

AN ANALYSIS OF ASSET-LIABILITY MANAGEMENT IN INDIAN BANKS: A THEORETICAL CONCEPT

Shivangi V. Patel, Dr. Rajesh M. Patel

PhD Research Scholar, School of Commerce, Gujarat University, Ahmedabad.

Assistant Professor ,N.C.Bodiwala And Principal Mc Desai Commerce College ,Ahemdabad.

Abstract

The purpose of this article is to provide a snapshot of the field of Asset Liability Management (ALM) from a theoretical perspective. This article lays down broad guidelines in respect of interest rate and liquidity risks management systems in banks which form part of the Asset-Liability Management (ALM) function. The initial focus of the ALM function would be to enforce the risk management discipline viz. managing business after assessing the risks involved. The objective of good risk management programmes should be that these programmes will evolve into a strategic tool for bank management. Asset-Liability Management has grown considerably complex making use of advanced mathematical techniques and computation. Banks are exposed to several major risks in the course of their business - credit risk, interest rate risk, foreign exchange risk, equity / commodity price risk, liquidity risk and operational risks. This can help new researchers and ALM practitioners in banks and other entities to easily understand the theory and models used in asset liability management.

Keywords: ALM Process, ALM information System, liquidity Risk management ,Currency Risk, interest rate risk etc.

INFORMATION

Over the last few years the Indian financial markets have witnessed wide ranging changes at fast pace. Intense competition for business involving both the assets and liabilities, together with increasing volatility in the domestic interest rates as well as foreign exchange rates, has brought pressure on the management of banks to maintain a good balance among spreads, profitability and long-term viability. These pressures call for structured and comprehensive measures and not just ad hoc action. The Management of banks has to base their business decisions on a dynamic and integrated risk management system and process, driven by corporate strategy. In the normal course, FIs 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 domestic markets with external markets, the risks, particularly the market risks, associated with FIs' operations have become complex and large, requiring strategic management. 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. 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. 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.

OBJECTIVES OF THE STUDY

The objective of this study is to present a concise overview of Asset-Liability Management as theoretical prospective and to understand the ALM process and composition of its. And to understand the liquidity risk management and to overview the various types to risks involved in it. Such an overview can be helpful for the researchers in the field of ALM for acquiring a broad understanding of ALM and its current status. We do not wish to make this a comprehensive literature survey. Our purpose is to provide a starting point for new researchers and practioners who want to carry out further research in the field of ALM.

ALM Process

- **ALM Information System**
 - Management Information System
 - Information availability, accuracy, adequacy and expediency

- **ALM Organization**
 - Structure and responsibilities
 - Level of top management involvement

- **ALM Process**
 - Risk parameters
 - Risk identification
 - Risk measurement
 - Risk management
 - Risk policies and tolerance levels

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.

ALM Organization

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.

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 computerisation. 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.

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

Liquidity Risk Management

Measuring and managing liquidity needs are vital activities of commercial banks. By assuring a bank'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. Bank management should measure not only the liquidity positions of banks on an ongoing basis but also examine how liquidity requirements are likely to evolve under crisis scenarios. Experience shows that assets commonly considered as liquid like 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 time buckets given the Statutory Reserve cycle of 14 days may be distributed as under:

- 1) 1 to 14 days
- 2) 15 to 28 days
- 3) 29 days and upto 3 months
- 4) Over 3 months and upto 6 months
- 5) Over 6 months and upto 12 months
- 6) Over 1 year and upto 2 years
- 7) Over 2 years and upto 5 years
- 8) Over 5 years and upto 7 years
- 9) Over 7 years and upto 10 years
- 10) Over 10 years.

Currency Risk

Floating exchange rate arrangement has brought in its wake pronounced volatility adding a new dimension to the risk profile of banks' 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 banks' balance sheets vulnerable to exchange rate movements.

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. The simplest way to avoid currency risk is to ensure that mismatches, if any, are reduced to zero or near zero. Banks undertake operations in foreign exchange like accepting deposits, making loans and advances and quoting prices for foreign exchange transactions. Irrespective of the strategies adopted, it may not be possible to eliminate currency mismatches altogether. Besides, some of the institutions may take proprietary trading positions as a conscious business strategy.

Managing Currency Risk is one more dimension of Asset- Liability Management. Mismatched currency position besides exposing the balance sheet to movements in exchange rate also exposes it to country risk and settlement risk.

Presently, the banks are also free to set gap limits with RBI's approval but are required to adopt Value at Risk (VaR) approach to measure the risk associated with forward exposures. Thus the open position limits together with the gap limits form the risk management approach to forex operations

Interest Rate Risk (IRR)

The phased deregulation of interest rates and the operational flexibility given to banks in pricing most of the assets and liabilities have exposed the banking system to Interest Rate Risk. Interest rate risk is the risk where changes in market interest rates might adversely affect a bank's financial condition. Changes in interest rates affect both the current earnings (earnings perspective) as also the net worth of the bank (economic value perspective). the traditional Gap analysis is considered as a suitable method to measure the Interest Rate Risk. It is the intention of RBI to move over to modern techniques of Interest Rate Risk measurement like Duration Gap Analysis, Simulation and Value at Risk at a later date when banks acquire sufficient expertise and sophistication in 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:

- within the time interval under consideration, there is a cash flow;
- the interest rate resets/reprices contractually during the interval;
- it is contractually pre-payable or withdraw able before the stated maturities;
- It is dependent on the changes in the Bank Rate by RBI.

The interest rate gaps may be identified in the following time buckets:

- 1-28 days
- 29 days and upto 3 months

- Over 3 months and upto 6 months
- Over 6 months and upto 1 year
- Over 1 year and upto 3 years
- Over 3 years and upto 5 years
- Over 5 years and upto 7 years
- Over 7 years and upto 10 years
- Over 10 years
- Non-sensitive

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 bank should set prudential limits on individual Gaps with the approval of the Board/Management Committee. The prudential limits should have a bearing on the total assets, earning assets or equity. The banks may work out earnings at risk, based on their views on interest rate movements and fix a prudent level with the approval of the Board/Management Committee.

Asset-Liability Management Models

Based upon the time horizon over which the asset-liability optimization decision is to be modeled and the conditions under which it is to be modeled, we can categorize the ALM models into four basic categories (Rosen and Zenios, 2006) :

- (1) Single-period static models
- (2) Single period stochastic models
- (3) Multi-period static models
- (4) Multi-period stochastic models.

These models have evolved from the works of Mulvey and Viladmirou (1989), Mulvey and Zeimba (1998), Mulvey (2001) and Kosmidou and Zopounidis (2008). These models represent an extension of risk measures and ALM goals from single period settings to multi-period settings.

CONCLUSION

Asset-liability management play very important role in management and planning of assets and liabilities of banks, against the risk exposed due to the changing environment in the bank business. Banking regulators require a minimum capital adequacy, net worth and capital deposit ratio thus, banks today need to match their assets and liabilities and at the same time balancing their objectives of profitability, liquidity and risk. It has become the prime focus in the banking industry, with every bank trying to maximize yield and reduce their risk exposure. Asset Liability Management is one of the vital tool for risk management in banks. The banks have to work properly with regard to the Asset Liability Management so as to increase their performance. Managing the Asset and Liabilities is crucial for every bank. A broad review of asset liability management (ALM) theoretical concept. ALM has grown considerably complex making use of advanced mathematical techniques and computation.. This approach helps in multi-period investment decisions, portfolio rebalancing and accommodating uncertainty by examining few economic states in the future.

SUGGESTION

1. Interest rate risk and liquidity risks are significant risks in a bank's balance sheet, which should be regularly monitored and managed. These two aspects should be a key input in business planning process of a bank.
2. There should be proper limit structures, which should be monitored by Asset Liability Management Committee (ALCO) on a regular basis. Do involve all ALCO members in decisions. Some functional heads may not be interested. It is best to have someone as a salesman for ALCO to sell ideas, how important these ideas are to implement central systems for better benefits for bank.
3. The effectiveness of ALM system should be improved with a good Fund Transfer Pricing system.
4. Banks should make sure that increased balance sheet size should not result in excessive asset liability mismatch resulting in volatility in earnings.

REFERENCES

- [1] Chaudhary, K., Sharma, M. (2011). “To Compare The Performance Of Public And Private Banks Of India And To Find Out Trends” In Npa Level International Journal Of Innovation, Management And Technology, Vol.2, No. 3, June 2011.
- [2] Corsaro, S., De Angelis, P.L., Marino, Z., Perla, F., Zanetti, P (2010). “On Parallel Asset-Liability Management In Life Insurance: A Forward Risk-Neutral Approach”.Vol 36, Pg 390–402.
- [3] Dash, M. And Pathak, R. (2011).“A Linear Programming Model For Assessing Asset-Liability Management In Banks,” Icfai Journal Of Risk Management.
- [4] Dr. N Kavitha (2012). “An Assessment On Asset And Liability Management Of Scheduled Commercial Banks In India” Volume 2 Issue 4
- [5] Evans Tee(2017). , “Asset Liability Management And The Profitability Of Listed Banks In Ghana”.Iosr Journal Of Economics And Finance (Iosr-Jef) E-Issn: 2321-5933, P-Issn: 2321-5925.Volume 8, Issue 3 Ver. Iv (May - June 2017), Pp 09-14 Wwww.Iosrjournals.Org
- [6] Fabozzi, FJ., & Konishi, A. (1995). Asset-liability management. New Delhi:
- [7] Harrington, R. (1987). Asset and liability management by banks. Paris: OECD.
- [8] <https://M.Rbi.Org.In>.
- [9] Jain, J.L. (1996). Strategic planning for asset liability management. The Journal of the Indian Institute of Bankers, 67(4).
- [10]Jalan, B (2000): ‘Agenda for Banking in the New Millennium’, Reserve Bank of India Bulletin, March, p(61-64
- [11]Metz, Piakronistedt (2007). “The Swedish Market For Balancing Liquidity”, Asset Liability Management In Banks: Emerging Challenges, Pg.136-161.
- [12]Rbi Guidelines On Asset Liability Management Practices In Banks, <Http://Www.Rbi.Org>.
- [13]S Chand & Co. Government of India (1998): Report of the Committee on Banking Sector Reforms (Chairman: M Narasimham).