact on the financial statements.

The latter aspect assumes special significance in the case of banks where investment transactions have to be carried out within the numerous parameters laid down by the relevant legislation and directions of the RBI. The auditors should keep this in view while designing

their audit procedures relating to investments. The Reserve Bank of India has started issuing Master Directions on all regulatory matters beginning January 2016.

#### **Process Review, Walk through and Control Testing**

For the purpose of identifying significant processes, the auditor may identify significant accounts and processes linked to significant accounts. They may carry out detailed understanding of process from inception of transaction to its final accounting. The banks normally have documented standard operating procedures (SOPs), hence auditor can peruse SOPs for understanding and documenting significant processes. During the process understanding, auditors may identify various control points in the process like reconciliation, maker checker, segregation of duties, etc. The auditors may carry out walk through of few transactions for validating process understanding and existence of identified controls. Identified controls needs to be further segregated to manual controls and IT controls for testing of those controls for sample transactions. This sample needs to be selected randomly from total population of transactions as per the methodology.

In today's scenario, most of the treasury functions of banks are performed in an automated environment (for example, trade booking, settlement and accounting). In such a situation, it becomes imperative for the auditors to test the general information technology controls and system application controls around the functioning of the systems involved and also the interfaces between various systems.

#### **Some of the typical audit procedures include:**

- Identification of specific application controls based on process understanding and walkthroughs.
- Perusal of IT application controls and document whether controls are effective and reliance can be placed on same.
- Perusal of IT system audit report, Internal Control Guidance report and action taken thereon.
- Based on outcome of IT control testing, further audit strategy need to be formulated.

#### **Substantive Audit Procedures**

Considering that the investments comprise a substantial portion of a bank's balance sheet, a combination of test of operating effectiveness of controls and substantive audit procedures (including substantive analytical procedures) would be necessarily carried out by the auditor to conclude effectively on the completeness, recognition and measurement, accuracy and existence of the banks' investments, related income/ expenses and associated balances.

#### **Examination of Reconciliation**

The auditor should examine the reconciliation of the investment balances as per the financial statements with that of the balances with the custodians (PDO or a depository for investments held in dematerialised form), account statements of mutual fund, physically verify the

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securities on hand, obtain independent confirmations from custodians, counter-party banks for BRs on hand, to examine the control and reconciliation of BRs issued by the bank. In addition to examining the period end reconciliations, the auditor needs to examine such reconciliations at other interim intervals, to ensure that the process is followed throughout the audit period. Needless to add, the actual control and reconciliations etc., are to be carried out by the bank's management; however, the auditor needs to examine the same.

### **Some typical audit procedures would include:**

- perusing the process, frequency of reconciliation and controls over same.
- perusing the reconciliation (period end as well as interim) and examining whether proper impact has been given for reconciling items.
- obtaining direct balance confirmations.

### **Inspection of Documents**

The auditor should ascertain whether the investments made by the bank are within its authority. In this regard, the auditor should examine whether the legal requirements governing the bank, relating to investments, have been complied with and the investments made by the bank are not ultra vires the bank. Apart from the above, the auditor should also ascertain that any other covenants or conditions which restrict, qualify or abridge the right of ownership and/or disposal of investments, have been complied with by the bank.

The auditor should satisfy himself that the transactions for the purchase/sale of investments are supported by approval of due authority and documentation. The acquisition/disposal of investments should be verified with reference to the broker's contract note, bill of costs, receipts and other similar evidence. The auditors may also check whether brokers note is dated and time stamped or not. The auditors should also check the segregation of duties within the bank staff in terms of executing trades, settlement and monitoring of such trades, and accounting of the same (generally termed as front office, middle office and back office functions' segregation).

### **Some typical audit procedures would include:**

- checking compliance with all applicable legal requirements.
- checking approval and all supporting documents for purchase and sale of investments.
- checking segregation of duties.
- ensure that the inherent risk of management overriding controls is mitigated.

### **Examination of Existence of Investments**

The auditor may advise the bank to list out investments held in physical form separately from those held in dematerialised form with the PDO or with a depository. Banks are permitted to make fresh investments and hold bonds and debentures, privately placed or otherwise, and equity instruments only in dematerialised form.

The auditor should verify the investments held with PDO, custodians and the depository, at the close of business on the date of the balance sheet with the statement of holdings. The auditor should circulate and maintain control over independent investments' balance confirmation requests to the custodian and other constituents (for example, RBI for SGL and CSL balances) in accordance with SA 505, "External Confirmations" issued by ICAI. Furthermore, the auditor should design sufficient alternative audit procedures in situations where the independent confirmations are not received back (after reasonable follow up procedures) before the auditor signs off on the bank's financial statements. These alternative procedures should also be designed in such a way that independent data points are used for corroborating investment balances. (e.g.: the auditor gets the bank personnel download the investment statement in his own presence e.g. from E-Kuber for Government Securities, DP's website for Shares and Bonds etc.)

The auditor should peruse banks process of periodic physical verification of investments and satisfy himself with adequacy of process and controls. Based on assessment of physical verification process of bank, the auditor may verify the investment scrips physically at the close of business on the date of the balance sheet. In exceptional cases, where physical verification of investment scrips on the balance sheet date is not possible, the auditor may carry out the physical verification on a date as near to the balance sheet date as possible. In such a case, they should take into consideration any adjustments for subsequent transactions of purchase, sale, etc. In the current environment, where the banks generally have their investment securities in dematerialised form, the importance of independent audit confirmation requests multiplies. Auditors may also check feasibility of converting physical shares in dematerialised form. If feasible, auditors may suggest banks to convert physical shares into dematerialised form.

Investments are normally dealt with at the head office and not at the branches. However, sometimes, for realisation of interest etc., and other similar purposes, some of the investment scrips may be held at branch offices. In such cases, the auditor needs to examine the records maintained at the head office to record details of scrips held at other locations and request the respective branch auditors to physically verify such scrips as a part of their audit. The auditor needs to obtain a written confirmation to this effect from the branch auditors. The branch auditors should also be requested to report whether adequate records are maintained by the branch for the securities held by it on behalf of the head office.

The auditor may specifically request the branch auditors to examine and report any cases of non-receipt of income against investments for a long period or of scrips being held without being redeemed long after the redemption date, as these situations might be indicative of the scrips being forged or otherwise unrealisable. In case the investment scrips are held at an unaudited branch, the auditor should request the management to obtain the scrips at the head office for his examination.

#### **Cut-off Procedures**

In terms of testing completeness of investments balances at the reporting date, the auditor

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should carefully devise cut-off procedures. This should be designed after understanding the bank's procedures for ensuring the appropriate period of accounting for investments. The banks should follow 'Settlement Date' accounting for recording transactions in Government securities. In respect of transactions other than in Government securities, the bank should follow the accounting policy consistently either 'Trade Date' or 'Settlement Date' accounting.

### **Some typical audit procedures would include:**

- Obtaining list of transactions executed on period end date and examining whether the same is correctly recorded and accounted.
- Checking first few sample transactions of subsequent period and ascertaining whether the same pertains to current reporting period.
- Checking control over transaction numbering by the system and ascertaining whether the transaction with last number for period end is recorded in current period and next transaction is recorded in subsequent period.

In respect of BRs issued by other banks and on hand with the bank at the year-end, the auditor should examine confirmations of counterparty banks about such BRs. Where any BRs have been outstanding for an unduly long period, the auditor should obtain written explanation from the management for the reasons thereof. This procedure may not, however, be necessary where scrips are received from counterparty banks before the completion of the audit.

The auditor should examine the reconciliation of BRs issued by the bank. He should also examine whether the securities represented by BRs issued by the bank and outstanding at the year-end have been excluded from investments disclosed in the balance sheet.

### **Examination of Classification and Shifting**

The auditor should examine whether the shifting of the investments to/from HTM category is carried out only once during a financial year and at the beginning of the financial year unless otherwise stipulated by RBI under special dispensation. Such shifting is required to be duly approved by the Board of Directors of the bank. As regards the shifting of investments from AFS to HFT, the auditor should verify the same as having been duly approved by the Board of Directors / ALCO / Investment Committee. In case of exigencies, the shifting from AFS to HFT may be done with the approval of the Chief Executive of the Bank/ Head of ALCO, but should be ratified by the Board of Directors later. Shifting of investments from HFT to AFS is generally not allowed. However, it will be permitted only under exceptional circumstances like not being able to sell the security within 90 days due to tight liquidity conditions, or extreme volatility, or market becoming unidirectional. Such transfer is permitted only with the approval of the Board of Directors/ ALCO/ Investment Committee.

Transfer of scrips from AFS / HFT category to HTM category should be made at the lower of book value or market value. In other words, in cases where the market value is higher than the book value at the time of transfer, the appreciation should be ignored and the security should

be transferred at the book value. In cases where the market value is less than the book value, the provision against depreciation held against this security (including the additional provision, if any, required based on valuation done on the date of transfer) should be adjusted to reduce the book value to the market value and the security should be transferred at the market value.

In the case of transfer of securities from HTM to AFS / HFT category,

a. If the security was originally placed under the HTM category at a discount, it may be transferred to AFS / HFT category at the acquisition price / book value. (It may be noted that as per existing instructions banks are not allowed to accrue the discount on the securities held under HTM category and, therefore, such securities would continue to be held at the acquisition cost till maturity). After transfer, these securities should be immediately revalued and resultant depreciation, if any, may be provided.

b. If the security was originally placed in the HTM category at a premium, it may be transferred to the AFS / HFT category at the amortised cost. After transfer, these securities should be immediately re-valued and resultant depreciation, if any, may be provided.

It is to be noted that in case if the bank is following 'Weighted Average Method', the cost of acquisition of the security is required to be considered redundant and instead book value (which would be weighted average value) needs to be considered for the purpose of above mentioned both clauses.

If the value of sale or transfer (excluding one-time shifting and additional shifting explicitly permitted by RBI), exceeds 5% of the book value of HTM investments as at the beginning of the year, the bank should disclose market value of the investments under HTM category along with disclosure of excess of book value over market value for which provision is not made.

The audit procedures in this regard would include:

- obtaining list of shifting of investments during the reporting period.
- checking compliance with RBI guidelines and existence of proper approvals for same.
- checking proper recording/ accounting of book value and depreciation on date of shifting.

#### **Examination of Accounting and Valuation**

Investments in securities now-a-days constitute a substantial part of total assets of many banks. Method of valuation of investments followed by a bank may, therefore, have a significant effect on its balance sheet and profit and loss account. The auditor should examine whether the method of accounting followed by the bank in respect of investments, including their yearend valuation, is appropriate, consistent and in conformity with RBI guidelines.

The auditor should examine the appropriateness of accounting policies followed by the bank. In case any of the accounting policies are not appropriate, the auditor should consider the effect of adoption of such policy on the financial statements and, consequently, on his audit report. In this regard, it may be noted that Accounting Standard (AS) 13, "Accounting for Investments", does not apply to banks.

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According to RBI guidelines, in respect of shares which are unquoted or for which current quotations are not available, the market value has to be determined on the basis of break-up value (excluding Revaluation Reserves, if any) as per the latest balance sheet of the company (which should not be more than one year prior to the date of valuation). In case the latest balance sheet is not available the shares are to be valued at Re.1 per company. This might create a problem in the case of new companies whose first annual reports are not yet available. It appears that in such a situation, it would be appropriate to value the shares at cost except where the evidence available indicates the deterioration in the value.

RBI guidelines require that individual scrip in the available-for-sale ('AFS') category should be marked to market at quarterly or more frequent intervals. It is further required that net depreciation in respect of each of the categories in which investments are presented in the balance sheet should be provided for and net appreciation should be ignored. As regards the scrips in Held for Trading (HFT) category, the same should be marked to market at monthly or at more frequent intervals in the similar manner, except in the following cases:

- (i) Equity shares should be marked to market preferably on daily basis, but at least on a weekly basis;
- (ii) Banks which undertake short sale transactions, the entire HFT portfolio including the short position should be marked to market on daily basis.

The book value of the individual script would not undergo any change after mark to market exercise is conducted at the balance sheet date.

It is pertinent to note that though intra-category netting off of depreciation and appreciation is permitted, the same (netting off) is not permitted inter-category. The provision for depreciation would be made on an aggregate basis for HFT and AFS category separately without changing the book value of individual scrips.

As regards the investments in HTM category, the same need not be marked to market except in case wherein the diminution in the value is other than temporary in nature or impairment of the investments due to specified circumstances. As regards the other HTM securities, if the acquisition cost / book value is more than face value, the premium should be amortised over the period of residual maturity period using constant yield method or straight line method.

In determining the market value of debt securities under HFT and AFS categories, interest accrued up to the balance sheet date should be reduced from the market price, if the market price includes the accrued interest, to avoid its double counting of interest - first as accrued interest and secondly as a part of market value.

The auditor should examine the process of valuation followed by the Bank and perform checks to examine that the market rates taken by the bank for valuation of investment securities are in accordance with the RBI guidelines. The auditor should also examine the accounting entries passed for marked to market depreciation, to ascertain, whether RBI guidelines pertaining to inter-category netting off are followed. Further, the auditor should include investment from each class of investment in its sampling technique in accordance with SA 530 "Audit Sampling

“so as to ensure that the valuation policy of all classes of investments gets validated. Audit sampling can be applied using either statistical or non-statistical sampling approach which is a matter of auditor’s judgment. Particular focus should be on investments which involve management judgment or are not simple rule based valuations (preference shares and pass through certificates). While the auditor checks the valuation of investment securities across products in line with RBI prescribed methodology, he should also carefully focus on assessing the appropriateness of inputs used in various valuation models/ formulae. This would include a check of:

- Use of appropriate cash flows (for instruments such as PTCs).
- Use of appropriate risk free rates (depending on maturity of instrument).
- Use of appropriate risk spreads.
- Use of appropriate ‘ratings’ for bonds.
- Receipt of dividend (for preference shares).
- Validity of various inputs like call/put option date, redemption premium, staggered redemption, etc.
- Arithmetical accuracy of a valuation (using ‘re-performance’ technique).

In case of banks which have automated means of valuing the investments (for example, system computes values), the auditor should also check system controls and if deemed necessary, consider involving an expert to check the integrity of system logic (to avoid, ‘garbage in garbage out’ kind of output).

In case the bank does not have automated means of valuation of investments (for example, valuation is computed over excel spreadsheets), the auditor should check end user computing controls over such spreadsheet usage. This would include a check of access controls over such files, change management controls, etc. This would help auditor conclude that the files for valuation of investments are not manipulated. This can also be classified as an anti-fraud control.

The auditor should examine whether the profit or loss on sale of investments has been computed properly. The carrying amount of investments disposed off should be determined consistently on similar basis. In case of HTM investments, Net Profit on sale of investments in this category should be first taken to the Profit & Loss Account, and thereafter be appropriated to the ‘Capital Reserve Account’ net of taxes and Net Loss will be recognised in the Profit & Loss Account.

The classification of investments into held-to-maturity, held-for-trading and available-for-sale categories is based on the intention with which the respective investments have been acquired by the bank. The auditor should examine whether the investments have been properly classified into the three categories at the time of acquisition based on such intention as evidenced by dealers’ pad or equivalent, along with reference to the decision of the competent authority such as Board of directors, ALCO or Investment Committee.

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Equity, debentures and other financial instruments acquired by way of conversion of outstanding principal and / or interest should be classified in the AFS category, and valued in accordance with the extant instructions on valuation of banks' investment portfolio. Equity classified as standard asset should be valued either at market value, if quoted, or at break-up value, if not quoted (without considering the revaluation reserve, if any) which is to be ascertained from the company's latest balance sheet. In case the latest balance sheet is not available, the shares are to be valued at Re.1. Equity instrument classified as NPA should be valued at market value, if quoted, and in case where equity is not quoted, it should be valued at Re.1. Depreciation on the instruments acquired by way of conversion, whether classified as standard or NPA, should not be offset against the appreciation in any other securities held under the AFS category.

As per RBI guidelines, investments classified under held-for-trading category should be sold within 90 days of their acquisition, failing which they should be shifted to the available-for-sale-category. The auditor should accordingly ascertain that no investments purchased more than 89 days before the balance sheet date have been classified under this category.

In respect of debt securities, interest accrued upto the balance sheet date is usually recognised as income in the profit and loss account. One of the essential conditions for accrual of income is that it should not be unreasonable to expect ultimate collection thereof.

A change in the method of valuation of investments constitutes a change in accounting policy and adequate disclosure regarding the fact of the change along with its financial effect should be made in the balance sheet. If the valuation of Investment is outsourced to an agency, certain audit procedures would need to be applied at such processing agency also.

Some of the typical audit procedures would include:

- obtaining list of investment as at reporting period from Bank and ascertaining completeness of the same by reconciliation process as highlighted above.
- checking the carrying amount of investments and ensuring that same is calculated on consistent basis. This is normally calculated by system, hence need to check IT controls and calculation on sample basis for ensuring accuracy.
- In case quotes are available, checking source of capturing market price/ fair value as at reporting date.
- In case quotes are not available, checking calculation for fair value as at reporting date to ensure compliance with RBI guidelines.
- checking calculation of Marked to Market Gain/ loss and accounting for same in compliance with RBI guidelines.

### **Spreading of MTM Losses and Creation of Investment Fluctuation Reserve (IFR)**

Banks has the option to spread provisioning for their mark to market (MTM) losses on all investments held in AFS and HFT equally over up to four quarters, commencing with the quarter ending June 30, 2018.

Banks that utilise the above option shall make suitable disclosures in their notes to accounts/ quarterly results providing details of –

- (a) the provisions made for depreciation of the investment portfolio for the quarter ending June 2018 and
- (b) the balance required to be made in the remaining quarters.
- (c) creation of IFR

**Non-Performing Investments (NPI)**

In respect of securities included in any of the three categories where interest/ principal is in arrears, banks should not reckon income on the securities and should also make appropriate provisions for the depreciation in the value of the investment. The banks should not set-off the depreciation requirement in respect of these non-performing securities against the appreciation in respect of other performing securities.

An NPI, similar to a non performing advance (NPA), is one where:

- (i) Interest/ instalment (including maturity proceeds) is due and remains unpaid for more than 90 days.
- (ii) The above would apply mutatis-mutandis to preference shares where the fixed dividend is not paid. If the dividend on preference shares (cumulative or non-cumulative) is not declared/paid in any year it would be treated as due/unpaid in arrears and the date of balance sheet of the issuer for that particular year would be reckoned as due date for the purpose of asset classification.
- (iii) In the case of equity shares, in the event the investment in the shares of any company is valued at Re.1 per company on account of the non availability of the latest balance sheet in accordance with the instructions contained in paragraph 3.5.5 of the RBI Master Circular on Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Banks dated July 1, 2015, those equity shares would also be reckoned as NPI.
- (iv) If any credit facility availed by the issuer is NPA in the books of the bank, investment in any of the securities, including preference shares issued by the same issuer would also be treated as NPI and vice versa. However, if only the preference shares are classified as NPI, the investment in any of the other performing securities issued by the same issuer may not be classified as NPI and any performing credit facilities granted to that borrower need not be treated as NPA. The Auditor should review the mechanism adopted by the Bank for classifying the investments as NPI where the credit facility has been classified as NPA and vice versa and test the effectiveness of the mechanism followed particularly the timeliness of such classification.
- (v) The investments in debentures / bonds, which are deemed to be in the nature of advance would also be subjected to NPI norms as applicable to investments.

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(vi) In case of conversion of principal and / or interest into equity, debentures, bonds, etc., such instruments should be treated as NPA ab initio in the same asset classification category as the loan if the loan's classification is substandard or doubtful on implementation of the restructuring package and provision should be made as per the norms. Further movement in the asset classification of these instruments would also be determined based on the subsequent asset classification of the restructured advance.

### **Classification of State Government guaranteed investments as NPI**

With effect from the year ending March 31, 2006, investment in State Government guaranteed securities, including those in the nature of 'deemed advance', attract prudential norms for identification of NPI and provisioning, when interest/installment of principal (including maturity proceeds) or any other amount due to the bank remains unpaid for more than 90 days.

The prudential treatment for Central Government Guaranteed bonds has to be identical to Central Government guaranteed advances. Hence, bank's investments in bonds guaranteed by Central Government need not be classified as NPI until the Central Government has repudiated the guarantee when invoked. However, this exemption from classification as NPI is not for the purpose of recognition of income.

The audit procedures would include:

- Identifying Non Performing Investments based on RBI guidelines as defined above. In case advances given to a party is classified as NPA, investment in securities issued by same party also needs to be classified as NPI and vice-versa except in case of preference shares, wherein if a preference share is classified as NPI, the performing securities and performing credit facilities granted to the said party need not be treated as NPI / NPA.
- Ascertaining whether the bank has made appropriate provision for the depreciation in the value of the NPI.
- Ensuring that the banks have not off-set the depreciation on NPI against the appreciation in respect of other performing securities.
- Obtaining separate list of investments as a result of conversion of interest/ principal. These investments need to be classified as NPI ab initio, if the loan's classification is NPA on implementation of the restructuring package.

### **Special Aspects**

The auditor should pay special attention to ascertaining whether the investments have been purchased or sold cum-dividend/ex-dividend, cum interest/ex-interest, cum-right/ex-right, or cum-bonus/ex-bonus. He should check whether appropriate adjustments in this regard have been made in the cost/sales value of securities purchased or sold.

In the case of a right issue, the offer letter should be examined. The auditor should check control over recording, exercising, renouncing of rights and also valuation of rights yet to be exercised. Where the rights have been renounced or otherwise disposed off or not exercised,

the auditor should examine that same have been duly accounted for. Similarly, the auditor should examine the relevant documents in the case of detachable warrants. He should also examine that these have been properly accounted for.

As regards bonus shares, the intimation to the bank regarding such issue should be examined with a view to ascertaining the receipt and recording of the requisite number of shares in the records maintained by the bank in this regard.

**Investment Fluctuation Reserve (IFR), Market Risk & Investment Reserve Account (IRA)**

The RBI specifies the following guidelines with respect to IFR and IRA:

**Investment Fluctuation Reserve**

- (i) Banks were advised to build reserves towards investment fluctuation, of a minimum 5% of the investment portfolio within 5 years period.
- (ii) To ensure smooth transition to Basel II norms, banks have been advised to build adequate reserve towards capital charge for market risks in a phased manner over a two year period as follows:
  - (a) In respect of securities included in the HFT category, open gold position limit, open foreign exchange position limit, trading positions in derivatives and derivatives entered into for hedging trading book exposures by March 31, 2005; and
  - (b) In respect of securities included in the AFS category by March 31, 2006.
- (iii) As advised by RBI in October, 2005, Banks maintaining capital of at least 9 per cent of the risk weighted assets for both credit risk and market risks for both HFT (of items - open gold position limit, open foreign exchange position limit, trading positions in derivatives and derivatives entered into for hedging trading book exposures) and AFS category as on March 31, 2006 may treat the entire balance of IFR as Tier I capital, may transfer the balance in the IFR 'below the line' in the Profit & Loss Appropriation account to statutory reserve, general reserve or balance of Profit and Loss Account.

**Investment Reserve Account**

- (i) Provisions created for depreciation on investments in the AFS and HFT categories if found excessive should be credited to the Profit & Loss Account and equivalent amount (net of taxes, if any and net of transfer to Statutory Reserve as applicable to such excess provision) should be appropriated to an Investment Reserve Account in Schedule 2 – “Reserves and Surplus” under the head “Revenue and Other Reserves” and would be eligible for inclusion under Tier II capital within the overall ceiling of 1.25% of total risk weighted assets prescribed for general provisions/ Loss Reserves.
- (ii) The Investment Reserve Account can be utilised in the prescribed manner.
- (iii) The amounts debited to the Profit & Loss Account for provision should be debited under the head "Expenditure - Provisions & Contingencies". The amount transferred from the Investment Reserve Account to the Profit & Loss Account should be shown as "below the

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line" item in the Profit and Loss Appropriation Account after determining the profit for the year. Provision towards any erosion in the value of an asset is an item of charge on the profit and loss account and hence should appear in that account before arriving at the profit for the accounting period. Adoption of the following would not only be adoption of a wrong accounting principle but would, also result in a wrong statement of the profit for the accounting period:

- (a) the provision is allowed to be adjusted directly against an item of reserve without being shown in the profit and loss account; or
- (b) a bank is allowed to draw down from the Investment Reserve Account before arriving at the profit for the accounting period (i.e., above the line); or
- (c) a bank is allowed to make provisions for depreciation on investment as a below the line item, after arriving at the profit for the period.

Hence none of the above options are permissible.

- (iv) The withdrawal from the Investment Reserve Account cannot be used for dividend declaration. Dividends should be payable only out of current year's profit. However, the balance in the Investment Reserve Account transferred 'below the line' in the Profit and Loss Appropriation Account to Statutory Reserve, General Reserve or balance of Profit & Loss Account would be eligible to be reckoned as Tier I capital.

The auditor should also examine whether the bank, as required by the RBI, is maintaining separate accounts for the investments made by it on its own Investment Account, on PMS clients' account, and on behalf of other constituents (including brokers). As per the RBI guidelines, banks are required to get their investments under PMS separately audited by external auditors. The auditor should review the report of such external auditors, if available, and check whether the discrepancies pointed out in the report have been adequately dealt with. The auditor should also verify that PMS transactions are carried out through a separate SGL account, and that there is no switching between the bank's own investment account and PMS clients' account except in accordance with the guidelines laid down by the RBI in this regard.

Investments should not normally be held by any other person (as laid down in the City Equitable Fire Insurance Co. case). If any investments are so held, proper enquiry should be made to ensure that there is some justification for it, e.g., shares may be held by brokers for the purpose of transfer or splitting-up etc. Shares may also be lodged with the companies concerned for transfer etc. When investments are held by any other person on behalf of the bank, the auditor should obtain a certificate from him. The certificate should state the reason for holding the investment (e.g., in safe custody or as security). The receipt originally issued by such person while taking delivery of the investment is not adequate for audit purposes. In the case of inscribed stock also, a certificate should be obtained which should certify the holding of the bank as at the date of the balance sheet.

Where securities lodged for transfer have not been received back within a reasonable period, or where share certificates, etc., have not been received within a reasonable period of the lodging of the allotment advice, the auditor should examine whether adequate follow-up action has been taken. He may, in appropriate cases, also enquire from the issuers, or their registrars, about the reasons for the delay. In cases where the issuer/registrar has refused to register the transfer of securities in the name of the bank, the auditor should examine the validity of the title of the bank over such securities.

If certain securities are held in the names of nominees, the auditor should examine whether there are proper transfer deeds signed by the holders and also an undertaking from them that they hold the securities on behalf of the bank. The auditor may also check compliance with Section 89 of the Companies Act, 2013 - Declaration in respect of beneficial interest in any share.

While examining the investment portfolio, the auditor should pay special attention to securities whose maturity dates have already expired. It is possible that income on such investments may also not have been received. In case the amount of such investments or the income accrued thereon is material, the auditor should seek an explanation from the management on this aspect. They should also consider whether the income accrued requires reversal as also whether any provision for loss in respect of such investments is required. Similarly, where income on any security is long overdue, the auditor should consider whether provision is required in respect of such income accrued earlier.

The auditor should check whether the overdue amount in respect of matured investment is disclosed as Investment or other assets. Since the investments had already matured, the overdue amount should be disclosed as Other Assets and not Investments.

#### **Income from investments**

The auditor should examine whether income from investments is properly accounted for. This aspect assumes special importance in cases where the bank has opted for receipt of income through the electronic/on line medium.

Some of the typical audit procedures would include:

- Re-computation of amortisation of premium / discount on investment securities.
- Re-performance of profit / loss on sale of investments keeping into consideration the method of allocating cost to securities (FIFO or weighted average).
- Assessing the dividend recognition policy of bank considering revenue recognition principles of Accounting Standard 9, Revenue Recognition.
- Re-computation of interest income on investments and checking the treatment of broken period interest, including ensuring proper cut-offs at reporting period ends.
- Checking of proper recognition of investment valuation loss as at reporting date

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- Checking of interest accrual in respect of interest-bearing investment outstanding at reporting date.

Considering that banks have large investment portfolio, use of substantive analytical procedures may be a useful audit technique for the auditor to conclude that income associated with investment balances is free from material misstatement. One of such techniques may include 'yield analysis' for the disaggregated investment portfolio of the bank.

There may be cases where the certificates of tax deduction at source (TDS) received along with the dividend/interest on investments are found missing. This increases the incidence of tax on the bank. The auditor should see that there is a proper system for recording and maintenance of TDS certificates received by the bank. The auditor may also review Form 26AS to ensure that the proper credit will be made available to the bank.

A part of the outstanding principal amount can be converted into debt or equity instruments as part of restructuring. In the case of restructured accounts classified as 'standard', the income, if any, generated by these instruments may be recognised on accrual basis. In the case of restructured accounts classified as non-performing assets, the income, if any, generated by these instruments may be recognised only on cash basis. Auditor should verify that recognition of assets on conversion / restructuring does not exceed the amount restructured.

### **d) Internal Financial Controls Over Financial Reporting including IT Controls**

The auditors should familiarise themselves with the instructions/ directions issued by the RBI regarding transactions in investment securities. The Banks should frame Internal Investment Policy Guidelines and obtain the Board's approval. The investment policy may be suitably framed / amended to include Primary Dealer (PD) activities also. Further, the Reserve Bank of India has issued Master Directions on Operational Guidelines for Primary Dealers dated July 1, 2016 (updated November 22, 2018), which should be complied by Banks. The auditor should review the investment policy of the bank to ascertain that the policy conforms, in all material respects, to the RBI's guidelines as well as to any statutory provisions applicable to the bank.

The Banks' management should ensure that there are adequate internal control and audit procedures for ensuring proper compliance in regard to the conduct of the investment portfolio. The banks should institute a regular system of monitoring compliance with the prudential and other guidelines issued by the Reserve Bank of India. While examining the internal controls over investments the auditor should particularly examine whether the same are in consonance with the guidelines of the RBI a gist of which has also been included in the Master Circular on Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Bank dated July 1, 2015. They should also judge their efficacy. By efficacy, it is meant that not only the auditor would check the operating effectiveness of various internal controls but also at the first place check and evaluate the design of such internal controls.

Any deficiencies noted from the audit procedures should be reported by the auditor to the

Management/ Those charged with Governance in accordance with SA 265 “Communicating Deficiencies in Internal Control to Those Charged with Governance and Management”.

Some of the typical audit procedures would include:

- perusing the investment policy and preparing brief note on key points of compliances.
- examine whether the Investment policy has been periodically reviewed by the Management.
- verify whether investment policy lays down clear parameters for stop loss limits or there exists any separate stop loss policy.
- perusing the minutes of board/board appointed committee for approval of investment policy and obtain the list of modification made in the policy compared to earlier approved policy.
- examining whether the investments made by the bank are in accordance with the laid down investment policy and are also in compliance with the RBI guidelines w.r.t. exposure norms.
- verification of valuation of investments as per the method and frequency as defined by RBI.
- perusing reports on concurrent audit of treasury transactions, system audit report, if any and follow-up action taken by the management thereon.
- perusing the half yearly review of portfolio by the Board of Directors of the bank and also reviewing annual inspection report of the RBI carried out under Section 35 of the Banking Regulation Act, 1949.
- Verification of voice recording mechanism and to ensure user ids of dealers left / transferred/ on leave is deactivated / suspended on timely basis.

**e) Certificate/ Reports (cover the requirements and approach/ procedures) Special-purpose Certificates Relating to Investments**

It may be noted that pursuant to RBI’s circulars, issued from time to time, banks require their Central Statutory Auditors to issue the following certificates regarding investments of the bank (in addition to their main audit report and the long form audit report).

- (i) Certificate on reconciliation of securities by the bank (both on its own Investment Account as well as PMS clients’ account). The reconciliation is to be presented in a given format.
- (ii) Certificate on compliance by the bank in key areas of prudential and other guidelines relating to such transactions issued by the Reserve Bank of India.

The auditor may consider relying on the work done during the course of audit for the purposes of such certificates. The certificate should reach the Regional Office of the DBS, RBI, under whose jurisdiction the bank’s head office is located within one month from the close of the

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accounting year, and thus for banks whose accounts have not been audited by the stated period may issue the certificate based on the unaudited books of account.

### Dealings in Securities on Behalf of Others

Apart from making investments on its account, a bank may also deal in securities on behalf of its customers only with the prior approval from RBI. These activities of banks are in the nature of trust or fiduciary activities. The accounting implications of the trust activities of banks may be noted. Banks commonly act as trustees and in other fiduciary capacities that result in holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions. Provided the trustee or similar relationship is legally supported, these assets are not assets of the bank and, therefore, are not included in its balance sheet. If the bank is engaged in significant trust activities, disclosure of that fact and indication of the extent of those activities is made in its financial statements because of the potential liability if it fails in its fiduciary duties. For this purpose, trust activities do not encompass safe custody functions.

The auditor should examine whether bank's income from such activities has been recorded and is fairly stated in the bank's financial statements. The auditor also needs to consider whether the bank has any material undisclosed liability from a breach of its fiduciary duties, including the safekeeping of assets. The auditor also needs to give certificate for reconciliation of securities held by the bank as custodian. The text of Illustrative Checklist for the Verification of the aspects of the Treasury/Investments of the Bank in Statutory Audit is given in Pen Drive/CD.

### Section D: Compliance with CRR and SLR requirements Introduction

Due to the nature of their operations, banks need to maintain sufficient liquid assets in the normal course of their business. The failure of a bank to meet its liabilities to depositors, as and when called upon to do so, undermines the confidence of the depositors not in the particular bank alone but in the entire banking system. While ensuring some liquid money against deposits is the primary purpose of CRR, its secondary purpose is to allow the RBI to control liquidity and rates in the economy. In the short term, interest rates swing up or down depending on how much liquidity is available for lending. Too much money leads to a collapse in rates, and too little, a spike.

### Regulatory Requirements

Recognising the need to safeguard the interests of depositors by ensuring that banks do not over-extend their resources and thereby to maintain the confidence of the public in the banking system, Section 24(2A) of the Banking Regulation Act, 1949 requires that a scheduled bank shall maintain in India, in addition to the average daily balance which it is, or may be, required to maintain under Section 42 of the RBI Act, 1934, and every other banking company, in addition to the cash reserve which it is required to maintain under section 18 of the Banking Regulation Act, 1949, assets the value of which shall not be less than such percentage not exceeding forty per cent of the total of its demand and time liabilities (DTL) in India as on the last Friday of the second preceding fortnight in such form and manner as the

RBI may by notification in the official gazette, specify from time to time. This is referred to as 'Statutory Liquidity Ratio' (SLR). The Friday with reference to which the amount of liquid assets has to be maintained during a fortnight is determined is commonly, referred to as the 'reporting Friday'. The prescribed percentage of liquid assets has to be maintained as at the close of business on every day. It may be noted that the statutory liquidity ratio is to be maintained with reference to the bank as a whole, and not for individual branches.

The RBI vide its Master circular No. RBI/2015-16/98 DBR.No.Ret.BC.24/12.01.001/2015-16 on "Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR)" dated July 1, 2015, has specified that consequent upon amendment to the Section 24 of the Banking Regulation Act, 1949 through the Banking Regulation (Amendment) Act, 2007 replacing the Regulation (Amendment) Ordinance, 2007, effective January 23, 2007, the Reserve Bank can prescribe the Statutory Liquidity Ratio (SLR) for Scheduled Commercial Banks in specified assets. The value of such assets of a SCB shall not be less than such percentage not exceeding 40 per cent of its total demand and time liabilities in India as on the last Friday of the second preceding fortnight as the Reserve Bank may, by notification in the Official Gazette, specify from time to time.

Further, Reserve Bank has specified vide notification RBI/2016-17/83 DBR.No.Ret.BC.15/12.02.001/2016-17 dated October 13, 2016 that every Scheduled Commercial Bank shall continue to maintain in India assets as detailed below, the value of which shall not, at the close of business on any day, be less than 20.75 per cent from October 1, 2016, 20.50 per cent from January 7, 2017, 20 per cent from June 24, 2017 and 19.5 per cent from October 14, 2017 on the total net demand and time liabilities (NDTL) as on the last Friday of the second preceding fortnight valued in accordance with the method of valuation specified by the Reserve Bank of India from time to time.

- (a) Cash; or
- (b) Gold as defined in Section 5(g) of Banking Regulation Act, 1949 valued at a price not exceeding the current market price; or
- (c) Unencumbered investment in the following instruments which will be referred to as "Statutory Liquidity Ratio (SLR) securities":
  - (i) Dated securities of the Government of India issued from time to time under the market borrowing programme and the Market Stabilization Scheme;
  - (ii) Treasury Bills of the Government of India;
  - (iii) State Development Loans (SDLs) of the State Governments issued from time to time under the market borrowing programme;
- (d) the deposit and unencumbered approved securities required, under subsection (2) of section 11 of the Banking Regulation Act, 1949 (10 of 1949), to be made with the Reserve Bank by a banking company incorporated outside India; and
- (e) any balance maintained by a scheduled bank with the Reserve Bank in excess of the

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balance required to be maintained by it under section 42 of the Reserve Bank of India Act, 1934 (2 of 1934).

Provided that the instruments referred to in items (1) to (3) above that have been acquired under reverse repo with Reserve Bank of India, shall not be included as SLR securities for the purpose of maintenance of SLR assets up to October 2, 2016. From October 3, 2016 such securities acquired from Reserve Bank shall be considered as eligible assets for SLR maintenance.

However, in term of Master Circular on Prudential Norms for Classification, Valuation and Operation of Investment Portfolio by Banks dated July 1, 2015, the regulatory treatment of market repo transactions in Government securities will continue as hitherto, i.e., the funds borrowed under repo will continue to be exempt from CRR/SLR computation and the security acquired under reverse repo shall continue to be eligible for SLR.

In respect of repo transactions in corporate debt securities, the amount borrowed by a bank through repo shall be reckoned as part of its DTL and the same shall attract CRR/SLR. Encumbered SLR securities are not to be included for the purpose of computing percentage specified herein above, to the extent of outstanding liabilities against the same.

If a banking company fails to maintain the required amount of SLR, it shall be liable to pay to RBI in respect of that default, the penal interest for that day at the rate of three per cent per annum above the bank rate on the shortfall and if the default continues on the next succeeding working day, the penal interest may be increased to a rate of five per cent per annum above the bank rate for the concerned days of default on the shortfall.

As section 24 of the Banking Regulation Act, 1949 is also applicable to nationalised banks, State Bank of India and its subsidiaries, and regional rural banks too have to comply with the above requirements. According to Section 24(3) of the Banking Regulation Act, 1949, for the purpose of ensuring compliance with this section, every banking company is required to furnish to the RBI, in the prescribed form and manner, a monthly return showing particulars of its assets maintained in accordance with this section and its demand and time liabilities in India at the close of the business on each alternate Friday during the month. In case any such Friday is a public holiday, the computation of SLR is to be done at the close of business on the preceding working day. The return in form VIII is to be furnished within 20 days after the end of the month to which it relates. The banks should also submit a statement as annexure to the form VIII giving daily position of –

- (a) value of securities held for the purpose of compliance with SLR; and
- (b) the excess cash balances maintained by them with RBI in the prescribed format.

As per Circular RBI/2016-17/302 Ref: DBR.CO.No.Ret.BC/66/12.07.144/2016- 17 dated May 11, 2017, the reporting of SLR has been moved from PCRPCD to XBRL (Extensible Business Reporting Language) platform from April 2017 onwards. 5.135

The RBI, vide its circulars DBOD No.761-A/08/07/003/93 dated February 8, 1993 and 829/08.07.003/93 dated February 20, 1993, has asked the banks to advise their statutory

central auditors to verify the compliance of statutory liquidity ratio on twelve odd dates in different months not being Fridays. The said compliance report by the auditors is to be submitted separately to the top management of the bank and to the RBI.

The statutory auditor should verify and certify that all items of outside liabilities, as per the bank's books had been duly compiled by the bank and currently reflected under demand and time liabilities (DTL) and net demand and time liabilities (NDTL) in the fortnightly/monthly statutory returns submitted to the RBI for the financial year.

#### **Computation of CRR**

The RBI introduced the system of lag of one fortnight in maintenance of stipulated CRR by banks w.e.f. November 06, 1999 to improve cash management by banks. Further, the daily minimum CRR maintenance requirement has been reduced to 90 percent effective from the fortnight beginning from April 16, 2016.

#### **Computation of SLR**

Refer Master circular No. DBR.No.Ret.BC.24/12.01.001/2015-16 on "Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR)" dated July 1, 2015, for guidance on computation of SLR. Further, RBI notification RBI/2016- 17/83 DBR.No.Ret.BC.15/12.02.001/2016-17 dated October 13, 2016 has been issued in this regard.

#### **Audit Approach and Procedures**

The certificate of the statutory auditors in relation to compliance with SLR requirements has to cover two aspects:

- (a) Correctness of the compilation of DTL position; and
- (b) Maintenance of liquid assets as specified in section 24 of the Act.

The statutory central auditor should acquaint himself with the circulars/ instructions of the RBI regarding composition of items of DTL. For this purpose, he may request the management to provide him a copy of the relevant circulars/instructions. He should keep these circulars/instructions in mind while examining compliance with the SLR requirements.

The statutory central auditor should carry out a process walk-through of NDTL and CRR/ SLR calculation process to identify risk associated with calculation and probability of error. The same should be noted in working papers of the auditor.

To comply with the requirements relating to statutory liquidity ratio, banks have evolved system of consolidating trial balances of all branches and head office to compile consolidated trial balance of bank as a whole at its head office. Based on this consolidation, the DTL position is determined for every reporting Friday. The statutory central auditor should request the branch auditors to verify the correctness of the trial balances relevant to the dates selected by him. The statutory central auditor should also request the branch auditors to verify the cash balance at the branch on the dates selected by him. It should be ensured that such request is communicated to the branch auditors well in advance of commencement of the audit so that they can draw up their audit programme accordingly.

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In many Banks, the consolidated trial balance (related to branches) for selected dates can be generated through core banking system; hence, the verification by Branch Statutory Auditors may not warranted.

Most of the liquid assets for the purpose of compliance with the SLR requirements comprise of approved securities, which are usually dealt with at the head office and a few large branches. The auditors should test check the relevant records maintained by the bank in respect of investments to verify the amount of approved securities held by the bank on the dates selected by him. The auditor should ascertain the valuation basis applicable at the relevant time and examine whether the valuation of securities done by the bank is in accordance with the guidelines prescribed by the RBI.

The auditor should examine the consolidations prepared by the bank relevant to the dates selected by him. He should test check the figures in the consolidations with the related returns received from the branches. He should also test check the arithmetical accuracy of the consolidations.

While examining the computation of DTL, the auditor may specifically examine whether the following items have been excluded from liabilities:

- a) Paid up capital, reserve, any credit balance in Profit and loss Account of the bank, amount of any loan taken from the RBI and amount of refinance taken from EXIM Bank, NHB, NABARD, SIDBHI.
- b) Bills discounting by a bank with eligible financial institutions as approved by RBI.
- c) Net Income tax provision
- d) Amount received from DICGC towards claims and held by banks pending adjustments thereof.
- e) Amount received from ECGC by invoking the guarantee.
- f) Amount received from insurance companies for adhoc settlement of claims pending judgement of court.
- g) Amount received from court receiver
- h) Net unrealized gain/loss arising from derivatives transactions under trading portfolio.
- i) Income flows received in advance such as annual fees and other charges which are not refundable.
- j) Liabilities arise on account of utilisation of limit under bankers acceptance facility (BAF).
- k) Part amounts of recoveries from the borrowers in respect of debts considered bad and doubtful of recovery.
- l) Amounts received in Indian currency against import bills and held in sundry deposits pending receipts of final rates.
- m) Un-adjusted deposits/balances lying in link branches for agency business like dividend

warrants, interest warrants, refund of application money, etc., in respect of shares/debentures to the extent of payment made by other branches but not adjusted by the link branches.

- n) Margins held and kept in sundry deposits for funded facilities.

Similarly, the auditor may specifically examine whether the following items have been included in liabilities:

- (a) Net credit balance in Branch Adjustment Accounts. The credit entries in branch adjustment account which are outstanding for more than 5 years are required to be considered at gross;
- (b) Interest accrued on deposits should be calculated on each reporting fortnight (as per the interest calculation methods applicable to various types of accounts), whether or not such interest is accounted for in books of accounts, so that the bank's liability in this regard is fairly reflected in the total NDTL of the same fortnightly return. Cash collaterals received under collateralized derivative transactions as these are in the nature of 'outside liabilities'.
- (c) Borrowings from abroad by banks in India needs to be considered as 'liabilities to other' and thus, needs to be considered at gross level unlike 'liabilities towards banking system in India', which are permitted to be netted off against 'assets towards banking system in India'. Thus, the adverse balances in Nostro Mirror Account needs to be considered as 'Liabilities to other';
- (d) The reconciliation of Nostro accounts (with Nostro Mirror Accounts) needs to be scrutinized carefully to analyze and ascertain if any inwards remittances are received on behalf of the customers / constituents of the bank and have remained unaccounted and / or any other debit (inward) entries have remained unaccounted and are pertaining to any liabilities for the bank.

While examining the computation of DTL, the auditor may specifically examine the details of exempted categories of the following items :-

- a) The Minimum eligible credit (EC) and outstanding Long term bonds (LB) to finance Infrastructure loans and affordable housing loan, as per RBI circular DBOD.BP.BC.No.25/08.12.014/2014-15 dated July 15, 2014.
- b) The eligible amount of incremental FCNR(B) and NRE deposits of maturities of three years and above.

The auditor should also verify loans out of FCNR(B) deposits and inter- bank Foreign Currency (IBFC) deposits for reporting to in Form A return should convert their foreign exchange assets/liabilities(including borrowings) in USD, GBP, JPY and Euro into INR at RBI reference rate and for other currency consider the New York rate to convert them into USD.

As per RBI circular RBI/2018-19/34/ DBR.Ret.BC. No.01/ 12.01.001 /2018-19 dated August 02, 2018 for conversion of foreign Currency Assets/ Liabilities reference rate from FBIL should

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be taken. If reference rate is not available from FBIL, Banks may continue to use New York closing for conversion of such currency in USD.

The auditor should also, particularly, examine whether the balances in Branch Adjustment Accounts of foreign branches have been taken into account in arriving at the net balance in Branch Adjustment Accounts.

The auditor should examine whether the consolidations prepared by the bank include the relevant information in respect of all the branches.

The auditor should examine the correctness of data in Form A return for CRR and Return in Form VIII for SLR purpose on sample basis.

As stated in preceding paragraphs, a considerable part of the information required by the central auditor for reporting on compliance with the SLR requirements will flow from the branches. It is suggested that the relevant information pertaining to the branches within a region may be consolidated at the regional level. The auditor of the region concerned should verify the same in the manner described in the above paragraphs and report on the same. The consolidated statement should also be counter-signed by the regional manager. The auditor at the central level should apply the audit procedures listed in the above paragraphs to the overall consolidation prepared for the bank as a whole. Where such a procedure is followed, the central auditor should adequately describe the same in his certificate.

While reporting on compliance with SLR requirements, the auditor should specify the number of unaudited branches and state that he has relied on the returns received from the unaudited branches in forming his opinion. Necessary audit procedures should be developed based on introduction of Automated Data Flow (ADF) for CRR & SLR reporting.

### Check Your Progress

1. Explain the concept and benefits of integrated treasury. What are the advantages and disadvantages of an operating treasury?
2. What are the main objectives of Treasury Management?
3. What factors should be taken into consideration while framing policy guidelines for Treasury Management?
4. Briefly explain the function of the front office and back office of a Treasury.
5. Explain briefly how Funds Department works out CRR and SLR.
6. What are current category securities and how are they valued for the purpose of balance sheet?
7. What are the merits and demerits of Profit Center Approach and Service Centre Approach? Which Model of Treasury Management will suit a Corporate?

8. What is “Stop Loss Limit”?
9. Briefly explain how a changing global scenario impacts treasury functions.
10. What are the various services that are included in treasury services?

**Choose the appropriate answers for the following questions from the options given below (from Q.No:5 to Q.No:10)**

Identify whether the following statements are true or false:

1. NDS is an electronic trading platform for debt instruments. (True)
2. The system of physical transfer of SGL form is still available in NDS. (False)
3. Membership of INFINET is not necessary to become members of NDS. (False)
4. NDS facilitates screen based trading. (True)
5. The role of ALCO includes
  - (a) Product pricing for deposits and advances\*
  - (b) Strategies for achieving year end targets
  - (c) Motivating Staff
  - (d) Liaoning with the RBI
6. The main function of Mid Office is
  - (a) Risk management and monitoring\*
  - (b) Business development
  - (c) Staff management
  - (d) Administration
7. The functions of dealing room include
  - (a) Empanelment of brokers
  - (b) Disqualification of brokers
  - (c) Fixing counter party limits
  - (d) Dealing\*
8. The main function of the Back office includes
  - (a) Increasing turnover of dealing room
  - (b) Increasing profits of dealing room
  - (c) Confirmations, settlement, and reconciliation\*
  - (d) Providing UPS to dealing room

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- 9.** What is concurrent audit?
- (a) That which is done by concurrent auditors
  - (b) That which is done by the RBI
  - (c) Audit done concurrently along with operations\*
  - (d) Annual Financial Inspection
- 10.** During Risk-based audit, what do the auditors do in addition to grading the risks as low, medium and high?
- (a) Identify the direction of the risk\*
  - (b) Identify the seepage of income
  - (c) Identify the culprits
  - (d) Penalize the banks