Chapter 4:

GAP analysis – assets and liabilities management for selected public banks and private banks

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4.1 Introduction

Gap management techniques require management to perform an analysis of the maturities and re-prizing opportunities associated with the bank's interest sensitive assets, deposits and money market borrowings. A bank can hedge itself by making sure for each time period that:

Rate Sensitive Assets (RSA) = Rate Sensitive Liabilities (RSL)

The most familiar example of re-pricing assets is loans that are about to mature or are coming up for renewal. If interest rate have risen since these loans were first make, the bank will renew them only if it can get an expected yield that

approximates the higher yields currently expected on other financial instruments of comparable quality.

Interest Sensitive Gap:

A gap exists between these interest sensitive assets and interest sensitive liabilities when: **Interest Sensitive Gap = Interest Sensitive Assets – Interest Sensitive Liabilities.**

If interest sensitive assets in each planning period exceed (≥ 0) the volume of interest sensitive liabilities, the bank is said to have a positive gap and to be asset sensitive. In this situation if interest rate rises, the bank's net interest margin will increase because the interest revenues generated by the bank's assets will increase more than the cost of borrowed funds and vice-versa. The bank with positive gap will reduce if interest rate falls. In the opposite situation the bank has a negative gap and is said to be liability sensitive. Liability sensitive (negative) gap = interest sensitive assets – interest sensitive liabilities < 0. In that case, rising interest rate will lower the bank's net interest margin, because the rising cost associate with interest sensitive liabilities will exceed increase in interest revenue from the bank's earning assets and vice-versa. Only if interest sensitive assets and liabilities are equal is a bank relatively insulated from interest rate risk. As a practical matter, however, a zero gap does not eliminate all interest rate risk, because the interest rate attached to bank assets and liabilities are not perfectly correlated in the real world. Loan interest rate, for example, tends to lag behind interest rates on money market borrowings. In practical world, zero gaps are also impossible.

4.2 GAP analysis – assets and liabilities management for SBI

Table 4.1 table showing GAP analysis of State Bank of India

Bank	2005-06	2006-07	2007-08	2008-09	2009-

ances	261,641.53	337,336.49	416,768.20	542,503.20	631,91
stments	162,534.24	149,148.88	189,501.27	275,953.96	285,79
sitive Assets	**424,175.77**	**486,485.37**	**606,269.47**	**818,457.16**	**917,70**
osits	380,046.06	435,521.09	537,403.94	742,073.13	804,11
rowings	30,641.24	39,703.34	51,727.41	53,713.68	103,01
sitive Liabilities	**410,687.30**	**475,224.43**	**589,131.35**	**795,786.81**	**907,12**
P = Assets - Liabilities	**13,488.47**	**11,260.94**	**17,138.12**	**22,670.35**	**10,576**
rest Sensitivity Ratio = Assets / Liabilities	**1.0328**	**1.0237**	**1.0291**	**1.0285**	**1.01**

The above table shows the gap analysis for the year 2005-06 to 2009-10 of state bank of India, here, Gap calculated by sensitivity assets compare with sensitivity liabilities. Gap shows that managing sensitivity assets and sensitivity liabilities for particular period. Interest Sensitive Gap ratio obtained through sensitivity assets divided by the sensitivity assets.

A state bank of India at a given time asset or liability sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1. If bank is liability sensitive it will be negative gap, negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets define total magnitude of investments and advances of bank. Same as sensitivity liabilities define total magnitude of deposits and borrowings of bank, here sensitivity assets and sensitivity liabilities given for the year 2005-

06 to 2009-10 for 5 accounting year. Gap and interest sensitive gap ratio finds for same particular period.

In assets and liabilities management of State bank of India, investments of bank was 162,534.24 cr. in the year 2005-06 the above table data shows that investments of bank continuous increased trend during 2005-06 to 2009-10. Investments of bank increased to 285,790.07 cr. in the year 2009-10. There were advances also increased 261,641.53 cr. to 631,914.15 cr. during the last 5 accounting years. As a result, total sensitivity assets of state bank of India also steady enormous positive trend during this tenure.

Simultaneously, whole sensitivity liabilities of bank were having increased during this accounting year 2005-06 to 2009-10. Collection of bank in other word deposits were 804,116.23 cr. in the year 2005-06 which continuous increased and reached to 804,116.23 in the 2009-10 There were constant increased borrowings during these accounting durations. The total borrowings of bank touched 103,011.60 cr. in the year 2009-10.

Chart 4.1:

GAP analysis for assets-liabilities management of State Bank of India

Here, Gap shows the status of assets management over the liabilities management of bank for 5 accounting year. Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank. Gap valued -13,488.47 cr., 11,260.94cr., 17,138.12 cr., 22,670.35 cr. 10,576.39 cr. for the year 2005-06 to 2009-10 respectively. The positive gap for the years shows gap of bank indicates excess of sensitive assets over sensitive liabilities.

Chart 4.2:

Interest sensitivity ratio for assets-liabilities management of State Bank of India

Concurrently, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank. Interest sensitivity ratios of state bank of India were 1.03, 1.02, 1.03, 1.03, and 1.01 during the year 2005-06 to 2009-10 respectively. The positive gap of assets and liabilities of bank have positive gap when interest sensitivity ratio greater than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference financially deficit of bank during these accounting years. Whereas, there were assets more sensitive years as ratio were above 1. Consequently assets and liabilities of state bank of India were remaining good.

T-Test: Test for significance difference between assets and liabilities of state bank of India.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of state bank of India. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of state bank of India

Alt H_1 : There is significance difference between assets and liabilities of state bank of India

Table 4.2 t - test for assets and liabilities of State Bank of India

df	8.00
t Stat	0.11
P(T<=t) two-tail	0.91
t Critical two-tail	2.31

The on top of table shows t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. Results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of state bank of India at 0.05 significance level.

P-values for this two tailed t-test valued 0.91 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.91 which significance at 5% level. t-test hypothesis acceptance region is -2.31 to + 2.31. Here, t-test value 0.11 was arrived between acceptance region -2.31 to + 2.31.

Thus, results shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of stat bank of India for the year 2005-06 to 2009-10. Hence, testing results show that state bank of India has fitting assets-liabilities management structure.

4.3 GAP analysis – assets and liabilities management for Bank of Baroda

Table 4.3 table showing GAP analysis of Bank of Baroda

BANK OF BARODA	**2005-06**	**2006-07**	**2007-08**	**20**
Advances	59,911.78	83,620.87	106,701.32	143,
Investments	35,114.22	34,943.63	43,870.07	52,
Sensitive Assets	**95,026.00**	**118,564.50**	**150,571.39**	**196,**
Deposits	93,661.99	124,915.98	152,034.13	192,
Borrowings	4,802.20	1,142.56	3,927.05	5,6
Sensitive Liabilities	**98,464.19**	**126,058.54**	**155,961.18**	**198,**

GAP = Assets - Liabilities	**-3,438.19**	**-7,494.04**	**-5,389.79**	**-1,**
Interest Sensitivity Ratio = Assets / Liabilities	**0.9651**	**0.9406**	**0.9654**	**0.**

The above counter presents the gap analysis for the year 2005-06 to 2009-10 of bank of Baroda, here, Gap defined by sensitivity assets compare with sensitivity liabilities. Gap shows that supervision sensitivity assets and sensitivity liabilities for particular period. Interest Sensitive Gap ratio obtained through sensitivity assets divided by the sensitivity assets. A bank of Baroda at a given time asset or liability sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1 and vice – versa.

Sensitivity assets define total enormity of investments and advances of bank. Same as sensitivity liabilities define total enormity of deposits and borrowings of bank, here sensitivity assets and sensitivity liabilities given for the year 2005-06 to 2009-10 for 5 accounting year. Gap and interest sensitive gap ratio finds for same particular period.

The investments of bank was 35,114.22 cr. in the year 2005-06, the above table figures indicated that investments of bank unbroken positive tendency during 2005-06 to 2009-10. Investments of bank increased to 61,182.38 cr. in the year 2009-10 which shows that more than 90% investments increased during 2005-06 to 2009-10. There were advances also increased 59,911.78 cr. to 175,035.29 cr. during the last 5 accounting years. Consequently, total sensitivity assets of bank of Baroda also sound enormous positive trend during these accounting years.

In sensitive liabilities, Collection of bank in other word deposits were 93,661.99 cr. in the year 2005-06 which continuous increased and contacted to 241,044.26 cr. in the year 2009-10. There were even increased borrowings during these accounting durations. The total borrowings of bank touched 13,350.09 cr. in the year 2009-10. Simultaneously, whole sensitivity liabilities of bank having hopeful increased during this accounting tenure 2005-06 to 2009-10.

Chart 4.3:

GAP analysis for assets-liabilities management of Bank of Baroda

At this juncture gap analysis model, Gap shows the position of assets management over the liabilities management of bank for 5 accounting year. Gap acquired ensuing of compare sensitive assets and sensitivity liabilities of bank.

Gap valued -3,438.19, -7,494.04, -5,389.79, -1,601.26, -18,176.68 cr. for the year 2005-06 to 2009-10 respectively. The negative gap for the year 2005-06 to 2009-10 shows that there was deficit in assets and liabilities, these negative figures shows that bank of Baroda has worst management of assets during this years.

Chart 4.4:

Interest sensitivity ratio for assets-liabilities management of Bank of Baroda

Concurrently, Interest Sensitivity Ratio (Assets / Liabilities) which influenced by rate of interest which calculated which indicates the degree of sensitivity assets and liabilities of bank. Interest sensitivity ratio of bank of Baroda was being below 1 during this tenure. The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa.

Here, interest sensitivity ratios were decreased 0.96 to 0.892 during this tenure. Interest sensitivity ratio valued at less than 1 which shows there might not be wider difference financially deficit of bank during these accounting years. Consequently assets and liabilities of bank of Baroda were moderate worth during this accounting tenure.

T-Test: Test for significance difference between assets and liabilities of bank of Baroda.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of bank of Baroda. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of bank of Baroda

Alt H_1 : There is significance difference between assets and liabilities of bank of Baroda

Table 4.4 : t - test for assets and liabilities of Bank of Baroda

Df	8
t Stat	-0.06
P(T<=t) two-tail	0.95
t Critical two-tail	2.31

The above table shows t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. Results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here, null hypothesis tests that there is no significance difference between assets and liabilities of bank of Baroda at 0.05 significance level.

P-values for this two tailed t-test valued 0.95 which is greater than significant level $\alpha = 0.05$ in other way t-test value -0.06 which significance at 5% level. t-test hypothesis acceptance region is -2.31 to + 2.31. Here, t-test value –0.06 was arrived between acceptance region -2.31 to + 2.31.

Thus, results shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of bank of Baroda for the year 2005-06 to 2009-10 . Thus, testing results show that bank of Baroda has suitable assets-liabilities management structure.

4.4 GAP analysis – assets and liabilities management for Union Bank

Table 4.5 table showing GAP analysis of Union Bank

UNION BANK	**2005-06**	**2006-07**	**2007-08**	**200**
Advances	53,379.96	62,386.43	74,348.29	96,5
Investments	25,917.65	27,981.77	33,822.63	42,9
Sensitive Assets	**79,297.61**	**90,368.20**	**108,170.92**	**139,5**
Deposits	74,094.30	85,180.22	103,858.65	138,7
Borrowings	3,974.40	4,215.53	4,760.49	3,88
Sensitive Liabilities	**78,068.70**	**89,395.75**	**108,619.14**	**142,5**
GAP = Assets - Liabilities	**1,228.91**	**972.45**	**-448.22**	**-3,05**
Interest Sensitivity Ratio = Assets / Liabilities	**1.0157**	**1.0109**	**0.9959**	**0.9**

The on top of table shows the gap analysis of union bank for five accounting years, here, Gap defined by sensitivity assets appraised with sensitivity liabilities which influence due to change in interest rate. Gap states that position of sensitivity assets and sensitivity liabilities for particular period. Interest Sensitive Gap ratio attained through sensitivity assets divided by the sensitivity assets.

Sensitivity assets define sum total of investments and advances of bank. Sensitivity liabilities defined sum total of deposits and borrowings of bank, here

sensitivity assets and sensitivity liabilities given for the year 2005-06 to 2009-10 . Gap and interest sensitive gap ratio calculated for same particular period.

There are upward trend of bank investments during the year 2005-06 to 2009-10 which are 25,917.65, 27,981.77, 33,822.63, 42,996.96, 54,403.53 cr. respectively years. Investments of bank were 54,403.53 cr. in the year 2009-10, the above table data shows that investments of bank continuous increased trend during 2005-06 to 2009-10. Investments of bank increased to 54,403.53 cr. in the year 2009-10. There were advances also increased trend that 119,315.30, 62,386.43, 74,348.29, 96,534.23, 119,315.30 cr. during the last 5 accounting years. As a result, total sensitivity assets of union bank also steady enormous positive trend during this tenure.

Simultaneously, whole sensitivity liabilities of bank having optimistic increased during this accounting year 2005-06 to 2009-10. Collections of bank in other word deposits were 74,094.30 cr. in the year 2005-06 which continuous increased and reached to 170,039.74 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank touched 9,215.31 cr. in the year 2009-10.

Chart 4.5:

GAP analysis for assets-liabilities management of Union Bank

Here, Gap shows the status of assets management over the liabilities management of bank for 5 accounting year. Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank. Gap valued 1,228.91 cr., 972.45 cr., -448.22 cr., 3,056.54 cr. -5,536.22cr. for the year 2005-06 to 2009-10 correspondingly. The negative gap for the year 2007-08 to 2009-10 shows that there was discrepancy in assets and liabilities; where as positive gap of bank indicates surplus of sensitive assets over sensitive liabilities in the year 2005-06 and 2006-07.

So, the above figure and chart indicate that union bank has pitiable management of assets the year 2007-08 to 2009-10 where as bank could be worsen assets management in the year 2007-08 to 2009-10 and previous year 2005-06 and 2006-07 positive gap indicates glut manage of sensitive assets and sensitive liabilities. For last three years assets and liabilities management poor.

Chart 4.6:

Interest sensitivity ratio for assets-liabilities management of Union Bank

Concurrently, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank. Interest sensitivity ratio of union bank was 1.02, 1.01, 0.99, 0.98, 0.97 during the year 2005-06 to 2009-10 correspondingly. The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference financially deficit of bank during these accounting years. In spite of that there was liability more sensitive in the years 2007-08 to 2009-10 as ratios were below 1. Whereas, there were assets more sensitive remain years

as ratio were above 1 for the year 2005-06 and 2006-07. Accordingly assets and liabilities of union bank were outstanding fine.

T-Test: Test for significance difference between assets and liabilities of union bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of union bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of union bank

Alt H_1 : There is significance difference between assets and liabilities of union bank

Table 4.6 : t - test for assets and liabilities of Union Bank

df	8
t Stat	-0.05
P(T<=t) two-tail	0.96
t Critical two-tail	2.31

The above table shows t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. Results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that There is no significance difference between assets and liabilities of union bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.96 which is greater than significant level $\alpha = 0.05$ or t-test value -0.05 which significance at 5% level. t-test hypothesis acceptance region is -2.31 to + 2.31. Here, t-test value –0.05 was arrived between acceptance region -2.31 to + 2.31.

Consequently, hypothesis results shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of union bank for the year 2005-06 to 2009-10. Thus, testing results show that union bank has suitable assets-liabilities management structure.

In view of that, testing results show that union bank has pertinent assets-liabilities management arrangement.

4.5 GAP analysis – assets and liabilities management for Punjab National Bank

Table 4.7 table showing GAP analysis of Punjab National Bank

PUNJAB NATIONAL BANK	2005-06	2006-07	2007-08	2
Advances	74,627.37	96,596.52	119,501.57	154
Investments	41,055.31	45,189.84	53,991.71	63
Sensitive Assets	**115,682.68**	**141,786.36**	**173,493.28**	**218**
Deposits	119,684.92	139,859.67	166,457.23	209
Borrowings	6,687.18	1,948.86	5,446.56	4,
Sensitive Liabilities	**126,372.10**	**141,808.53**	**171,903.79**	**214**
GAP = Assets – Liabilities	**-10,689.42**	**-22.17**	**1,589.49**	**3,**
Interest Sensitivity Ratio = Assets / Liabilities	**0.9154**	**0.9998**	**1.0092**	1

The presented above table point to the gap analysis of Punjab national bank for five accounting years 2005-06 to 2009-10 here, Gap originates sensitivity assets appraised with sensitivity liabilities which influence due to change in interest rate. Gap states that circumstance of sensitivity assets and sensitivity liabilities for meticulous period. Interest Sensitive Gap ratio conquered throughout sensitivity assets alienated by the sensitivity assets.

Sensitivity assets define sum total of investments and advances of bank. Sensitivity liabilities defined sum total of deposits and borrowings of bank, here sensitivity assets and sensitivity liabilities given for the year 2005-06 to 2009-10. Gap and interest sensitive gap ratio calculated for same particular period.

In sensitivity assets of bank which influence by rate of interest, investments of Punjab national bank having continuous tendency throughout the year 2005-06 to 2009-10 . Nearly 100% increased of advances of bank. Investments of bank increased 41,055.31 cr. to 77,724.47 cr. during the five accounting year. There were advances also positive upward trend. The advances were 74,627.37 cr. in the year 2005-06 and increased to 186,601.21 cr. in the year 2009-10.

Accordingly, total sensitivity assets of Punjab national bank were 115,682.68 cr. which bear out that sturdy enormous optimistic trend during this five accounting tenure.

Simultaneously, whole sensitivity liabilities of bank having optimistic increased during this accounting year 2005-06 to 2009-10 and touched 268,592.17 cr.
In sensitivity liabilities, Collections of bank in other word deposits were 119,684.92 cr. in the year 2005-06 which unremitting enlarged and reached to 249,329.80 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank touched 19,262.37 cr. in the year 2009-10.

Gap shows the status of assets management over the liabilities management of bank for 5 accounting year. Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank.

Chart 4.7:

GAP analysis for assets-liabilities management of Punjab National Bank

The negative gap for the year 2005-06, 2006-07 and 2009-10 shows that there was discrepancy in assets and liabilities; where as positive gap of bank indicates surplus of sensitive assets over sensitive liabilities in the year remaining. Gap cherished -10,689.42, -22.17, 1,589.49, 3,953.31, -4,266.49 for the year 2005-06 to 2009-10correspondingly.

So, the above figure and chart indicate that Punjab national bank has disgraceful management of assets the year 2008-09 and 2011-12 where as bank could be improved assets management in the subsequent years.

Concurrently, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.8:

Interest sensitivity ratio for assets-liabilities management of Punjab National Bank

Interest sensitivity ratio of Punjab national bank was, 0.915, 0.99, 1.01, 1.02, 0.98 during the year 2005-06 to 2009-10 in the same way. The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference financially deficit of bank during these accounting years. In spite of that there were liability more sensitive in the years 2005-06, 2006-07 and 2009-10 as ratios were below 1. Whereas, there were assets more sensitive remain years as ratio were above 1 for remain

year. Accordingly, assets and liabilities of Punjab national bank were outstanding fine.

T-Test: Test for significance difference between assets and liabilities of Punjab national bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of Punjab national bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of Punjab national bank

Alt H_1 : There is significance difference between assets and liabilities of Punjab national bank

Table 4.8 : t - test for assets and liabilities of Punjab national bank

Df	8
t Stat	-0.05
P(T<=t) two-tail	0.96
t Critical two-tail	2.31

The above formulated table shows t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The outcomes indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of Punjab national bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.96 which is greater than significant level $\alpha = 0.05$ in other way t-test value -0.05 which significance at 5% level. t-test hypothesis acceptance region is -2.31 to + 2.31. here, t-test value –0.05 was go down between acceptance region -2.31 to + 2.31.

Thus, results shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of Punjab national bank for the year 2005-06 to 2009-10 . Thus, testing results show that state bank of India has proper assets-liabilities management structure.

4.6 GAP analysis – assets and liabilities management for Central Bank

Table 4.9 table showing GAP analysis of Central Bank

Central Bank	**2005-06**	**2006-07**	**2007-08**	**2008-**
Advances	37,483.48	51,795.47	72,997.43	85,48
Investments	28,639.09	27,741.89	31,455.19	43,06
Sensitive Assets	**66,122.57**	**79,537.36**	**104,452.62**	**128,5**
Deposits	66,482.65	82,776.28	110,319.67	131,2
Borrowings	310.81	782.01	449.1	804.2
Sensitive Liabilities	**66,793.46**	**83,558.29**	**110,768.77**	**132,0**

GAP = Assets - Liabilities	**-670.89**	**-4,020.93**	**-6,316.15**	**-3,53**
Interest Sensitivity Ratio = Assets / Liabilities	**0.9900**	**0.9519**	**0.9430**	**0.973**

The existing above table inform on the gap analysis of central bank for five accounting years 2005-06 to 2009-10 . At this point, Gap invents sensitivity assets appraised with sensitivity liabilities which influence due to change in interest rate. Gap shapes that event of sensitivity assets and sensitivity liabilities for thorough period. Interest Sensitive Gap ratio occupied during sensitivity assets estranged by the sensitivity assets.

Sensitivity assets define sum total of investments and advances of bank. Sensitivity liabilities defined sum total of deposits and borrowings of bank, here sensitivity assets and sensitivity liabilities given for the year 2005-06 to 2009-10 . Gap and interest sensitive gap ratio calculated for same particular period.

In sensitivity assets of bank which influence by rate of interest, investments of Central bank having continuous tendency throughout the year 2005-06 to 2009-10 . Investments of bank increased to 28,639.09 cr. to 50,562.87 cr. during the five accounting year 2005-06 to 2009-10 . There were also positive rising movements for bank advances. The advances were 37,483.48 cr. in the year 2005-06 and augmented to 105,383.49 cr. in the year 2013-14. It shows that advances of bank increased end of the year 2014.

In view of that, total sensitivity assets of central bank were, 66,122.57, 79,537.36, 104,452.62, 128,543.92 and 155,946.36 cr. for the year 2005-06 to

2009-10 respectively which bear out that muscular optimistic trend all through this five accounting tenure.

Simultaneously, whole sensitivity liabilities of bank having optimistic increased during this accounting year 2005-06 to 2009-10. Sensitivity liabilities of central bank were 66,793.46, 83,558.29, 110,768.77, 132,076.10 and 169,434.11 cr. during the year 2005-06 to 2009-10 respectively.

In sensitivity liabilities, Collections of bank in other word deposits were 66,482.65 cr. in the year 2005-06 which constant enlarged and reached to 162,107.47 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank touched 7,326.64 cr. in the year 2009-10. Whereas there were very small borrowings of bank 310.81 cr. in the year 2005-06 this shows that more than 250% increased borrowings of bank at end of the year 2014.

Gap gets hold of resulting of judge against sensitive assets and sensitivity liabilities of bank. Gap shows the status of assets management over the liabilities management of bank for 5 accounting tenure.

Chart 4.9:

GAP analysis for assets-liabilities management of Central Bank

the negative gap for the year 2005-06 to 2009-10 shows that there was discrepancy in assets and liabilities; whereas there were no positive gap of bank indicates surplus of sensitive assets over sensitive liabilities in the particular year. Gap of sensitivity assets and liabilities was -670.89, -4,020.93, -6,316.15, -3,532.18, -13,487.75 cr. for the year 2005-06 to 2009-10 in the same way.

So, the above figure and chart indicate that central bank has disgraceful management of assets the year 2005-06 to 2009-10.

Concurrently, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.10:

Interest sensitivity ratio for assets-liabilities management of Central bank

Interest sensitivity ratio of central bank was 0.99, 0.95, 0.94, 0.97, 0.92 during the year 2005-06 to 2009-10correspondingly. The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference financially deficit of bank during these accounting years. Accordingly assets and liabilities of central bank were pitiable.

T-Test: Test for significance difference between assets and liabilities of central bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of central bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of central bank

Alt H_1 : There is significance difference between assets and liabilities of central bank

Table 4.10: t - test for assets and liabilities of Central Bank

Df	8
t Stat	-0.23
P(T<=t) two-tail	0.82
t Critical two-tail	2.31

The above invented table shows t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The outcomes indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of central bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.82 which is greater than significant level α = 0.05 or t-test value -0.23 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. here, t-test value –0.23 was go down between acceptance region -2.31 to + 2.31.

Accordingly, domino effect shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of central bank of India for the year 2005-06 to 2009-10 . In consequence, testing results show that central bank has right assets-liabilities management structure.

Private Banks

4.7 GAP analysis – assets and liabilities management HDFC Bank

Table 4.11 table showing GAP analysis of HDFC Bank

HDFC Bank	**2005-06**	**2006-07**	**2007-08**	**200**
Advances	35,061.26	46,944.78	63,426.90	98,8
Investments	28,393.96	30,564.80	49,393.54	58,8
Sensitive Assets	**63,455.22**	**77,509.58**	**112,820.44**	**157,7**
Deposits	55,796.82	68,297.94	100,768.60	142,8
Borrowings	4,560.48	2,815.39	4,478.86	2,68

Sensitive Liabilities	**60,357.30**	**71,113.33**	**105,247.46**	**145,4**
GAP = Assets – Liabilities	**3,097.92**	**6,396.25**	**7,572.98**	**12,2**
Interest Sensitivity Ratio = Assets / Liabilities	**1.0513**	**1.0899**	**1.0720**	**1.0**

The existing above table shows the gap analysis for the year 2005-06 to 2009-10 of HDFC bank, here, Gap designed through sensitivity assets judge against with sensitivity liabilities. Gap shows that managing sensitivity assets and sensitivity liabilities for particular accounting tenure. Interest Sensitive Gap ratio acquired through sensitivity assets divided by the sensitivity assets.

A HDFC bank at a given time asset or liability sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1. If bank is liability sensitive it will be negative gap, negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets define total extent of investments and advances of bank. Sensitivity liabilities define total extent of deposits and borrowings of bank, here sensitivity assets and sensitivity liabilities given for the year 2005-06 to 2009-10for five accounting year. Gap and interest sensitive gap ratio finds for same exacting period.

Investments of bank were 58,607.62 cr. in the year 2009-10, the above table data shows that investments of bank incessant increased trend during 2005-06 to 2009-10 . Investments of bank increased to 58,607.62 cr. in the year 2009-10.

There were advances increased 35,061.26 cr. to 125,830.59 cr. end of the year 2009-10.

As a result, total sensitivity assets of HDFC bank increased more than 200% which indicates positive trend during this 2005-06 to 2009-10tenure.

Simultaneously, whole sensitivity liabilities of bank having optimistic increased during this accounting year 2005-06 to 2009-10. Collection of bank in other word deposits were 55,796.82 cr. in the year 2005-06 which continuous increased and reached to 167,404.44 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank touched 12,915.69 cr. in the year 2005-06.

Chart 4.11:

GAP analysis for assets-liabilities management of HDFC Bank

Gap indicates the position of assets management in excess of the liabilities management of bank for 5 accounting year. Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank.

Gap appreciated 43,097.92, 6,396.25, 7,572.98 12,203.18 and 4,118.08 for the year 2005-06 to 2009-10 respectively. HDFC bank has positive trend throughout these accounting tenure. However, there were drastic increased for the particular year . Positive gap of HDFC bank indicates that excess of sensitive assets over sensitive liabilities.

Alongside, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.12:

Interest sensitivity ratio for assets-liabilities management of HDFC Bank

Interest sensitivity ratios of HDFC bank were 1.05, 1.09, 1.07, 1.08, and 1.02 during the year 2005-06 to 2009-10 respectively.

The positive gap of assets and liabilities of bank have negative gap when interest sensitivity ratio greater than 1 and vice-versa. Here, interest sensitivity ration valued more than 1 which shows there was financial excess of bank during these years.

Throughout tenure assets were more sensitive. Consequently assets and liabilities management of HDFC bank remained excellent during the year 2005-06 to 2009-10.

T-Test: Test for significance difference between assets and liabilities of HDFC bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of HDFC bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of HDFC bank

Alt H_1 : There is significance difference between assets and liabilities of HDFC bank

Table 4.12: t - test for assets and liabilities of HDFC Bank

Df	8
t Stat	0.21
P(T<=t) two-tail	0.84
t Critical two-tail	2.31

The above prepared table illustrates t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The results indicate that weather bank having proper assets liabilities management at significance level or not. t-test employed with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of HDFC bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.84 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.21 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. Here, t-test value 0.21 was go down between acceptance region -2.31 to + 2.31.

Accordingly, domino effect shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of HDFC bank for the year 2005-06 to 2009-10. Thus, testing results show that HDFC bank has suitable assets-liabilities management structure.

4.8 GAP analysis – assets and liabilities management for ICICI bank

Table 4.13 table showing GAP analysis of ICICI bank

ICICI Bank	**2005-06**	**2006-07**	**2007-08**	**2**
Advances	146,163.11	195,865.60	225,616.08	21
Investments	71,547.39	91,257.84	111,454.34	10
Sensitive Assets	**217,710.50**	**287,123.44**	**337,070.42**	**32**
Deposits	165,083.17	230,510.19	244,431.05	21
Borrowings	38,521.91	51,256.03	65,648.43	67
Sensitive Liabilities	**203,605.08**	**281,766.22**	**310,079.48**	**28**
GAP = Assets - Liabilities	**14,105.42**	**5,357.22**	**26,990.94**	**35**
Interest Sensitivity Ratio = Assets / Liabilities	**1.0693**	**1.0190**	**1.0870**	**1**

The existing on top of table shows the gap analysis for the year 2005-06 to 2009-10 of ICICI bank. Gap calculated in the course of sensitivity assets judge against with sensitivity liabilities.

Gap demonstrates that managing sensitivity assets and sensitivity liabilities for fastidious accounting tenure. Interest Sensitive Gap ratio acquired through sensitivity assets divided by the sensitivity assets.

An ICICI bank at a given time asset or liability sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1. If bank is liability sensitive it would be negative gap, negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets defined sum amount of investments and advances of bank. Sensitivity liabilities define sum amount of deposits and borrowings of bank. Sensitivity assets and sensitivity liabilities has given for the year 2005-06 to 2009-10. Gap and interest sensitive gap ratio finds for same particular period.

In Sensitivity assets of ICICI bank, Investments of bank were 71,547.39 cr. in the year 20005-06, the above table data shows that investments of bank incessant increased trend during 2005-06 to 2009-10 and touched 120,892.80 cr. There were advances increased 146,163.11 cr. to 181,205.60 cr. end of the year 2009-10. As a result, total sensitivity assets of ICICI bank increased which indicates positive trend during this 2005-06 to 2009-10 tenure.

Sensitivity liabilities of bank having sanguine increased during this tenure 2005-06 to 2009-10. Sensitivity liabilities were constant increased 203,605.08 cr. to 296,280.17 cr. Collection of bank in other word deposits were 165,083.17 cr. in the year 2005-06 which continuous increased and reached to 202,016.60 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank upward trend and touched 94,263.57 cr. in the year 2009-10.

Chart 4.13:

GAP analysis for assets-liabilities management of ICICI Bank

Gap indicates the position of assets management in excess of the liabilities management of bank for 5 accounting year. Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank. Gap appreciated 14,105.42, 5,357.22, 26,990.94, 35,697.65 and 5,818.23cr. for the year 2005-06 to 2009-10 in that order.

ICICI bank has positive trend all over these accounting tenure. Positive gap of ICICI bank indicates that surplus of sensitive assets over sensitive liabilities.

Adjacent to, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.14:

Interest sensitivity ratio for assets-liabilities management of ICICI Bank

Interest sensitivity ratios of ICICI bank were, 1.07, 1.02, 1.09, and 1.13, 1,02 during the year 2005-06 to 2009-10 likewise.

The positive gap of assets and liabilities of bank having when interest sensitivity ratio greater than 1 and vice-versa. Here, interest sensitivity ration valued more than 1 which shows there was financial excess of bank during these years.

Throughout tenure assets were more sensitive. Consequently assets and liabilities management of ICICI bank remained brilliant during the year 2005-06 to 2009-10.

T-Test: Test for significance difference between assets and liabilities of ICICI bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of ICICI bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of ICICI bank

Alt H_1 : There is significance difference between assets and liabilities of ICICI bank

Table 4.14: t - test for assets and liabilities of ICICI Bank

df	8
t Stat	0.63
P(T<=t) two-tail	0.54
t Critical two-tail	2.31

The above prepared table illustrates t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The results indicate that weather bank having proper assets liabilities

management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of ICICI bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.54 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.63 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. here, t-test value 0.63 was fallen between acceptance region -2.31 to + 2.31.
In view of that, calculation shows that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of ICICI bank for the year 2005-06 to 2009-10 . Thus, testing results show that ICICI bank has apt assets-liabilities management structure.

4.9 GAP analysis – assets and liabilities management for AXIS Bank

Table 4.15: table showing GAP analysis of AXIS Bank

AXIS BANK	**2005-06**	**2006-07**	**2007-08**	**2008**
Advances	22,314.23	36,876.48	59,661.14	81,55
Investments	21,527.35	26,897.16	33,705.10	46,33
Sensitive Assets	**43,841.58**	**63,773.64**	**93,366.24**	**127,88**

Deposits	40,113.53	58,785.60	87,626.22	117,37
Borrowings	2,680.93	5,195.60	5,624.04	10,18
Sensitive Liabilities	**42,794.46**	**63,981.20**	**93,250.26**	**127,55**
GAP = Assets – Liabilities	**1,047.12**	**-207.56**	**115.98**	**327.**
Interest Sensitivity Ratio = Assets / Liabilities	**1.0245**	**0.9968**	**1.0012**	**1.00**

The above table prepared regarding gap analysis for the year 2005-06 to 2009-10of Axis bank. Gap calculated in the course of sensitivity assets judge against with sensitivity liabilities. Gap defined that deal with sensitivity assets and sensitivity liabilities for particular accounting tenure. Interest Sensitive Gap ratio acquired through sensitivity assets divided by the sensitivity assets.

Axis bank at a given time assets or liabilities sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1. If bank is liability sensitive it would be negative gap, negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets defined sum amount of investments and advances of bank. Sensitivity liabilities define sum amount of deposits and borrowings of bank. Sensitivity assets and sensitivity liabilities has given for the year 2005-06 to 2009-10. Gap and interest sensitive gap ratio finds for same particular period.

In Sensitivity assets of Axis bank, Investments of bank were 21,527.35 cr. in the year 2005-06, the above table data shows that investments of bank incessant increased trend during 2005-06 to 2009-10. Investments of bank increased to

55,974.82 cr. in the year 2009-10. There were advances increased 22,314.23 to 104,343.12 cr. end of the year 2009-10.

As a result, total sensitivity assets of Axis bank increased 160,315.76 cr. and more than 350% increased to 160,315.76 cr. which indicates positive trend during this 2005-06 to 2009-10accounting year.

Sensitivity liabilities of bank having sanguine increased during this tenure 2005-06 to 2009-10. Sensitivity liabilities were constant increased 42,794.46 cr. to 158,469.77 cr.

Collections of bank were 40,113.53 cr. in the year 2005-06 which continuous increased and reached to 141,300.22 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank was raising trend and touched to 17,169.55 cr. in the year 2009-10.

Chart 4.15:

GAP analysis for assets-liabilities management of AXIS Bank

Gap indicates the position of assets management in excess of the liabilities management of bank for accounting year 2005-06 to 2009-10 .

Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank. Gap appreciated 1,047.12, -207.56, 115.98, 327.53 and 1,848.17 cr. for the year 2005-06 to 2009-10 in that order.

The negative gap for the year 2006-07 shows that there was deficit in assets and liabilities; where as positive gap of bank indicates excess of sensitive assets over sensitive liabilities. Axis bank has positive trend all over these accounting tenure. However, there were extreme enlarged for the year remaining years.

Beside, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.16:

Interest sensitivity ratio for assets-liabilities management of AXIS Bank

Interest sensitivity ratios of Axis bank were 1.02, 0.996, 1.001, 1.002 and 1.012 during the year 2005-06 to 2009-10equally.

The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference financially deficit of bank during these accounting years. In spite of that there were liabilities more sensitive in the years 2006-07 as ratios were below 1. Whereas, the positive gap of assets and liabilities of bank is fine when interest sensitivity ratio is greater than 1 and vice-versa. Here, interest sensitivity ration valued more than 1 which shows there was economically sound of bank during these years. There were assets more sensitive remain years as ratio were above 1. Consequently assets and liabilities of state bank of India were remaining good.

Throughout tenure assets were more sensitive. Consequently assets and liabilities management of Axis bank was remain good except year 2006-07

T-Test: Test for significance difference between assets and liabilities of state bank of India.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of Axis bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of Axis bank

Alt H_1 : There is significance difference between assets and liabilities of Axis bank

Table 4.16 : t - Paired test for assets and liabilities of Axis bank

Df	8
t Stat	0.02
P(T<=t) two-tail	0.98
t Critical two-tail	2.31

The above organized table illustrates t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of AXIS bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.98 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.02 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. Here, t-test value 0.98 was fallen between acceptance region -2.31 to + 2.31.

Consequently, calculation is evidence for that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of AXIS bank for the year 2005-06 to 2009-10. Thus, testing results show that AXIS bank has pertinent assets-liabilities management structure.

4.10 GAP analysis – assets and liabilities management for IDBI Bank

Table 4.17 table showing GAP analysis of IDBI Bank

IDBI Bank	**2005-06**	**2006-07**	**2007-08**	**200**
Advances	52,739.07	62,470.82	82,212.69	103,4
Investments	25,350.53	25,675.31	32,802.93	50,0
Sensitive Assets	**78,089.60**	**88,146.13**	**115,015.62**	**153,4**
Deposits	26,000.92	43,354.04	72,997.98	112,4
Borrowings	47,530.21	42,404.38	38,612.55	44,4
Sensitive Liabilities	**73,531.13**	**85,758.42**	**111,610.53**	**156,8**
GAP = Assets - Liabilities	**4,558.47**	**2,387.71**	**3,405.09**	**-3,3**
Interest Sensitivity Ratio = Assets / Liabilities	**1.0620**	**1.0278**	**1.0305**	**0.9**

The above table arranged concerning gap analysis for the year 2005-06 to 2009-10of IDBI bank. Gap calculated in the course of sensitivity assets moderator against with sensitivity liabilities. Gap defined that deal with sensitivity assets and sensitivity liabilities for particular accounting tenure. Interest Sensitive Gap ratio acquired through sensitivity assets divided by the sensitivity assets.

IDBI bank at a given time assets or liabilities sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is

greater than 1. If bank is liability sensitive it would be negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets defined summation of investments and advances of bank. Sensitivity liabilities define sum amount of deposits and borrowings of bank. Sensitivity assets and sensitivity liabilities has given for the year 2005-06 to 2009-10 . Gap and interest sensitive gap ratio finds for same particular period.

Investments of bank were 25,350.53 cr. in the year 2005-06, the above table data shows that investments of bank incessant increased trend during 2005-06 to 2009-10. Investments of bank increased to 73,345.46 cr. in the year 2009-10. There were advances continuous increased 52,739.07 cr. and touched to 138,201.85 cr. end of the year 2009-10.

Consequently, total sensitivity assets of IDBI bank increased to 211,547.31 cr. which indicates positive trend during this 2005-06 to 2009-10 accounting year.

Sensitivity liabilities of bank having positive increased during year 2005-06 to 2009-10. Sensitivity liabilities were invariable increased 73,531.13 cr. to 215,376.56 cr.

Collections of bank were 26,000.92 cr. in the year 2005-06 which continuous increased and contacted to 167,667.08 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank was raising trend and touched to 47,709.48 cr. in the year 2009-10.

Gap indicates the position of assets management in excess of the liabilities management of bank for accounting year 2005-06 to 2009-10.

Chart 4.17:

GAP analysis for assets-liabilities management of IDBI Bank

Gap obtained resulting of compare sensitive assets and sensitivity liabilities of bank. Gap appreciated 4,558.47, 2,387.71, 3,405.09, -3,342.11, and -3,829.25cr. for the year 2005-06 to 2009-10 in that order.

IDBI bank has positive trend all over these accounting tenure. However, there were tremendous rising for the year 2005-06 to 2009-10. The negative gap for the year 2008-09 and 2009-10 shows that there was deficit in assets and liabilities; where as positive gap of bank indicates overload of sensitive assets over sensitive liabilities.

Beside, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.18:

Interest sensitivity ratio for assets-liabilities management of IDBI Bank

Interest sensitivity ratios of IDBI bank were 1.06, 1.03, 1.03, 0.978 and 0.98 during the year 2005-06 to 2009-10likewise.

The negative gap of assets and liabilities of bank have negative gap when interest sensitivity ratio less than 1 and vice-versa. Here, interest sensitivity ration nearly valued at 1 which shows there might not be wider difference

financially deficit of bank during these accounting years. In spite of that there were liability more sensitive in the years 2008-09 and 2009-10 as ratios were below 1. Whereas, the positive gap of assets and liabilities of bank, when interest sensitivity ratio greater than 1 and vice-versa. Here, interest sensitivity ration valued more than 1 which shows there was economically sound of bank during these years. There were assets more sensitive remain years as ratio were above 1. Consequently assets and liabilities of state bank of India were remaining good.

Throughout 3 years assets were more sensitive. Consequently assets and liabilities management of IDBI bank was remain good in the year 2008-09 and 2009-10.

T-Test: Test for significance difference between assets and liabilities of IDBI bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of IDBI bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of IDBI bank

Alt H_1 : There is significance difference between assets and liabilities of IDBI bank

Table 4.18 : t - test for assets and liabilities of IDBI bank

Df	8
t Stat	0.02
P(T<=t) two-tail	0.99
t Critical two-tail	2.31

The above organized table illustrates t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of IDBI bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.99 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.02 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. Here, t-test value 0.02 was fallen between acceptance region -2.31 to + 2.31.

Therefore, computation is facts for that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of IDBI bank for the year 2005-06 to

2009-10. Thus, testing results show that IDBI bank has apt assets-liabilities management structure.

4.11 GAP analysis – assets and liabilities management for YES Bank

Table 4.19 table showing GAP analysis of YES Bank

IDBI Bank	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Advances	2,407.09	6,289.73	9,430.27	12,403.09
Investments	1,350.14	3,073.12	5,093.71	7,117.02
Sensitive Assets	**3,757.23**	**9,362.85**	**14,523.98**	**19,520.11**
Deposits	2,910.38	8,220.39	13,273.16	16,169.42
Borrowings	464.76	867.32	986.21	2,189.06
Sensitive Liabilities	**3,375.14**	**9,087.71**	**14,259.37**	**18,358.48**
GAP = Assets - Liabilities	**382.09**	**275.14**	**264.61**	**1,161.63**
Interest Sensitivity Ratio = Assets / Liabilities	**1.1132**	**1.0303**	**1.0186**	**1.0633**

The existing on top of table shows the gap analysis for the year 2005-06 to 2009-10 of Yes bank. Gap calculated in the course of sensitivity assets judge against with sensitivity liabilities.

Gap demonstrates that managing sensitivity assets and sensitivity liabilities for fastidious accounting tenure. Interest Sensitive Gap ratio acquired through sensitivity assets divided by the sensitivity assets.

A Yes bank at a given time asset or liability sensitive, If the bank is asset sensitive it will be positive gap, Positive relative gap, Interest sensitivity ratio is greater than 1. If bank is liability sensitive it would be negative gap, negative relative gap, and interest sensitivity ratio is less than 1.

Sensitivity assets defined sum amount of investments and advances of bank. Sensitivity liabilities define sum amount of deposits and borrowings of bank. Sensitivity assets and sensitivity liabilities has given for the year 2005-06 to 2009-10. Gap and interest sensitive gap ratio finds for same particular period.

In Sensitivity assets of Yes bank, Investments of bank were 1,350.14 cr. in the year 2005-06, the above table data shows that investments of bank incessant increased trend during 2005-06 to 2009-10. Investments of bank increased to 10,209.94 cr. in the year 2013-14. There were advances increased 2,407.09 cr. to 22,193.12 cr. end of the year 2009-10.
As a result, total sensitivity assets of Yes bank were respectively which indicates positive movement during this 2005-06 to 2009-10 year.

Sensitivity liabilities of bank having sanguine increased during this tenure 2005-06 to 2009-10. Sensitivity liabilities were constant increased 3,375.14 cr. to 31,547.65 cr.

Collection of bank in other word deposits were 2,910.38 cr. in the year 2005-06 which uninterrupted increased and reached to 26,798.57 cr. in the year 2009-10. There were constant increased borrowings during these accounting durations. The total borrowings of bank upward trend and touched 4,749.08 cr. in the year 2013-14.

Chart 4.19:

GAP analysis for assets-liabilities management of YES Bank

Gap come across resulting of compare sensitive assets and sensitivity liabilities of bank. Gap appreciated, 382.09, 275.14, 264.61, 1,161.63 and 855.41 cr. for the year 2005-06 to 2009-10 in that order.

Gap indicates the position of assets management in excess of the liabilities management of bank for 2005-06 to 2009-10corresponding accounting year.

Yes bank has positive trend all over these accounting tenure. However, there were drastic increased for the year 2008-09 and starts decreased to 1,065.90 cr.

2009-10. Positive gap of Yes bank indicates that excess of sensitive assets over sensitive liabilities.

Beside, Interest Sensitivity Ratio (Assets / Liabilities) calculated which shows the degree of sensitivity assets and liabilities of bank.

Chart 4.20:

Interest sensitivity ratio for assets-liabilities management of YES Bank

Interest sensitivity ratios of Yes bank were 1.11, 1.03, 1.02, 1.06, and 1.03 during the year 2005-06 to 2009-10 correspondingly.

The positive gap of assets and liabilities of bank having when interest sensitivity ratio greater than 1 and vice-versa. Interest sensitivity ratio valued more than 1 which shows there was financially excess of bank during remain 2005-06 to 2009-10 years. The assets were more sensitive. Consequently assets and liabilities management of Yes bank was stay behind admirable.

T-Test: Test for significance difference between assets and liabilities of Yes bank.

This t-test determines significance difference between average valued of sensitive assets and sensitive liabilities of Yes bank. The hypothesis being tested which are as follow:

Null H_0: $\mu_1 = \mu_1$

Alt H_1: $\mu_1 \neq \mu_1$

OR

Null H_0 : There is no significance difference between assets and liabilities of Yes bank

Alt H_1 : There is significance difference between assets and liabilities of Yes bank

Table 4.20 : t - test for assets and liabilities of Yes bank

Df	8
t Stat	0.09
P(T<=t) two-tail	0.93
t Critical two-tail	2.31

The above organized table illustrates t-test for investigates significance difference between mean of sensitivity assets and sensitivity liabilities of banks. The results indicate that weather bank having proper assets liabilities management at significance level or not. t-test used with using at 5% significant level $\alpha = 0.05$ and the degree of freedom is 8 ($n_1 + n_2 - 2 = 5 + 5 - 2$).

t-test investigates the significance difference mean of sensitive assets and sensitive liabilities for five year 2005-06 to 2009-10 . Here null hypothesis tests that there is no significance difference between assets and liabilities of Yes bank at 0.05 significance level.

P-values for this two tailed t-test valued 0.93 which is greater than significant level $\alpha = 0.05$ in other way t-test value 0.09 which significance at 5% level. t-test hypothesis acceptance region is - 2.31 to + 2.31. At this juncture, t-test value 0.09 was plunged between acceptance region -2.31 to + 2.31.

Therefore, computation is facts for that the decision should be to accept the null hypothesis which indicates that there is no significant difference between mean of sensitive assets and sensitive liabilities of Yes bank for the year 2005-06 to 2009-10. Thus, testing results show that Yes bank has apt assets-liabilities management structure.

4.12 Conclusion

In this section, research has employed vary ratio for measure the profitability and liquidity position of selected private and public bank for the year 2005-06 to 2009-10. The conditions of sensitive assets were excellent than sensitive liability of private banks compare to public banks during these tenure. Liquidity

position of private banks is fine compare to public banks for this tenure. Same as profitability conditions of private banks is superior compare to public banks.

As per the above analysis, assets and liabilities management of HDFC bank, ICICI bank, State bank of India is finest compare to other banks, where as central bank and yes bank were moderate during the year 2005-06 to 2009-10.