

Asset–Liability Linkages in Managing Bank Funds: An Empirical Analysis

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Abstract

Funds management is an integrated approach to match liabilities (sources) and assets (uses). Each source of funding uniquely influences the employment of funds and the overall profitability of banks. Capital funds determine the risk absorption capacity as well as the type of asset(s) to be held by banks. The size and composition of deposits determine the volume of funds to be employed in investments and advances. Efficient management of funds requires mobilization and utilization of funds in a manner that minimizes costs, generates revenue, recovers operational and financial costs, and contributes towards reasonable returns. A mismatch between sources and uses would be imminent with increased linkage of banking operations to market dynamics. Therefore, it is necessary to trace the interrelationship between sources and usage of funds, and make an appropriate design that has a high degree of customer orientation.

Key words / phrases: Sources, Uses, Fund Management, banks' capital base, Asset-Liability Management.

1. Introduction

Commercial banks deal with acquisition and utilization of funds in different forms. The sources consist of capital funds, deposits and borrowings. Capital funds are the owned funds that guard banks against losses and the impending failure. Similarly, deposits constitute nearly 85% of the total funds and hence the survival of banks greatly depends upon their ability to manage them. In addition, banks also borrow from Reserve Bank of India (RBI) and other financial institutions. Banks utilize these funds for liquidity management, as well as for investment in securities, loans and advances. Liquidity management includes maintaining sufficient liquid funds for day-to-day business, meeting the statutory obligations and catering to emergency needs. For this purpose, banks hold funds in the form of cash in hand and with other banks as well as invest some portion in money markets. The return on these funds is almost zero except money at call and short

notice. Investments in government and other approved securities shares and debentures are the second largest use of funds. The rate of return on such investments is adequate enough to cover financial and operational costs. Thirdly, credit deployment is a significant area of employment of funds in terms of size of funds involved as well as revenue generated. However, it carries a high degree of credit risk which necessitates banks to adhere to prudent lending principles. Last but not least, banks also use a portion of their funds for creating their business infrastructure which, of course, does not directly generate income, but facilitates an enabling environment.

Efficient management of funds includes both raising of funds as well as using them in the manner that minimizes costs, generates revenues, recovers the operational and financial costs and finally, contributes a reasonable return. Thus, the objective of earning profits shall be fulfilled by an appropriate

design of sources and uses of funds on business principles with an intimate customer orientation. This thinking necessitated to pursue a study on linking liabilities (sources) with assets (uses) in Public Sector Banks (PSBs) in India with the following objectives:

1. To examine the interrelationship between long-term sources and long-term uses of funds;
2. To study the linkage between short-term sources and short-term uses of funds;
3. To measure liquid gap in funds management and
4. To evaluate the consistency in performance facets of asset-liability linkages;

2. Scope and Methodology

12 PSBs are covered for the purpose of analysis. The study is based on the data drawn from the annual reports of the selected banks spanning over a period of ten years from 1994-1995 to 2003-2004. The sources and uses of funds are represented by various items of liabilities and assets contained in balance sheets of the respective banks.

The data are presented through tables and analyzed with the help of ratios, percentages, arithmetic mean, and coefficient of variation (C.V.). The analysis of each point is done from the point of view of banking industry as a whole as well as the segments vis-à-vis, High profile Banks (HPB), Medium profile Banks (MPB) and Low profile Banks (LPB).

The selection of the banks is based on the Report of Working Group (1999) constituted under the chairmanship of Shri. M. S. Verma. This Group classified the banks on the basis of capital adequacy, coverage ratio, return on investment, net interest margin, ratio of operating profit to average working funds, ratio of cost to income, ratio of staff cost to the net interest income plus all other income. The banks are reclassified for our purpose of sampling as High Profile Banks (HPBs), Medium Profile Banks (MPBs) and Low Profile Banks (LPBs). In each category, four banks are randomly selected: Oriental Bank of Commerce, State Bank of Patiala, Punjab National Bank and Corporation Bank in HPB segment; Andhra Bank, Bank of India, Bank of Maharashtra and State Bank of India in MPB segment and UCO Bank, United Bank of India, Indian Bank and Indian Overseas Bank in LPB segment. The data of these banks have been aggregated for the purpose of analysis.

This study adopts a quantitative approach, and the inferences are drawn from the information contained in financial statements of the selected banks. The size of the sample is

adequate (12 out of 27 PSBs). In addition, these selected banks represent the cross-section of the public sector banking industry as a whole belonging to high, medium and low profile segments. The period covered under the study is one decade. Therefore, the findings can be generalized for the entire banking industry in the sphere of asset-liability linkages.

The study is organized into three parts namely analysis and discussion, consistency in asset-liability linkages and suggestions.

3. Analysis and Discussion

The scope of the term capital for the purpose of our study does not restrict itself to the amount of capital funds as disclosed in the balance sheets of the selected banks. It is calculated on the basis of capital adequacy norms as laid down by Reserve Bank of India giving due weightage to the risk weighted assets {Capital = (capital base + Risk Weighted assets) X 100}.

The interrelationship between sources and uses of funds is examined with the help of the following ratios:

1. Ratio of capital to fixed assets
2. Ratio of capital to loans and advances
3. Ratio of capital to investments
4. Ratio of capital to assets
5. Ratio of cash and near cash assets to deposits
6. Ratio of liquid assets to deposits
7. Ratio of investments to deposits
8. Ratio of credit to deposits
9. Ratio of non-deposit liabilities to loans and advances and
10. Liquid gap analysis

1. Ratio of capital to fixed assets: One of the functions of the capital is to finance the fixed assets required for banks. These assets are illiquid as well as non-profit generating in nature. As a result, investment in fixed assets affects the liquidity as well as profitability of funds. Since the depositors do not supply their funds (deposits) for fixed assets, the relationship between capital and fixed assets is logical and well established. For banks there is no standard ratio of capital to fixed assets. But the amount of capital adequacy of banks to finance the fixed assets depends on the amount to be invested in creating infrastructure like premises, furniture and fixtures, equipments and vehicles. It is therefore, necessary to examine whether or not the capital fund is sufficient to finance the fixed assets. A ratio of capital to fixed assets is constructed for this purpose.

The information relating to ratio of capital to fixed assets of the industry and segments is presented in Table 1.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	NA	NA	NA	NA
1996	8.60	9.76	2.03	6.87
1997	9.58	11.39	3.47	8.20
1998	10.31	11.26	3.82	8.47
1999	11.82	10.05	4.46	8.72
2000	12.81	11.16	4.66	9.21
2001	13.21	13.60	5.39	10.80
2002	15.14	15.56	7.25	13.08
2003	17.04	17.71	10.89	16.04
2004	20.55	18.81	12.90	17.77
Mean	13.23	13.26	6.10	11.02
SD	3.83	3.36	3.61	3.80
CV	28.93	25.37	59.27	34.46

Table 1 Ratio of capital to fixed assets (Times covered)

Source: Computations are based on annual reports.

The ratio of capital funds to fixed assets for the industry (Table1) is ranging from 6.87 times to 17.77 times representing an average of 11 times over a period of nine years. The ratio has maintained a steady increase across study period. The capital funds are adequate enough in financing fixed assets required for banks. Consequently, there is no room for using other external costly funds to finance the fixed assets. In other words, the illiquid and non-earning fixed assets are not financed out of costly deposits and borrowing. It is also observed that the average ratio of capital to fixed assets is relatively high in HPBs (13.23 times) and MPBs (13.26 times) as compared to LPBs (6.01 time). From the above it is evident that HPBs and LPBs have maintained sufficient amount of capital funds to finance their fixed assets. Further, the HPBs and MPBs have maintained a greater consistency than LPBs in maintaining adequate coverage of capital to their fixed assets. This is amply demonstrated in their C.V. values.

2. Ratio of capital to loans and advances: A major portion of bank funds are used for lending activities with varying risk–return profiles. Since risk of non–payment is inherent in lending operations, a mis-match between inflow and outflow is inevitable unless an adequate support system is developed. One way of developing a support system is strengthening the banks’ base of capital vis-à-vis their lending operations. Capital strengthens the risk absorbing capacity of banks that arises from loan losses (bad debts) which are inherent in lending business. Inadequacy of capital coupled with loan

losses subsequently restricts the lending operations of the banks. Therefore, banks with a strong capital base can assume higher risk in lending business. Hence, it is necessary to examine the ratio of capital to loans and advances with a view to measure the amount of capital used for building the loan portfolio of the banks.

The ratio capital to loans and advances of the industry and segments is presented in Table 2.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	NA	NA	NA	NA
1996	29.96	18.00	10.93	18.17
1997	32.07	23.82	19.52	23.32
1998	28.78	25.54	19.83	23.95
1999	28.82	26.59	21.02	25.46
2000	28.61	28.03	19.21	24.81
2001	26.33	30.38	19.03	25.70
2002	26.51	29.76	21.28	26.62
2003	29.94	30.33	26.26	29.42
2004	31.41	30.21	28.96	30.63
Mean	29.16	26.96	20.67	25.34
SD	1.95	4.11	5.03	3.61
CV	6.68	15.23	24.32	14.24

Table 2 Ratio of capital to loans and advances (percentages)

Source: Computations are based on annual reports.

The ratio of capital to loans and advances for the industry [Table 2] is ranging from 18.17% to 30.63% representing an average of 25.34% over a period of nine years. This ratio of capital to loans and advances has maintained an increasing trend during the period under study. It may be inferred that the banks’ capacity to assume higher lending risks has improved over the years. Further, the average ratio of capital to loans and advances is higher in case of HPBs (29.16%) and MPBs (26.96%) as compared with LPBs (20.67%). In addition, the HPBs have maintained relatively higher consistency (CV=6.68) in keeping up their capital vis-à-vis the loans and advances as compared to MPBs (CV=15.23) and LPBs (CV=24.32). Thus, the ability of LPBs to lend more and assume lending risks is hampered due to inadequate and inconsistent capital base.

3. Ratio of capital to investments: Among the various uses of bank funds, investments in various financial assets offer relatively attractive rates of return. The prices of such investments are, however, subject to fluctuations. As a result, the banks are compelled to consider various types of invest-

ments that involve varying intensity of risk. It is imperative that the banks should have adequate capital base that would absorb the loss on securities, if any, due to fall in their market prices. Therefore, it is necessary to examine the ratio of capital to investments to understand the adequacy of capital for absorbing the risk of losses in investment portfolio.

The information relating to capital to investments of the industry and its segments is presented in Table 3.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	NA	NA	NA	NA
1996	31.42	24.56	12.18	23.11
1997	30.48	31.96	17.55	27.64
1998	29.62	34.23	19.49	27.83
1999	28.73	30.99	16.64	26.79
2000	28.90	30.57	15.74	25.36
2001	29.63	30.38	16.60	25.75
2002	32.46	28.39	18.90	26.46
2003	34.85	27.88	23.11	28.24
2004	36.54	29.10	26.67	30.56
Mean	31.40	29.78	18.54	26.86
SD	2.74	2.74	4.25	2.09
CV	8.72	9.21	22.93	7.77

Table 3 Ratio of capital to investments (percentages)

Source: Computations are based on annual reports.

The ratio of capital to investment for the industry [Table 3] is fluctuating from 23.11% to 30.56%. The capital funds on an average provide a cushion for about 26.86% of investments. Any risk on investments exceeding this cushion limit would disturb the flow of bank funds. The gratification is that the support of capital to investment over the years is improving. The segmental analysis reveals that the average ratio of capital to investments is higher in case of HPBs (31.4%) and MPBs (29.7%) as compared with LPBs (18.54%). The HPBs and MPBs have demonstrated a consistent performance (CV=8.72 and 9.71) in maintaining their capital funds for investments. However, a marked variation is found with LPBs. The poor and inconsistent performance of LPBs affects their risk absorption capacity and incapacitates them from assuming higher investment stakes.

4. Ratio of capital to total assets: Capital supports the overall assets of the banks. These assets influence the size of business, profits and growth by generating adequate revenue. The composition and size of each asset class have an

impact on the amount of capital adequacy fulfilled by the banks. Thus an improvement in capital base is a prerequisite of the banks' solvency as well as their growth. A sound capital base enables banks to offset the decline, if any, in the value of their assets. The ratio of capital to total assets reflects the support of capital to total assets and indicates the banks' ability to absorb the risk of losses caused by the reduction in value of assets.

The information relating to the ratio of capital to assets of the industry and segments is presented in Table 4.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	NA	NA	NA	NA
1996	11.50	8.40	4.32	8.07
1997	12.30	10.89	7.15	10.11
1998	12.30	11.74	7.05	10.38
1999	12.63	10.83	7.34	10.26
2000	12.10	11.77	6.97	10.28
2001	12.15	12.29	7.47	10.62
2002	12.97	11.94	8.58	11.16
2003	14.53	12.72	10.95	12.73
2004	15.31	13.03	12.38	13.57
Mean	12.87	11.51	8.02	10.80
SD	1.25	1.38	2.38	1.59
CV	9.68	11.98	29.61	14.73

Table 4 Ratio of capital to assets (percentages)

Source: Computations are based on annual reports.

The ratio of capital to assets of the industry (Table 4) is ranging from 8.07% to 13.57% representing an average of 10.8% over the study period. Capital support to overall assets is gradually improving and thereby improving capacity of banks to assume business risks. Though each segment in the industry has maintained an increasing trend over the years, the average ratio of capital to total assets is higher in case of HPBs (12.87%) and MPBs (11.51%) as compared with LPBs (8.02%). This reveals that the HPBs and MPBs have maintained the statutory norm of capital adequacy (10%), whereas LPBs are operating below the statutory norm of capital adequacy. In addition, the HPBs and MPBs segment has maintained greater consistency in their ratio of capital to total assets (CV=9.68 and 11.96 respectively) than LPBs segment (CV=29.61).

5. Ratio of cash and near cash assets to deposits: Banks are required to hold sufficient funds in hand to meet short-term commitments arising from demand deposits. Their in-

ability in this regard would cause loss of public confidence. Since the commitment is of short-term in nature, the assets held against deposits should also be of similar size, duration and nature. Therefore, it is necessary to examine whether banks are able to meet their short-term commitments out of their short-term resources, such as cash and near cash assets including cash in hand and balance with RBI, balance with other banks in current account, and money at call and short notice. Hence, the ratio of cash and near cash assets to deposits is constructed. A higher ratio reflects increased safety to depositors. It also avoids banks' resorting to costly borrowings to meet their short-term and unforeseen commitments.

The information relating to ratio of cash and near cash assets to deposits of the industry and its segments is presented in Table 5.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	19.44	19.24	14.71	18.33
1996	20.82	21.63	16.40	20.37
1997	15.52	20.37	12.57	17.80
1998	15.39	19.99	12.24	17.52
1999	12.82	25.89	12.73	20.81
2000	11.31	19.11	12.21	16.24
2001	10.95	19.88	10.05	16.37
2002	8.88	18.49	8.24	14.70
2003	9.98	15.23	10.92	13.33
2004	10.46	14.42	11.70	13.03
Mean	13.56	19.43	12.18	16.85
SD	4.10	3.19	2.27	2.66
CV	30.24	16.44	18.68	15.80

Table 5 Ratio of cash and near cash assets to deposits (percentages)

Source: Computations are based on annual reports

The ratio of cash and near cash assets to deposits [Table 5] of the industry is showing a declining trend ranging from 20.80% to 13.30%. As a result, the banks would find it difficult to honor demand deposits owing to inadequacy of cash and near cash assets. It may even compel banks to resort to costly borrowings. Table 5 also reveals that MPBs segment holds relatively higher cash and near cash assets to deposits (19.43%) than HPBs (13.56%) and LPBs (12.18%). The LPBs holding of lower cash and near cash assets to deposits could disturb the management of funds during sporadic withdrawals. It is interesting to note a greater variation of this ratio with HPBs (CV=30.24) as compared with LPBs (CV=18.68%) and MPBs (CV=16.44). It appears that the HPBs segment is assuming risky stakes in deploying its funds

6. Ratio of liquid assets to deposits: Liquidity is necessary to facilitate deposit withdrawals as well as sporadic loan demands of the bank customers. In addition, liquidity ensures banks' credibility and integrity. Hence the measurement of liquidity assumes an important aspect of asset liability management in banks. However, there are no universally accepted liquidity ratios as the deposit liabilities are payable on demand and hence their withdrawals are non predictable. As a result, banks are required to maintain adequate liquidity considering their past experience without sacrificing their earnings. For this purpose, a ratio of liquid assets to deposits is constructed to measure the liquidity position of the banks in meeting their short-term liabilities. Liquid assets for the purpose of this ratio include cash, money at call and short notice, investment in treasury bills, government and other approved securities.

The information relating to ratio of liquid assets to deposits of the industry and its segments is presented in Table 6.

Year	Segments			Industry
	HPB	HPB	HPB	
1995	57.25	61.47	53.08	58.82
1996	57.85	60.89	56.51	59.36
1997	52.74	58.79	55.63	56.90
1998	50.47	55.85	56.21	54.80
1999	48.30	61.55	54.54	57.54
2000	48.99	57.97	53.60	55.30
2001	47.15	61.58	50.75	56.77
2002	44.75	61.97	49.92	56.27
2003	47.34	59.41	52.59	55.59
2004	49.67	59.68	53.74	56.33
Mean	50.45	59.92	53.66	56.77
SD	4.30	1.97	2.19	1.47
CV	8.53	3.29	4.08	2.59

Table 6 Ratio of liquid assets to deposits (percentages)

Source: Computations are based on annual reports

Table 6 reveals that more than 50% of deposits are supported by liquid assets for the industry as whole. In addition, there is a consistency in this ratio across the study period. However, a sizeable amount of bank funds (56.77%) in liquid assets reveals that the banks emphasis is more on liquidity of funds. Table 6 also reveals that MPBs segment holds the maximum amount of liquid assets vis-à-vis deposits (59.92%) followed by LPBs (53.66%) and HPBs (50.45%) respectively. Whereas HPBs segments are concerned with profitability, the MPBs and LPBs segments are concerned with liquidity. A higher consistency is found with MPBs (CV=3.29) and LPBs

(CV=4.08) than with HPBs (CV=8.53) in maintaining liquid assets on par with deposits.

7. Ratio of investments to deposits: Banks invest their funds in government and other approved securities. While investing they are expected not only to consider income and liquidity but also strike a reasonable balance between them. So long as the maturity pattern of investments synchronizes with the period of deposits, banks' ability to honor deposit withdrawals would be intact. However, these investments relatively earn less than the costs incurred by banks on their deposits. Therefore, banks should restrict their investments to norms laid down under CRR/SLR requirements. Investments exceeding these limits would affect the banks profitability. Therefore, it is necessary to examine the ratio of investments to deposits.

The information relating to ratio of investments to deposits for the industry and the segments is presented in Table 7.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	44.15	46.42	41.90	44.99
1996	41.48	43.57	43.27	43.08
1997	44.38	41.08	46.04	42.76
1998	45.77	41.06	48.74	43.54
1999	48.05	42.12	50.08	44.79
2000	47.85	45.52	49.65	46.74
2001	44.54	48.46	49.34	47.80
2002	44.38	50.44	50.28	49.13
2003	46.55	54.26	51.87	52.16
2004	47.69	54.01	51.07	52.04
Mean	45.48	46.69	48.22	46.70
SD	2.09	4.98	3.37	3.51
CV	4.60	10.67	6.98	7.51

Table 7 Ratio of investments to deposits (percentages)

Source: Computations are based on annual reports

It is clear [Table 7] that about 43% of deposits of the industry are channelized into investments during the first five years. Subsequently, it has increased to 52%. The rise in this ratio is the reflection of banking industry's preference to invest more in risk free securities than to provide credit. This rise in investments tends to affect the banks' overall profitability, because of their low yielding characteristics when compared to loans and advances. Moreover the cost of deposits would outweigh the return from the investments. Table 7 also reflects that the average ratio of investments to deposits is the highest with LPBs (48.22%) followed by MPBs (46.69%)

and HPBs (45.48%). The increased preference of LPBs to put more funds in SLR/CRR investments reflects their concern for safety than profitability of funds. The HPBs segment has shown greater consistency in this ratio (CV=4.60) than LPBs (CV=6.98) and MPBs (CV=10.67) segment.

8. Ratio of credit to deposits: The deposits are channelised for lending after meeting liquidity requirements. A major portion of the deposits go into the credit stream which is exposed to a grater degree of credit risk. This risk exposure is potential enough to disturb the matching of recoveries with deposit withdrawals of banks. Banks, however, cannot keep themselves away from lending, to avoid credit risk exposure. The present norm of credit deposit ratio is 60% in rural and semi-urban areas. Higher credit deposit ratio indicates the profitable utilization of deposits as well as higher risk exposure. The information relating to ratio of credit to deposits for the industry and the segments is presented in Table 8.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	46.94	54.46	50.67	52.1
1996	48.35	59.40	48.22	54.80
1997	47.03	55.11	41.38	50.68
1998	47.11	55.03	40.67	50.58
1999	47.90	49.09	39.64	47.12
2000	48.33	49.65	40.68	47.79
2001	50.12	48.47	43.04	47.89
2002	54.34	48.13	44.67	48.84
2003	54.18	49.88	45.65	50.08
2004	55.47	52.03	47.05	51.91
Mean	49.98	52.13	44.17	50.18
SD	3.38	3.73	3.70	2.37
CV	6.76	7.16	8.38	4.72

Table 8 Ratio of credit to deposits (percentages)

Source: Computations are based on annual reports

The share of credit to deposits for the industry [Table 8] has steadily declined during the first seven years. The percentage of credit to deposits fell short of the standard (60%) by 10% to 13%. This reflects the banks' overcautious approach in lending. It appears that they prefer to hold deposits idle instead of lending and recovery botherations. This 'ready to pay deposit money' situation enables smooth withdrawals at the cost of income in the form of interest on advances. As a result, banks would be incapacitated to pay interest on deposits. This situation diverts revenues generated from other sources to paying interest on deposits. The improve-

ment in credit deposit ratio during the latter years has come as a relief to banks in linking interest cost and interest revenue. From table 8 it is also observed that the average credit deposit ratio is relatively high in case of MPBs (52.13%) as compared to HPBs (49.98%) and LPBs (44.17%). In all these segments, however, the ratio of credit to deposits falls short of the standard (60%). The HPBs have maintained a consistency in their ratio of credit to deposits (CV=6.76) as compared to and MPBs (CV=7.16) and LPBs (CV=8.38).

9. Ratio of non-deposit liabilities to loans and advances: Banks resort to borrowings from RBI and other banks in meeting their temporary requirements. These borrowings are essential for striking a balance between inflows and outflows. If the ratio of borrowings to loans is high, it indicates the banks' increased dependence on non-deposit funds and also their keenness in taking advantage of short-term lending prospects. These sources of funds are, however, costlier.

The information relating to ratio of non-deposit to loans and advances of the industry and its segments is presented in Table 9.

Year	Segments			Industry
	HPB	MPB	LPB	
1995	8.74	16.12	8.67	13.21
1996	10.96	18.59	19.28	17.33
1997	3.35	10.03	6.24	8.13
1998	1.49	9.68	4.02	7.21
1999	1.76	10.72	4.44	7.88
2000	3.38	8.65	4.07	6.83
2001	2.77	8.14	2.23	6.09
2002	3.83	7.51	2.20	5.81
2003	3.39	7.27	2.40	5.58
2004	3.64	8.43	2.29	6.26
Mean	4.33	10.51	5.58	8.43
SD	3.05	3.81	5.24	3.82
CV	70.53	36.23	93.87	45.36

Table 9 Ratio of non-deposits to loan (percentage)

Source: Computations are based on annual reports

The ratio of non-deposit liabilities to loans and advances of the industry [Table 9] exhibits a decline during the initial years of the study. This is indicative of banks reducing their dependence on costly non-deposit liabilities, which tends to create a positive impact on the banks overall profitability. Table 9 also reveals that the average ratio of non deposit liabilities to loans and advances, is more in case of MPBs (10.51%) than LPBs (5.58%) and HPBs (4.33%). Whereas HPBs and LPBs segment has reduced their dependence on costly borrowings, the MPBs segment has increased its dependent on

borrowings. In spite of its increased dependence on borrowings, the MPBs have maintained a greater consistency in their maintenance of deposits vis-à-vis loans and advances as compared is HPBs and MPBs. The increased variability of this ratio with HPBs and LPBs indicates that their profits are going to be affected because of their dependence on borrowings of varying proportions.

10. Liquid gap analysis: A close and intricate interrelationship exists between the liability management and credit management. If credit disbursements exceed the resources available with the banks, it indicates banks' dependence on money market and other external borrowings. The technique of ascertaining the gap between the available resources and the outstanding credit is known as liquid gap analysis. This analysis has come as a powerful technique of establishing interrelationship between the key components of sources and uses of funds.

Say, Deposits of the bank = D

Credit outstanding = C

Refinance and float funds = L

Reserve rate = R

Therefore gap $G = C - [(1-R) D + L]$

(This gap is generally expressed as 'X')

If 'X' is a positive factor, it implies banks' dependence on market borrowings to meet the credit needs of the borrowers. If 'X' in equation is a negative factor, it indicates that the banks are flush with funds. Therefore, banks have essentially to manage their deposits (D) and other liabilities (L) in an optimum manner with a view to reduce the gap as well as cost of funds (Sen. Gupta, A.K., 1994-95).

(Rupees in crores)				
Year	Segments			Industry
	HPB	MPB	LPB	
1995	-4780.74	-10005.26	-3381.56	-18167.55
1996	-5351.96	-8007.61	-7378.21	-20737.77
1997	-6185.19	-11264.81	-9558.48	-27008.48
1998	-12147.67	-28676.95	-15905.49	-56730.11
1999	-13784.61	-48556.76	-18594.25	-80935.62
2000	-17681.16	-54874.21	-20800.59	-93355.96
2001	-19629.58	-73316.17	-21989.86	-114935.61
2002	-20057.49	-87329.76	-25133.08	-132520.33
2003	-24910.31	-93874.06	-28955.08	-147739.45
2004	-28864.35	-100365.43	-32853.81	-162083.58
Mean	-15339.31	-51627.10	-18455.04	-85421.45

Table 10 Liquid gap analysis

Source: Computations are based on annual reports

There is a negative gap (Table 10) for all the years under study for the entire industry as well as the segments. Further, these gaps are increasing from year to year. This indicates that banks are flush with funds and the costly resources of banks are not fully utilized for earning higher returns. The flush of funds puts a strain on servicing if they are not converted into earning assets by employing these deposits in higher earning assets like loans and advances. Thus, there is a need to manage the deposits and other liabilities in an optimum manner. Table 10 also reveals that the average liquid gap is highest with MPBs followed by LPBs and HPBs. Thus, a major portion of funds of MPBs are not fully utilized. The underutilization of costly sources affects the profitability of these banks.

4. Consistency in asset-liability linkages: Overall assessment

The industry as a whole has shown consistent performance in keeping liquid assets vis-à-vis its deposit obligations (CV=2.59). The ability of banks in managing the liquidity function in a consistent manner, enhances their integrity and credibility. Similarly, these banks have maintained a consistent performance in providing capital support to loans and advances (CV=14.24). With the increasing emphasis on capital adequacy ratio, the commercial banks have built-up a strong and steady capital base that would absorb credit risk arising from their loans and advances. A similar consistency in performance is observed in providing the support of capital to total assets (CV=14.73). However, the ratios of capital to fixed assets as well as investments have shown relatively greater variability. (CV = 34.46 and 7.77 respectively). Of late, banks are keener to put their money into investments which are exposed to greater market risks on account of increasing market volatility. As a result, they need to build up strong capital base vis-à-vis the investments. But there is a greater variation in this area of performance as evidenced by higher CV values. It is interesting to note that the banks' performance in maintaining liquid assets to deposits is consistent (CV=2.59), whereas the ratio of cash and near cash assets to deposits show a greater variation (CV=15.8). It appears that the banks have prudently invested in treasury bills, government and other approved securities, instead of holding excess cash. A high CV value of cash and near cash assets to deposits could be disturbing in the event of unforeseen and sporadic demands for loans and advances as well as deposit withdrawals. Consequently the banks would be compelled to resort to costly borrowings. Similarly the banks' performance in borrowings vis-à-vis loans and advances also does not show a consistent performance.

5. Suggestions

- There is a need to strengthen a bank's capital base for ensuring the quality of assets as well as expanding the cushion to withstand the risk of loss. These together harmonize the source and use of funds.
- Bank's have to arrest wider fluctuations in borrowings by matching the short-term assets with short term liabilities.
- Efforts are required to reduce the cash holding to a minimum level (the standard norm being 1% of deposits) that is sufficient to meet daily requirements. Otherwise holding excess cash deprives the banks of investing in profitable opportunities.
- There is also a need to channelise the excess investments from SLR securities to profitable avenues. For this purpose, banks have to design separate portfolios for liquidity and income. The portfolio management shall be entrusted to the qualified and experienced staff.
- The CDR maintained by the banks falls short of the standard norm. Therefore, banks need to expand their non-credit product portfolio including merchant banking, depository services, mutual funds, leasing, housing finance, and forex loans.
- With the increasing linkage of banking operations to market forces, a mismatch in size, rate and maturity pattern between sources and uses would be more imminent. In view of this risk exposure, the much talked about Asset Liability Management (ALM) technique needs to be meticulously adopted at all levels of banking operations. It is also desirable to setup a risk management group with experts and skilled personnel for scientifically managing risks, inherent in banking business.

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