Liquidity Risk Management in Select Private Sector Banks in India: A Gap Analysis Approach

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Abstract

The economic strength and might of any country traces its origin both in its financial system and financial institution. While the financial system is considered as the backbone of a country and its economy, safety and the stability of the financial institutions are even more important for the for the growth of the industry, the economy and economic well-being of the people. The banking as an important industry in the financial system plays significant part in the development of a country's economy. Hence, Governments across the globe and their respective central banks created necessary risk management policies and procedures to insulate their respective banking system from risk. However, certain unforeseeable risks inherent in the banking business have shaken the economies in the past. The recent failure of banks in several parts of Europe and USA is a telling evidence of these facts. Hence, the present study evaluates the liquidity level of selected private sector banks by using gap analysis method and also analysis the liquidity risk management practices followed by those banks.

Keywords

Liquidity Risk Management, Financial System, Asset Liability, Management (ALM), Analysis

I. Introduction

Liquidity is the ability of a bank to fund increases in assets and meet the obligations as they come due, without incurring unacceptable losses (BIS 2008). The recent global crisis has shown that banks, as major players in the financial system, need to adjust their business strategy in order to get protection against liquidity risk. Generally, the maturity transformation of short-term deposits into long-term loans and pre-closure of term deposits makes the banks inherently vulnerable to liquidity risk. In a bank, every financial transaction or commitment has implications on a bank's liquidity and the fund manager assesses the liquidity gap and manages it by adjusting the residual surplus or deficit balance. Asset Liability Management (ALM) is one of the powerful tools for managing the liquidity risk in modern banking as it has both macro and micro level objectives. While the macro level focus on the policy formulation of critical business, efficient usage and allocation of capital, the micro level leads to designing of new product and altering of existing price as and when needed. This paper attempts to measure the liquidity risk of select old generation private sector banks.

II. Liquidity Risks in Banks

The liquidity of a bank refers to the ability of the bank to fund any decreases or increases in its assets by either obtaining new liabilities or selling or leveraging of existing assets on an on-going basis. A well-managed bank can derive liquidity from both sides of the balance sheet. However, liquidity risk normally arises due to the difference in spread between inflow of interest income and outflow of interest expenses when not synchronized properly. The liquidity of the bank is affected either due to macro-economic factors such as changing interest rates, foreign currency rates or systemic issues like market liquidity or the pre-mature withdrawal of deposits or non-renewals of deposits, failure to replace net outflow of funds that creates funding risk. While the non-receipt of expected inflow of funds and the growth of non-performing assets creates immediate liquidity problems resulting in time risk, the sudden demand for money owing to contingent liabilities becoming due creates a sudden drain of liquidity that leads to call risk in banks.

III. Liquidity Risk Management in Banks

There are two approaches followed in the banking system to reduce the liquidity risk -fundamental approach and technical approach. When the fundamental approach helps to ensure long term liquidity and sustainability of the bank by reducing the concentration risk on liability side, the technical approach deals with short-term liquidity targets, on a daily basis by maturity based bucketing of cash flow mismatches on the balance sheet by identifying potential source of liquidity risk. Hence, both approaches together support the banks to eliminate liquidity risk and ensure viability. Further, at the strategic level, fundamental approach aims at adjusting the mix and maturity of assets and liabilities, diversifying the risk portfolio, broadening the sources and uses of funds. The alternative methods adopted to manage liquidity are asset management and liability management. While asset management tries to answer the basic question of how to deploy the surplus funds to eliminate liquidity risk, the liability management attempts to achieve the same by mobilizing additional funds. The technical approach is adopted to eliminate liquidity risk the bank estimates from its future cash outflows and the inflows and adjust these two by taking the difference between inflows and outflows, as mismatch.

The gap analysis is the process through which the liquidity gap arises between inflows and outflows are measured and managed by adjusting the surplus or deficit balance. The positive gap indicates surplus of funds because the maturing assets exceed maturing liabilities and negative gap indicates liquidity shortfall because maturing liability exceeds maturing assets. In case of positive gap, there is no default risk for the bank but faces excess liquidity that has to be managed by investments and the negative gap indicates shortage of funds leading to default risk that has to be managed either by disinvesting existing securities or borrowing funds. The basic criteria for making disinvestment or borrowing decision will be based on the yield on investments and the costs of borrowings. Though RBI has given the benchmark risk tolerance limit, the top management of the bank has to fix their tolerance limit for liquidity based on their past experience and performance. Liquidity can be created through both sides of the balance sheet by maintaining a positive spread or altering the interest rates. The bank has to consider the interest rate exposure limit of the bank while managing the liquidity risk. By assuring the ability of a bank to fund increases in assets and meet obligations as they come due, liquidity management can reduce the probability of developing an adverse situation in the bank.

It is also a fact that the changes in liquidity position of an institution can have repercussions on the entire system. Hence, bank management has the responsibility to measure the liquidity position on an on-going basis and examine how the liquidity requirements are likely to evolve under different assumptions. The liquidity position of any individual bank has to be tracked through maturity time buckets or cash flow mismatches for measuring and managing the gap. For this purpose, the banks uses of maturity ladder to calculate cumulative surplus or deficit of funds at selected maturity dates and analyze the results as a standard practice.

IV. Scope and Methodology

The study covers four old generation private sector banks located, namely, Lakshmi Vilas Bank (LVB), Karur Vysya Bank (KVB), Tamil Nadu Mercantile Bank (TMB) and City Union Bank (CUB). The statement of structural liquidity of the select banks for three years from 2011-12 to 2013-14 are prepared using the structural liquidity statement and the total inflows and total outflows in each time bucket are compared to find the mismatch and cumulative mismatch for each bucket period using gap analysis approach proposed in Asset Liability Management (ALM) guidelines issued by Reserve Bank of India. This exercise exposes the liquidity gap – the positive or negative gaps in each time bucket and that in turn indicates the liquidity risk management of the banks.

V. Analysis of Structural Liquidity Gap

ALM exercise provides a road map of over 5 years with regard to liquidity mismatch and helps the bank to take appropriate action depending upon the positive/ negative gap. The liquidity risk management practice of the Banks has been analyzed with the help of structural liquidity statement. For this purpose, the balance sheet of the banks have been divided into 10 time buckets as per the ALM guidelines issued by the RBI and the inflow of cash/ funds and outflow of cash/funds during each of the time buckets. Then the inflows are compared with the outflows to find the gap which is expressed as a positive mismatch in case the inflows are more than the outflows and the negative mismatch, if the outflows are more that the inflows. The outflows consist of capital, deposit, borrowings and other liabilities as all these items lead to an outflow of cash to the bank and the inflows consist of liquid assets, investments, loans and advances and the other assets as they bring cash/funds to the bank. For instance, a positive gap in a particular time bucket indicates surplus cash/funds in the bank during that period. In this case there is no liquidity risk, but the bank has to plan for deployment of the excess funds in a profitable manner. If there is negative gap, it indicates the shortage of cash/ fund during that time bucket and projects a positive liquidity risk as the inflows are insufficient to meet the outflows. Hence, the bank has to arrange for the cash/funds to the extent of shortage from other sources available. Since, the shortage of funds that is liquidity risk is known to the bank management in advance, it facilitates the bank to arrange the funds in time, thereby avoiding the liquidity risk and arrange the fund from the cheapest source, so that the cost of fund is kept under control. The bank can also price the loan and deposit products according to the gap. Hence, the mismatch/gap analysis helps the bank to draw short-term as well as long-term strategy in terms of liquidity, cost of funds, yield on loans and investments and also pricing of products.

A. Liquidity Risk Exposure of Lakshmi Vilas Bank (2011-12 to 2013-14)

Lakshmi Vilas Bank, known as LVB, was incorporated on

November 3, 1926 under the Indian Companies Act, 1913 and obtained the certificate to commence business on November 10, 1926. Subsequently, the bank obtained its banking license from RBI in 1958 and became a scheduled commercial bank. At presently the bank is working with over 400 branches and 819 ATMs controlled by 8 regional offices. The bank also offers a host of para-banking products in association with Life and General Insurance companies, mutual funds, stock broking houses, money remittance companies, etc. The bank's asset size is of Rs.20, 000 crores and deposits is over Rs.18,500 crores as on 31.3.2014. It earned a gross income of Rs.2, 202 crores and an operating profit of Rs.309 crores. The following table presents the structural liquidity statement of LVB for the period from 2011-12 to 2013-14.

The following fig. 1 shows the positive and negative mismatch position for the different time buckets during the year 2011-12 to 2013-14.
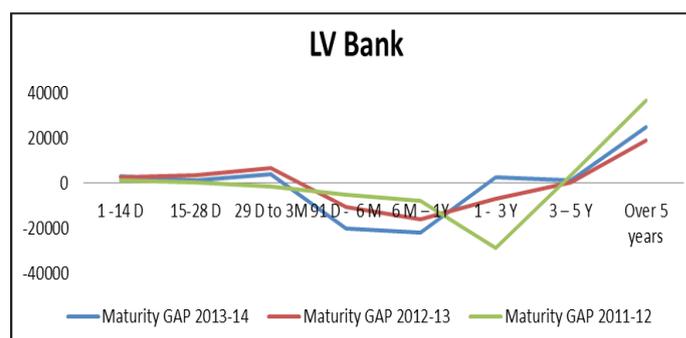

Fig. 1: Positive and Negative Maturity GAP Position of LVB during 2011-12 to 2013-14.

The mismatch between the total inflows and total outflows reveals a fluctuating trend. In 2014, the inflow shows a fluctuating trend through the time buckets from 1 day to 5years' time band. The total inflow registers a growth from during day 1 to 3 years' time band. The total inflows are more in comparison to the total outflows for most of the time buckets, except 3-6 months and 6 months to 1 year period, thus leading to positive mismatch. The percentage of cumulative mismatch to cumulative outflows is within the RBI's tolerance limit for various time buckets, except for six month to one year period. It indicates no serious liquidity exposure risk for the Bank. It also points to the fact that there is no shortage of funds to meet the outflows.

Similarly, the analysis for the years 2011-12 and 2012-13 reflect almost similar fluctuating trend. The total inflows are more in comparison to the total outflows for most of the time buckets for the year 2012-13. Hence, it shows a positive mismatch in most of the time buckets. But the story is different during 2011-12 as the mismatch is negative for majority time buckets. It reveals shortage of funds to meet the commitments of the bank and requires mobilization of funds to fill the gap either by deposits or borrowings from the market. Overall, the percentage of cumulative mismatch to cumulative outflow is within the RBI's tolerance limit for various time buckets during the period under study and hence not shown any serious liquidity risk exposure for the Lakshmi Vilas Bank.

Table 1: Structural Liquidity Statement of Lakshmi Vilas Bank (LVB)

(Rs.in Million)

March 31, 2014								
Maturity period	1 -14 D	15-28 D	29 D to 3 M	91 D - 6 M	6 M – 1Y	1 - 3 Y	3 – 5 Y	Over 5 years
	1	2	3	4	5	6	7	8
A. Inflows	11481.5	8206.2	25901.4	7287.1	17513.7	53984.2	13265.1	49097.2
B. Outflows	8514.1	6652.8	21929.1	27201.6	39265.5	51122.5	11854.3	24175.3
C. Cumulative outflow (COF)	8514.1	15166.9	28581.9	49130.7	66467.1	90388	62976.8	36029.6
D. Mismatch/ GAP (A-B)	**2967.4**	**1553.4**	**3972.3**	**-19914.5**	**-21751.8**	**2861.7**	**1410.8**	**24921.9**
E. Cumulative Mismatch(CM)	2967.4	4520.8	5525.7	-15942.2	-41666.3	-18890.1	4272.5	26332.7
F. % of CM to % COF	34.85	29.80	19.33	-32.44	-62.68	-20.89	6.78	73.08
March 31, 2013								
A. Inflows	8826.1	6137.9	19736.9	7634.3	21417.9	47239.6	10747.3	39118.4
B. Outflows	6261.8	2481.2	13077.9	18113.8	37130.6	53994.1	10112.1	20138.8
C. Cumulative outflow (COF)	6261.8	8743	15559.1	31191.7	55244.4	91124.7	64106.2	30250.9
D. Mismatch/ GAP (A-B)	**2564.3**	**3656.7**	**6659**	**-10479.5**	**-15712.7**	**-6754.5**	**635.2**	**18979.6**
E. Cumulative Mismatch(CM)	2564.3	6221	10315.7	-3820.5	-26192.2	-22467.2	-6119.3	19614.8
F. % of CM to % COF	40.95	71.15	66.30	-12.24	-47.41	-24.65	-9.54	64.84
March 31, 2012								
A. Inflows	6554	3443.9	12901.9	9055.5	20547.4	43780	10199.3	39558.5
B. Outflows	5385.7	3203.8	14107.5	14047.6	28446.7	72482.7	6608.4	3016.7
C. Cumulative outflow (COF)	5385.7	8589.5	17311.3	28155.1	42494.3	100929.4	79091.1	9625.1
D. Mismatch/ GAP (A-B)	**1168.3**	**240.1**	**-1205.6**	**-4992.1**	**-7899.3**	**-28702.7**	**3590.9**	**36541.8**
E. Cumulative Mismatch(CM)	1163.3	1408.4	-965.5	-6197.7	-12891.4	-36602	-25111.8	40132.7
F. % of CM to % COF	21.59	16.39	-5.57	-22.012	-30.33	-36.26	-31.75	416.95
RBI Tolerance Limit (%)	15	20	30	35	40	25	20	10

Source: Trends and Progress of Banking in India, Reserve Bank of India, 2014.

B. Liquidity Risk Exposure of Karur Vysya Bank (2011-12 to 2013-14)

Karur Vysya Bank, popularly known as KVB, was started in the year 1916 in Karur, then a small textile town with a vast agricultural background. The Bank has 572 branches and 1617 ATMs covering 18 States and 2 Union Territories and during the year 2013-14 the Bank has added 21 branches and 345 ATMs. The Bank offers several deposit and loan products, tailor-made to cater to the specific needs of customers. It also offers all types of general insurance policies through a tie-up with M/s Bajaj Allianz General Insurance Company Ltd., and life insurance policies through a tie-up with M/s Birla Sun Life Insurance Company Ltd. The Bank currently has a paid up share capital of Rs.107.18 crores and earned a net profit of Rs.429.60 crores and operating profit of Rs.837.79 crores as on 31.3.2014. The credit management of the bank is reflected in its asset quality as the Gross NPA is 0.82 per cent and net NPA is 0.41 per cent. The Statement of the structural liquidity position of the bank for the years 2011-12 to 2013-14 is presented in the following table. The following figure 2 shows the positive and negative mismatch position for the different time buckets during the year 2011-12 to 2013-14.
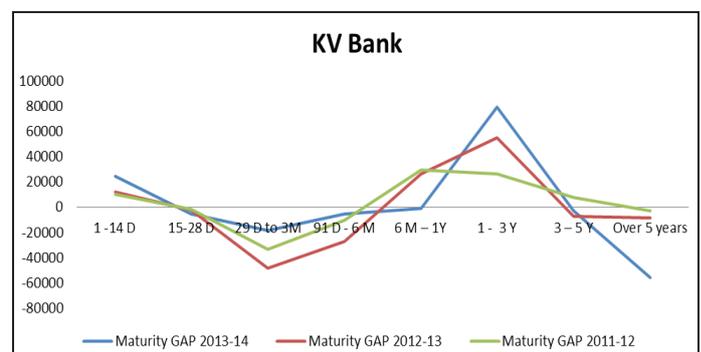

Fig. 2: Positive and Negative Maturity GAP Position of KVB during 2011-12 to 2013-14.

The mismatch for the year 2013-14 shows a fluctuating trend through the time buckets from 1 day to 5 years' time band. The total outflows are more in comparison to the total inflows for most of the time buckets, thus leading to a negative mismatch. It demands for additional funds to fill the negative gap of the respective time buckets in order to avoid liquidity risk. However, the percentage of cumulative mismatch to cumulative outflow shows with in RBI's

prescribed upper limit for various time buckets. The analysis of mismatch during 2012-13 and 2011-12 also reflects almost the same fluctuating trend that of 2013-14. In 2012-13, the mismatch the total inflows are more in comparison to the total outflows for the time buckets 6 months to 3 years. In 2011-12, the gap is negative for some time buckets and positive for the rest for. Overall, it is observed that there is negative gap during 15 days to 6 month

buckets for all the years studied, hence indicating shortage of funds in the short-term periods. The percentage of cumulative mismatch to cumulative outflow is not in tune with in the RBI's prescribed upper limit with regard to 29 days to 3 months and 91 days to 6 months during the years 2011-12 and 2012-13 registering some liquidity risk exposure for the bank.

Table 2: Structural Liquidity Statement of Karur Vysya Bank (KVB)

(Rs.in Million)

March 31, 2014								
Maturity Periods	1 -14 D	15-28 D	29 D to 3M	91 D - 6 M	6 M – 1Y	1 - 3 Y	3 – 5 Y	Over 5 years
A. Inflows	76885.8	13024.2	48477.6	42847.4	80447.0	144941.6	42576.0	57564
B. Outflows	52670.8	18785.6	66950.6	48113.7	81664.6	65779.6	45703.5	113766.9
C. Cumulative outflow (COF)	52670.8	71456.4	85736.2	115064.3	129778.3	147444.2	111483.1	159470.4
D. Mismatch/ GAP (A-B)	24215	-5761.4	-18473	-5266.3	-1217.6	79162	-3127.5	-56202.9
E. Cumulative Mismatch(CM)	24215	18453.6	-24234.4	-23739.3	-6483.9	77944.4	76034.5	-59330.4
F. % of CM to % COF	45.97	25.82	-28.266	-20.63	-4.996	52.86	68.20	-37.20
March 31, 2013								
A. Inflows	63998.7	5513.4	26696.6	19607.9	115105.6	136031.2	36273.4	34643.4
B. Outflows	51779.8	7834.8	75377.7	47109.4	88993.1	80976.3	43890.1	43447.8
C. Cumulative outflow (COF)	51779.8	59614.6	83212.5	122487.1	136102.5	169969.4	124866.4	87337.9
D. Mismatch/ GAP (A-B)	12218.9	-2321.4	-48681.1	-27501.5	26112.5	55054.9	-7616.7	-8804.4
E. Cumulative Mismatch(CM)	12218.9	9897.5	-51002.5	-76182.6	-1389	81167.4	47438.2	-16421.1
F. % of CM to % COF	23.59	16.60	-61.29	-62.19	-1.02	47.75	37.99	-18.80
March 31, 2012								
A. Inflows	40740.3	4030.6	34832.6	33091.9	94976.7	129860.1	26473.3	26207
B. Outflows	30372.8	5541	68305.3	43386.9	65365.1	103353.8	19074.7	29031.6
C. Cumulative outflow (COF)	30372.8	35913.8	73846.3	111692.2	108752	168718.9	122428.5	48106.3
D. Mismatch/ GAP (A-B)	10367.5	-1510.4	-33472.7	-10295	29611.6	26506.3	7398.6	-2824.6
E. Cumulative Mismatch(CM)	10367.5	8857.1	-34983.1	-43767.7	19316.6	56117.9	33904.9	4574
F. % of CM to % COF	34.13	24.66	-47.37	-39.18	17.76	33.26	27.69	9.51
RBI Tolerance Limit (%)	15	20	30	35	40	25	20	10

Source: Trends and Progress of Banking in India, Reserve Bank of India, 2014.

C. Liquidity Risk Exposure of Tamil Nadu Mercantile Bank (2011-12 to 2013-14)

The Tamil Nadu Mercantile Bank Ltd., one of the old generation private sector bank known as TMB, was registered on May 11, 1921 as the Nadar Bank Ltd. The bank was later registered under the RBI Act and got the licenses from the regulator as a scheduled commercial bank. The registered and administrative office is located at Tuticorin, in the southern part of Tamil Nadu. The

bank has now 425 branches all over India, 10 Regional Offices, 11 Extension Counters and 869 Automated Teller Machines. The Bank has achieved a total business of Rs.39790 crores with a deposit of Rs. 22646 crores, loans and advances of Rs. 17144 crores, net profit of Rs. 301 crores and operating profit of Rs.613 crores, as on 31.3.2014. The following table presents the structural liquidity statement of TMB for the period from 2011-12 to 2013-14.

The following fig. 3 shows the positive and negative mismatch position for the different time buckets during the year 2011-12 to 2013-14.
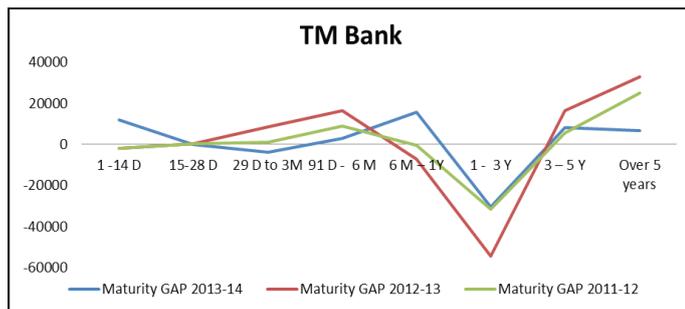

Fig. 3: Positive and Negative Maturity GAP Position of TMB during 2011-12 to 2013-14.

The inflow and outflow of TMB for the year 2013-14 shows a fluctuating trend through the time buckets resulting in both positive and negative mismatch during the period. Similar is the case for the preceding two years also. The negative mismatch demands the bank to arrange for additional funds to fill the negative gap of the respective time buckets. The percentage of cumulative mismatch to cumulative outflow of the bank is not within the RBI's prescribed tolerance limit for most time buckets resulting in liquidity risk exposure. The analysis for the preceding two years that is 2012-13 and 2011-12 also reflects almost the same fluctuating trend. During 2012-13, the mismatch is negative for the time buckets- 6 months to 3 years and positive for over three year time buckets. A similar trend is observed for the year 2011-12indicating shortage of funds in the medium-term periods resulting in medium term risk exposure. That calls for mobilization of funds from the market to fill the gap either by deposits or borrowings. With regard to the RBI's tolerance limit for mismatch, the percentage of cumulative mismatch to cumulative outflow is not in tune with the prescribed upper limit with regard to 1 to 14 days and 91 days to 6 months during the years 2011-12 and 2013-14, hence exposing the bank to liquidity risk.

D. Liquidity Risk Exposure of City Union Bank (2011-12 to 2013-14)

The City Union Bank, known popularly as CUB, was incorporated as a limited company in the name of 'The Kumbakonam Bank Limited' on 31st October, 1904.Later, the Bank was included in the Second Schedule of Reserve Bank of India Act, 1934, on 22nd March 1945.The Bank operates in four segments: corporate/wholesale banking, retail banking, treasury and other banking operations with over 425 branches. The total deposits of the Bank presently stood at Rs.22,017 crore and the gross advances portfolio at Rs.16,224 crore. The total income of the bank is Rs. 2,847 crore. The gross NPA of the bank as on 31.3.2014 is 1.81 per cent. It registered an operating profit and net profit ofRs.581 crore and Rs.347crore, respectively for the year ended 31.3.2014. The following table presents the structural liquidity statement of CUB for the period from 2011-12 to 2013-14.

Table 3: Structural Liquidity Statement of Tamil Nadu Mercantile Bank (TMB)

(Rs.in Million)

March 31, 2014								
Maturity period	**1 -14 D**	**15-28 D**	**29 D to 3M**	**91 D - 6 M**	**6 M – 1Y**	**1 - 3 Y**	**3 – 5 Y**	**Over 5 years**
A. Inflows	21470.1	5814.9	27419.4	25080.2	61710.8	65475.9	17231.2	15793.5
B. Outflows	9525.4	5966.9	31131	22308.3	46168	95997.7	9191.7	9322.3
C. Cumulative outflow (COF)	9525.4	15492.3	37097.9	53439.3	68476.3	142165.7	105189.4	18514
D. Mismatch/ GAP (A-B)	11944.7	-152	-3711.6	2771.9	15542.8	-30521.8	8039.5	6471.2
E. Cumulative Mismatch(CM)	11944.7	11792.7	-3863.6	-939.7	18314.7	-14979	-22482.3	14510.7
F. % of CM to % COF	125.39	76.11	-10.41	-1.75	26.74	-10.53	-21.37	78.37
March 31, 2013								
A. Inflows	7256.8	4593.6	25188.5	33656.2	40595.3	37975.2	25866.3	41451.3
B. Outflows	9178.9	4243	16587.5	17117	47719.8	92183.5	9443.2	8708.1
C. Cumulative outflow (COF)	9178.9	13421.9	20830.5	33704.5	64836.8	139903.3	101626.7	18151.3
D. Mismatch/ GAP (A-B)	-1922.1	350.6	8601	16539.2	-7124.5	-54208.3	16423.1	32743.2
E. Cumulative Mismatch(CM)	-1922.1	-1571.5	8951.6	25140.2	9414.7	-61332.8	-37785.2	49166.3
F. % of CM to % COF	-20.94	-11.70	42.97	74.59	14.52	-43.83	-37.18	270.86
March 31, 2012								
A. Inflows	4444.9	3971	15728.6	20336.3	24976.1	29081.1	15241	32157.6
B. Outflows	6428	3825.7	14558.7	11387.7	25473.3	60478.9	9756.2	7293.7
C. Cumulative outflow (COF)	6428	10253.7	18384.4	25946.4	36861	85952.2	70235.1	17049.9
D. Mismatch/ GAP (A-B)	-1983.1	145.3	1169.9	8948.6	-497.2	-31397.8	5484.8	24863.9
E. Cumulative Mismatch(CM)	-1983.1	-1837.8	1315.2	10118.5	8451.4	-31895	-25913	30348.7
F. % of CM to % COF	-30.85	-17.92	7.15	38.99	22.92	-37.10	-36.89	177.99
RBI Tolerance Limit (%)	15	20	30	35	40	25	20	10

Source: Trends and Progress of Banking in India, Reserve Bank of India, 2014.

Table 4: Structural Liquidity Statement of City Union Bank (CUB)

(Rs.in Million)

March 31, 2014								
Maturity periods	**1 -14 D**	**15-28 D**	**29 D to 3 M**	**91 D - 6 M**	**6 M – 1Y**	**1 - 3 Y**	**3 – 5 Y**	**Over 5 years**
A. Inflows	18456.2	4898.1	20651.9	19049	57666.4	78165.6	13154.7	30485.5
B. Outflows	9495.9	5388.7	19425.5	15280.4	23805.7	159407.7	11846.3	890.4
C. Cumulative outflow (COF)	9495.9	14884.6	24814.2	34705.9	39086.1	183213.4	171254	12736.7
D. Mismatch/ GAP (A-B)	**8960.3**	**-490.6**	**1226.4**	**3768.6**	**33860.7**	**-81242.1**	**1308.4**	**29595.1**
E. Cumulative Mismatch(CM)	8960.3	8469.7	735.8	4995	37629.3	-47381.4	-79933.7	30903.5
F. % of CM to % COF	94.35	56.90	2.96	14.39	96.27	-25.86	-46.67	242.63
March 31, 2013								
A. Inflows	20732.2	6123.6	29011.6	23549	49916.8	71770.5	12354.2	16066.2
B. Outflows	11920.8	1238.9	24320.1	11355.8	33395.2	139314.4	9883.9	799.8
C. Cumulative outflow (COF)	11920.8	13159.7	25559	35675.9	44751	172709.6	149198.3	10683.7
D. Mismatch/ GAP (A-B)	**8811.4**	**4884.7**	**4691.5**	**12193.2**	**16521.6**	**-67543.9**	**2470.3**	**15266.4**
E. Cumulative Mismatch(CM)	8811.4	13696.1	9576.2	16884.7	28714.8	-51022.3	-65073.6	17736.7
F. % of CM to % COF	73.91	104.07	37.46	47.32	64.16	-29.54	-43.61	166.02
March 31, 2012								
A. Inflows	24214.7	4074.4	22154.5	20019.8	28880.5	85761.2	10261.1	14739
B. Outflows	12833.9	1472.2	22837.2	19453.5	32323.2	113618.3	6416.6	861.1
C. Cumulative outflow (COF)	12833.9	14306.1	24309.4	42290.7	51776.7	145941.5	120034.9	7277.7
D. Mismatch/ GAP (A-B)	**11380.8**	**2602.2**	**-682.7**	**566.3**	**-3442.7**	**-27857.1**	**3844.5**	**13877.9**
E. Cumulative Mismatch(CM)	11380.8	13983	1919.5	-116.4	-2876.4	-31299.8	-24012.6	17722.4
F. % of CM to % COF	88.67	97.74	7.89	-0.27	-5.55	-21.44	-20.00	243.52
RBI Tolerance Limit (%)	15	20	30	35	40	25	20	10

Source: Trends and Progress of Banking in India, Reserve Bank of India, 2014.

The following figure 4 shows the positive and negative mismatch position for the different time buckets during the year 2011-12 to 2013-14.
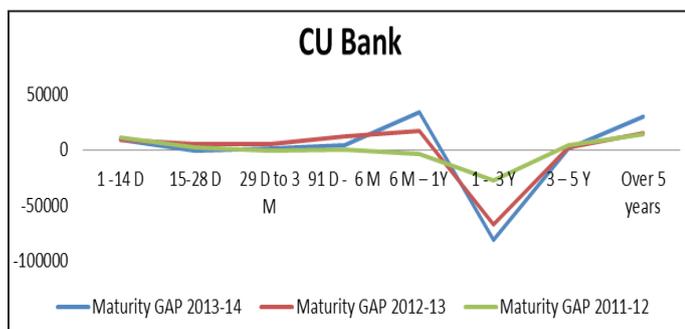

Fig. 4: Positive and Negative Maturity GAP Position of CUB during 2011-12 to 2013-14.

The inflow and outflow for the year 2013-14 shows a fluctuating trend through the time buckets from 1 day to 5 years' time band. The mismatch reveals that the total inflows are more in comparison to the total outflows for most of the time buckets, except 15-28 days and 1 to 3 years period, thus leading to a negative mismatch, calling for additional funds to fill the negative gap of the respective time buckets. However, the percentage of cumulative mismatch to cumulative outflow of the bank is well within the RBI's prescribed upper limit for various time buckets. Hence, there is no serious liquidity risk exposure for the CU Bank.

The analysis for the preceding two years that is 2012-13 and 2011-12 reflects almost the same trend that of 2013-14 with regard to inflows and outflows. The mismatch for the year 2012-13 reveals positive mismatch up to three year time periods and negative mismatch for the later time buckets. Similar is the trend in case of 2011-12 also. Over all, the CUB records negative gap during 1 to 3 years' time buckets indicating shortage of funds in the medium-term periods that demands mobilization of funds from the market either by deposits or borrowings to fill the gap. The percentage of cumulative mismatch to cumulative outflow is not in tune with in the RBI's prescribed upper limit with regard to 1 day to 14 days and 15 to 28 days and 6 months to 1 year during the years 2011-12 and 2012-13.

V. Conclusion

The fundamental task of the banks is the transformation of short-term liabilities into long-term assets which creates asset and liability maturity mismatches on a bank's balance sheet and makes the bank inherently vulnerable to liquidity risk. The fund managers of the banks have the greater responsibility of finding profitable use of excess funds arising from a positive mismatch without upsetting the existing risk level. The role of ALCO in providing guidance to the fund's manager, this task is very significant.

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