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# Structural Changes of variables of Balance Sheet (During the Period 2001-2011) 

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## INTRODUCTION

An attempt is made to review the progress of Nationalised banks with regard to their balance sheet indicators and present the major trends observed in recent years. The purpose of this study is to identify empirically and explore the relationship between items of asset and items of liability of nationalised banks of India. We have taken five assets and liability items expressed as a proportion of total assets to eliminate the trend elements and make them comparable across the years.
The Nationalized banks of India as per the Working Group set up by RBI in consultation with GOI and M.S. Verma as its head, former chairman of SBI, stand grouped in five categories:
Category I: Oriental Bank of Commerce
Category II: Bank of Baroda, Canara Bank, Panjab National Bank, Corporation Bank
Category III: Andhra Bank, Bank of India, Bank of Maharastra, Dena Bank ,Syndicate Bank, Category IV: Allahabad Bank, Central Bank of India, Indian Overseas Bank, Punjab \& Sind Bank, Union Bank of India, VIJAYA Bank
Category V: Indian Bank, United Bank, United Commercial Bank
Liability side of the Balance Sheet
Capital to Total Assets:
In the year 2000-01, Category I bank had $5.72 \%$ of the total assets consisted of total capital that got increased to $6.88 \%$ in 2010-11; the Average of capital to assets ratio was $6.53 \%$ with $15.12 \%$ Coefficient of Variation In 2001. Category II banks had, in the year 2000-01, 5.15\% of the total assets constituted total capital that increased to $5.62 \%$ in 2010-11; however, in 2005-06 it had peaked to $6.77 \%$. The Average of capital to assets ratio was $6.05 \%$ with $8.65 \%$ Coefficient of Variation. In the year 2000-01, Category III banks had $4.04 \%$ of the total assets comprised of total capital that increased to $5.15 \%$ in 2011 ; however, in 2004 it had peaked to $11.63 \%$. The Average of capital to assets ratio was $5.88 \%$ with $4.58 \%$ Coefficient of Variation. In the year 2000-01, for the Category IV banks $4.50 \%$ of the total assets constituted total capital that increased to $5.48 \%$ in 2011 ; however, in 2006 it had peaked to $5.56 \%$. The Average of capital to assets ratio was $5.02 \%$ with $9.56 \%$ Coefficient of Variation. In the year 2000-01, Category V banks had $9.87 \%$ of the total assets constituted total capital that decreased to 5.98 \% in 2011; however, in 2002 it had peaked to $10.42 \%$. The Average of capital to assets ratio was $7.13 \%$ with $28.43 \%$ Coefficient of Variation.
Deposits to Assets Ratio:
The average of Deposits to Assets Ratio for Category I bank was $87.4 \%$ with $1.85 \%$ Coefficient of Variation, while it was $84.99 \%$ with $1.23 \%$ Coefficient of Variation for Category II banks; the same for Category III banks was $86.59 \%$ with $1.06 \%$ Coefficient of Variation. The Category IV banks compared with that of Category I Bank as it was $87.6 \%$ with $2.03 \%$ Coefficient of Variation. For Category V Banks the ratio was 82.08 in 2001 which peaked to $88.24 \%$ in 2010; this is why the average of Deposits to Assets Ratio for this Category banks was $86.05 \%$ with $2.32 \%$ Coefficient of Variation. Except for the Category I Bank, the difference between Long term deposits and Short term deposits had ranged between $25 \%$ and $27 \%$ for other categories of banks. The average of Long term Deposits to Assets Ratio was more than $63 \%$ with $4.85 \%$ Coefficient of Variation while the average of Short term Deposits to Assets Ratio was more than $23 \%$ with $9.28 \%$ Coefficient of Variation.
Borrowing to Assets Ratio:

Borrowing portfolio showed a significant increase for all categories of banks during this period. For category I it was $0.84 \%$ in the year 2000-01 which increased to $3.56 \%$ in 2009-10 and came down to $3.50 \%$ in 201011. For category II it was $1.94 \%$ in the year 2000-01 which went up to $5.65 \%$ in 2008-09 \& 2009-10 and peaked to $7.49 \%$ in the year $2010-11$. For category III it was $1.74 \%$ in the year $2000-01$ which increased to $6.01 \%$ in $2009-10$ and came down to $5.16 \%$ in the year 2010-11. In the year 2000-01 for category IV it was $0.70 \%$ which increased to $4.27 \%$ in $2007-08$ and peaked to $5.65 \%$ in the year $2010-11$. For category V it was $0.92 \%$ in the year 2000-01 which rose to $2.61 \%$ in the year 2006-07 and peaked to $2.76 \%$ in 2010-11.
Other liabilities:
Similarly, other liabilities settled on an average at $4 \%$ for Category I bank, while for all other Category banks, the average was more than $5 \%$ with Coefficient of Variation ranging between $25 \%$ and $30 \%$.
Asset side of the Balance Sheet
Cash and Bank:
The cash and bank items averaged $10.40 \%$ with $16 \%$ C.V. for Category I bank, while the same figures for category V banks were less than by $2 \%$. For Category II to IV banks, the cash and bank items averaged $11 \%$ with less than $20 \%$ C.V.
Investment in Government Securities:
Investment in government securities for all categories of banks ranged between $27 \%$ and $34 \%$ till the year 2004-05; after that it ranged between $21 \%$ and $23 \%$. It means that the nationalised banks started taking risks and invested more in term loans so that profit of such banks could increase tremendously.
Term loans:
Term loans constituted just $13.6 \%$ of the total assets in the year 2000-01 for category I bank; this percentage went on increasing since the year 2002 and it peaked at $37.6 \%$ in the year 2009-10. For category II banks, the ratio of Term loans to assets constituted less than $20 \%$ till the year 2004-05 and for the rest of the period it averaged $30 \%$. For category III banks, the ratio of Term loans to assets averaged $15 \%$ till the year 2004-05 and for the rest of the period it ranged between $24 \%$ and $31 \%$. Term loans constituted just $15 \%$ of the total assets in the year 2001-02 for category IV banks; this percentage went on increasing since 2003 and it peaked at $35.51 \%$ in the year 2010-11. Term loans constituted just $12.5 \%$ of the total assets in the year 2001-02 for category V banks; this percentage went on increasing since 2003 and it peaked at $39.8 \%$ in 2008-09 \& 2010-11. Detailed information is given in Table 1 (i) to Table 1 (v).

| Table 1(i) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Category I Bank |  |  |  |  |  |  |  |  |  |  |  |
| Liabilities | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Capital (Cap. + |  |  |  |  |  |  |  |  |  |  |  |
| Reserves) [CAP] | 5.72 | 5.02 | 6.21 | 6.53 | 6.15 | 8.77 | 7.57 | 6.37 | 6.58 | 5.99 | 6.88 |
| Deposits [DEP] | 91.16 | 88.30 | 87.71 | 86.99 | 88.50 | 85.17 | 86.56 | 85.83 | 87.37 | 87.50 | 86.19 |
| Long Term Deposits |  |  |  |  |  |  |  |  |  |  |  |
| Short Term Deposits |  |  |  |  |  |  |  |  |  |  |  |
| Borrowing [BORR] | 0.84 | 1.91 | 2.25 | 1.71 | 1.35 | 1.49 | 0.84 | 2.03 | 2.64 | 3.56 | 3.50 |
| Other Liabilities [OTH. LIA] | 2.28 | 4.77 | 3.83 | 4.77 | 4.00 | 4.57 | 5.03 | 5.77 | 3.41 | 2.95 | 3.44 |
| Assets |  |  |  |  |  |  |  |  |  |  |  |
| Cash \& Bank [CB] | 9.79 | 10.33 | 7.43 | 8.78 | 13.95 | 9.38 | 10.16 | 11.26 | 10.86 | 10.62 | 11.83 |
| Investment in |  |  |  |  |  |  |  |  |  |  |  |
| Securities [G. SEC] | 27.20 | 26.51 | 29.84 | 30.36 | 26.91 | 23.09 | 22.30 | 22.70 | 22.14 | 23.83 | 22.68 |
| $\begin{aligned} & \text { Other Securities } \\ & \text { [OTH. SEC] } \end{aligned}$ | 18.23 | 16.03 | 13.65 | 10.59 | 7.01 | 5.44 | 4.48 | 3.71 | 3.17 | 2.21 | 3.39 |
|  |  |  | kshi J | hamb a | d Bibh | u Prasa |  |  |  |  | 21 |


| $\begin{array}{ll} \hline \text { Term Loans } & {[T .} \\ \hline \end{array}$ | 13.63 | 18.35 | 20.69 | 26.04 | 28.03 | 34.95 | 36.16 | 35.43 | 36.34 | 37.59 | 34.03 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other Assets [OTH. |  |  |  |  |  |  |  |  |  |  |  |
| ASST.] | 3.39 | 2.81 | 2.53 | 1.88 | 4.63 | 4.47 | 2.85 | 1.75 | 1.76 | 1.57 | 1.78 |


| Table 1(ii) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Liabilities | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Capital (Cap. + Reserves) |  |  |  |  |  |  |  |  |  |  |  |
| [CAP] | 5.15 | 5.88 | 6.12 | 6.42 | 6.74 | 6.77 | 6.46 | 6.13 | 5.70 | 5.53 | 5.62 |
|  | 86.7 | 85.9 | 86.3 | 84.4 | 83.9 | 83.5 | 84.8 | 84.2 | 85.0 | 85.6 | 84.1 |
| Deposits [DEP] | 2 | 9 | 3 | 8 | 2 | 2 | 8 | 1 | 0 | 0 | 9 |
| Long Term Deposits [LT | 56.5 | 56.3 | 55.1 | 52.7 | 52.2 | 51.3 | 54.1 | 54.6 | 57.4 | 58.2 | 58.6 |
| DEP] | 1 | 4 | 6 | 5 | 6 | 1 | 0 | 1 | 0 | 3 | 7 |
| Short Term Deposits [ST | 30.1 | 29.6 | 31.1 | 31.7 | 31.6 | 32.2 | 30.7 | 29.6 | 27.6 | 27.3 | 25.5 |
| DEP] | 4 | 4 | 7 | 4 | 5 | 1 | 8 | 0 | 1 | 8 | 2 |
| Borrowing [BORR] | 1.94 | 2.44 | 1.19 | 1.56 | 1.56 | 3.24 | 2.17 | 2.38 | 5.65 | 5.65 | 7.49 |
| Other Liabilities [OTH. |  |  |  |  |  |  |  |  |  |  |  |
| Assets |  |  |  |  |  |  |  |  |  |  |  |
|  | 16.3 | 13.0 |  |  |  | 12.1 | 11.2 | 11.2 |  |  |  |
| Cash \& Bank [CB] | 0 | 2 | 9.23 | 9.74 | 9.24 | 7 | 5 | 9 | 9.75 | 9.44 | 9.54 |
| Investment in |  |  |  |  |  |  |  |  |  |  |  |
| Government Securities | 23.1 | 23.6 | 29.3 | 30.6 | 28.2 | 22.5 | 17.1 | 21.4 | 21.6 | 21.4 | 19.5 |
| [G. SEC] | 3 | 2 | 7 | 2 | 6 | 1 | 9 | 6 | 8 | 8 | 8 |
| Other Securities [OTH. | 11.3 | 11.0 |  |  |  |  |  |  |  |  |  |
| SEC] | 8 | 3 | 9.80 | 8.99 | 7.75 | 5.83 | 9.52 | 4.52 | 4.27 | 4.87 | 5.48 |
|  | 15.7 | 17.2 | 18.2 | 20.4 | 24.2 | 26.0 | 29.5 | 30.0 | 29.2 | 29.7 | 29.9 |
| Term Loans [T. LOAN] | 9 | 4 | 0 | 8 | 2 | 7 | 8 | 7 | 2 | 4 | 0 |
| Other Assets [OTH. |  |  |  |  |  |  |  |  |  |  |  |
| ASST.] | 4.89 | 4.64 | 3.69 | 3.93 | 3.20 | 2.62 | 2.62 | 2.16 | 2.23 | 1.87 | 1.89 |


| Table 1(iii) <br> Category III Bank |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Liabilities | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Capital (Cap. + Reserves) |  |  |  |  |  |  |  |  |  |  |  |
| [CAP] | 4.04 | 4.23 | 4.52 | 11.63 | 10.88 | 5.26 | 4.82 | 4.81 | 4.78 | 4.53 | 5.15 |
| Deposits [DEP] | 88.24 | 86.87 | 85.85 | 84.74 | 86.14 | 86.01 | 86.98 | 86.93 | 87.44 | 86.39 | 86.89 |
| $\begin{array}{lr} \text { Long } & \text { Term } \\ \text { Deposits } & {[\mathrm{LT}} \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 58.72 | 56.75 | 55.96 | 54.55 | 54.63 | 52.24 | 54.77 | 56.22 | 60.08 | 58.43 | 58.77 |
| $\begin{array}{lr}\text { Short } & \text { Term } \\ \text { Deposits } & {[S T}\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 29.52 | 30.12 | 29.89 | 30.19 | 31.51 | 33.77 | 32.21 | 30.71 | 27.36 | 27.96 | 28.12 |
| Borrowing [BORR] | 1.74 | 1.85 | 2.38 | 2.35 | 2.70 | 1.65 | 1.94 | 1.54 | 4.56 | 6.01 | 5.16 |
| Other Liabilities [OTH. LIA] | 5.98 | 7.05 | 7.25 | 1.27 | 0.28 | 7.08 | 6.26 | 6.72 | 3.22 | 3.07 | 2.81 |
| Assets |  |  |  |  |  |  |  |  |  |  |  |
| Cash \& Bank [CB] | 11.81 | 9.08 | 8.12 | 11.50 | 8.75 | 9.69 | 9.78 | 10.02 | 9.49 | 10.24 | 8.16 |


| Investment in |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Government |  |  |  |  |  |  |  |  |  |  |  |
| Securities [G. |  |  |  |  |  |  |  |  |  |  |  |
| SEC] | 30.66 | 30.01 | 32.08 | 31.85 | 30.94 | 25.23 | 23.00 | 21.79 | 22.00 | 22.33 | 21.04 |
| Other Securities |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. SEC] | 10.00 | 9.21 | 8.76 | 7.22 | 6.31 | 5.45 | 5.35 | 3.81 | 3.67 | 3.38 | 3.96 |
| Term Loans [T. |  |  |  |  |  |  |  |  |  |  |  |
| LOAN] | 14.29 | 14.06 | 15.30 | 16.14 | 19.47 | 24.29 | 27.39 | 27.85 | 30.83 | 31.31 | 26.95 |
| Other Assets |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. ASST.] | 3.87 | 5.43 | 4.17 | 3.70 | 3.20 | 3.08 | 2.42 | 2.75 | 2.39 | 2.04 | 2.44 |
| Table 1(iv) |  |  |  |  |  |  |  |  |  |  |  |
| Category IV Banks |  |  |  |  |  |  |  |  |  |  |  |
| Liabilities | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Capital (Cap. + |  |  |  |  |  |  |  |  |  |  |  |
| Reserves) [CAP] | 4.50 | 4.17 | 4.38 | 4.88 | 5.12 | 5.56 | 5.25 | 5.49 | 5.32 | 5.07 | 5.48 |
| Deposits [DEP] | 89.41 | 90.37 | 89.61 | 88.58 | 88.13 | 86.96 | 86.71 | 84.58 | 86.00 | 87.08 | 86.08 |
| Long Term |  |  |  |  |  |  |  |  |  |  |  |
| Deposits [LT |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 56.65 | 57.52 | 56.59 | 54.92 | 53.89 | 51.23 | 54.02 | 55.81 | 60.18 | 60.55 | 60.32 |
| Short Term |  |  |  |  |  |  |  |  |  |  |  |
| Deposits [ST |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 32.75 | 32.86 | 28.97 | 33.66 | 34.24 | 35.73 | 32.70 | 28.77 | 25.83 | 26.54 | 25.76 |
| Borrowing |  |  |  |  |  |  |  |  |  |  |  |
| [BORR] | 0.70 | 0.38 | 0.67 | 0.88 | 1.11 | 1.31 | 1.71 | 4.27 | 5.16 | 4.89 | 5.65 |
| Other Liabilities |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. LIA] | 5.39 | 5.08 | 5.35 | 5.66 | 5.64 | 6.17 | 6.34 | 5.66 | 3.52 | 2.96 | 2.79 |
| Assets |  |  |  |  |  |  |  |  |  |  |  |
| Cash \& Bank [CB] | 17.00 | 15.86 | 11.02 | 10.11 | 11.89 | 10.37 | 15.20 | 16.08 | 12.88 | 13.71 | 11.39 |
| Investment in |  |  |  |  |  |  |  |  |  |  |  |
| Government |  |  |  |  |  |  |  |  |  |  |  |
| Securities [G. |  |  |  |  |  |  |  |  |  |  |  |
| SEC] | 28.01 | 24.73 | 32.99 | 34.31 | 32.47 | 27.56 | 23.41 | 22.84 | 24.08 | 24.79 | 22.16 |
| Other Securities |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. SEC] | 11.40 | 16.36 | 10.73 | 9.97 | 7.88 | 6.41 | 5.38 | 4.79 | 4.32 | 4.79 | 5.25 |
| Term Loans [T. |  |  |  |  |  |  |  |  |  |  |  |
| LOAN] | 16.59 | 15.50 | 17.47 | 19.95 | 22.65 | 27.73 | 31.52 | 32.82 | 34.33 | 33.71 | 35.15 |
| Other Assets |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. ASST.] | 5.38 | 4.68 | 3.60 | 3.52 | 3.11 | 3.32 | 2.61 | 2.33 | 2.07 | 1.93 | 2.37 |
| Table 1(v) |  |  |  |  |  |  |  |  |  |  |  |
| Category V Banks |  |  |  |  |  |  |  |  |  |  |  |
| Liabilities | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Capital (Cap. + |  |  |  |  |  |  |  |  |  |  |  |
| Reserves) [CAP] | 9.87 | 10.42 | 8.68 | 8.60 | 8.02 | 4.90 | 5.42 | 5.16 | 5.66 | 5.67 | 5.98 |
| Deposits [DEP] | 82.08 | 83.70 | 84.27 | 85.14 | 85.70 | 87.28 | 87.32 | 87.35 | 88.00 | 88.24 | 87.43 |
| Long Term |  |  |  |  |  |  |  |  |  |  |  |
| Deposits [LT |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 53.61 | 53.92 | 53.25 | 53.61 | 54.12 | 55.05 | 56.33 | 59.29 | 60.61 | 60.32 | 60.19 |
| Short Term |  |  |  |  |  |  |  |  |  |  |  |
| Deposits [ST |  |  |  |  |  |  |  |  |  |  |  |
| DEP] | 28.47 | 29.78 | 31.02 | 31.53 | 31.58 | 32.23 | 30.99 | 28.07 | 27.39 | 27.91 | 27.25 |
| Borrowing | 0.92 | 0.96 | 0.89 | 0.59 | 0.76 | 2.35 | 2.61 | 1.96 | 2.11 | 2.23 | 2.76 |


| [BORR] |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Other Liabilities [OTH. LIA] | 7.13 | 4.93 | 6.16 | 5.67 | 5.52 | 5.47 | 4.65 | 5.53 | 4.22 | 3.86 | 3.83 |
| Assets |  |  |  |  |  |  |  |  |  |  |  |
| Cash \& Bank [CB] | 8.90 | 7.22 | 8.55 | 8.60 | 8.37 | 7.95 | 9.12 | 9.81 | 9.33 | 7.40 | 8.52 |
| Investment in |  |  |  |  |  |  |  |  |  |  |  |
| Securities [G. |  |  |  |  |  |  |  |  |  |  |  |
| SEC] | 30.69 | 32.54 | 34.53 | 36.73 | 34.88 | 32.12 | 26.08 | 23.06 | 23.79 | 23.58 | 21.36 |
| Other Securities |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. SEC] | 12.67 | 11.26 | 10.31 | 8.84 | 6.88 | 5.94 | 6.88 | 7.67 | 3.65 | 7.57 | 6.65 |
| Term Loans [T. |  |  |  |  |  |  |  |  |  |  |  |
| LOAN] | 10.97 | 12.52 | 15.13 | 18.68 | 23.24 | 28.58 | 34.51 | 35.63 | 39.79 | 38.00 | 39.79 |
| Other Assets |  |  |  |  |  |  |  |  |  |  |  |
| [OTH. ASST.] | 13.35 | 12.18 | 8.73 | 6.93 | 5.15 | 1.65 | 0.64 | 2.26 | 2.17 | 1.71 | 1.96 |

Source: Self computed based on data provided in Statistical Tables Relating to Banks of India (Various Issues) issued by the Reserve Bank of India.

| Table 2 Summarised Statistics of the Components of Balance Sheet. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Category I |  | Category II |  | Category III |  | Category IV |  | Category V |  |
| Liabilities <br> Capital (Cap. + Reserves) | Average | C.V. | Average | C.V. | Average | C.V. | Average | C.V. | Average | C.V. |
| [CAP] | 6.53 | 15.12 | 6.05 | 8.65 | 5.88 | 45.76 | 5.02 | 9.56 | 7.13 | 28.43 |
| Deposits [DEP] | 87.39 | 1.85 | 84.99 | 1.23 | 86.59 | 1.06 | 87.59 | 2.03 | 86.05 | 2.35 |
| $\begin{array}{lr} \text { Long } & \text { Term } \\ \text { Deposits } & {[\mathrm{LT}} \\ \text { DEP] } & \end{array}$ | 63.56 | 4.85 | 55.21 | 4.45 | 56.47 | 4.17 | 56.52 | 5.29 | 56.39 | 5.45 |
| $\begin{array}{lr} \text { Short } & \text { Term } \\ \text { Deposits } & \text { [ST } \\ \text { DEP] } & \\ \hline \end{array}$ | 23.83 | 9.28 | 29.77 | 7.12 | 30.12 | 6.36 | 30.71 | 11.81 | 29.66 | 6.34 |
| Borrowing <br> [BORR] | 2.01 | 46.14 | 3.21 | 65.15 | 2.90 | 54.42 | 2.43 | 85.83 | 1.65 | 49.96 |
| Other <br> Liabilities <br> [Oth. Liab.] | 4.07 | 25.04 | 5.76 | 30.74 | 4.64 | 55.19 | 4.96 | 25.46 | 5.18 | 19.47 |
| Assets | Average | C.V. | Average | C.V. | Average | C.V. | Average | C.V. | Average | C.V. |
| Cash \& Bank [CB] | $10.40$ | 16.27 | $11.00$ | 19.83 | 9.70 | 11.75 | 13.23 | 18.75 | 8.53 | 9.19 |
| Investment in Government Securities [G. SEC] | 25.23 | 12.12 | 23.54 | 17.81 | 26.45 | 16.62 | 27.03 | 16.24 | 29.03 | 19.14 |
| Other Securities [OTH. SEC] | 7.99 | 71.26 | 7.59 | 35.39 | 6.10 | 37.43 | 7.94 | 47.79 | 8.03 | 32.06 |
| $\begin{aligned} & \text { Term Loans } \\ & \text { [T. LOAN] } \end{aligned}$ | 29.20 | 28.83 | 24.59 | 23.10 | 29.81 | 88.22 | 26.13 | 29.94 | 26.98 | 41.80 |


| Other Assets |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [OTH. ASST.] | 2.67 | 40.89 | 3.07 | 35.26 | 3.23 | 29.55 | 3.17 | 34.40 | 5.16 | 87.69 |

Interrelationship of Components of Balance Sheet
Detailed correlations between various components of the balance sheet have been computed, the results of which are given in Table 3(i) to Table 3 (v).

## Table 3(i)

## Category I

CATEGORY I: CORRELATIONS Marked correlation is significant at $\mathrm{P}<0.05 \mathrm{~N}=11$

| Variables | C\&B | G.Sec | Oth. Sec | T. Loan | Oth. Asst |
| :--- | :--- | :---: | :--- | :---: | :--- |
| CAP | -0.1232 | -0.4435 | $-0.5215^{*}$ | $0.5879^{*}$ | 0.2885 |
| DEP | 0.0249 | 0.4855 | $0.7161^{*}$ | $-0.7695^{*}$ | 0.2011 |
| BORR | 0.1103 | -0.2598 | -0.4728 | 0.4168 | $-0.6610^{*}$ |
| LT. DEP | 0.2208 | 0.1174 | 0.3208 | -0.4011 | -0.3558 |
| ST. DEP | -0.2896 | 0.1906 | 0.0754 | -0.0024 | $0.6429^{*}$ |
| OTH. LIA | -0.0206 | -0.1031 | -0.1991 | 0.2702 | 0.0034 |

Table 3(ii)
Category II
CATEGORY II: CORRELATIONS Marked correlation is significant at $\mathrm{P}<0.05 \mathrm{~N}=11$

| Variables | C\&B | G.Sec | Oth. Sec | T. Loan | Oth. Asst |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CAP | -0.3590 | 0.3017 | -0.0312 | 0.1311 | -0.1065 |
| DEP | 0.4173 | 0.0973 | $0.5966^{*}$ | $-0.6162^{*}$ | $0.5801^{*}$ |
| BORR | -0.2918 | $-0.5592^{*}$ | $-0.6726^{*}$ | $0.6234^{*}$ | $-0.6740^{*}$ |
| LT. DEP | 0.0006 | -0.4249 | -0.1726 | 0.1516 | -0.1940 |
| ST. DEP | 0.1972 | $0.5406^{*}$ | 0.4897 | -0.4747 | $0.5055^{*}$ |
| OTH. LIA | 0.2034 | $0.5131^{*}$ | 0.4499 | -0.4097 | 0.4835 |

Table 3(iii)
Category III
CATEGORY III: CORRELATIONS Marked correlation is significant at $\mathrm{P}<0.05 \mathrm{~N}=11$

| Variables | C\&B | G.Sec | Oth. Sec | T. Loan | Oth. Asst |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CAP | 0.1601 | 0.4527 | 0.0494 | -0.1849 | 0.0409 |
| DEP | 0.0879 | -0.3545 | 0.0151 | 0.3149 | -0.1090 |
| BORR | -0.2345 | $-0.5045^{*}$ | $-0.5961^{*}$ | 0.4513 | $-0.5741^{*}$ |
| LT. DEP | 0.0085 | -0.3264 | -0.1536 | $0.5077 *$ | -0.1848 |
| ST. DEP | 0.0318 | 0.2313 | 0.1960 | -0.4734 | 0.1749 |
| OTH. LIA | -0.0553 | -0.0375 | 0.3101 | -0.1970 | 0.3501 |


| Table 3(iv) Category IV |
| :--- | :--- |

CATEGORY IV: CORRELATIONS Marked correlation is significant at $\mathrm{P}<0.05 \mathrm{~N}=11$

| Variables | C\&B | G.Sec | Oth. Sec | T. Loan | Oth. Asst |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CAP | -0.2668 | -0.4073 | $-0.9012^{*}$ | $0.8598^{*}$ | $-0.7556^{*}$ |
| DEP | 0.0110 | $0.5912^{*}$ | $0.9100^{*}$ | $-0.9250^{*}$ | $0.8180^{*}$ |
| BORR | -0.0013 | $-0.6653^{*}$ | $-0.7555^{*}$ | $0.8854^{*}$ | $-0.7936^{*}$ |
| LT. DEP | 0.1791 | -0.4325 | -0.1188 | 0.3191 | -0.2893 |
| ST. DEP | -0.0427 | 0.4949 | 0.4620 | $-0.5931^{*}$ | $0.5964^{*}$ |
| OTH. LIA | 0.0877 | 0.4204 | 0.3080 | -0.4855 | 0.4452 |

Table 3(v)
CATEGORY V: CORRELATIONS Marked correlation is significant at $\mathrm{P}<0.05 \mathrm{~N}=11$

| Variables | C\&B | G.Sec | Oth. Sec | T. Loan | Oth. Asst |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CAP | -0.3173 | $0.6706^{*}$ | $0.8260^{*}$ | $-0.9119^{*}$ | $0.9608^{*}$ |
| DEP | 0.1471 | $-0.6611^{*}$ | $-0.8930^{*}$ | $0.9536^{*}$ | $-0.9712^{*}$ |
| BORR | 0.1439 | $-0.8255^{*}$ | $-0.6455^{*}$ | $0.8646^{*}$ | $-0.8060^{*}$ |
| LT. DEP | 0.2343 | $-0.9320^{*}$ | $-0.6501^{*}$ | $0.9160^{*}$ | $-0.7054^{*}$ |
| ST. DEP | -0.2248 | $0.8129^{*}$ | 0.1036 | -0.4729 | 0.1099 |
| OTH. LIA | 0.2253 | $0.6509^{*}$ | $0.6561^{*}$ | $-0.7838^{*}$ | $0.6729^{*}$ |

Table 4. Marked Correlations (Summarised).

| Capital | Category | G Sec. | Oth.Sec. | T. Loan | Oth. Asst |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | I |  | -0.5215 | 0.5879 |  |
|  | IV |  | -0.901 | 0.8598 | -0.7556 |
|  | V | 0.6706 | 0.826 | -0.9119 | 0.9608 |
| Deposits | I |  | 0.7161 | -0.7695 |  |
|  | II |  | 0.5966 | -0.6162 | 0.5801 |
|  | IV | 0.5912 | 0.91 | -0.925 | 0.818 |
|  | V | 0.6611 | -0.893 | 0.9536 | -0.9712 |
| Borrowings | I |  |  |  | -0.661 |
|  | II | 0.5592 | -0.6726 | 0.6234 | -0.674 |
|  | III | 0.5045 | -0.5901 | 0.4513 | -0.5741 |
|  | IV | 0.6653 | -0.7555 | 0.8854 | -0.7936 |
|  | V | 0.8255 | -0.6455 | 0.8646 | -0.806 |
| LT Deposits | III |  |  | 0.5077 |  |
|  | V | -0.932 | $-0.6501$ | 0.916 | -0.7054 |
| ST Deposits | I |  |  |  | 0.6429 |
|  | II | 0.5406 |  |  | 0.5055 |
|  | III |  |  | -0.4734 |  |


|  | IV |  | -0.5931 | 0.5964 |
| :---: | :---: | :---: | :---: | :---: |
|  | V | 0.8129 |  |  |
| Oth. Liab | II | 0.5131 |  |  |
|  | V | 0.6509 | 0.6561 | -0.7838 |
| Source: Self computed based on Tables 1 (i) to Table (v) given above |  |  |  |  |

## Observations

The Cash and Bank items of various categories of banks in general are negligibly associated with the total Deposits. Very little correlation was found in other variables. In case of Category I \& IV banks,Capital is negatively associated with other securities and other assets; they were positively associated with Term loan. However, for Category V banks there was the reverse pattern. As regards Deposits, there was positive correlation with investment in Other Securities for Category I, II \&IV banks, and Other Assets for Category II and IV banks. Also for category IV banks it was positively related with investment in Government Securities. In case of investment in Other Securities for Category V banks it was negatively associated. However, for Category I II and IV banks it was highly negatively associated with Term Loans. It is observed that there is perceptible change in the pattern of investment for various categories of banks. Total borrowings for all categories of banks were highly negatively associated with investment in Other Securities and Other Assets; there was significant positive correlation with investment in Government Securities and Term Loans as regards to Category II to Category V banks.

On the whole, the balance sheet items of almost all the categories of the nationalised banks of India show proper matching behavior in terms of management of maturity structure of assets and liabilities and hedging activities in the management of risk portfolio. It implies that the process of reform in the banking sector has made a significant dent on this aspect.

To analyse how are the liabilities especially Deposits, Borrowings and Other liabilities hedged, linear regression equations taking asset side variables as dependent, and aforesaid liability side variables individually as independent variables have been computed .The summarised results are given in Table 5(i) to Table 5(v).

Table 5(i)
Category I: Regression Summary
Independent variables
Regression Coefficients

| Dependent <br> variables | Intercept | Deposit | Borrowings | Oth.Liab. | $R^{2}$ | $\mathrm{~F}(3,7 \mathrm{df})$ | P- <br> Level |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Cash \& Bank | 22.211 | -0.075 | -0.705 | -0.284 | 0.069 | 0.172 | 3.123 |
| G. Sec. | -110.088 | 1.482 | 0.315 | 1.264 | 0.312 | 0.426 | 1.755 |
| Oth. Sec. | -280.168 | 3.219 | -0.592 | 1.981 | 0.628 | 0.061 | 1.284 |
| Term Loan | 492.562 | -5.169 | 0.146 | -2.938 | 0.673 | 4.807 | 1.381 |

Table 5(ii)
Category II: Regression Summary
Independent variables
Regression Coefficients

| Dependent <br> variables | Intercept | Deposit | Borrowings | Oth.Liab. | $R^{2}$ | F | $(3,7)$ | P- |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| df $)$ | Level |  |  |  |  |  |  |  |
| Cash \& Bank | -425.382 | 4.634 | 4.196 | 5.591 | 0.578 | 3.202 | 0.453 |  |
| G. Sec. | 122.184 | -0.966 | -2.416 | -1.525 | 0.319 | 1.094 | 3.009 |  |
| Oth. Sec. | -47.79 | 0.759 | -1.418 | -0.798 | 0.682 | 5.016 | 2.746 |  |
| Term Loan | 353.035 | -3.758 | 0.066 | -1.606 | 0.647 | 4.283 | 2.476 |  |

Table 5(iii)
Category III: Regression Summary
Independent variables
Regression Coefficients

| Dependent |  |  |  |  | $F$ | $(3,7$ | P- |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| variables | Intercept | Deposit | Borrowings | Oth.Liab. | $R^{2}$ | df) | Level |
| Cash \& Bank | 2.108 | 0.153 | -0.649 | -0.12 | 0.327 | 1.133 | 2.528 |
| G. Sec. | 130.917 | -1.11 | -1.946 | -0.577 | 0.426 | 1.734 | 1.386 |
| Oth. Sec. | -3.209 | 0.141 | -0.938 | -0.035 | 0.358 | 1.3 | 2.911 |
| Term Loan | -844.912 | 9.936 | 6.704 | -1.083 | 0.297 | 0.986 | 1.92 |

## Table 5(iv)

Category IV: Regression Summary
Independent variables
Regression Coefficients

| Dependent <br> variables | Intercept | Deposit | Borrowings | Oth.Liab. | $R^{2}$ | Fdf $)$ | $(3,7$ | P- |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Level |  |  |  |  |  |  |  |  |

Table 5(v)
Category V: Regression Summary

> Independent variables
> Regression Coefficients

| Dependent <br> variables | Intercept | Deposit | Borrowings | Oth.Liab. | $R^{2}$ | F | df) | P- |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Cash \& Bank | 199.722 | -2.13 | -0.431 | -0.392 | 0.951 | 45.295 | 1.119 |  |
| G. Sec. | -2.441 | 0.395 | -5.329 | 1.205 | 0.699 | 5.427 | 2.316 |  |
| Oth. Sec. | 129.451 | -1.409 | 0.574 | -0.214 | 0.814 | 10.214 | 1.311 |  |
| Term Loan | -310.64 | 3.888 | 3.707 | -0.58 | 0.938 | 35.512 | 0.897 |  |

Source: Self computed based on Table 1 (i) to Table1 (v) given above.

## Observations:

It is found that $\mathrm{R}^{2}$ is significantly high in almost every set of regression, though ' F ' ratio is not statistically significant in some of the cases at 5 per cent level of significance. The analysis reveals the presence of multicollinearity among the variables. Though it cannot be avoided from this type of time series data, but inferences about the trend of matching of assets and liabilities can be drawn.

The cash and bank balance found to be negatively and statistically significant with other liabilities. This implies that during the period 2001-2011, the period of post reform period. The nationalised banks have emphasised on sufficient liquidity and became cautious against other liabilities. The borrowings and other liabilities have positive and significant effect on other securities in most of the categories of nationalised banks. It implies that in the changed environment, the nationalised banks have emphasised on the interest sensitive securities over the years to strengthen their bottom lines for achieving competitiveness. Thus, it may be well argued that, the long term assets have adequately covered the long term liabilities during the post reform period.

