



ASSET - LIABILITY MANAGEMENT IN INDIAN BANKING INDUSTRY AT PRESENT SCENARIO - A STUDY

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Abstract

Asset-Liability Management (ALM) is one of the important tools of risk management in commercial banks of India. Indian banking industry is exposed to number of risk prevailed 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 risk. For this purpose Reserve bank of India (RBI), regulator of Indian banking industry evolved the tool known as ALM. This paper discusses issues in asset-liability management and elaborates on various categories of risk that require to be managed. It examines strategies for asset-liability management from the asset side as well as the liability side, particularly in the Indian context. It also discusses the specificity of financial institutions in India and the new information technology initiatives that beneficially affect asset-liability management. The emerging contours of conglomerate financial services and their implications for asset-liability management are also described. The objective of the study is to describe the concept and application of ALM technique. The research article is descriptive in nature. The data had been collected from the secondary sources such as RBI guidelines, reports etc. It has been found in the study that ALM is a successful tool for risk management.

Keywords: Assets, Financial Risk, Interest Rate Risk, Liability, Net-Income, RBI.

INTRODUCTION

The commercial banking sector plays an important role in mobilization of deposits and disbursement of credit to various sectors of the economy. A sound and efficient banking system is a sine qua non for maintaining financial stability. The financial strength of individual banks, which are major participants in the financial system, is the first line of defense against financial risks. The banking industry in India is undergoing transformation since the beginning of liberalization. Banks in India are venturing into non-traditional areas and generating income through diversified activities other than the core banking activities. There have been new banks, new instruments, new windows, new opportunities and, along with all this, new challenges. While deregulation has opened up new vistas for banks to augment revenues, it has entailed greater competition, reduced margins and consequently greater risks.

Banks enter into off balance sheet (OBS) transactions for extending non-fund based facilities to their clients, balance sheet risk management and generating profits through leveraged positions. OBS exposures of banks, especially public sector banks have witnessed a phenomenal spurt in recent years. Scheduled commercial banks (SCBs) off-balance exposures comprise of guarantees, letters of credit, derivatives contracts, etc. The share of off-balance sheet exposures of SCBs in total liability increased sharply to 333.5 per cent at end-March 2008 from 68.7 per cent at end- March 2003. Public sector banks (PSBs), which are perceived to have a low-risk appetite, have the lowest ratio of off-balance sheet exposure to total assets ratio at 61 per cent, compared to 251 per cent for private sector banks and 2,803 per cent for foreign banks. Commercial banks witnessed high credit growth in three years in succession starting from the financial year 2005-06. Although, with deregulation of interest rate and opening of new instruments and products, traditional Asset Liability Management technique has undergone a radical change. Mismatch of Asset and Liability in various ways may affect banks viability. With the recent global turmoil, slowdown in the growth of our economy and rising off balance sheet exposure of the banks, it is very important to explore the interrelation between two sides of the balance sheet, asset account and liability account.

BANKING SECTOR REFORMS

The reforms were introduced in June 1991 in the wake of a balance of payments crisis, which was certainly severe. M. Narasimham was the architect of banking sector reforms. Reforms in the banking sector can be classified into two phases: The first phase consisted of the curative measures, which were brought about for making the banking sector more oriented to the market and impart competition to the environment. The second phase consisted of the preventive measures, which were brought about to ensure smooth functioning of the banking sector in the long run.

Towards the end of the Eighties of the last century, Indian Banking System saw major crisis along with the crisis in the economy. The ill effects of nationalization have started showing signs in the shape of poor health of Indian financial sector, especially that of banking industry. Having been driven to walls, Government of India initiated financial system reforms. The financial system reforms were aimed to enhance the efficiency, productivity and profitability of the financial



institutions. However, the efforts aimed at banking reforms were initially slow to be taken and accepted by Banks. Since nationalization, banks have been operating in non-competitive environment with lending directly under the guidelines of RBI. Loan waivers and increasing non-performing assets had made banks to overlook all kinds of prudential lending. They found difficult to new reform culture with a stress on prudential norms.

The start of the reforms brought out number of skeletons and exposed the darker side of the banking industry. Some of these were:-

1. Mind blowing size of the Non-Performing Assets;
2. Losses in number of banks
3. Overstaffing in most of the public sector banks
4. Scant respect for norms for income recognition and international standard accounting practices.

During 1992-95, RBI initiated number of direct steps with an objective to deregulate the over-guarded banking sector. Some of the steps taken by RBI were :-

- I. Inventory holding norms (Tandon Committee Norms) were liberalized. Banks were given the freedom to decide levels of holding of individual items of inventories and receivables
- II. Ceiling on term loans was increasing to Rs 1000 crores for projects involving expansion / modernization of power generation capacities.
- III. To start the deregulation of interest, banks were allowed to set their own interest rate on post-shipment export credit (in Rupees) for over 90 days. Moreover, interest rates on loans over Rs 2, 00,000 against term deposits and on domestic deposits with maturity periods over two years were deregulated.
- IV. Banks were allowed to fix their own foreign exchange open position limits. (subject to RBI approval).
- V. New delivery system for bank credit was introduced whereby, banks were asked to bifurcate the maximum permissible bank finance of Rs 20 crores and above into loan component of 40% (short term working capital loan) and cash credit component of 60%.

The first major milestone on the road to financial reforms was the Report of 1st Narsimham Committee. The Committee submitted its report in November, 1991 and the focus was the reform in the Banking sector. Some of the recommendations of the Committee and their present status are given below.

Recommendation	Present Status
Phasing out of statutory preemption i.e. reduction in the requirements for maintenance of SLR & CRR	SLR reduced from peak level of 38.5% and CRR also reduced from peak of 15%. [Click here to know the Latest CRR, SLR, Bank Rate, MSF, repo, reverse repo rate etc.)
Interest Rate on CRR Balances to be related to banks' average cost of deposits	With effect from 1st April, 2003, interest on the eligible balance is paid
Deregulation of Interest Rate	All deposits and advance interest rate have been deregulated. Even in October 2011 even Saving Bank deposits interest rates have been deregulated. Now only DRI loans and certain other government schemes is regulated.
Prudential norms to be followed by the Banks	Income recognition, asset classification and provisioning norms have been introduced for the banking industry. The provisioning norms are more prudent, objective, transparent, uniform and designed to avoid subjectivity.
Capital Adequacy Norms laid down	RBI has already asked all banks are conform to BASEL II and III norms in this respect
New norms for asset classification - introduction of NPAs	RBI has already issued new guidelines and norms for NPAs have been tightened in last few years
Loan Recovery - New steps are required to be initiated so that quick recovery process is made available to Banks	In 1993, Govt passed an Act for creation of Debt Recovery Tribunals. However, it was only partially successful. In 2003, Securitisation & Reconstruction of Financial Assets and Enforcement of Securities Act has been passed.
Restructuring of the Banks	Some banks have been merged with strong banks.
Allowing new private banks	A number of new banks like UTI Bank, Kotak Mahindra Bank Ltd., HDFC Bank, ICICI Banks have been opened in the private sector.



ALM-CONCEPT

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 is 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 banks' 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 (Fabozzi & Kanishi, 1991), 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 the 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 of the value of the securities held.



INTEREST RATE RISK: Interest risk is the change in prices of bonds that could occur as a result of change: n 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. In so far as the terms for which interest rates were fixed on deposits differed from those for which they fixed on 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.

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

- Risk parameters
- Risk identification
- Risk measurement
- Risk management
- Risk policies and tolerance levels

As per RBI guidelines, commercial banks are to distribute the outflows/inflows in different residual maturity period 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. In September, 2007, having regard to the international practices, the level of sophistication of banks in India, the need for a sharper assessment of the efficacy of liquidity management and with a view to providing a stimulus for development of the term-money market, RBI revised these guidelines and it was provided that

(a) The banks may adopt a more granular approach to measurement of liquidity risk by splitting the first time bucket (1-14 days at present) in the Statement of Structural Liquidity into three time buckets viz., next day , 2-7 days and 8-14 days. Thus, now we have 10 time buckets.

After such an exercise, each bucket of assets is matched with the corresponding bucket of the liability. When in a particular maturity bucket, the amount of maturing liabilities or assets does not match, such position is called a mismatch position, which creates liquidity surplus or liquidity crunch position and depending upon the interest rate movement, such situation may turn out to be risky for the bank. Banks are required to monitor such mismatches and take appropriate steps so that bank is not exposed to risks due to the interest rate movements during that period.

(b)The net cumulative negative mismatches during the Next day, 2-7 days, 8-14 days and 15-28 days buckets should not exceed 5 %, 10%, 15 % and 20 % of the cumulative cash outflows in the respective time buckets in order to recognize the cumulative impact on liquidity.

The Board's of the Banks have been entrusted with the overall responsibility for the management of risks and is required to decide the risk management policy and set limits for liquidity, interest rate, and foreign exchange and equity price risks. Asset-Liability Committee (ALCO) is the top most committee to oversee the implementation of ALM system and it is to be headed by CMD or ED. ALCO considers product pricing for deposits and advances, the desired maturity profile of the incremental assets and liabilities in addition to monitoring the risk levels of the bank. It will have to articulate current interest rates view of the bank and base its decisions for future business strategy on this view.

RATE SENSITIVE ASSETS & LIABILITIES: An asset or liability is termed as rate sensitive when

- (a) Within the time interval under consideration, there is a cash flow,
- (b) The interest rate resets/reprices contractually during the interval,



- (c) RBI changes interest rates where rates are administered and,
- (d) It is contractually pre-payable or withdrawal before the stated maturities.

Assets and liabilities which receive / pay interest that vary with a benchmark rate are re-priced at pre-determined intervals and are rate sensitive at the time of re-pricing.

RISK MEASUREMENT TECHNIQUES

There are various techniques for measuring exposure of banks to interest rate risks:

GAP ANALYSIS MODEL

Measures the direction and extent of asset-liability mismatch through either funding or maturity gap. It is computed for assets and liabilities of differing maturities and is calculated for a set time horizon. This model looks at the repricing gap that exists between the interest revenue earned on the bank's assets and the interest paid on its liabilities over a particular period of time (Saunders, 1997). It highlights the net interest income exposure of the bank, to changes in interest rates in different maturity buckets. Repricing gaps are calculated for assets and liabilities of differing maturities. A positive gap indicates that assets get repriced before liabilities, whereas, a negative gap indicates that liabilities get repriced before assets. The bank looks at the rate sensitivity (the time the bank manager will have to wait in order to change the posted rates on any asset or liability) of each asset and liability on the balance sheet. The general formula that is used is as follows:

$$\Delta NII_i = \Delta R_i (GAP_i)$$

While NII is the net interest income, R refers to the interest rates impacting assets and liabilities in the relevant maturity bucket and GAP refers to the differences between the book value of the rate sensitive assets and the rate sensitive liabilities. Thus when there is a change in the interest rate, one can easily identify the impact of the change on the net interest income of the bank.

The various items of rate sensitive assets and liabilities and off-balance sheet items are classified into time buckets such as 1-28 days, 29 days and upto 3 months etc. and items non-sensitive to interest based on the probable date for change in interest.

The gap is the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) in various time buckets. 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 a position to benefit from declining interest rate by a negative Gap (RSL > RSA).

DURATION MODEL: 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.

$$DP_p = D (dR / 1+R)$$

VALUE AT RISK: Refers to the maximum expected loss that a bank can suffer over a target horizon, given a certain confidence interval. It enables the calculation of market risk of a portfolio for which no historical data exists. It enables one to calculate the net worth of the organization at any particular point of time so that it is possible to focus on long-term risk implications of decisions that have already been taken or that are going to be taken. It is used extensively for measuring the market risk of a portfolio of assets and/or liabilities.

SIMULATION: Simulation models help to introduce a dynamic element in the analysis of interest rate risk. Gap analysis and duration analysis as stand-alone tools for asset-liability management suffer from their inability to move beyond the static analysis of current interest rate risk exposures. Basically simulation models utilize computer power to provide what if scenarios.

ASSET-LIABILITY MANAGEMENT: STRATEGIES FOR CORRECTING MISMATCH

The strategies that can be employed for correcting the mismatch in terms of D(A) > D(L) can be either liability or asset driven. Asset driven strategies for correcting the mismatch focus on shortening the duration of the asset portfolio. The commonly employed asset based financing strategy is securitization. Typically the long-term asset portfolios like the lease and hire purchase portfolios are securitized; and the resulting proceeds are either redeployed in short term assets or utilized for repaying short-term liabilities. Liability driven strategies basically focus on lengthening the maturity profiles of liabilities.



Such strategies can include for instance issue of external equity in the form of additional equity shares or compulsorily convertible preference shares (which can also help in augmenting the Tier I capital of finance companies), issue of redeemable preference shares, subordinated debt instruments, debentures and accessing long term debt like bank borrowings and term loans. Strategies to be employed for correcting a mismatch in the form of $D(A) < D(L)$ (which will be necessary if interest rates are expected to decline) will be the reverse of the strategies discussed above.

Asset driven strategies focus on lengthening the maturity profile of assets by the deployment of available lendable resources in long-term assets such as lease and hire purchase. Liability driven strategies focus on shortening the maturity profile of liabilities, which can include, liquidating bank borrowings which are primarily in the form of cash credit (and hence amenable for immediate liquidation), using the prepayment options (if any embedded in the term loans); and the call options, if any embedded in bonds issued by the company; and raising short-term borrowings (e.g.: fixed deposits with a tenor of one year) to repay long-term borrowings).

ALM-REPORTS

- The following reports are used for ALM:
- Structural Liquidity Profile (SLP);
- Interest Rate Sensitivity
- Maturity and Position (MAP)
- Statement of Interest Rate Sensitivity (SIR)

STRUCTURAL LIQUIDITY PROFILE (SLP)

All Assets & Liabilities to be reported as per their maturity profile into 8 maturity Buckets

1. 1 to 14 days
2. 15 to 28 days
3. 29 days and up to 3 months
4. Over 3 months and up to 6 months
5. Over 6 months and up to 1 year
6. Over 1 year and up to 3 years
7. Over 3 years and up to 5 years
8. Over 5 years

STATEMENT

- Places all cash inflows and outflows in the maturity ladder as per residual maturity
- Maturing Liability: cash outflow
- Maturing Assets : Cash Inflow
- Classified in to 8 time buckets
- Mismatches in the first two buckets not to exceed 20% of outflows Shows the structure as of a particular date
- Banks can fix higher tolerance level for other maturity buckets.

INTEREST RATE SENSITIVITY

Generated by grouping RSA, RSL & OFF-Balance sheet items in to various (8) time buckets.

RSA

- MONEY AT CALL
- ADVANCES (BPLR LINKED)
- INVESTMENT

RSL

- DEPOSITS EXCLUDING CD
- BORROWINGS

SUCCESS OF ALM IN BANKS: PRE - CONDITIONS

- Awareness for ALM in the Bank staff at all levels–supportive Management & dedicated Teams.
- Method of reporting data from Branches/ other Departments. (Strong MIS).
- Computerization-Full computerization, networking.
- Insight into the banking operations, economic forecasting, computerization, investment, credit.
- Linking up ALM to future Risk Management Strategies.



CONCLUSION

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 days and 15-28 days' time buckets, to ensure the stability and credibility of the banking system of the country. At the end it is being concluded that asset-liability management is one of the vital tool for risk management in banks and bank have to take great care for that. All banks have to work properly with regard to the ALM so as to increase their performance.

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