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A STUDY ON THE ASSET-LIABILITY MANAGEMENT OF TOP FIVE PUBLIC SECTOR BANKS – A CRAMEL ANALYSIS

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ABSTRACT

Public Sector Banks (PSBs) are today the bed-rock of Indian financial system. With the Reserve Bank of India as its regulator, the Indian Banking system is at the fore-front of implementing the various schemes of the new government viz. Pradhan Mantri Jan Dhan Yojana (PMJDY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Atal Pension Yojana (APY) to name a few. Together with this, the international BASEL III norms are also supposed to be implemented by March 2019. As a result, the banks will have to focus on sound financial management with the increasing volatile macro-economic scenario. This paper tries to identify and analyze the asset-liability management of top five PSBs: State Bank of India (SBI), Bank of Baroda (BOB), Punjab National Bank (PNB), Bank of India (BOI) and Canara Bank (CB). The CRAMEL analysis has been used to test the liquidity and solvency of these banks. The data collected is of secondary nature from the Annual Reports of the respective banks for the accounting period 2009-14. Finally, a comparative analysis has been drawn between the selected banks to understand asset-liability situation over the previous five years.

KEYWORDS: Public Sector Banks, Reserve Bank of India, Asset-Liability, CRAMEL

INTRODUCTION

Asset-Liability management is the art and science of measuring and managing risk in the banking operations.Risk management in banks is aimed at maximizing shareholders' wealth besides maintaining sound capital. The Indian Banking industry with the Reserve Bank of India as the watch-dog is going through a transformation phase to integrate itself into the global economy. The inventions of new and innovative financial instruments are forcing the banks to expand their operations, enter new markets and trade in new asset types. These instruments bring with them more risk together with the opportunity to earn higher returns.

The business of lending and investing has numerous possible options to make the entire financial system unstable. Fragility of banks and interconnection between them makes the system vulnerable of failure, which through contagion effect erodes public confidence and prompts the spectra of massive 'runs'. High capital gearing ratio and asset liability mismatch act as catalysts to participate in the crisis. The costs of such systematic shocks are manifold and the entire nation has to pay dearly for it in form of bailout packages. Prevention of bank failure, therefore, is high on the regulator's agenda – the basic objectives being protection of depositors and safeguarding the integrity and soundness of the system. Moreover, the implementation of BASEL norms also requires a huge amount of capital infusion in the banking system which may lead to the merger of various Public Sector Banks.

OBJECTIVES OF STUDY

- To perform CRAMEL analysis on the five topPublic Sector Banks (PSBs).
- To study the overall financial position of the bank by highlighting its profitability and solvency.
- To identify the financial strength and weakness of the banks so as to suggest improvement for the future.

RESEARCH METHODOLOGY

This study is descriptive and analytical. The present study is mainly based on the Annual Reports of government sector banks (State Bank of India, Punjab National Bank, Bank of India, Bank of Baroda and Canara Bank). The secondary data relating to profit, assets structure and fixed assets, current assets, capital structure, other liability of the bank has been collected from the annual reports of the banks.The study covers a period of five years from 2009-10 to 2013-14.

Cramel Analysis

This CRAMEL ANALYSIS used in this study helps to know the financial soundness of the selected banks for the past five years (2010-14).

CRAMEL stands for:-

Table 1

C	CAPITAL ADEQUACY
R	RESOURCE DEPLOYED
A	ASSET QUALITY
M	MANAGEMENT QUALITY
E	EARNING QUALITY
L	LIQUIDITY

C – CAPITAL ADEQUACY RATIOS

Capital adequacy is an important ratio measuring the strength of the bank today. It indicates whether the bank has enough capital to absorb unexpected losses. It is required to maintain depositor's confidence and preventing the bank from going bankrupt.

Capital adequacy ratio consists of:

- Debit Equity Ratio
- Advances to Assets Ratio

Debit-Equity Ratio

This ratio indicates the relationship between the external equities or the outsiders fund and the internal equities or the shareholders fund.

$$\textbf{D/E Ratio} = \frac{\textbf{DEBT}}{\textbf{EQUITY}} * \textbf{100}$$

- Debt = Deposits + Borrowings + Other Provisions
- Equity = Capital + Reserves and Surplus

Table 2: Debt-Equity Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	12.19	15.36	17.95	15.96	18.71
2011	14.37	15.62	18.71	14.51	16.36
2012	12.43	14.40	16.13	14.01	15.86
2013	12.16	11.98	15.96	14.82	15.58
2014	11.79	12.58	15.94	15.81	17.44
AVERAGE	**12.588**	**13.988**	**16.938**	**15.022**	**16.79**

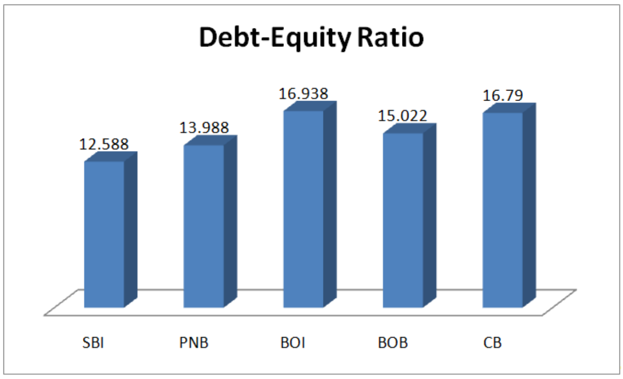

Figure 1: Debt-Equity Ratio

The Debt-Equity ratio of Bank of India and Canara Bank is the highest. It means that these banks have high leverage and a weak equity position. State Bank of India has the lowest D/E ratio. It means that it has the lowest risk and it is in the safest position as compared to all other banks.

Advances to Assets Ratio

This ratio indicates the managing of aggressiveness to improve income by efficiency for working fund. It can be calculated in the following manner.

Advance to Assets $= \frac{\text{ADVANCES}}{\text{ASSETS}} * 100$

Table 3: Advance to Asset Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	74.22	77.31	74.66	77.36	77.48
2011	77.19	78.98	74.37	78.56	77.07
2012	78.01	77.17	74.14	78.07	71.45
2013	82.25	76.67	75.40	72.22	67.39
2014	82.04	75.06	78.66	71.78	73.07
AVERAGE	**78.742**	**77.038**	**75.446**	**75.598**	**73.292**

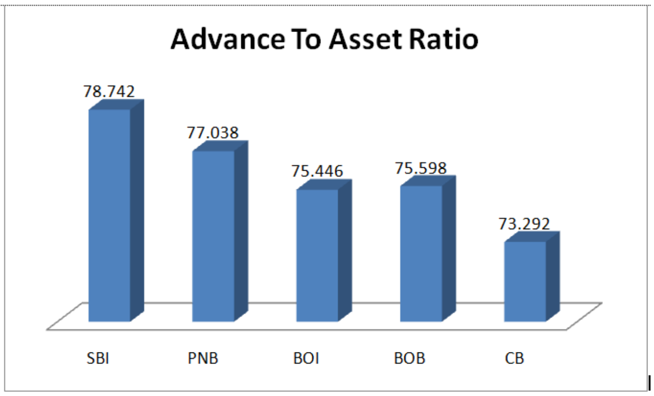

Figure 2: Advance to Asset Ratio

The Advance to Asset Ratio is the highest for State Bank of India. It means that its management is the most aggressive in lending activities among the five banks. Although this ratio is quite high for all the banks but Canara Bank needs to improve its Advance to Asset Ratio.

R – RESOURCE DEPLOYED

In banking the size of the balance sheet is very significant. The resource deployed analysis on this parameter is based on asset items.

Investment to Assets Ratio

Investments are second most important liquid assets. The ratio measures investment as proportion of total assets.

Investment to Assets Ratio $= \frac{\text{INVESTMENT}}{\text{ASSETS}} \times 100$

Table 4: Investment to Asset Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	36.33	30.74	28.53	26.22	30.24
2011	33.45	30.75	28.93	24.26	29.01
2012	30.73	31.45	27.97	22.40	29.91
2013	29.52	32.75	25.91	23.83	32.68
2014	28.85	32.47	24.31	22.78	31.93
AVERAGE	**31.776**	**31.632**	**27.13**	**23.898**	**30.754**

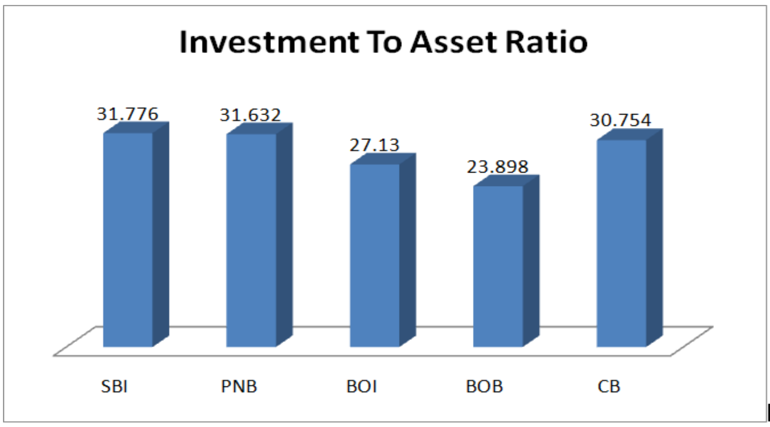

Figure 3: Investment to Asset Ratio

The investment to asset ratio should be high. It is high for State Bank of India, Punjab National Bank and Canara Bank. It is low for Bank of India and very low for Bank of Baroda. These two banks need to focus on its utilization of assets.

A – ASSET QUALITY RATIOS

It is also another important aspect of the evaluation of banks. Net non – performing advances are the best indicator of the quality of a bank's assets and its real worth. Banks in India provide provisions for NPAs as per the norms stipulated by the RBI.

Advances Yield Ratio

This ratio indicates the relationship between the interests on advances. High yield indicates that the bank has invested in more risky assets which is the business of banking. Too much investment in more risky assets may be harmful for the future profitability of banks.

Advances Yield Ratio = $\frac{\text{INTEREST ON ADVANCES}}{\text{ADVANCES}} * 100$

Table 5: Advance Yield Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	4.69	4.79	4.87	4.25	5.45
2011	4.29	4.51	4.47	4.11	5.11
2012	4.94	5.50	5.50	4.80	6.56
2013	5.19	5.78	5.48	4.80	6.68
2014	5.19	5.92	5.28	4.73	6.77
AVERAGE	**4.86**	**5.3**	**5.12**	**4.538**	**6.114**

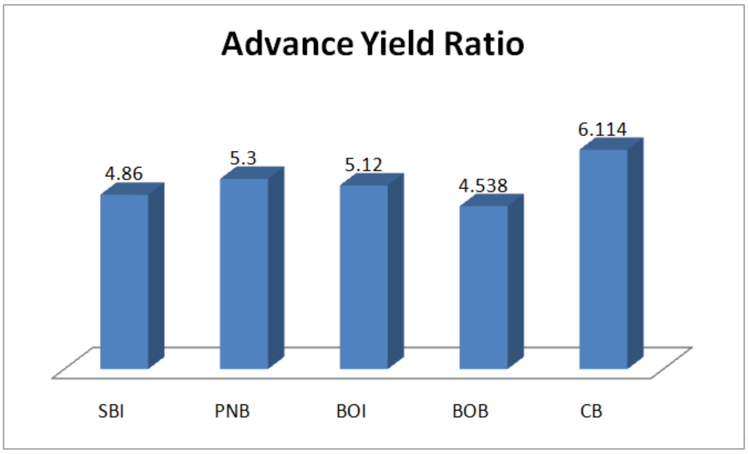

Figure 4: Advance Yield Ratio

The advance yield ratio is the highest for Canara bank. It means that this bank is performing very well in terms of its return on advances but it is in a very risky position. This ratio of other banks is quite low.

M - MANAGEMENT QUALITY RATIOS

Although an evaluation of management is subjective, it is essential to segregate parameters, which reflect the quality of management on the information available in the balance sheet.

The following ratios indicate the banks management quality:

- Credit Deposit Ratio
- Return on Average Net Worth

Credit Deposit Ratio

This ratio indicates the relationship between advances and deposits. This indicates the management aggressiveness to improve is business.

Credit Deposit Ratio $= \frac{\text{ADVANCES}}{\text{DEPOSITS}} * 100$

Table 6: Credit Deposit Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	75.96	74.34	74.24	73.60	72.96
2011	79.90	76.25	72.18	73.87	72.23
2012	82.14	77.39	74.85	74.76	71.65
2013	85.17	38.10	76.88	71.68	69.51
2014	86.84	41.43	76.86	69.54	69.95
AVERAGE	**82.002**	**61.502**	**75.002**	**72.69**	**71.26**

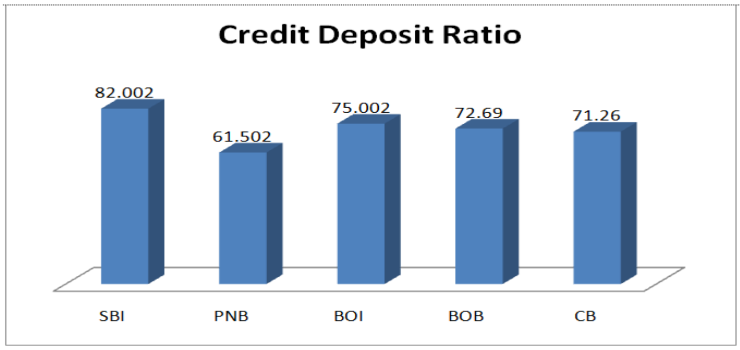

Figure 5: Credit Deposit Ratio

The credit deposit ratio of State Bank of India is the highest. It is much more than all the other banks in observation. It means that State Bank of India is utilizing most of its deposits to give credits. It is a good indicator in terms of return but it also involves high risk. The credit deposit ratio of PNB is quite low. Hence it needs to improve it.

Return on Average Net Worth

This ratio reveals that relationship between net profits after tax to average net worth. It indicates the ability of the management to meet the cost of capital on equity share holders.

Return on Average Net Worth Ratio $= \frac{\text{NET PROFIT AFTER TAX}}{\text{NET WORTH}} * 100$

Table 7: Return on Average Net Worth

YEAR	SBI	PNB	BOI	BOB	CB
2010	13.89	24.06	13.60	20.24	24.09
2011	11.34	20.61	15.58	20.15	22.43
2012	13.94	17.55	13.57	18.22	15.91
2013	14.26	14.52	11.49	14.01	11.54
2014	9.20	9.31	9.12	12.61	8.23
AVERAGE	**12.526**	**17.21**	**12.672**	**17.046**	**16.44**

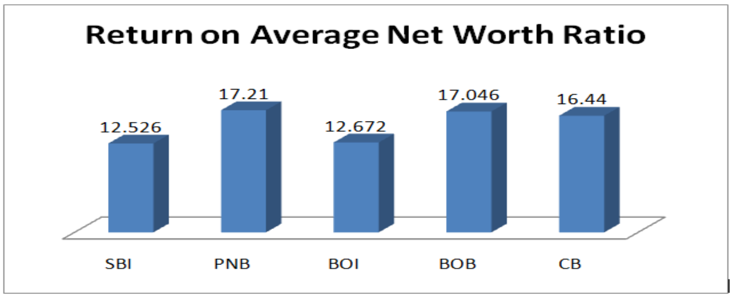

Figure 6-Return on Average Net Worth

The return on average net worth of Punjab National Bank, Bank of Baroda and Canara Bank is quite good. This ratio of State Bank of India and Bank of India is very low and they need to work on it. Their return is very low and the management needs to take steps to improve it.

E – EARNINGS QUALITY RATIO

To assess the improvement in profitability, the earnings quality ratio is used.

Interest Spread Ratio

Interest spread: Refers to the difference in borrowing and lending rates of financial institutions in nominal terms. Net interest spread is expressed as interest yield on earning assets minus interest rates paid on borrowed funds.

$$\textbf{Spread Ratio} = \frac{\text{INTEREST INCOME}}{\text{INTEREST EARNING ASSETS}} - \frac{\text{INTEREST EXPENSE}}{\text{INTEREST BEARING LIABILITIES}}$$

Table 8: Interest Spread Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	3.82	4.46	4.57	4.15	3.32
2011	6.12	6.74	5.86	5.58	5.90
2012	6.87	6.87	5.69	5.59	6.50
2013	5.95	7.29	5.54	5.95	7.11
2014	5.76	6.95	5.07	5.35	6.30
AVERAGE	**5.704**	**6.462**	**5.346**	**5.324**	**5.826**

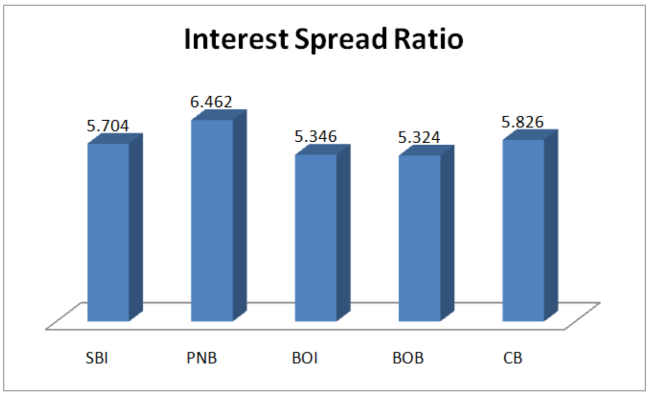

Figure 7: Interest Spread Ratio

The Interest Spread Ratio of Punjab National Bank is quite high. It is a good indicator. It means that the interest rate it gives for its deposits is quite low as compared to the interest rates it charges for the credit it lends. The interest spread ratio is quite acceptable for all other banks but Bank of India and Bank of Baroda can work to increase it.

L- LIQUIDITY RATIOS

Liquidity refers to the ability of a bank to meet its current obligations. The short term obligations are met by realizing the amount from current, floating or circulating assets. The current assets should be either liquid or near liquidity.

The following ratios indicate the banks liquidity:

- Cash Deposit Ratio
- Quick Ratio

Cash Deposit Ratio

More proportion of this ratio increase the liquidity but it reduces the profitability of the bank.

Cash Deposit Ratio = $\frac{\text{CASH}}{\text{TOTAL DEPOSITS}} * 100$

Table 9: Cash Deposit Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	7.56	7.71	5.85	5.57	6.11
2011	8.96	7.49	7.07	6.11	7.14
2012	7.51	6.10	5.96	6.01	6.41
2013	5.34	4.72	5.28	4.09	4.86
2014	5.81	4.76	4.78	3.08	4.84
AVERAGE	**7.036**	**6.156**	**5.788**	**4.972**	**5.872**

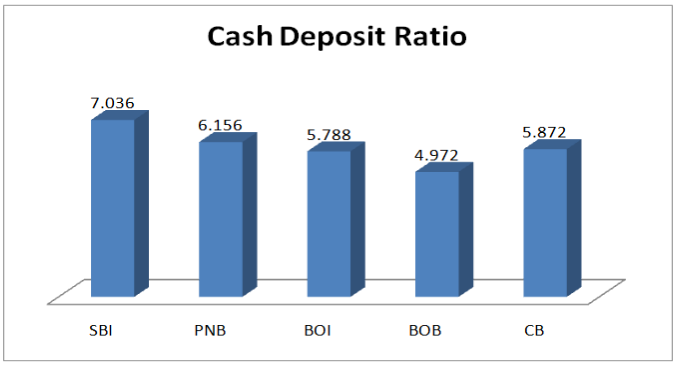

Table 8: Cash Deposit Ratio

The cash deposit ratio of State Bank of India is very high. It means that the bank is in a very liquid position. But it also means that its profitability is reduced due to it. The cash deposit ratio of Bank of Baroda is very low. Although it means high profitability but it is very risky as the bank is less liquid.

Quick Ratio

It is an indicator of a company's short-term liquidity. The quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets. For this reason, the ratio excludes inventories from current assets.

Quick ratio $=\frac{\textbf{CURRENT ASSETS}-\textbf{INVENTORIES}}{\textbf{CURRENT LIABILITIES}}$

Table 10: Quick Ratio

YEAR	SBI	PNB	BOI	BOB	CB
2010	9.07	20.47	22.15	21.88	26.98
2011	8.50	22.24	19.06	26.51	29.34
2012	12.05	23.81	20.79	28.00	29.11
2013	12.15	22.40	28.08	23.90	23.76
2014	13.88	25.19	23.00	24.05	23.40
AVERAGE	**11.13**	**22.822**	**22.616**	**24.868**	**26.518**

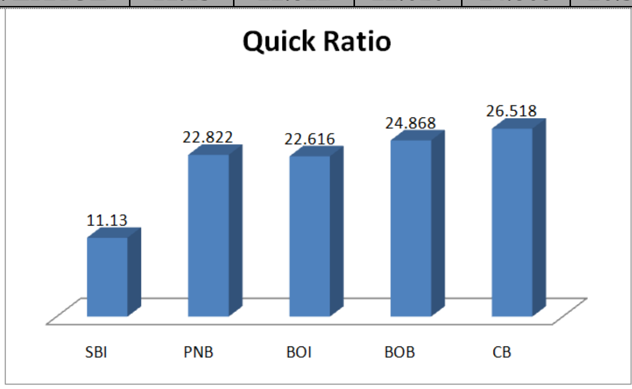

Figure 9: Quick Ratio

The quick ratio of State Bank of India is very low and it needs to work a lot to increase it. It is in a bad position to meet its short term liabilities from its liquid assets. The quick ratio of all other banks ranges from 22 to 27 and hence they are in a good position.

OVERALL CRAMEL ANALYSIS

Table 11: Cramel Analysis

Sl No.	Particulars	SBI	PNB	BOI	BOB	CB
1	C-Capital Adequacy Ratio	+	+	-	-	-
2	R- Resource Deployed Ratio	+	+	-	-	+
3	A-Asset Quality Ratio	-	-	-	-	+
4	M- Management Quality Ratio	-	-	-	+	+
5	E-Earning Quality Ratio	-	+	-	-	-
6	L-Liquidity Ratio	-	+	-	-	+

The overall performance of the various banks according to the CRAMEL analysis can be seen in this table. The most important thing to be noted in this table is that Bank of India has not shown a good performance in any of the selected criteria and hence needs a complete check over its overall management and other credit policies. Bank of Baroda has also shown a weak performance in all the factors except the management quality. Punjab National Bank and Canara Bank have performed well in most of the CRAMEL factors while State Bank of India has shown a moderate status.

CONCLUSIONS

The CRAMEL analysis is an important parameter in the analysis of Public Sector Banks. The various credit management and asset utilization aspects of the various public sector banks were very clearly put into scrutiny in the analysis and various conclusions and suggestions were drawn for the various banks. It suggests the public sector banks to take necessary measures to improve their quality of assets and also their earning quality. The current draft threatens to put an undue capital burden on public sector banks. This should not discourage Indian banking from embracing more sophisticated credit risk management practices.

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