

## **Guidelines for Asset Liability Management (ALM) System in Financial Institutions (FIs)**

In the normal course, FIs are exposed to credit and market risks in view of the asset-liability transformation. With liberalisation in Indian financial markets over the last few years and growing integration of domestic markets with external markets, the risks, particularly the market risks, associated with FIs' operations have become complex and large, requiring strategic management. FIs are operating in a fairly deregulated environment and are required to determine interest rates on various products in their liabilities and assets portfolios, both in domestic as well as foreign currencies, on a dynamic basis. Intense competition for business involving both the assets and liabilities, together with increasing volatility in the domestic interest rates as also in foreign exchange rates, has brought pressure on the management of FIs to maintain a good balance amongst spreads, profitability and long-term viability. These pressures call for structured and comprehensive measures for institutionalising an integrated risk management system and not just *ad hoc* action. The FIs are exposed to several major risks in the course of their business – generically classified as credit risk, market risk and operational risk – which underlines the need for effective risk management systems in FIs. The FIs need to address these risks in a structured manner by upgrading the quality of their risk management and adopting more comprehensive ALM practices than has been done hitherto.

2. The envisaged ALM system seeks to introduce a formalised 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. This note lays down broad guidelines for FIs in respect of liquidity, exchange rate and interest rate risk management systems which form part of the ALM function. The initial focus of the ALM function would be to enforce the discipline of market risk management viz. managing business after assessing the market risks involved. The objective of a good risk management systems should be to evolve into a strategic tool for effective management of FIs.

3. 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
- Risk management
- Risk policies and tolerance levels.

#### **4. ALM Information System**

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.

#### **5. ALM Organisation**

**5.1** 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.

**5.2** 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:

- 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 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

**5.3** The ALM Support Groups consisting of operating staff should be responsible for analysing, 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.

#### **5.4 Composition of ALCO**

The size (number of members) of ALCO would depend on the size of each institution, business mix and organisational 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 computerisation. Some FIs may even have Sub-committees and Support Groups.

#### **5.5 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.

### **6. ALM Process**

The scope of ALM function can be described as follows:

- Liquidity risk management
- Management of market risks
- Trading risk management
- Funding and capital planning
- Profit planning and growth projection

The guidelines contained in this note mainly address Liquidity and Interest Rate risks.

### **6.1 Liquidity Risk Management**

Measuring and managing liquidity needs are vital for effective operation of FIs. By assuring a FI's ability to meet its liabilities as they become due, liquidity management can reduce the probability of an adverse situation developing. The importance of liquidity transcends individual institutions, as liquidity shortfall in one institution can have repercussions on the entire system. FIs' management should measure not only the liquidity positions of FIs on an ongoing basis but also examine how liquidity requirements are likely to evolve under different assumptions. Experience shows that assets commonly considered to be liquid, such as Government securities and other money market instruments, could also become illiquid when the market and players are unidirectional. Therefore liquidity has to be tracked through maturity or cash flow mismatches. 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 format of the Statement of Liquidity is furnished in Annexure I.

**6.2** The Maturity Profile, as detailed in Appendix I, could be used for measuring the future cash flows of FIs in different time buckets. The time buckets, may be distributed as under:

- i) 1 to 14 days
- ii) 15 to 28 days
- iii) 29 days and upto 3 months
- iv) Over 3 months and upto 6 months
- v) Over 6 months and upto 1 year
- vi) Over 1 year and upto 3 years
- vii) Over 3 years and upto 5 years
- viii) Over 5 years and upto 7 years
- ix) Over 7 years and upto 10 years
- x) Over 10 years.

**6.3** 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:

- i) The composition and volume of the Trading Book should be clearly defined;
- ii) Maximum maturity/duration of the trading portfolio should be restricted;
- iii) The holding period of the trading securities should not exceed 90 days;
- iv) Cut-loss limit(s) should be prescribed;
- v) 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;
- vi) 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; etc.

FIs which maintain such ‘Trading Books’ consisting of securities that comply with the above standards, are permitted to show the trading securities under 1-14 days, 15-28 days and 29-90 days buckets on the basis of the defeasance periods. The Board/ALCO of the banks should approve the volume, composition, maximum maturity/duration, holding/defeasance period, cut loss limits, etc., of the ‘Trading Book’ . FIs, which are better equipped, will have the option of evolving with the approval of the Board / ALCO, an **integrated Value at Risk (VaR) limit** for their entire balance sheet including the “Banking Book” and the “Trading Book”, for the rupee as well as foreign currency portfolio. A copy of the approved policy note in this regard, should be forwarded to the Department of Banking Supervision, FID, RBI.

**6.4** Within each time bucket there could be mismatches depending on cash inflows and outflows. While the mismatches upto one year would be relevant since these provide early warning signals of impending liquidity problems, the main focus should be on the short-term mismatches viz., 1-14 days and 15-28 days. FIs however, are expected to monitor their cumulative mismatches (running total) across all time buckets by establishing internal prudential limits with the approval of the Board / ALCO. The **negative gap** during 1-14 days and 15-28 days time-buckets, in normal course, should not exceed 10 per cent and 15 per cent respectively, of the cash outflows in each time bucket. If a FI in view of its current asset-liability profile and the consequential structural mismatches needs higher tolerance level, it could operate with higher limit sanctioned by its Board / ALCO giving specific reasons on the need for such higher

limit. The discretion to allow a higher tolerance level is intended for a temporary period, i.e. till **March 31, 2001**. While determining the tolerance levels, the FIs may take into account all relevant factors based on their asset-liability base, nature of business, future strategy, etc. The RBI is interested in ensuring that the tolerance levels are determined keeping all necessary factors in view and further refined with experience gained in Liquidity Management.

**6.5 The Statement of Liquidity ( Annexure I )** may be prepared by placing all cash inflows and outflows in the maturity ladder according to the expected timing of cash flows. A maturing liability will be a cash outflow while a maturing asset will be a cash inflow. It would also be necessary to take into account the rupee inflows and outflows on account of forex operations. Thus, the foreign currency resources raised abroad but swapped into rupees and deployed in rupee assets, would be reflected in the rupee liquidity statement. Some of the FIs have the practice of disbursing rupee loans to their exporter clients but denominating such loans in foreign currency in their books which are extinguished by the export proceeds. Such foreign currency denominated loans too would be a part of rupee liquidity statement since such loans are created out of rupee resources. As regards the foreign currency loans granted out of foreign currency resources on a back-to-back basis, a **currency-wise liquidity statement for each of the foreign currencies in which liabilities and assets have been created**, will need to be prepared in formats at Annexure I-A and Annexure II-A, which are similar to the formats prescribed for rupee resources.

## **7. Currency Risk**

**7.1** Floating exchange rate arrangement has brought in its wake pronounced volatility adding a new dimension to the risk profile of FIs' balance sheets. The increased capital flows across free economies following deregulation have contributed to increase in the volume of transactions. Large cross border flows together with the volatility has rendered the FIs' balance sheets vulnerable to exchange rate movements.

**7.2** Dealing in different currencies brings opportunities as also risks. If the liabilities in one currency exceed the level of assets in the same currency, then the currency mismatch can add value or erode value depending upon the currency movements. Mismatched currency position, besides exposing the balance sheet to movements in exchange rate, also exposes it to country risk and settlement risk. FIs undertake operations in foreign exchange such as borrowings and making loans in foreign currency, which exposes

them to currency or exchange rate risk. The simplest way to avoid currency risk is to ensure that mismatches, if any, are reduced to zero or near zero. However, irrespective of the strategies adopted, it may not be possible to eliminate currency mismatches altogether.

**7.3** At present, only five FIs (viz. EXIM Bank, ICICI, IDBI, IFCI and IIBI) have been granted by RBI (ECD) restricted authorisation to deal in foreign exchange under FERA 1973 while other FIs are not authorised to deal in foreign exchange. The FIs are, therefore, unlike banks, are not subject to the full rigour of the reporting requirements under Exchange Control regulations. Hence, the MAP and SIR statements prescribed for banks *vide* AD (MA Series) circular no. 52 dated 27 December 1997 issued by RBI (ECD), are not applicable to FIs. In order, however, to capture the liquidity and interest rate risk inherent in the foreign currency portfolio of the FIs, it would be necessary to compile, on an ongoing basis, **currency-wise** Statement of Liquidity and IRS Statement, separately for each of the currencies in which the FIs have an exposure. These statements should be compiled in the formats prescribed at **Annexure I-A** and **Annexure II-A** – which are similar to the formats prescribed for the rupee resources, at Annexure I and Annexure II to these guidelines.

## **8. Interest Rate Risk (IRR)**

**8.1** 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 computerisation 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/reprices 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.

**8.2** 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 instalments. 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, as explained in Appendix - II and the Reporting Format for interest rate sensitive assets and liabilities is given in Annexure II.

**8.3** 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.

**8.4** 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.

## **9. General**

**9.1** The classification of various components of assets and liabilities into different time buckets for preparation of Gap reports (Liquidity and Interest Rate Sensitivity) as indicated in Appendices I & II is the **benchmark**. FIs which are better equipped to reasonably estimate the behavioural pattern, embedded options, rolls-in and rolls-out, etc of various components of assets and liabilities on the basis of past data / empirical studies could classify them in the appropriate time buckets, subject to approval from the ALCO / Board. A copy of the note approved by the ALCO / Board may be sent to the Department of Banking Supervision, Financial Institutions Division.

**9.2** The impact of embedded options (i.e. the customers exercising their options for premature closure of term deposits, premature encashment of bonds and pre-payment of loans and advances) on the liquidity and interest rate risks profile of FIs and the magnitude of embedded option risk during the periods of volatility in market interest rates, is quite substantial. FIs should therefore evolve suitable mechanism, supported by empirical studies and behavioural analysis, to estimate the future behaviour of assets, liabilities and off-balance sheet items to changes in market variables and estimate the impact of embedded

options. In the absence of adequate historical database, the entire amount payable under the embedded options should be slotted as per the residual period to the earliest exercise date.

**9.3** A scientifically evolved internal transfer pricing model by assigning values on the basis of current market rates to funds provided and funds used is an important component for effective implementation of ALM System. The transfer price mechanism can enhance the management of margin i.e. lending or credit spread, the funding or liability spread and mismatch spread. It also helps centralising interest rate risk at one place which facilitate effective control and management of interest rate risk. A well defined transfer pricing system also provide a rational framework for pricing of assets and liabilities.