

## Commercial Banks and Liquidity Risk Management(LRM)

---

**\* Ms. Meera Mehta**

---

### **Abstract**

*Banking is a business which is subject to various risks and Liquidity Risk is one among them. A well defined, systematic risk management system is required to guard against this risk. LRM arises due to mismatch between inflows and outflows of funds. Hence any process and LRM should include, system of identification, measurement and control of liquidity exposures. In this paper, an attempt is made to analyse this, less known vital risk.*

**Keywords:** *Liquidity Risk Management, Risk Indicators, Information system, Liquid Ratio*

### **Introduction**

Banking, as we all know, is a risky business but that's the business of banking. Banks view risk as a chameleon that keeps changing its colours. It cannot be wished away and is there all over a bank's balance sheet in various forms like the credit risk, market risk and liquidity risk. It keeps changing dimensions and banks being highly leveraged institutions need to have proper risk management systems to guard themselves against these risks. This can be effectively done only through a well-defined process of risk management which basically involves identification, measurement and management of risks. Given the topic, the reader of an article would like to know answers to three questions viz. what, why and how of the subject matter under narration. Keeping this in perspective there are simplified responses in the succeeding paragraphs to what is LRM, why LRM and how LRM?

---

*\*Assistant Professor, Dept. of Commerce, Shaheed Bhagat Singh College, Delhi University*

## **What is LRM?**

What does the word liquidity in liquidity risk management mean? Liquidity as defined by the Bank for International Settlement is the ability to fund increases in assets and meet obligations as they come due. In plain terms, liquidity is having just enough cash to meet the current needs. What therefore, is the liquidity risk for a bank? Liquidity risk is the current and prospective risk to a bank's earnings and equity arising out of its inability to meet the obligations when they become due. Thus, effective LRM is the management of liquidity by raising sufficient funds either by increasing liabilities or by converting assets promptly and at a reasonable cost. Banks with large off-balance sheet exposures or the banks, which rely heavily on large corporate deposit, have relatively high level of liquidity risk. Further the banks experiencing a rapid growth in assets should have major concern for liquidity.

## **Early Warning indicators of liquidity risk**

An incipient liquidity problem may initially reveal in the bank's financial monitoring system as a downward trend with potential long-term consequences for earnings or capital. Given below are some early warning indicators that not necessarily always lead to liquidity problem for a bank; however these have potential to ignite such a problem. Consequently management needs to watch carefully such indicators and exercise further scrutiny/analysis wherever it deems appropriate. Examples of such internal indicators are:

- A negative trend or significantly increased risk in any area or product line.
- Concentrations in either assets or liabilities.
- Deterioration in quality of credit portfolio.
- A decline in earnings performance or projections.
- Rapid asset growth funded by volatile large deposit.

- A large size of off-balance sheet exposure.
- Deteriorating third party evaluation about the bank

A liquidity risk management involves not only analyzing banks on and off-balance sheet positions to forecast future cash flows but also how the funding requirement would be met. The later involves identifying the funding market the bank has access, understanding the nature of those markets, evaluating banks current and future use of the market and monitor signs of confidence erosion.

### **Why LRM?..... The Importance of LRM**

How does the liquidity problem arise? They basically arise on account of the mismatches in the timing of inflows and outflows. What are these inflows and outflows? Liabilities being the sources of funds are inflows while the assets being application of funds are outflows. However, in the context of LRM we need to look at it from the point of maturing liabilities and maturing assets; a maturing liability is an outflow while a maturing asset is an inflow. The need for LRM arises on account of the mismatches in maturing assets and maturing liabilities. And banking is managing mismatches. If banks were to have perfectly matched portfolios they would neither make money nor need treasury managers to run their business. Any one can manage banks. Just imagine what could happen to a bank if a depositor wanting to withdraw his deposit is told to do so later or the next day in view of non-availability of cash. Are not the consequences too dreadful to visualize? It could very well sound the death knell of the bank. No bank, however, strong and mighty it be, would be able to survive if all the depositors queue up demanding their money back. A liquidity problem in a bank could be the first symptom of a financial trouble brewing. If not addressed quickly and effectively, it could very well turn into a thunder ball of ultimate destruction. The balance sheets of banks are swelling in complexity and managing liquidity

properly is going to be much more challenging in the days to come. Liquidity problems can cause significant disruptions on either side of a bank's balance sheet. They have, therefore, to be assessed and addressed on an enterprise-wide basis. The recent sub-prime crisis in the US and its impact on others, stands ample testimony to this reality. Liquidity Risk Management, thus, is of critical importance not only to bankers but to the regulators as well. Effective LRM brings in a host of benefits. It smoothenes the operations of banks, enhances the confidence factor of its stakeholders, nurtures a healthy relationship with the borrowers/depositors, avoids fire sale of assets, lowers the default premium, improves the profitability and enhances the solvency of a bank.

### **How LRM?**

There are two simple ways of measuring liquidity; one is the stock approach and the other, flow approach. The stock approach is the first step in evaluating liquidity. Under this method, certain ratios, like liquid assets to short term total liabilities, purchased funds to total assets, core deposits to total assets, loan to deposit ratio(taken up in the later party of this paper), etc. are calculated and compared to the benchmarks that a bank has set for itself. While the stock approach helps up in looking at liquidity from one angle, it does not reveal the intrinsic liquidity profile of a bank. The flow approach on the other hand forecasts liquidity at different points of time. It looks at the liquidity requirements of today, tomorrow, the day thereafter, in the next seven to 14 days and so on. The maturity ladder, thus, constructed helps in tracking the cash flow mismatches over a series of specified time periods

### **Liquidity Risk Management Process**

An effective liquidity risk management include systems to identify,

measure, monitor and control its liquidity exposures. Management should be able to accurately identify and quantify the primary sources of a bank's liquidity risk in a timely manner. To properly identify the sources, management should understand both existing as well as future risk that the institution can be exposed to. Management should always be alert for new sources of liquidity risk at both the transaction and portfolio levels. Key elements of an effective risk management process include an efficient MIS, systems to measure, monitor and control existing as well as future liquidity risks and reporting them to senior management.

### **Management Information System**

Robust MIS is a prerequisite in LRM. Timely and precise information is the lifeblood of any sound risk management process. A bank has the option of managing liquidity through the liability side or asset side or both. When done through the liability side, the size of the balance sheet remains unaltered; for instance, the deposit pay-offs being offset through fresh deposits mobilisation. When done through the asset side, the size of the balance sheet gets shrunk; for instance, sale of investments to repay the borrowings. When done through a combination of both the assets and the liabilities side, the balance sheet size is reduced to the extent of the sale of assets; for instance net funding requirements being met partly by deposit accretion and securitization. Which of these is the best? A million dollar question for which there is no straightjacket answer. The best option depends on which of these is the most effective, in terms of cost and business strategies. The maxim, "higher the risk, higher the return", encapsulates the dilemma in risk management. There is always a trade off between earnings and risks and liquidity risk is no exception. There is, thus, a price for liquidity. The more the resources of a bank are tied up in readiness to meet the demands of liquidity, the higher

would be the impact on profitability. Holding excess liquidity represents a loss to the bank in terms of earnings. The right balancing, therefore, becomes a crucial factor in effective management of liquidity.

### **Liquidity Risk Measurement and Monitoring**

An effective measurement and monitoring system is essential for adequate management of liquidity risk. Consequently banks should institute systems that enable them to capture liquidity risk ahead of time, so that appropriate remedial measures could be prompted to avoid any significant losses. It need not be mentioned that banks vary in relation to their liquidity risk (depending upon their size and complexity of business) and require liquidity risk measurement techniques accordingly. For instance banks having large networks may have access to low cost stable deposit, while small banks have significant reliance on large size institution deposits. However, abundant liquidity does not obviate the need for a mechanism to measure and monitor liquidity profile of the bank. An effective liquidity risk measurement and monitoring system not only helps in managing liquidity in times of crisis but also optimize return through efficient utilization of available funds. Discussed below are some (but not all) commonly used liquidity measurement and monitoring techniques that may be adopted by the banks.

### **Contingency Funding Plans**

In order to develop a comprehensive liquidity risk management framework, institutions should have way out plans for stress scenarios. Such a plan commonly known as Contingency Funding Plan (CFP) is a set of policies and procedures that serves as a blue print for a bank to meet its funding needs in a timely manner and at a reasonable cost. A CFP is a projection of future cash flows and

funding sources of a bank under market scenarios including aggressive asset growth or rapid liability erosion.

### **Liquidity Ratios and Limits**

Banks may use a variety of ratios to quantify liquidity. These ratios can also be used to create limits for liquidity management. However, such ratios would be meaningless unless used regularly and interpreted taking into account qualitative factors. Ratios should always be used in conjunction with more qualitative information about borrowing capacity, such as the likelihood of increased requests for early withdrawals, decreases in credit lines, decreases in transaction size, or shortening of term funds available to the bank. To the extent that any asset-liability management decisions are based on financial ratios, a bank's asset-liability managers should understand how a ratio is constructed, the range of alternative information that can be placed in the numerator or denominator, and the scope of conclusions that can be drawn from ratios. Because ratio components as calculated by banks are sometimes inconsistent, ratio-based comparisons of institutions or even comparisons of periods at a single institution can be misleading.

i. **Cash Flow Ratios and Limits.** One of the most serious sources of liquidity risk comes from a bank's failure to "roll over" a maturing liability. Cash flow ratios and limits attempt to measure and control the volume of liabilities maturing during a specified period of time.

ii. **Liability Concentration Ratios and Limits.** Liability concentration ratios and limits help to prevent a bank from relying on too few providers or funding sources. Limits are usually expressed as either a percentage of liquid assets or an absolute amount. Sometimes they are more indirectly expressed as a percentage of deposits, purchased funds, or total liabilities.

iii. **Other Balance Sheet Ratios.** Total loans/total deposits, total

loans/total equity capital, borrowed funds/total assets etc are examples of common ratios used by financial institutions to monitor current and potential funding levels.

In addition to the statutory limits of liquid assets requirement and cash reserve requirement, the board and senior management should establish limits on the nature and amount of liquidity risk they are willing to assume. The limits should be periodically reviewed and adjusted when conditions or risk tolerances change. When limiting risk exposure, senior management should consider the nature of the bank's strategies and activities, its past performance, the level of earnings, capital available to absorb potential losses, and the board's tolerance for risk. Balance sheet complexity will determine how much and what types of limits a bank should establish over daily and long-term horizons. While limits will not prevent a liquidity crisis, limit exceptions can be early indicators of excessive risk or inadequate liquidity risk management.

### **Internal Controls**

In order to have effective implementation of policies and procedures, banks should institute review process that should ensure the compliance of various procedures and limits prescribed by senior management. Persons independent of the funding areas should perform such reviews regularly. The bigger and more complex the bank, the more thorough should be the review. Reviewers should verify the level of liquidity risk and management's compliance with limits and operating procedures. Any exception to that should be reported immediately to senior management / board and necessary actions should be taken.



## **Monitoring and Reporting Risk Exposures**

Senior management and the board, or a committee thereof, should receive reports on the level and trend of the bank's liquidity risk at least quarterly. A recent trend in liquidity monitoring is incremental reporting, which monitors liquidity through a series of basic liquidity reports during stable funding periods but ratchets up both the frequency and detail included in the reports produced during periods of liquidity stress. From these reports, senior management and the board should learn how much liquidity risk the bank is assuming, whether management is complying with risk limits, and whether management's strategies are consistent with the board's expressed risk tolerance. The sophistication or detail of the reports should be commensurate with the complexity of the bank.

As far as information system is concerned, various units related to treasury activities, the dealing, the treasury operation & risk management cell/department should be integrated. Furthermore, management should ensure proper and timely flow of information among front office, back office and middle office in an integrated manner; however, their reporting lines should be kept separate to ensure independence of these functions.

## **Conclusion**

Liquidity problems have the potential to affect the balance sheet of banks and, thus, the capital adequacy. Improvement in one area benefits the other and banks would be better off with strong capital base to withstand the kind of liquidity risk challenges seen in today's markets.

## **References**

Reserve Bank of India, Various Issues. Report on Trend and Progress of Banking in India. Mumbai.

**Adrian, T and HS Shin** (2006): *Money, Liquidity and Financial Cycles* paper prepared for the Fourth ECB Central Banking Conference, The Role of Money: money and monetary policy in the twenty-first century, Frankfurt, November 9-10

**Acharya, Viral and Lasse Pedersen** (2005): “Asset pricing with liquidity risk” *Journal of Financial Economics*, vol 77, no 2, pp 375–410.

**Diamond, D and R Raghuram** (2005): “Liquidity shortages and banking crises” *Journal of Finance*, vol 60, no 2, pp 615–47

Liquidity and asset prices, LSE working paper, liquidity and asset prices.pdf.