CHAPTER – IV

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LIQUIDITY RISK MANAGEMENT

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LIQUIDITY RISK MANAGEMENT

Concept:

Liquidity risk is defined as the potential inability of the bank to generate cash to cope with the withdrawal of the deposits or increase in the assets. In case of a commercial bank liquidity connotes its ability to honour or meet its commitments as and when they arise. The main feature of liquidity is the ability of a given asset to get converted into cash without involving any capital loss. Thus depending upon the nature of the asset the degree of liquidity may rise or fall, which in turn would determine its ability to borrow in the money market or from other sources if it becomes unavoidable.

Sources of Liquidity:

A commercial bank derives liquidity from its own assets & liabilities. Normally banks derive liquidity from Share capital, Long term loans, Domestic and non – resident deposits, Deposits with Central Bank, Inter bank borrowings and short term money market instruments. On the assets side items such as Cash, Treasury Bills, Trade Bills, Investment in Govt. Securities, Loans & Advances, are main contributors to the liquidity pool. A commercial bank has to ensure a reasonable degree of correspondence between the sources of liquidity and the demand for it. This signifies that the maturity periods of the liabilities and assets should broadly coincide. Thus unstable components of liabilities that may result in the outflow of the funds have to be backed by such assets that a commercial bank could sell, discount or pledge at short notice and without loss to meet the outflow. This is the process of matching the maturities of liabilities and assets which forms the very basis of the ALM technique.From the liquidity point of view not only the equality of the assets & liabilities but also the quality of liquidity sources is important.

Need For Liquidity:

A commercial bank may experience net outflow of funds either due to withdrawal or due to non – renewal of the deposits by the customers, which leads to severe liquidity crunch that needs to be covered up. Similarly shortage of liquid funds can also arise from the failure of expected inflows due to non-payment or due to delayed payment of loans and advances and other funds. Sometimes certain contingent liabilities also result in unexpected cash outflows. Thus, it is necessary for a commercial bank to have sufficient liquid funds so as to meet any requirements.

Liquidity Risk:

A commercial bank as an institution has to maintain public trust/ faith/confidence at all times. The erosion of public faith can lead to excess withdrawals leading to severe liquidity crunch. The recent turmoil in some of the banks in Gujarat has suggested that a major source of liquidity risk was mismatch of maturities of assets & liabilities. The lack of balance between maturity periods of assets and liabilities may be the result of excessive short borrowing and excessive long lending. In such a situation the alternatives available to a bank can further aggravate the situation by giving rise to other risks. For example if a bank is facing liquidity crunch due to short term borrowing and long term lending the only alternative left with the bank is to borrow at the prevailing rate of interest and off load its short term liabilities. Thus, the bank will run the risk of additional cost, if the market rates turn high or the bank may have to sell its assets on a lower market rate and there may be a capital loss, adversely affecting the value of the assets and impinging on profits. Again liquidity risk may arise if assets and the liabilities of a bank are concentrated in a few segments of the market i.e. if the bank does not have diversified deposit base or asset base. Even if the maturities of assets and liabilities are reasonably matched liquidity risk may still arise due to variety of reasons viz. interest rate changes in respect of assets & liabilities, decline in the value of the assets, foreign exchange losses and last but not the least, Contingent claims on the bank giving rise to unexpected cash outflows.

Recent Experiences:

The recent turmoil particularly in the co-operative banking sector in Gujarat and elsewhere aptly explains that it is due to maturity mismatches in the assets and liabilities giving rise to liquidity risk & resultant loss of public confidence in these banks. Few more instances of liquidity problems faced by commercial banks worth mentioning here are of New bank of India (due to substantial losses), Bank of Karad (in the wake of securities scam) and more recently that of Global Trust Bank (due to high level of NPAs). All these banks were merged into strong banks due to timely RBI intervention. In general it is also observed that banks fund their term loans with short term liabilities/deposits this explains the rationale of banks being captive participant in money market operations mainly as borrower. The market driven rate of interest in the money market are often higher than cost of demand deposit mobilisations.

To substantiate further it is observed that cash credit arrangement forms a sizable portion (2/3rd of all forms of advances) with the Public Sector Banks (PSBs). Technically, this arrangement does not have any maturity period but the liabilities backing this arrangement have a maturity period. Apart from the mismatch the arrangement accentuates the liquidity problem because of the wide fluctuations in these accounts, particularly during the full utilization of the cash credit limits at a time when the funds position of the bank is difficult.

Second most important reason of asset liability mismatch in the Indian banking scenario has been identified as large investments in government securities. Investments in government securities range from a period of 5 – 15 years. Whereas funds deployed in these investments have fixed maturities of 3 – 5 years. In absence of secondary market the sale of these securities (esp. at the time of liquidity crunch) becomes very difficult and often banks have to incur heavy capital losses[1].

Hence banks in India should develop their internal mechanisms for better liquidity management in line with prudent bank management standards as laid down by Basel Committee. We submit that banks should look for:

a) Widely diversified sources of liquidity. Banks should ensure in terms of quality and appropriate mix of liquidity sources with product mix & processes.

b) Thoroughly reviewing internal inspection, audit and data mechanising processes and lastly,

c) A mechanism to forecast liquidity needs and also the sources of liquidity. Review the trends in actual at least once in three months and make suitable adjustments in assets & liabilities to remain liquid at all times.

Liquidity Risk Management:

Measurement and management of liquidity needs are essential for sustained & profitable operation of banking business. Proper liquidity management can reduce the probability of development of an adverse situation by ensuring banks ability to meet its liability as they become due. The importance of liquidity transcends individual bank, as liquidity shortfall in one bank have repercussions on the other banks & other constituents of overall financial system. Bank managements should therefore, measure not only the liquid position on an on going basis but also examine how liquidity requirements are likely to evolve under different assumptions. Hence, as mentioned earlier, liquidity has to be tracked through maturity or cash flow mismatches. For measuring and managing net fund requirements, the use of maturity ladder and calculation of cumulative surplus or deficit of funds at selected maturity dates be adopted as a standard tool. The Annexures I, & III given at the end of Chapter II, show the standard format provided by the RBI for "Maturity Profile"& "Statement of Short Term Dynamic Liquidity" respectively under the ALM guidelines. Taking this into consideration the ALM Policy of any commercial bank in India is based on two fold objectives of ensuring profitability as well as ensuring liquidity.

Objectives:

Objectives of liquidity risk management at the bank level include:

a) Assessment of capability of a commercial bank to obtain stable funding source from concerned parties.
b) Formulation, dissemination and controlling policies, procedures & parameters which have been established by ALCO for managing banks liquidity position as a whole and ensuring that all primary outlets/branches are conforming to and are operating within the prescribed guidelines.
c) Formulating & providing internal management reports with necessary information for making liquidity decision and monitoring the results of these decisions.
d) Evaluating the management of assets & liabilities and Off Balance Sheet Positions (OBSPs)[2] and finally,
e) Developing remedial actions in cases where policies, procedures or internal controls are found to be deficient for proper liquidity management.

Strategies :

The liquidity risk management covers specific strategies for the asset management & liability management or a combination of both.

liability management strategies include:

- Evolving framework whereby short – term borrowings or short – term deposit liabilities can be increased.
- Promoting proposals that bring about diversification in the sources of funds of the commercial bank.
- Increasing the capital fund base of the bank.

Asset Management Strategies include:

- Improvements in the asset quality by adopting different techniques like securitisation.
- Formulation of a specific time frame for the sale of surplus liquid assets.
- Developing a suitable strategy whereby holding of less liquid assets can be reduced.

However the, implementation of any ALM strategy by banks should be taken on the following considerations:

- **Profit spread**: That sometimes highly liquid assets offer thinner profit spreads
- **Relative difficulty in liquidation**: That certain assets considered to by highly liquid are actually very difficult to liquidate.
- **Opportunity cost** That maintenance of a strong liquidity position may be at the opportunity cost of generating higher earnings.
- **Seasonal, cyclical and cost factors**: That these factors lead aggregate outstanding loans and deposits to move in opposite directions resulting in demand of funds exceeding its supply & vice- versa.

In sum, the banks should evolve a proper framework for an effective contingency plan which can identify minimum and maximum liquidity needs and can suggest alternative courses of action to meet those needs within short span of time. Factors that may initiate contingency planning include;

- Increase in the level of Non – Performing Assets (NPAs)
- Tax initiatives of the govt.
- Diversification & expansion of business opportunities
- Concentration of deposits
- Decline in business or earnings
- Unfavorable rating or down gradation by a rating agency.

Techniques For Liquidity Monitoring & Planning:

As said earlier it is important for the bank for various reasons to remain in liquid to meet firstly the operational transactions i.e. the customers demand for withdrawals. Secondly the retail banking i.e. to accommodate any increase in credit demands and thirdly, to make investments in securities for profit maximisation purposes etc.

Three different approaches[3] viz. comparative analysis of liability, comparative analysis of asset-liability & finally liquidity forecasts and planning approaches are presented here, through which bank can monitor its liquidity management. For theoretical presentations

we explain the essence of liquidity monitoring using chart form as well as suggestive illustrations.

Approach - I

Comparative Analysis: For overall as well as component mix :

Firstly to study the current liquidity positions bank may analyse the overall actual positions with the performance budget, preferably on a quarterly basis. The significant differences between actual & budgeted positions be reviewed and explained in detail. Also the current period information can be compared with previous period to identify, monitor & manage the unfavourable trends.

Secondly, based on type & sources of liability, mix be analysed to examine the reliance on the funding source as well as the cost of the source. This concept is presented in **Chart 4.1** at the end of the chapter on page no.62. Monitoring of these pressure points helps in exploring alternate means to deal with them in advance. Thus, monitoring helps in raising liability mix in a reasonable and cost – effective manner.

Approach – II

Maturity Matching of Asset & Liability:

In the earlier chapter III we have presented table 3.2 on maturity matching of Assets & Liabilities of a sample bank. The analysis helps us in determining the future funding requirements by comparing the amount of assets & liabilities maturing over a specific period. Chart No. 4.2 presented on Page No. 63 provides illustrative liquidity gap calculations of a sample bank.

It is evident from the chart that the bank should avoid these liquidity gaps. Negative mismatches mean that the is poorly positioned to meet unexpected funding position needs without incurring high cost. Further, the cumulative liquidity gap position spot the growing mismatches between assets & liabilities over time.

Approach - III

Liquidity Forecasts & Planning:

Under this approach the probability of occurrence of a future event can be identified. This forecast then also project that how these events might affect the funding needs of a bank and finally, helps in meeting these liquidity needs. Let us take an illustration to explain the practical aspects of this approach.

A sample bank forecast could show planned asset growth and ways to meet the funding the same. Alternately, bank might attempt to identify future fund inflows and set out ways to redeploy the future inflows to maximise profits & also provide appropriate cushion to liquidity needs too. However, the period of forecast is left to the bank. For a bank in good condition a monthly or quarterly forecast may be adequate whereas bank in poor condition or experiencing liquidity problems, weekly or daily forecasts may be needed. Further, liquidity forecast be compared with actual out-standings and the reasons for forecast variations or in-accuracies above ± 10 % range may be outlined. The components of source of cash funds include opening balance (both cash & bank balances), High value deposits, Time deposits, jumbo certificate of deposits, Borrowings from RBI, Maturing Investments, Cash inflows by the way of loan recovery, securitisation, maturing investments, assets sales etc. Similarly uses of cash fund include pay for maturing deposits of all types, balances with RBI, asset purchase, credit accommodations etc. Here it is pertinent to study the nature of deposits as sources of cash funds and maturing of deposits as uses of liquidity for liquidity planning. All deposits with bank can be classified under 3 categories viz.

- Deposits that are stable in nature
- Deposits that are vulnerable in nature
- Deposits that are volatile in nature

The deposits that have least probability of withdrawals during the planning period are known as **stable funds**. eg. Funds available in the Term Deposits.

Deposits that are likely to be withdrawn during the planning period are considered as **vulnerable funds**. eg. Funds in the saving bank accounts.

volatile funds basically comprise of the deposits that are most likely to be withdrawn during the period for which the liquidity estimate is to be made. They basically comprise of short term deposits mobilised from corporate & High Net Worth Individuals (HNWI – segment).Another dimension of the volatile funds is the float funds, i.e. the funds that are generally in transit like Demand Drafts, Pay Orders/Banker's Cheques etc. which may be presented for payment any time.

It is important in liquidity monitoring to examine closely any increase in shares of high cost resources & its appropriate deployments. Similarly any downward trends in cash flows imply a declining liquidity position & reasons for the same be identified.
In conclusion, a bank management constantly need to monitor and manage liquidity positions which may arise due to various factors. This requires developing suitable policies to address comprehensively the liquidity needs, monitoring liquidity positions & planning the future funding needs.

Conclusion:

Under the present competitive & financial environment liquidity position of a commercial bank change at a very fast pace and it is the responsibility of the top management to ensure that the bank has sufficient resources to deal with these changes. This requires establishment of a proper policy framework that can address to the following:

i) Basic liquidity need
ii) Monitoring the liquidity position
iii) Planning for the future funding need

This will not only help in reducing stress on bank's balance sheet but will also help in creating better & stable portfolios.

References:

1) **T.K. Velayudham (1995):** Liquidity Risks in Banks -Paper presented in 18th Bank Economist's Conference, Chennai 1995 : Published by Indian Overseas bank

2)**Tarjani Vakil (1996):** India: Fast Forward - Exim Bank of India

3) **Vijayakumar V.P (April 2001): Asset Liability Management System for Banks**: unpublished Project report - M.S. Patel Institute of Management Studies, MSU Baroda

4) **www.contingencyanalysis.com**

CHART 4.1

TECHNIQUES FOR LIQUIDITY MONITORING: COMPARATIVE ANALYSIS

HIGH RATIO MEANS :
A) FEW INTERNAL RESOURCES REMAIN
B) LIQUIDITY SACRIFICED FOR EARNINGS

CURRENT PERIOD				HISTORICAL PERIOD		
QUARTER ENDED	BUDGET	ACTUAL	DIFFERENCE	TYPES SOURCES OF LIQUIDITY	PREVIOUS YEAR	CURRENT YEAR
1				CREDIT DEPOSIT RATIO		
2				HIGH VALUE DEPOSITS TOTAL DEPOSITS		
3				TIME DEPOSITS TO TOTAL DEPOSITS		
4				INSTITUTIONAL DEPOSITS TO TOTAL DEPOSITS		
OVER ALL				PLEDGED SECURITIES IS TOTAL SECURITIES		

THE SIGNIFICANT DIFFERENCE BETWEEN BUDGET AND ACTUAL BE EXPLAINED

HIGHER RATIO MEANS REDUCED EARNINGS DUE TO HIGHER COST OF THESE FUNDS

HIGH VALUE MEANS THAT FEW SECURITIES ARE AVAILABLE FOR SALE TO RAISE LIQUIDITY/CASH

CURRENT PERIOD INFORMATION BE COMPARED WITH PREVIOUS PERIOD TO IDENTIFY, MONITOR AND MANAGE LIQUIDITY POSITION

CHART No. 4.2

ILLUSTRATIVE LIQUIDITY GAP CALCULATIONS AT A SAMPLE BANK

Techniques of Liquidity Management - Maturity Matching of Asset Liability

(Fig.in Rs. Crores)

Particulars	Maturity Period (in Months)						
Maturity Matching	One Month	2 to 3 Months	4 to 6 Months	7 to 12 Months	13 to 24 Months	25 to 36 months	More than 36 Months
Assets	10	5	8	4	45	20	8
Liabilities	15	10	5	10	30	10	20
Liquidity	(5)	(5)	3	(6)	15	10	(12)
Cumulative Liquidity Gap	(5)	(10)	(7)	(13)	2	12	0

Note: Based on Table 3.2