

CHAPTER – IX

CHAPTER -IX

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ANALYSIS OF ALM IN COMMERCIAL BANKS:

Introduction:

In the earlier chapters study covered a detailed conceptual framework of ALM system, by elaborating management of different risks involved in the banking business under the present competitive financial environment. In this Chapter, the study analyses the aspects of ALM system with the help of published data/ Annual plans (strictly private circulation) of leading commercial banks. The study is divided into two sections:

- a) The first section of the study deals with in depth analysis of the asset liability data of one of the India's leading public sector commercial bank, referred as Bank 'X', which has a prominent base in the western region & northern region of India.
- b) The second section of the study provides a comparative analysis of liquidity management in four purposively selected nationalised banks namely Bank of Baroda , Canara Bank, Vijaya Bank & Andhra Bank .The first two banks, each having book size of around eighty thousand crores & the other two having book size of around twenty thousand crores .

Section - I:

Significant aspects of the study are:

- 1) Database of bank 'X' has been taken into account, covering a total period of nine years ending March 2003. The first four years i.e. from 1994-95 to 1997-98 is the phase prior to the implementation of the ALM guidelines provided by RBI & the last four years i.e. from 1999-'00 to 2000-03 signify post ALM implementation phase. This study period has been selected considering the fact that there should be clear distinction between both the phases & to bring out the significance of the ALM as a tool/technique for the management of total balance sheet in a more comprehensive manner. In the first phase the commercial bank was functioning

without a proper ALM strategy. While the second phase represents a scenario where the bank under the RBI guidelines has formulated a consolidated ALM policy framework for total balance sheet management. The financial year 1998-99 is covered for deriving holistic view of impact of ALM system on the performance of bank. However, while doing a comparative analysis between the two phases it has been excluded as intermediary phase for the development & organisation of ALM implementation as a policy initiative in the bank*.

- 2) For the second section of the study i.e. comparative analysis of four leading nationalised banks, viz. Bank of Baroda, Canara Bank, Andhra Bank & Vijaya Bank for which the latest available database (i.e. for the year ended March 2003) has been presented. The source of data is the additional disclosure section of the Annual Report 2002-03 of these banks.
- 3) The entire analysis of the study is based on the secondary data collected from various sources like Websites of the banks, Published Annual Reports, Annual Plans (Strictly Private Circulation) and lastly,
- 4) Both the sections of study are primarily aimed at examining whether the basic liquidity & interest rate management objectives of the ALM policy of these banks have been achieved or not.

SECTION – I :

ALM in Commercial Banks – A case study of Bank ‘X’ (1994 –2003 March end):

Focus:

- a) Examining, if there is any impact of ALM on the Interest Spread (Interest earned – Interest expended) of the bank.

**As per the records documented in the internal discussion paper (Page 6) of Bank ‘X’ on ALM by bank for the mid – term performance review of 1998-99.*

- b) Examining, the Liquidity Status so as to ascertain whether the bank would be able to meet its short term liabilities & mandatory financial obligations.
- c) Examining the impact of ALM on net profit of the bank.

Hypothesis of the Study:

This study has been designed to test the following hypothesis:

- a) There is no impact of ALM on the Interest spread of the bank.
- b) The ALM does not have an impact on the Bank's Liquidity.

Data Analysis:

- a) The data structure comprises of details of Assets, Liabilities, Interest spreads & key financial ratios for the 9 year period 1994-2003 March end.
- b) It is observed that there has been a significant increase in the book size of the bank during the 9 years of study period ending March 2003. The increase is more pronounced with ALM strategy period (1999-2003) as compared to without ALM strategy period of (1994-1998) of the bank.

Observations & Major Findings :

Table – I :

The Table - I presents the data for the Interest fetching assets & the Interest owing liabilities for Bank 'X' for the study period. The Interest fetching assets of bank comprises of investments and advances made within and outside India. Similarly, Interest owing liabilities of bank comprises of deposits from banks & others and borrowings within and outside India. The Published balance sheet data are given in Appendix – IV while Annual plan data are given in Appendix – V. Bank's data are taken from the published annual balance sheets for various years, and are shown as the observed data &

similarly, that from the annual plans (strictly private circulation) are the expected data of the bank. Prof. Fisher's* test for independence of attributes i.e. χ^2 (Chi-Square) test issued for judging the significance of the difference between the published (actual) balance sheet data and the annual plan (expected) data . The result are given in Table - I As per the distribution table the value of χ^2 at 5% level of significance with 17 degrees of freedom is 27.587 percent against the calculated value of 101.43. The Null Hypothesis that there is no impact of ALM on the interest spread stands rejected & can conclude that ALM has a tremendous impact to extricate the difficulties of lower interest spread. Considering the pre ALM implementation & post ALM implementation phases it can be observed that the spread management has significantly improved in the post ALM phase. In the pre ALM phase the calculated value was 11.56 much below than that the tabulated value but in the post ALM implementation phase it has risen to 85.55, which shows a significant improvement. In the post implementation phase, it can be concluded that ALM has significant impact on the interest spread of the bank.

Table – II : This table presents the data for the Liquid Assets for Bank 'X' during the same study period. The liquid asset of the bank comprises of Cash in hand, Balance with RBI, Balance with other banks in India and outside India and Money at Call and short notice. Data taken from the published balance sheet of bank are shown as observed data & that from the annual plans collected from office records is the expected data and are presented in Appendix VI. As per the distribution table the value of χ^2 at 5% level of significance with 32 degrees of freedom is 46.2[#] against the calculated value of 826.80 .

**According to this test, whether or not a calculated value of χ^2 is significant, can be ascertained by looking at the tabulated values of χ^2 for given degrees of freedom at a certain level of confidence. If calculated value of χ^2 exceeds the table value, the difference between the final balance sheet data (observed) & expected frequencies as per the annual plans prepared by the banks based on ALM approach is taken as significant but if the table value is more than the calculated value of χ^2 , then the significance of difference between the data is considered as insignificant that is considered to have arisen as a result of chance and as such can be ignored.*

[#] arrived by interpolation of values of out df 30 and 35.

The Null Hypothesis that there is no impact of ALM on the Liquidity of a our sample bank stands rejected. Considering the pre ALM implementation & post ALM implementation phases, we find higher value in the Post ALM implementation phase, which shows a very significant improvement in liquidity position.

In sum, it can be implementation phases it can be observed that the Liquidity management has significantly improved. Further, capturing the calculated values in the Pre & Post ALM concluded that ALM techniques profoundly affect the liquidity position and act as a useful tool to manage bank's Liquidity.

Hence we can conclude from the study of Table I & II that ALM act as a useful tool in increasing the interest spread and liquidity position of the bank. Now let us study the net profit position of the bank during the same study period. Table III presents the interest spread & net profit position of the bank.

The analysis of Table III on net spread of the bank clearly exhibits that the annual net spread of the banks has shown a consistent rise except during 1996-97 and 2001-2002. However, fall in the annual growth in net spread during 2001-2002 is considerably below than that in 1996-97. Further, during the last year of the study period i.e. 2002-2003 there is nearly 0.82 crores decline in the interest expended amount, resulting net –spread during the year to the bank rising at the peak of Rs. 2103.36 crores.

Analysing the net profit position of the bank it is observed that the profit of the bank has shown an annual rise except during 1998-99 and 2000-2001, is due to heavy apportionment of profits towards the provisions made during the year.

Thus, due to heavy provisions of nearly Rs. 200 crores made during the year 1998-99 & 2000-2001 as compared to previous year by the bank, net profit position of the bank for all the years is excellent. This is mainly due to the efficient management of ALM by ALCO of the bank under consideration.

Thus, we may conclude, that assets & liabilities are maintained by the Bank 'X' is highly satisfactory & it has resulted favourably towards the objectives of the bank in relation to the ALM.

Table -I
Interest Fetching Assets & Interest Owing Liabilities of Bank 'X'
(In Rs. Crores)

Particulars	F.Y. Ended	Observed Data* (O)	Expected Data** (E)	(O-E)	(O-E) ²	(O-E) ² /E
1	2	3	4	5	6	7
INTEREST FETCHING ASSETS [X]	1995	23,295.90	23,180.00	115.90	13,432.81	0.58
	1996	25,607.24	25,433.08	174.16	30,331.71	1.19
	1997	27,458.79	27,213.10	245.69	60,363.58	2.22
	1998	33,162.42	32,898.46	263.96	69,674.88	2.12
	1999	36,996.86	36,657.33	339.53	115,280.62	3.14
	2000	42,948.98	42,377.45	571.53	326,646.54	7.71
	2001	47,277.78	47,898.26	(620.48)	384,995.43	8.04
	2002	57,496.11	56,776.12	719.99	518,385.60	9.13
	2003	65,527.60	64,717.40	810.20	656,424.04	10.14
INTEREST OWING LIABILITIES [Y]	1995	27,224.02	27,112.35	111.67	12,470.19	0.46
	1996	29,576.35	29,537.00	39.35	1,548.42	0.05
	1997	32,496.63	32,195.00	301.63	90,980.66	2.83
	1998	39,598.28	39,310.00	288.28	83,105.36	2.11
	1999	45,093.30	44,862.85	230.45	53,107.20	1.18
	2000	51,627.03	50,989.06	637.97	407,005.72	7.98
	2001	54,922.04	55,831.00	(908.96)	826,208.28	14.80
	2002	62,497.12	61,614.00	883.12	779,900.93	12.66
	2003	66,991.11	65,993.06	998.05	996,103.80	15.09
						101.43

* Source: Annual Reports of Bank 'X' for the year 1994-95 to 2002-03

**Source: Annual Plans (Strictly Private Circulation) of Bank 'X' for the year 1994-95 to 2002-03

NOTE:

Total (X+Y) Prior to ALM Guidelines (1994-95 to 1997-98) 11.56

Total (X+Y) Post ALM Guidelines (1999-00 to 2002-03) 85.55

F.Y 1998-99 has been excluded as intermediary phase for ALM Implementation

	4.32
Calculated Value	101.43

Table -II
Liquid Assets of Bank 'X'

(In Rs. Crores)

PARTICULARS	F.Y. Ended	Observed Data* (O)	Expected Data**(E)	(O-E)	(O-E) ²	(O-E) ² /E
1	2	3	4	5	6	7
CASH IN HAND [A]	1995	130.21	105.55	24.66	608.12	5.76
	1996	163.56	147.08	16.48	271.59	1.85
	1997	215.54	188.44	27.10	734.41	3.89
	1998	216.72	203.52	13.20	174.24	0.86
	1999	247.71	225.03	22.68	514.38	2.29
	2000	267.62	254.89	12.73	162.05	0.64
	2001	354.55	347.88	6.67	44.49	0.13
	2002	328.35	335.66	(7.31)	53.44	0.16
	2003	417.80	402.06	15.74	247.75	0.62
BALANCE WITH RESERVE BANK OF INDIA [B]	1995	3,958.11	4,001.22	(43.11)	1,858.47	0.46
	1996	3,706.96	3,998.22	(291.26)	84,832.39	21.22
	1997	2,832.65	3,100.65	(268.00)	71,824.00	23.16
	1998	3,448.47	3,676.14	(227.67)	51,833.63	14.10
	1999	3,436.77	3,536.32	(99.55)	9,910.20	2.80
	2000	3,237.90	3,536.46	(298.56)	89,138.07	25.21
	2001	4,015.22	4,200.17	(184.95)	34,206.50	8.14
	2002	2,252.72	2,388.45	(135.73)	18,422.63	7.71
	2003	3,047.90	3,247.88	(199.98)	39,992.00	12.31
BALANCE WITH OTHER BANKS IN INDIA [C]	1995	608.27	687.56	(79.29)	6,286.90	9.14
	1996	146.58	236.14	(89.56)	8,020.99	33.96
	1997	420.71	444.37	(23.66)	559.80	1.26
	1998	158.75	221.22	(62.47)	3,902.50	17.64
	1999	238.85	352.32	(113.47)	12,875.44	36.54
	2000	496.83	687.19	(190.36)	36,236.93	52.73
	2001	1,126.60	1,402.16	(275.56)	75,933.31	54.15
	2002	1,366.44	1,607.13	(240.69)	57,931.68	36.05
	2003	550.50	784.51	(234.01)	54,760.68	69.80
BALANCE WITH BANKS OUTSIDE INDIA [D]	1995	1,159.64	1,754.23	(594.59)	353,537.27	201.53
	1996	1,983.10	1,987.65	(4.55)	20.70	0.01
	1997	748.93	849.34	(100.41)	10,082.17	11.87
	1998	1,877.39	1,903.46	(26.07)	679.64	0.36
	1999	2,641.04	2,892.36	(251.32)	63,161.74	21.84
	2000	2,301.36	2,533.46	(232.10)	53,870.41	21.26
	2001	2,626.57	2,896.63	(270.06)	72,932.40	25.18
	2002	1,702.98	1,992.44	(289.46)	83,787.09	42.05
	2003	652.90	787.69	(134.79)	18,168.34	23.07

Continued on next page.

Table -II
Liquid Assets of Bank 'X'

(Rs.Crores)						
PARTICULARS	F.Y. Ended	Observed Data* (O)	Expected Data**(E)	(O-E)	(O-E) ²	(O-E) ² /E
1	2	3	4	5	6	7
MONEY AT CALL & SHORT NOTICE [E]	1995	126.86	130.56	(3.70)	13.69	0.10
	1996	526.44	532.63	(6.19)	38.32	0.07
	1997	3,513.78	3,557.15	(43.37)	1,880.96	0.53
	1998	4,684.54	4,699.22	(14.68)	215.50	0.05
	1999	5,454.92	5,689.34	(234.42)	54,952.74	9.66
	2000	6,173.15	6,489.62	(316.47)	100,153.26	15.43
	2001	4,313.38	4,522.68	(209.30)	43,806.49	9.69
	2002	3,296.92	3,248.64	48.28	2,330.96	0.72
	2003	2,148.60	2,107.62	40.98	1,679.36	0.80
						826.80

* Source: Annual Reports of Bank 'X' for the year 1994-95 to 2002-03

**Source: Annual Plans (Strictly Private Circulation) of Bank 'X' for the year 1994-95 to 2002-03

NOTE:

Total (A+B+C+D+E) Prior to ALM Guidelines (1994-95 to 1997-98) 347.82

Total (A+B+C+D+E) Post ALM Guidelines (1999-00 to 2002-03) 405.85

F.Y 1998-99(A+B+C+D+E) has been excluded as intermediary phase for
ALM Implementation

73.13
Calculated Value 826.80

Table III
Interest Spread of The Bank 'X'

Particulars	(1994-95 to 2002-2003)										(Rs. Crores)
	1995	1996	1997	1998	1999	2000	2001	2002	2003		
Interest Earned (A)	2,946.54	3,530.17	3,761.75	4,170.91	4,821.31	5,177.98	5,757.34	5,955.55	6,097.55		
Interest Expended (B)	1,824.64	2,249.64	2,551.81	2,837.52	3,247.80	3,505.82	3,819.55	4,076.11	3,994.19		
Net Spread (A-B)	1,121.90	1,280.53	1,209.94	1,333.39	1,573.51	1,672.16	1,937.79	1,879.44	2,103.36		
Net Profit	175.55	204.00	276.53	461.35	421.44	502.77	274.66	545.93	772.78		
Provisions Made	599.33	673.00	499.90	344.70	523.86	548.90	761.81	763.33	943.85		

Source: Appendix -V

Section – II

Comparative Analysis of ALM in Commercial Banks – A case Study of Four selected commercial banks for the year end March 2003.

Objective:

The basic objective of this section of the study is to undertake Gap analysis for Liquidity and Interest Rate Risk Management of four purposively selected commercial banks to ascertain if it is adhering to strict ALM practices with regard to management of their liquidity risk and likely impact on the banks the falling interest rate scenario. The study is based on annual reports of these selected banks covering latest available financial year of 2002-2003 March end. The significance of year is marked by falling Interest rate scenario in India. In this scenario, there is a total possibility of a mismatch between the maturities of banks asset and Liabilities. This, therefore may lead to a change in Net Interest Income of these banks. On the basis of systematic examination of the structure of e Gap between the maturity patterns of buckets of assets and liabilities, the banks will move to advantageous or disadvantageous position as the case may be.

For performing the Gap analysis the assets and liabilities of these selected commercial banks are classified into different maturity buckets. For assessing the liquidity of the bank, maturity gap for each maturity bucket is calculated the rate sensitive gap which difference between RSAs and RSLs enable us assess the impact of NIM under falling interest rate scenario. The banks will be able to improve their NIM under negative Gap i.e. RSAs are greater than RSLs positions. Comparative data on Liquidity Risk Assessment for all the selected banks is presented in the following table no. IV the data from Annual reports of these four banks are arranged in different maturity buckets and are given in Appendix – VII & VIII. The analysis of table IV reveals that for:

TABLE - IV
COMPARITIVE ANALYSIS OF FOUR COMMERCIAL BANKS
LIQUIDITY RISK ASSESSMENT

(In Rs. Crores)

MATURITY PATTERNS	GAP				CUMULATIVE GAP			
	BANK OF BARODA	VIJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VIJAYA BANK	ANDHRA BANK	CANARA BANK
1 to 14 days	(387.59)	(558.20)	(666.77)	73.98	(387.59)	(558.20)	(666.77)	73.98
15 to 28 days	(45.48)	(207.07)	50.79	83.08	(433.07)	(765.27)	(615.98)	157.06
29 days to 3 months	(1,241.58)	(594.67)	(593.56)	464.01	(1,674.65)	(1,359.90)	(1,209.54)	621.07
Over 3 months upto 6 months	(2,992.81)	(1,634.90)	(1,254.49)	(158.14)	(4,667.46)	(2,994.80)	(2,464.03)	462.93
Over 6 months upto 1 year	(7,116.79)	(2,524.90)	(2,382.36)	284.77	(11,784.25)	(5,519.70)	(4,846.39)	747.70
Over 1 year upto 3 year	(21,322.55)	(2,800.70)	(3,958.99)	865.43	(33,106.80)	(8,320.40)	(8,805.38)	1,613.13
Over 3 years upto 5 years	9,842.03	1,501.69	1,838.89	1,357.04	(23,264.77)	(6,818.70)	(6,966.49)	2,970.17
Over 5 years	23,236.23	6,345.35	7,190.13	(7,694.20)	28.54	(473.34)	223.64	(4,724.00)

Source : Annual Reports (2002-03)

Bank of Baroda –

- a) The bank is maintaining a negative gap for all maturity buckets except for a period of 3-5 years and above.
- b) Bank is not able to maintain the cumulative negative gap for a maturity period of 5 years & above.
- c) These observations make it evident that maintaining a negative gap (i.e. $RSA > RSL$) in a falling interest rate scenario is advantageous to the bank.

Vijaya Bank-

- a) The bank is maintaining a negative gap for all maturities except for a period of 3-5 years and above.
- b) Bank is able to maintain the cumulative negative gap for all maturity buckets .
- c) These observations make it evident that maintaining a negative gap in the falling interest rate scenario is a favourable indication to Vijaya Bank.

Andhra Bank-

- a) The bank is maintaining a negative gap for all maturities except for a period of 3 to 5 years and above.
- b) Bank is not able to maintain the cumulative negative gap for maturity period of 5 years & above.
- c) These observations make it evident that the bank is expected to maintain a negative gap in the falling interest rate scenario and is advantageous to Andhra Bank.

Canara Bank-

- a) The bank is maintaining a positive gap for all maturities except for a period of 3-6 months & 5 years and above.
- b) However the bank is able to maintain the cumulative negative gap only for maturity period of 5 years & above.
- c) The bank is expected to maintain a positive gap in the falling interest rate scenario. These observation make it evident that bank is expected to get a positive

gap (RSA>RSL) in the falling interest rate scenario & may give rise to liquidity risk.

In sum, we can conclude from Table No. IV that in the falling Interest rate scenario:

- 1) If the current pattern of the management of the asset liability management is altered in **Bank of Baroda** it may lead to liquidity risk. This pattern needs further improvement so as to control the Liquidity Risk in the long run, which is a bigger portfolio, currently the cumulative effect of well managed short term maturity portfolios have squared off the effect of high liquidity risk in the long term.
- 2) The current pattern of management of ALM indicates a positive sign for the management of liquidity risk **Vijaya Bank** in the falling interest rate scenario and should not be altered. This is evident from the fact that the bank is maintaining a negative cumulative gap for all maturity buckets.
- 3) A change in the current pattern ALM in **Andhra Bank** may lead to liquidity risk. The pattern has scope of lot of improvement so as to control the Liquidity Risk in the long term, which is a substantial portfolio, currently the cumulative effect of well managed short term maturity portfolios have squared off the effect of high liquidity risk in the long term.
- 4) There is urgent need to revise the short term maturity planning in the case of **Canara Bank**, as all the maturity buckets up to 5 years are maintaining positive gap. However the long term liquidity portfolio of the bank reflects a negative gap, resulting in cumulative negative gap. Hence the bank needs to re work on short term maturity planning to effectively manage the entire liquidity portfolio.

From the above it can be concluded that the commercial banks use ALM with the main objective of maintaining the Net Interest Margin (NIM) within the acceptable limits by managing the risks. Since commercial banks are always surrounded by risks, they should take a proper decision with regard to the maximum and the minimum levels of the NIM. Therefore the banks should adopt an ALM technique such that it can take various risk exposure levels and still remain within the limits set for NIM.

APPENDIX - I
STATEMENT OF ASSETS & LIABILITIES OF BANK 'X'
FOR THE FINANCIAL YEARS (1994 -95 TO 2002 -03)
ASSETS

PARTICULARS	(IN RS. CRORES)									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
CASH IN HAND	130.21	163.56	215.54	216.72	247.71	267.62	354.55	328.35	417.80	
BALANCE WITH RBI	3,958.11	3,706.96	2,832.65	3,448.47	3,436.77	3,237.90	4,015.22	2,252.72	3,047.90	
BALANCE WITH BANKS IN INDIA	608.27	146.58	420.71	158.75	238.85	496.83	1,126.60	1,366.44	550.50	
BALANCE WITH BANKS OUTSIDE INDIA	1,159.64	1,983.10	748.93	1,877.39	2,641.04	2,301.36	2,626.57	1,702.98	652.90	
MONEY AT CALL & SHORT NOTICE	126.86	526.44	3,513.78	4,684.54	5,454.92	6,173.15	4,313.38	3,296.92	2,148.60	
INVESTMENTS IN INDIA	7,975.81	9,102.15	10,416.25	12,749.22	14,997.10	17,384.93	18,462.51	21,886.70	28,377.60	
INVESTMENTS OUTSIDE INDIA	535.89	492.55	510.92	609.72	908.22	1,171.15	1,394.60	1,946.43	1,802.00	
ADVANCES IN INDIA	12,485.44	13,737.18	14,418.60	17,401.43	18,209.15	21,408.65	23,428.66	28,115.49	28,914.10	
ADVANCES OUTSIDE INDIA	2,298.76	2,275.36	2,113.02	2,402.05	2,882.37	2,984.25	3,992.01	5,547.49	6,433.90	
FIXED ASSETS	586.55	576.48	570.13	581.09	597.29	607.75	647.06	692.38	697.30	
OTHER ASSETS	1,258.09	1,713.37	1,879.23	1,712.49	2,618.98	2,571.57	2,960.87	3,774.16	3,374.90	
TOTAL	31,123.63	34,423.73	37,639.76	45,841.87	52,232.40	58,605.16	63,322.03	70,910.06	76,417.50	

SOURCE: ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

APPENDIX - II
STATEMENT OF ASSETS & LIABILITIES OF BANK 'X'
FOR THE FINANCIAL YEARS (1994 -95 TO 2002 -03)
LIABILITIES

(IN RS. CRORES)									
PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
DEMAND DEPOSITS (FROM BANKS)	214.60	206.12	270.60	354.37	429.14	537.69	489.05	440.52	551.01
DEMAND DEPOSITS (FROM OTHERS)	3,598.97	3,524.00	3,919.16	4,334.88	4,813.94	4,986.82	5,135.98	5,887.48	5,414.40
SAVINGS DEPOSITS	4,931.09	5,636.70	6,422.70	7,801.83	9,106.79	10,792.46	12,184.88	14,047.07	16,419.40
TERM DEPOSITS (FROM BANKS)	1,043.39	882.79	1,046.12	1,565.05	1,964.73	2,491.49	2,765.95	3,643.02	2,196.50
TERM DEPOSITS (FROM OTHERS)	16,367.69	18,119.90	20,498.18	25,065.69	28,299.42	32,449.91	33,409.91	37,786.38	41,784.50
BORROWINGS IN INDIA	1,026.66	1,167.84	329.29	476.46	450.40	368.66	851.62	692.65	625.30
BORROWINGS OUTSIDE INDIA	41.62	39.00	10.58	-	28.88	-	84.65	-	-
OTHER LIABILITIES & PROVISIONS	2,316.72	3,116.86	3,155.45	3,580.22	4,240.66	3,743.54	5,043.73	4,585.19	5,039.43
TOTAL	29,540.74	32,693.21	35,652.08	43,178.50	49,333.96	55,370.57	59,965.77	67,082.31	72,030.54
NET ASSETS (A-B)	1,582.89	1,730.52	1,987.68	2,663.37	2,898.44	3,234.59	3,356.26	3,827.75	4,386.96
SHARE CAPITAL	740.93	577.00	254.33	293.03	294.14	294.32	294.33	294.33	294.33

SOURCE: ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

SOURCE: ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

APPENDIX - III
ALM DATA OF BANK 'X'
FOR THE FINANCIAL YEARS (1994-95 TO 2003-04)
RESERVES & SURPLUS

(IN RS. CRORES)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
STATUTORY RESERVES	125.00	177.00	246.15	360.83	466.19	592.19	667.49	803.97	997.17
CAPITAL RESERVES	369.15	517.56	502.75	611.49	475.47	453.99	440.53	437.57	433.27
INVEST. FLUCTUATION RESERVES	N.A.	N.A.	N.A.	N.A.	47.26	64.97	38.50	256.84	567.54
REVENUE	347.81	458.96	555.33	670.70	737.90	949.24	1,216.60	2,035.04	2,094.65
OTHER RESERVES	-	-	429.12	727.32	877.48	879.88	698.81	-	-
TOTAL	841.96	1,153.52	1,733.35	2,370.34	2,604.30	2,940.27	3,061.93	3,533.42	4,092.63
NET PROFIT :	N.A.	208.27	276.53	461.35	421.44	502.77	274.66	545.93	772.78

SOURCE: ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

APPENDIX - IV
ALM DATA OF BANK 'X'
FOR THE FINANCIAL YEARS (1994 -95 TO 2002 -03)

**TABLE SHOWING ASSETS & LIABILITIES INVOLVING
THE INTEREST EARNED AND INTEREST EXPENDED**

(IN RS. CRORES)

PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
ADVANCES MADE WITHIN & OUTSIDE INDIA	14,784.20	16,012.54	16,531.62	19,803.48	21,091.52	24,392.90	27,420.67	33,662.98	35,348.00
INVESTMENTS WITHIN AND OUTSIDE INDIA	8,511.70	9,594.70	10,927.17	13,358.94	15,905.32	18,556.08	19,857.11	23,833.13	30,179.60
DEPOSITS FROM BANKS & OTHERS	26,155.74	28,369.51	32,156.76	39,121.82	44,614.02	51,258.37	53,985.77	61,804.47	66,365.81
BORROWINGS WITHIN & OUTSIDE INDIA	1,068.28	1,206.84	339.87	476.46	479.28	368.66	936.27	692.65	625.30

(IN RS. CRORES)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
INTEREST FETCHING ASSETS	23,295.90	25,607.24	27,458.79	33,162.42	36,996.84	42,948.98	47,277.78	57,496.11	65,527.60
INTEREST OWING LIABILITIES	27,224.02	29,576.35	32,496.63	39,598.28	45,093.30	51,627.03	54,922.04	62,497.12	66,991.11

SOURCE: ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

APPENDIX - V
ALM DATA OF BANK 'X'
FOR THE FINANCIAL YEARS (1994 -95 TO 2002 -03)

TABLE SHOWING OBSERVED DATA REGARDING INTEREST SPREAD (RS. CRORES)

PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
INTEREST EARNED	2,946.54	3,530.17	3,761.75	4,170.91	4,821.31	5,177.98	5,757.34	5,955.55	6,097.55
INTEREST EXPENDED	1,824.64	2,249.64	2,551.81	2,837.52	3,247.80	3,505.82	3,819.55	4,076.11	3,994.19
INTEREST SPREAD	1,121.90	1,280.53	1,209.94	1,333.39	1,573.51	1,672.16	1,937.79	1,879.44	2,103.36
NET PROFIT	175.55	204.00	276.53	461.35	421.44	502.77	274.66	545.93	772.78
PROVISIONS MADE	599.33	673.00	499.90	344.70	523.86	548.90	761.81	763.33	943.85

TABLE SHOWING EXPECTED DATA REGARDING INTEREST SPREAD (RS. CRORES)

PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
INTEREST FETCHING ASSETS	23,180.00	25,433.08	27,213.10	32,898.46	36,657.33	42,377.45	47,898.26	56,776.12	64,717.40
INTEREST OWING LIABILITIES	27,112.35	29,537.00	32,195.00	39,310.00	44,862.85	50,989.06	55,831.00	61,614.00	65,993.06

SOURCE: *ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03, March end)

**ANNUAL PLANS (STRICTLY PRIVATE CIRCULATION) OF BANK 'X' (1994-95 to 2002-03, March end)

ALM DATA OF BANK X FOR THE FINANCIAL YEARS (1994 -95 TO 2002 -03)

APPENDIX -VI

OBSERVED FREQUENCY OF LIQUID ASSETS OF BANK 'X' *

(IN RS. CRORES)

PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
CASH IN HAND	130.21	163.56	215.54	216.72	247.71	267.62	354.55	328.35	417.80
BALANCE WITH RBI	3,958.11	3,706.96	2,832.65	3,448.47	3,436.77	3,237.90	4,015.22	2,252.72	3,047.90
BALANCE WITH BANKS IN INDIA	608.27	146.58	420.71	158.75	238.85	496.83	1,126.60	1,366.44	550.50
BALANCE WITH BANKS OUTSIDE INDIA	1,159.64	1,983.10	748.93	1,877.39	2,641.04	2,301.36	2,626.57	1,702.98	652.90
MONEY AT CALL & SHORT NOTICE	126.86	526.44	3,513.78	4,684.54	5,454.92	6,173.15	4,313.38	3,296.92	2,148.60
TOTAL	5,983.09	6,526.64	7,731.61	10,385.87	12,019.29	12,476.86	12,436.32	8,947.41	6,817.70

EXPECTED FREQUENCY OF LIQUID ASSETS OF BANK 'X' **

(IN RS. CRORES)

PARTICULARS	1995	1996	1997	1998	1999	2000	2001	2002	2003
CASH IN HAND	105.55	147.08	188.44	203.52	225.03	254.89	347.88	335.66	402.06
BALANCE WITH RBI	4,001.22	3,998.22	3,100.65	3,676.14	3,536.32	3,536.46	4,200.17	2,388.45	3,247.88
BALANCE WITH BANKS IN INDIA	687.56	236.14	444.37	221.22	352.32	687.19	1,402.16	1,607.13	784.51
BALANCE WITH BANKS OUTSIDE INDIA	1,754.23	1,987.65	849.34	1,903.46	2,892.36	2,533.46	2,896.63	1,992.44	787.69
MONEY AT CALL & SHORT NOTICE	130.56	532.63	3,557.15	4,699.22	5,689.34	6,489.62	4,522.68	3,248.64	2,107.62
TOTAL	6,679.12	6,901.72	8,139.95	10,703.56	12,695.37	13,501.62	13,369.52	9,572.32	7,329.76

SOURCE: * ANNUAL REPORTS OF BANK 'X' (1994-95 to 2002-03 March end)

** ANNUAL PLANS (STRICTLY PRIVATE CIRCULATION) OF BANK 'X' (1994-95 to 2002-03, March end)

APPENDIX - VII
COMPARITIVE ANALYSIS OF FOUR COMMERCIAL BANKS
LIQUIDITY RISK ASSESSMENT
ASSETS AS ON 31ST MARCH 2003

(INR Crores)

MATURITY PATTERNS	LOANS & ADVANCES						INVESTMENTS IN SECURITIES						FOREIGN CURRENCY ASSETS					
	BANK OF BARODA	VJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VJAYA BANK
1 to 14 days	4,856.86	326.91	325.46	4,540.04	26.52	14.96	126.04	528.78	2,521.45	125.79	44.76	1,149.18	2,521.45	125.79	44.76	1,149.18	2,521.45	125.79
15 to 28 days	793.91	103.48	479.53	2,173.51	40.68	1.00	97.95	301.94	656.91	-	19.21	399.05	656.91	-	19.21	399.05	656.91	-
29 days to 3 months	3,447.58	269.47	756.33	5,169.08	276.92	40.30	210.54	942.04	1,651.16	84.73	108.09	1,408.07	1,651.16	84.73	108.09	1,408.07	1,651.16	84.73
Over 3 months upto 6 months	2,557.61	199.09	1,139.03	2,855.81	241.15	100.62	132.79	542.91	1,588.26	67.08	208.24	1,874.89	1,588.26	67.08	208.24	1,874.89	1,588.26	67.08
Over 6 months upto 1 year	2,132.94	996.43	1,721.58	6,854.56	265.11	321.71	133.90	775.30	888.61	58.47	69.05	546.50	888.61	58.47	69.05	546.50	888.61	58.47
Over 1 year upto 3 years	13,556.76	4,627.41	4,960.36	9,351.53	3,143.08	924.44	1,419.26	3,874.20	3,192.27	-	21.27	462.08	3,192.27	-	21.27	462.08	3,192.27	-
Over 3 years upto 5 years	4,082.21	590.64	1,409.59	3,471.29	5,500.86	1,603.31	1,309.71	3,418.88	2,750.87	-	7.58	110.21	2,750.87	-	7.58	110.21	2,750.87	-
Over 5 years	3,920.23	777.91	721.06	6,055.78	20,685.06	5,835.25	7,087.46	20,074.19	757.98	-	6.21	208.84	757.98	-	6.21	208.84	757.98	-
Total	35,348.10	7,891.34	11,512.94	40,471.60	30,179.38	8,861.59	10,517.65	30,458.24	14,007.51	336.07	484.41	6,158.82	14,007.51	336.07	484.41	6,158.82	14,007.51	336.07

SOURCE : Annual Reports (2002-03)

APPENDIX - VIII
COMPARITIVE ANALYSIS OF FOUR COMMERCIAL BANKS
LIQUIDITY RISK ASSESSMENT
LIABILITIES AS ON 31ST MARCH 2003

(INR Crores)

MATURITY PATTERNS	DEPOSITS				BORROWINGS				FOREIGN CURRENCY LIABILITIES			
	BANK OF BARODA	VIJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VIJAYA BANK	ANDHRA BANK	CANARA BANK	BANK OF BARODA	VIJAYA BANK	ANDHRA BANK	CANARA BANK
1 to 14 days	6323.97	964.64	989.80	4,608.04	12.75	0.16	134.71	0.79	1,455.70	61.06	38.52	1,535.19
15 to 28 days	1651.31	305.75	517.87	2,437.47	0.02	-	23.86	4.32	885.65	5.80	4.17	349.63
29 days to 3 months	5407.06	935.19	1,595.89	6,194.84	0.53	0.38	57.62	61.60	2,209.65	53.60	15.01	798.74
Over 3 months upto 6 months	5150.2	1,696.20	2,328.81	4,786.45	346.93	250.29	380.19	7.15	1,882.70	55.18	25.55	638.15
Over 6 months upto 1 year	8649.25	3,854.57	4,165.58	6,912.16	42.00	0.51	56.09	8.75	1,712.20	46.39	85.22	970.68
Over 1 year upto 3 year	35799.14	8,288.09	10,129.89	11,089.11	138.20	0.78	164.84	1.64	5,277.32	63.68	65.15	1,731.63
Over 3 years upto 5 years	1993.03	692.16	813.41	5,634.39	35.25	0.10	69.78	8.95	463.63	-	4.80	-
Over 5 years	1392.4	283.21	520.60	34,032.36	49.65	0.02	103.54	0.62	684.99	4.58	0.46	-
Total	66366.36	17,019.81	21,061.85	75,694.82	625.33	252.24	990.63	93.82	14,571.84	290.29	238.88	6,024.02

SOURCE : Annual Reports (2002-03)