

Liquidity Risk Management In Select Private Sector Banks In India- An Empirical Analysis

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Abstract - Financial system in any country plays a major role in its economic development. There are number of parameters to the growth, development of an economy. Banks play major role in the development of an economy. Banking has become part and parcel of development of any economy. Therefore, in order to achieve the said development, India's central bank, Reserve Bank of India has set standards regarding banking to ensure uniformity in banking practices and consistency in their working in the entire economy. In this context, Risk management concept has gained lot of attention of banking sector in the recent past, due to bankruptcy of well to do banks across the world. As the volume of business increases, Risk also increases, due to internal and external factors. Therefore, Governments all over the world and Central bank, RBI have put forth certain measures /Guide lines in order to insulate their banking system from exposure to Risk. However, there will be certain unforeseen risks arising which need to be answered, failing which may lead to losses in the banking industry. Banks in USA and Europe have faced such risks in the recent past, stand as examples. Here, in this study, an attempt is made to analyse the Liquidity risk management of three private sector banks to understand their liquidity position and there by risk exposure faced by the select banks during the period of study. It says banks are faced with liquidity risk due to less inflow and more outflows which has to be managed by banks, failing which leads to risk.

Keywords - Liquidity Risk Management, Asset Liability Management (ALM), GAP Analysis, Inflows, Outflows, Risk Management.

I. INTRODUCTION

In the Risk Management of Banking sector, Asset Liability management is one of the most powerful tool for managing Liquidity Risk in Indian banking industry (Dr. Anurag b singh, Ms. Priyanka tendon, 2012). It serves dual objectives of macro and micro levels. Macro level deals with policy formulation, allocation of capital and efficient usage of the same. while Micro level deals with altering of prices, when needed and new product designing. This paper tries to analyse the Liquidity Risk Management in the select private sector banks for the duration 2015-2017, a period of three years.

II. OBJECTIVE OF THE STUDY

To analyse, liquidity risk management in select private sector banks for a period of three years i.e., 2014-2015, 2015-2016, 2016-2017, using Mismatch/GAP analysis to analyse the liquidity risk exposure of the sample banks.

Scope and Methodology:

The study covers three private sector banks namely, Federal Bank, Karur vysya Bank, and Laxmi vilas bank. The Statement of structural Liquidity of the select banks for three years period from 2014-2015, 2015-16, and 2016-2017 are prepared using the structural liquidity statement and total inflows and total outflows are in each time bucket are compared to find the mismatch and cumulative mismatch

and cumulative mismatch for each bucket period using gap analysis, proposed in (ALM) Asset Liability Management guidelines issued by Reserve Bank of India. All the balance sheet items are distributed into time buckets as follows: 1-14 days; 15-28 days; 1-3 months; 3-6 months; 6-12 months; 1-2 years; 2-5 years; and 5+ years. Bank assets and liabilities are allocated into various maturity periods as per the guidelines issued by Reserve Bank of India.

GAP /Mismatch analysis is done by taking the difference between cash inflows and cash outflows. If Cash inflows are more than cash outflows, it results in positive maturity gap, on the other hand if cash inflows are less than cash outflows, it results in negative maturity gap. Negative maturity gap indicates in that particular time bucket, inflows are less and outflows are more. Cumulative mismatch is arrived at by adding a time bucket with its successive maturity bucket. Finally, percentage of Cumulative Mismatch to percentage of cumulative outflows is calculated to find out either positive or negative maturity gap (Amit Kumar Meena, Joydip Dhar, 2014).

This procedure enables the researcher to know the liquidity gap- either positive or negative in each time buckets which in turn indicates the Liquidity Risk Management of the respective bank. The Maturity Profile is used measuring the future cash flows of banks in different time buckets. With in each time bucket there could be mismatches upto on year.

III. LIQUIDITY RISK MANAGEMENT

Measuring and managing liquidity needs are crucial to banks. The bank must be able to assure ability to meet its liabilities as they fall due (bcbs 144.htm), this is possible when good liquidity risk management is established and it reduces the probability of any loss arising. Liquidity risk management draws great attention as liquidity short fall in one institution has its effect on the entire system(ALM,SBSC,2000). Bank management should measure the liquidity position of banks from time to time and also examine how liquidity positions of banks are likely to evolve under contingent situations.

Sound liquidity management depends on: Accuracy in measuring and monitoring of requirements of funding, Management of access to market ,Contingency planning, currency liquidity management , and effective Internal controls

IV. LIQUIDITY RISK

A specific definition of “liquidity” pertaining to banks is that it represents the capacity of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses

Liquidity risk arises in the funding of lending, trading and investment activities and in the management of trading positions. It includes both the risk of unexpected increases in the cost of funding an asset portfolio at appropriate maturities and the risk of being unable to liquidate a position in a timely manner at a reasonable price. The goal of liquidity risk management is to be able, even under adverse conditions, to meet all liability repayments on time, to meet contingent liabilities, and fund all investment opportunities.

A primary objective of the liquidity risk management framework should be to ensure with a high degree of confidence that the firm is in a position to both address its

daily liquidity obligations and withstand a period of liquidity stress affecting both secured and unsecured funding, the source of which could be bank-specific or market-wide. In addition to maintaining sound liquidity risk governance and management practices, a bank should hold an adequate liquidity cushion comprised of readily marketable assets to be in a position to survive such periods of liquidity stress. A bank should demonstrate that its liquidity cushion is commensurate with the complexity of its on- and off-balance sheet activities, the liquidity of its assets and

Liquidity Risk Monitoring Tools:

In addition to the two liquidity standards, the Basel III framework also prescribes five monitoring tools / metrics for better monitoring a bank's liquidity position. This study uses one of the metrics for analysing the liquidity mismatch/GAP(Occasional Paper No 14,2017).

The contractual maturity mismatch profile identifies the gaps between the contractual inflows and outflows of liquidity for defined time bands. These maturity gaps indicate how much liquidity a bank would potentially need to raise in each of these time bands if all outflows occurred at the earliest possible date. This metric provides insight into the extent to which the bank relies on maturity transformation under its current contracts. The following is the Statutory Liquidity Statement of the sample banks selected randomly, to analyse the liquidity risk position of the banks during different time buckets. If the inflows are more than the outflows, a positive mismatch can be arrived at. on the other hand if the outflows are more, it may result in negative mismatch, if the negative mismatch is arrived at, it shows that the bank needs to take more care about their liquid assets so that the bank does not get exposed to liquidity risk.

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	88774	29217	74605	83656	115894	453242	216697
B.OUTFLOW	44528	26526	102922	90325	171440	441519	193479
C..Cumulative outflow(COF)	44528	71054	129448	193247	261765	612959	634998
D.Mismatch/ GAP(A-B)	44246	2691	-28317	-6669	-55546	11723	23218
E.Cumulative Mismatch(CM)	44246	46937	-25626	-34986	-62215	-43823	34941
F.% ofCM to% COF	99.37	66.06	-19.8	-18.1	-23.767	-7.149	5.502

TABLE 1: STATUTORY LIQUIDITY STATEMENT OF FEDERAL BANK 2017 , 2016,2015:

FDEFRAL BANK2017

Source:Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	100241	8854	48089	71912	86574	384649	163292
B.OUTFLOW	66272	16296	56573	60522	164772	337198	165882
C..Cumulative outflow(COF)	66272	82568	72869	117095	225294	501970	503080
D. Mismatch/ GAP(A-B)	33969	-7442	-8484	11390	-78198	47451	-2590
E Cumulative Mismatch(CM)	33969	26527	-15926	2906	-66808	-30747	44861
F F.% ofCM to% COF	51.25	32.127	-21.855	2.48	29.65	-6.125	8.917

FEDERAL BANK 2016

Source: MATURITY PROFILE OF SELECT ITEMS OF LIABILITIES AND ASSETS OF SCHEDULED COMMERCIAL BANKS(RBI)

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	73802	8561	61208	71912	69144	299405	185211
B.OUTFLOW	31856	19504	60172	60522	136828	291936	142762
C..Cumulative outflow(COF)	31856	51360	79676	117095	211110	428764	434698
D.Mismatch/ GAP(A-B)	41946	-10943	1036	11390	-67684	7469	42449
E.Cumulative Mismatch(CM)	41946	31003	-9907	2906	-96612	-60215	49918
F.% ofCM to% COF	131.67	60.364	-12.43	2.48	-45.76	14.04	11.48

FEDERAL BANK 2015

Source: Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks(RBI)

Interpretation of Liquidity Risk of Federal Bank:-

Federal Bank was established in 1931, under the Travencore Company’s Act 1916.The bank was named Federal Bank Limited on 2 december ,1949, after completing the formalities of Banking Regulation Act, 1949. In 1970 Federal Bnak became a scheduled commercial Bank and came out with its public offering in 1994.At present the Bank is working with 1252 branches & 1680 ATMs across the country.

The Statement of the structural liquidity position of the bank for the years 2015-2106 and 2017 can be seen in the table . The mismatch table for the year 2017, shows positive and negative mismatch position in different time buckets. The mismatch for the previous year, 2016 shows negative mismatch in short period and again at above 5years bucket. this indicates the outflows during that time bucket are more than inflows, increasing the liquidity risk exposure. If the demand for outflows increases , then the bank may have to go in for additional capital to meet its liability on due dates.

TABLE:2 STATUTORY LIQUIDITY STATEMENT OF LAKSHMI VILAS BANK 2017

LAKSHMI VILAS BANK 2017

MATURITY	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y&
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LVBBUCKET(2017)							ABOVE
A.INFLOW	20641	50617	38029	9790	22515	123125	105785
B.OUTFLOW	38367	8976	42673	28781	44830	104051	56386
C..Cumulative outflow(COF)	38367	47343	51649	71454	73611	148881	160437
D.Mismatch/ GAP(A-B)	-17726	-3915	-4644	-18991	-22315	19074	49399
E.Cumulative Mismatch(CM)	-17726	-21641	-8559	-23635	-41306	-83	68473
F.% ofCM to% COF	-46.2	-45.71	-16.57	-33.077	-56.11	-0.0557	42.68
RBITOLERANCE LIMITS (%)	15	20	30	35	40	45	10

Source: MATURITY PROFILE OF SELECT ITEMS OF LIABILITIES AND ASSETS OF SCHEDULED COMMERCIAL BANKS BANK 2015

Source: MATURITY PROFILE OF SELECT ITEMS OF LIABILITIES AND ASSETS OF SCHEDULED COMMERCIAL BANKS(RBI) LAKSHMI VILAS BANK 2016

MATURITY BUCKET(2016)	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	12763	7113	20054	12420	32387	97601	53200
B.OUTFLOW	16544	5798	28806	23488	40771	104306	42787
C..Cumulative outflow(COF)	16544	22342	34604	52294	64259	145077	147093
D.Mismatch/ GAP(A-B)	-3781	1315	-8752	-11068	-8384	-6705	10413
E.Cumulative Mismatch(CM)	-3781	-2466	-7437	-19820	-19452	-15089	-3708
F.% ofCM to% COF	-22.85	-110.48	-21.49	-3.79	-30.27	97601	53200
RBITOLERANCE LIMITS (%)	15	20	30	35	40	45	10

Source: Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks LAKSHMI VILAS BANK 2015

MATURITY BUCKET(2015)	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	13114	8119	36995	11275	19920	83197	53200
B.OUTFLOW	14607	6877	26063	24014	43116	76634	33501
C..Cumulative outflow(COF)	14607	21484	32940	50077	67130	119750	110135
D.Mismatch/ GAP(A-B)	-1493	1242	-75797	-38802	-23196	6563	19699
E.Cumulative Mismatch(CM)	-1493	-251	-74555	-114599	-61998	-16633	26262
F.% ofCM to% COF	-10.22	-1.168	-226.33	-228.845	-92.355	-13.889	23.845
RBITOLERANCE LIMITS (%)	15	20	30	35	40	45	10

Source: Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks

Interpretation of Liquidity Risk of Lakshmi Vilas Bank(2014-2015 to 2016-2017):

Lakshmi vilas bank is established in the year 1926, under the Indian Companies Act of 1913. It became scheduled commercial bank in 1958, by obtaining banking license from RBI, 1958 and became scheduled commercial bank. At present bank is working with over 400 branches and 819 ATMs controlled by 8 regional offices. The table presents the structural liquidity statement of Lakshmi Vilas Bank for the period from 2015-16-17. It reveals positive and negative mismatch position for different time buckets during 2015-2016 to 2016-2017. In the year, 2014-2015, shows positive and negative mismatch position for different time buckets. negative mismatch indicates outflows more than inflows, where as positive mismatch shows inflows more than out flows. The negative mismatch demands bank to arrange for additional capital. similar is the situation for other two years also. The percentage of cumulative mismatch to cumulative outflows is not within tolerance limits as prescribed by RBI, leaving bank into risk exposure. or most time buckets resulting in liquidity risk. The bank is not in tune with the RBI’s prescribed tolerance limit, indicating possibility of Liquidity risk .Except for the above five years bucket all there time buckets are showing negative for percentage of Cumulative match to percentage of cumulative outflows.

KARUR VYSYA BANK

TABLE:3 STATUTORY LIQUIDITY STATEMENT OF KARUR VYSYA BANK 2017

KARUR VYSYA BANK2017

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	69740	11775	43515	52817	81565	261267	59477
B.OUTFLOW	31221	14043	37518	34010	66607	200365	180365
C..Cumulative outflow(COF)	31221	45264	51561	71528	100617	266972	380730
D.Mismatch/ GAP(A-B)	38519	-2268	5997	18807	14958	-174239	-120888
E.Cumulative Mismatch(CM)	38519	36251	-3729	24804	33765	-159281	-295127
F.% ofCM to% COF	123.38	80.09	-7.2	34.68	33.56	-59.66	-77.51

Source: Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks

KARUR VYSYA BANK2016

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	59073	14660	40466	42123	68484	237709	77244
B.OUTFLOW	23575	6951	46307	35790	85608	170606	156511
C..Cumulative outflow(COF)	23575	30526	86773	82097	121398	256214	227117
D.Mismatch/ GAP(A-B)	35498	7709	-5841	6333	-17124	67103	-79267
E.Cumulative Mismatch(CM)	35498	43207	1868	492	-10791	49979	-12164
F.% ofCM to% COF	150.57	141.54	2.153	0.599	-8.88	19.51	-5.36

KARURVYSYA BANK 2015

MATURITY BUCKET	1-14D	15D-28D	29D-3M	3M-6M	6M-1Y	1Y-5Y	5Y& ABOVE
A.INFLOW	68764	11560	46053	40433	67557	204672	64428
B.OUTFLOW	16234	15020	65102	32359	75368	142835	126957
C..Cumulative outflow(COF)	16234	16643	80122	68361	107727	218203	269792
D.Mismatch/	52530	-3460	-19049	8074	-7811	61837	-62529

GAP(A-B)							
E.Cumulative Mismatch(CM)	52530	49070	-22509	-10975	263	54026	-692
F.% ofCM to% COF	323.58	294.83	-28.09	-16.05	0.244	24.76	-0.256

Source: Maturity Profile Of Select Items Of Liabilities And Assets Of Scheduled Commercial Banks

Interpretation of Liquidity Risk of KARURVYSYA BANK

Karurvysya bank is established in the year 1916 in karur. The bank has 593branches and about 1962 ATM’s covering 18 states . A part from banking activities, of borrowing funds and lending loans, it is also into insurance and offers all general Insurance policies with tie up with M/S Birla Sun Life Insurance company Ltd. The credit management of any bank is reflected in its asset quality. The statement of the structural liquidity position of the bank for the year 2015,2016 and 2017 is presented in the table. It can be seen from the table that , in the year 2015, there are both negative and positive mismatches, during different time buckets, indicating fluctuations in the Gap/mismatch of inflows and outflows, under such situation, the demand for additional capital in increases in short run . in such case bank is exposed to risk. If he fluctuations are more in long run rather than short run, and the percentage of cumulative mismatch to cumulative outflows is far from what has been set as standard by RBI

V. CONCLUSION

RBI, in its guidelines (feb,1999), has laid down successful implementation of risk management process would require strong commitment on the part of the senior management in the bank. Board should have the overall responsibility for management of risks and should decide the risk management policy of the bank and set limits for liquidity, interest rate, and the like. The senior managers of the bank should utilise the excess funds arising from the positive mismatch with in the limits of risk levels. ALCO plays a significant role in providing the guide lines to senior managers who are ultimately responsible for this task. In the present study, by analysing the select banks we can conclude that , the select banks are able to maintain liquidity in very short period, where as from one month to one year, there are fluctuations seen. The sample banks are faced with negative mismatch, which means bank has to maintain proper liquidity in order to meet the liabilities when they fall due. otherwise, they may be subjected to liquidity risk exposure. Regarding Federal Bank, its liquidity position need to be improved in short period, inorder to avoid liquidity exposure. Lakshmi vilas bank has to maintain its liquidity as the banks’ liquidity position is vulnerable , with negative mismatch . Karur vysya Bank Is better placed amongst the three sample banks, as its liquidity position in different time buckets is showing a positive mismatch, indicating better liquidity position. To sum up, the fund managers play important role in

maintaining positive mismatch and to make profitable use of surplus funds arising for positive mismatch, maintain balance of existing risk level. ALCO plays key role in providing guidance to the fund managers in maintaining Mismatch/Gap Analysis.

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