

**RESULTS AND DISCUSSION**

The results of the processed data are recorded in this chapter to bring out the financial performance of the Scheduled Commercial Banks in India based on the multiple criteria decision - making approach. With a view to explore the financial soundness of the banks, a total of 40 Scheduled Commercial Banks were selected on the basis of the advances provided, amounting to a minimum of ₹ 1,500 billions as on 31-03-2014. The study covered a period of 16 years from 1999-2000 to 2014-2015. The data was collected from the secondary sources and an expert opinion was obtained to assign the weights to the ratios. The data was analysed using ratio analysis, summary statistics, paired t-test, correlation analysis, step-wise regression analysis, cluster analysis, multiple correlation coefficient, TOPSIS analysis, discriminant function analysis, ANOVA and Spearman's rank correlation coefficient. The study was carried with the following objectives:-

- 1) To assess the financial performance of select Scheduled Commercial Banks in India,
- 2) To identify the determinants of profitability of the Scheduled Commercial Banks in India,
- 3) To rank the banks on the basis of the multiple criteria decision making approach, and
- 4) To find the consistency in the performance of the banks over the years.

The outcome of the research entitled "A Multiple Criteria Decision Making Approach to Evaluate the Financial Performance of Scheduled Commercial Banks in India" is presented under the following heads:

- 4.1 Financial performance of Scheduled Commercial Banks in India
- 4.2 Determinants of profitability of Scheduled Commercial Banks in India

4.3 Ranking of the banks based on the multiple criteria decision making approach– TOPSIS Method

4.4 Discrimination of top and low ranked banks and identification of the impact of Discriminating variables

4.5 Consistency in the financial performance of the Scheduled Commercial Banks in India

#### **4.1 FINANCIAL PERFORMANCE OF SCHEDULED COMMERCIAL BANKS IN INDIA**

Ratio analysis is a quantitative analysis of information contained in a bank's financial statements. Ratios measuring capital adequacy, asset quality, management ability, earning efficiency and liquidity management were analyzed on each bank to acquaint their financial performance for 16 years from 1999-2000 to 2014-2015 under four groups, namely, SBI and its associates, nationalized banks, private banks and foreign banks.

##### **Capital Adequacy**

Capital adequacy measures the financial strength and stability of the banks. The capital base of the financial institutions facilitates depositors in forming their risk perception about the institutions. It also serves as a key parameter for the financial managers to sustain an adequate level of capital. Furthermore, besides absorbing unanticipated shocks, it indicates that the institution will continue to honour its obligations. The capital adequacy of the banks is examined through the following ratios:-

- CA1 - Capital Adequacy Ratio,
- CA2 - Debt – Equity Ratio,
- CA3 - Advances to Assets,
- CA4 - Investments in Government Securities to Assets, and
- CA5 - Government Securities to Total Investments.

**Table 2**  
**CA1 - Capital Adequacy Ratio of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	C V
<b>Nationalized Banks</b>																			
N1	11.51	10.50	10.62	11.15	12.52	12.53	13.37	12.52	11.99	13.11	13.62	12.96	12.83	11.03	10.26	10.45	<b>11.94</b>	<b>1.14</b>	<b>9.55</b>
N2	13.36	13.40	12.59	13.62	13.71	12.11	14.00	11.33	11.61	13.22	13.93	14.38	13.18	11.76	11.18	10.63	<b>12.75</b>	<b>1.16</b>	<b>9.10</b>
N3	12.10	12.80	11.32	12.65	13.91	12.61	13.65	11.80	12.94	14.05	14.36	14.52	14.67	13.3	12.87	12.61	<b>13.14</b>	<b>0.99</b>	<b>7.53</b>
N4	10.57	12.23	10.68	12.02	13.01	11.52	10.75	11.75	12.04	13.01	12.94	12.17	11.95	11.02	10.76	10.73	<b>11.70</b>	<b>0.87</b>	<b>7.44</b>
N5	11.66	10.64	11.16	11.76	11.88	12.68	11.27	12.06	10.85	12.05	12.78	13.35	12.43	12.59	10.79	11.94	<b>11.87</b>	<b>0.78</b>	<b>6.57</b>
N6	9.64	9.84	11.88	12.50	12.66	12.78	11.22	13.50	13.25	14.10	13.43	15.38	13.76	12.40	11.14	10.56	<b>12.38</b>	<b>1.58</b>	<b>12.76</b>
N7	11.18	10.02	9.58	10.51	12.43	12.15	11.03	10.40	9.39	13.12	12.23	11.64	12.40	11.49	11.96	10.90	<b>11.28</b>	<b>1.09</b>	<b>9.66</b>
N8	12.80	13.30	17.90	18.50	20.12	16.23	13.92	12.76	12.09	13.61	15.37	14.11	13.00	12.33	12.21	11.09	<b>14.33</b>	<b>2.59</b>	<b>18.07</b>
N9	11.63	7.73	7.64	9.33	9.48	11.91	10.62	11.52	11.09	12.07	12.77	13.41	11.51	11.03	11.87	10.93	<b>10.91</b>	<b>1.63</b>	<b>14.94</b>
N10	9.15	10.24	10.82	11.30	12.49	14.20	13.04	13.27	11.93	13.2	14.78	14.55	13.32	11.85	11.15	10.11	<b>12.21</b>	<b>1.67</b>	<b>13.68</b>
N11	12.72	12.17	10.99	14.04	14.47	9.21	11.04	12.51	12.12	12.98	12.54	14.23	12.69	12.04	11.85	11.41	<b>12.31</b>	<b>1.32</b>	<b>10.72</b>
N12	11.57	11.42	10.70	10.43	11.06	9.46	12.83	12.88	11.57	14.35	13.10	12.94	13.26	12.91	12.10	11.24	<b>11.99</b>	<b>1.27</b>	<b>10.59</b>
N13	10.31	10.24	10.70	12.02	13.10	14.78	11.95	12.29	13.46	14.03	14.16	12.42	12.63	12.72	12.29	12.21	<b>12.46</b>	<b>1.30</b>	<b>10.43</b>
N14	11.45	11.72	12.12	11.03	11.49	10.70	11.73	11.74	11.82	12.68	12.70	13.04	12.24	12.59	12.01	10.54	<b>11.85</b>	<b>0.72</b>	<b>6.08</b>
N15	9.15	9.05	9.64	10.04	11.88	11.26	11.12	11.56	11.02	11.93	13.21	13.71	12.35	14.15	13.40	12.17	<b>11.60</b>	<b>1.58</b>	<b>13.62</b>
N16	11.42	10.86	11.07	12.41	12.32	12.09	11.41	12.80	12.51	13.27	12.51	12.95	11.85	11.45	11.89	10.22	<b>11.94</b>	<b>0.83</b>	<b>6.95</b>
N17	9.60	10.40	12.02	15.17	17.04	18.16	13.12	12.02	11.24	13.28	12.80	13.05	12.69	11.66	11.46	10.57	<b>12.77</b>	<b>2.32</b>	<b>18.17</b>
N18	10.61	11.50	12.25	12.66	14.11	12.92	11.94	11.21	11.22	13.15	12.50	13.88	13.06	11.32	10.97	11.43	<b>12.17</b>	<b>1.06</b>	<b>8.71</b>

Source : Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 2**  
**CA1 - Capital Adequacy Ratio of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	11.37	9.00	10.65	10.90	11.21	12.66	11.08	11.57	13.73	13.69	15.80	12.65	13.66	17.00	16.97	15.30	<b>12.95</b>	<b>2.37</b>	<b>18.30</b>
P2	13.33	13.59	13.97	13.95	13.36	12.18	12.33	12.58	12.48	12.69	13.46	12.75	12.57	13.98	15.11	16.52	<b>13.43</b>	<b>1.14</b>	<b>8.49</b>
P3	11.33	10.29	11.23	11.23	11.48	11.27	13.75	13.43	22.46	20.22	18.36	16.79	16.64	14.73	15.14	15.46	<b>14.61</b>	<b>3.58</b>	<b>24.50</b>
P4	12.19	11.09	13.93	11.12	11.66	12.16	11.41	13.08	13.60	15.69	17.44	16.22	16.52	16.80	16.07	16.79	<b>14.11</b>	<b>2.34</b>	<b>16.58</b>
P5	19.64	11.57	11.44	11.10	10.36	11.78	13.35	11.69	13.96	15.53	19.41	19.54	18.52	18.74	19.08	17.02	<b>15.17</b>	<b>3.60</b>	<b>23.73</b>
P6	12.24	15.00	12.51	12.13	12.75	11.62	10.54	12.54	11.91	12.55	15.33	15.89	13.85	15.36	13.96	12.09	<b>13.14</b>	<b>1.56</b>	<b>11.87</b>
P7	18.82	12.05	11.57	9.81	11.05	9.09	10.67	10.56	10.20	11.65	14.91	12.94	14.00	13.24	16.76	15.30	<b>12.66</b>	<b>2.70</b>	<b>12.14</b>
P8	18.82	17.44	15.46	16.48	16.88	15.15	13.52	13.24	12.80	14.48	15.89	13.72	13.36	12.83	12.69	12.57	<b>14.71</b>	<b>1.94</b>	<b>13.19</b>
P9	11.04	11.37	12.96	13.44	13.03	14.16	11.78	11.03	12.17	13.48	12.37	13.33	12.84	13.22	13.30	12.41	<b>12.62</b>	<b>0.93</b>	<b>7.37</b>
P10	15.16	15.56	16.90	17.01	17.11	16.07	14.79	14.51	12.58	14.92	14.49	14.41	14.33	14.41	12.77	14.62	<b>14.98</b>	<b>1.32</b>	<b>8.81</b>
P11	10.41	11.17	11.20	10.75	11.32	9.89	13.02	11.08	13.80	14.76	15.39	14.01	14.00	13.91	12.53	12.01	<b>12.45</b>	<b>1.70</b>	<b>13.65</b>
P12	18.02	17.59	18.02	18.54	21.07	19.74	18.33	16.77	15.35	16.05	15.54	15.13	14.69	15.01	15.73	13.89	<b>16.84</b>	<b>2.00</b>	<b>11.88</b>
<b>SBI Group</b>																			
S1	12.35	12.39	13.42	13.08	12.93	12.60	12.08	12.89	12.51	14.52	13.30	11.68	13.76	12.16	11.71	11.57	<b>12.68</b>	<b>0.81</b>	<b>6.39</b>
S2	10.86	12.28	14.03	14.91	14.29	11.74	12.08	12.51	11.97	11.53	14.9	14.25	13.56	12.36	14.12	11.26	<b>12.92</b>	<b>1.35</b>	<b>10.45</b>
S3	11.49	12.79	13.35	13.50	13.53	12.45	11.88	12.34	13.54	14.25	13.39	11.98	13.86	12.92	12.96	12.00	<b>12.89</b>	<b>0.80</b>	<b>6.21</b>
S4	11.50	11.16	11.81	11.62	11.53	12.08	11.37	11.47	11.73	12.99	12.42	13.76	12.55	11.79	11.50	11.42	<b>11.92</b>	<b>0.69</b>	<b>5.79</b>
S5	12.60	12.37	12.55	13.57	13.56	14.21	13.67	12.38	13.56	12.60	13.26	13.41	12.30	11.12	10.38	12.06	<b>12.73</b>	<b>1.00</b>	<b>7.86</b>
S6	11.09	11.79	12.54	11.30	11.36	11.05	11.15	11.68	13.53	14.03	13.74	12.54	13.55	11.70	10.79	10.89	<b>12.05</b>	<b>1.12</b>	<b>9.29</b>
<b>Foreign Banks</b>																			
F1	10.58	11.24	11.04	11.30	11.11	10.78	11.33	11.06	12.00	13.23	18.14	17.31	16.03	15.90	14.38	15.30	<b>13.17</b>	<b>2.60</b>	<b>19.74</b>
F2	10.44	12.67	14.55	17.35	14.42	16.22	12.74	10.62	15.05	15.25	16.45	15.03	14.12	14.08	14.08	15.62	<b>14.29</b>	<b>1.92</b>	<b>13.44</b>
F3	10.30	12.37	10.92	18.10	14.54	14.03	10.61	11.06	10.59	15.31	18.03	18.03	16.04	17.10	17.38	14.84	<b>14.33</b>	<b>2.98</b>	<b>20.80</b>
F4	9.50	9.60	9.28	10.56	10.87	10.46	9.93	10.44	10.59	11.56	12.41	11.88	11.05	13.00	12.48	12.49	<b>11.01</b>	<b>1.18</b>	<b>10.72</b>

Source : Trend and Progress of Banking in India Report of RBI, Various Issues

### **CA1 - Capital Adequacy Ratio**

Capital adequacy ratio is a ratio that measures bank's capital to its risk. Bank's capital plays a crucial role in maintaining safety and solidarity of banks. Positive CAR ratio of a bank indicates that the amount of loss can be absorbed by its total capital.

It is observed from Table 2 that except Dena Bank (N9) in nationalized banks group, all the other select Scheduled Commercial Banks maintained adequate Capital Adequacy ratio (CA1) above the stipulated level by Basel I norms at 8 percent from 1999-2000 to 2007-2008, 9 percent under Basel II and RBI regulations from 2008-2009 onwards ensuring high safety and stability of the banks.

In the nationalized banks group, Corporation Bank (N8) recorded the highest average at 14.33 percent followed by Bank of Baroda (N3) at 13.14 percent, ensuring paramount safety to its stakeholders. Dena Bank (N9) recorded the ratio below the prescribed level in 2000-2001 at 7.73 percent and in 2001-2002 at 7.64 percent, which also reported a lowest mean value amongst the group at 10.91 percent with the standard deviation at 1.63 percent.

Among the private banks, Tamilnadu Mercantile Bank Ltd (P12) held the highest average at 16.84 percent with a standard deviation at 2 percent. A higher CAR implies that the banks are able to maintain sufficient core and supplementary capital to their risk weighted assets. South Indian Bank (P11) reported the lowest average in the group at 12.45 percent with 1.70 percent standard deviation.

When considering SBI group, State Bank of Hyderabad (S2) registered the highest mean value at 12.92 percent followed by State Bank of India (S3) at 12.89 percent with a standard deviation at 1.35 percent and 0.80 percent. State Bank of Mysore (S4) at 11.92 percent reported a lower mean value in the group.

Among the foreign banks, HSBC Bank (F3) registered the average CAR at 14.33 percent followed by Deutsche Bank (F2) at 14.29 percent ensuring strong capital base by the banks but with the standard deviation at 2.98 per cent and 1.92 percent respectively. Standard Chartered Bank (F4) reported the lowest average in the group at 11.01 percent with a standard deviation at 1.18 percent.

**Table 3**

**CA2 - Debt - Equity Ratio of Scheduled Commercial Banks in India**

(In times)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D (%)	CV (%)
<b>Nationalized Banks</b>																			
N1	19.87	21.99	23.18	21.80	20.39	17.57	13.34	13.36	14.06	15.18	16.51	16.32	16.06	16.63	17.20	16.43	<b>17.49</b>	<b>3.09</b>	<b>17.67</b>
N2	24.99	24.42	21.17	19.77	16.37	15.53	11.98	13.37	15.40	17.20	18.94	15.37	15.25	15.98	17.74	16.92	<b>17.53</b>	<b>3.60</b>	<b>20.54</b>
N3	15.98	16.36	16.33	15.27	14.39	14.74	12.55	14.57	14.12	15.93	16.85	15.57	14.87	15.65	16.83	16.39	<b>15.40</b>	<b>1.15</b>	<b>7.47</b>
N4	19.76	19.91	22.16	19.34	18.84	18.99	20.03	21.46	14.84	15.22	17.72	18.56	16.71	17.44	17.56	18.19	<b>18.55</b>	<b>1.99</b>	<b>10.73</b>
N5	25.35	30.05	28.00	22.94	18.75	19.17	17.42	19.59	23.55	21.66	23.13	17.61	17.68	16.76	16.98	16.52	<b>20.95</b>	<b>4.20</b>	<b>20.05</b>
N6	19.00	21.51	18.90	17.40	16.59	15.86	16.38	13.90	14.91	16.46	16.57	15.35	15.10	15.12	15.12	15.68	<b>16.49</b>	<b>1.92</b>	<b>11.64</b>
N7	14.06	16.49	23.72	21.17	18.83	18.65	19.41	22.05	18.64	20.60	22.03	17.68	16.79	15.96	16.60	16.13	<b>18.68</b>	<b>2.68</b>	<b>14.35</b>
N8	12.73	12.73	9.94	9.50	8.71	9.34	10.23	12.05	13.61	16.09	17.63	18.59	18.17	18.70	20.47	20.01	<b>14.28</b>	<b>4.18</b>	<b>29.27</b>
N9	16.99	19.15	16.00	16.75	17.68	19.24	17.64	18.81	19.07	20.50	20.34	18.03	18.10	18.32	16.13	16.04	<b>18.05</b>	<b>1.43</b>	<b>7.92</b>
N10	32.83	29.55	28.22	25.39	20.28	17.41	16.13	17.95	18.64	15.47	15.92	17.65	16.94	16.75	15.61	16.90	<b>20.10</b>	<b>5.61</b>	<b>27.91</b>
N11	15.83	16.08	17.97	14.50	13.59	14.60	9.88	11.54	13.80	13.69	15.19	13.04	13.50	14.37	14.99	15.28	<b>14.24</b>	<b>1.86</b>	<b>13.06</b>
N12	25.84	28.00	28.24	28.96	29.26	32.19	13.85	13.89	13.28	17.89	20.21	16.46	15.65	15.89	17.37	16.04	<b>20.81</b>	<b>6.66</b>	<b>32.00</b>
N13	21.19	21.28	19.09	18.96	17.80	12.97	13.48	13.59	13.96	15.16	15.16	16.02	14.99	13.20	13.91	14.00	<b>15.92</b>	<b>2.83</b>	<b>17.78</b>
N14	22.70	20.77	20.27	19.46	22.47	21.20	19.05	22.06	22.48	24.21	22.96	20.58	18.64	18.80	19.55	21.59	<b>21.05</b>	<b>1.68</b>	<b>7.98</b>
N15	7.15	8.35	9.87	26.33	22.23	24.06	22.70	25.29	27.89	26.63	24.70	20.32	19.38	18.89	19.62	17.90	<b>20.08</b>	<b>6.51</b>	<b>32.42</b>
N16	18.01	19.04	18.91	17.61	16.68	17.67	17.13	17.23	14.78	16.87	17.20	16.90	16.45	16.63	17.70	17.82	<b>17.29</b>	<b>1.00</b>	<b>5.78</b>
N17	8.58	9.47	10.03	10.75	11.63	12.97	16.16	15.55	18.09	17.87	17.70	16.38	16.85	17.95	21.95	19.37	<b>15.08</b>	<b>3.98</b>	<b>26.39</b>
N18	26.11	21.31	22.27	21.37	15.99	16.52	16.91	19.93	20.28	18.04	18.38	15.63	16.85	18.60	21.92	21.69	<b>19.49</b>	<b>2.87</b>	<b>14.73</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 3**  
**CA2 - Debt - Equity Ratio of Scheduled Commercial Banks in India**

(In times)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D (%)	CV (%)
<b>Private Banks</b>																			
P1	26.10	33.96	22.01	19.26	18.90	13.83	14.83	18.81	10.63	13.01	9.88	11.34	11.14	8.96	8.67	9.00	<b>15.65</b>	<b>7.14</b>	<b>45.62</b>
P2	13.28	13.84	13.95	14.13	14.18	12.95	12.56	12.90	11.34	12.48	12.51	13.01	13.43	12.67	11.02	8.99	<b>12.70</b>	<b>1.33</b>	<b>10.47</b>
P3	18.90	19.28	20.59	20.84	20.97	21.26	14.79	14.88	6.80	7.72	8.02	8.79	9.32	9.87	9.41	9.45	<b>13.81</b>	<b>5.65</b>	<b>40.91</b>
P4	10.77	14.12	10.08	10.95	12.15	9.10	11.07	11.05	9.16	10.37	8.38	8.79	9.04	9.09	9.36	8.00	<b>10.09</b>	<b>1.57</b>	<b>15.56</b>
P5	9.01	13.26	12.32	11.32	11.82	10.34	9.03	11.42	6.62	6.29	5.74	6.08	6.55	6.57	6.65	6.64	<b>8.73</b>	<b>2.63</b>	<b>30.13</b>
P6	13.07	13.96	16.48	14.67	16.88	16.55	17.94	17.26	14.92	14.98	13.20	9.85	10.76	8.33	8.32	8.90	<b>13.50</b>	<b>3.32</b>	<b>24.59</b>
P7	13.07	13.31	13.51	14.32	15.31	15.92	14.16	14.74	14.14	16.49	12.67	13.09	10.27	10.34	7.20	7.28	<b>12.86</b>	<b>2.76</b>	<b>21.46</b>
P8	17.88	16.22	13.97	11.99	11.90	13.19	13.20	12.85	12.87	12.96	12.73	13.16	13.34	13.42	12.42	11.14	<b>13.33</b>	<b>1.63</b>	<b>12.23</b>
P9	17.02	17.74	16.06	14.50	13.74	11.33	12.08	11.67	12.44	12.98	13.33	11.70	12.61	13.17	13.92	13.88	<b>13.64</b>	<b>1.89</b>	<b>13.86</b>
P10	12.72	11.45	10.43	9.65	8.45	8.89	8.92	9.00	10.82	11.20	12.19	11.94	12.59	13.82	14.14	11.21	<b>11.09</b>	<b>1.77</b>	<b>15.96</b>
P11	21.30	21.66	21.78	21.67	21.17	18.66	14.95	16.95	13.08	14.19	15.72	16.25	17.09	15.15	14.90	15.07	<b>17.47</b>	<b>3.08</b>	<b>17.63</b>
P12	11.91	11.65	11.33	10.47	9.30	8.66	7.96	8.00	8.94	9.71	10.19	10.13	10.75	10.13	10.09	9.90	<b>9.95</b>	<b>1.17</b>	<b>11.76</b>
<b>SBI Group</b>																			
S1	17.53	17.03	15.53	14.99	14.16	15.15	16.30	17.93	20.53	20.36	20.28	19.95	15.49	16.36	15.05	15.27	<b>16.99</b>	<b>2.19</b>	<b>12.89</b>
S2	20.56	19.61	17.51	16.80	15.94	16.85	16.40	16.49	18.95	20.89	18.25	17.67	16.12	15.56	15.04	14.45	<b>17.32</b>	<b>1.90</b>	<b>10.97</b>
S3	16.97	18.84	18.38	17.75	16.41	16.04	14.86	15.18	12.02	14.26	13.75	16.21	13.94	13.87	13.34	13.87	<b>15.36</b>	<b>1.96</b>	<b>12.76</b>
S4	25.24	26.69	24.47	21.69	19.40	18.38	18.13	20.16	21.19	16.18	15.44	12.63	13.69	14.04	14.74	14.55	<b>18.54</b>	<b>4.41</b>	<b>23.79</b>
S5	13.11	12.46	12.35	12.96	13.27	13.23	15.68	16.45	19.00	20.14	18.14	17.86	18.87	18.25	16.65	14.29	<b>15.79</b>	<b>2.70</b>	<b>17.10</b>
S6	23.62	22.56	22.17	22.10	21.61	21.47	20.40	20.56	22.24	19.82	19.06	18.44	20.45	21.39	21.02	18.06	<b>20.94</b>	<b>1.53</b>	<b>7.31</b>
<b>Foreign Banks</b>																			
F1	11.93	12.72	10.53	9.93	8.89	8.24	8.30	7.66	6.13	6.11	4.92	5.18	5.86	5.66	5.67	5.37	<b>7.69</b>	<b>2.51</b>	<b>32.64</b>
F2	6.88	7.26	6.36	5.57	7.88	6.97	7.15	7.18	4.34	3.73	3.98	3.49	2.83	3.66	4.66	4.37	<b>5.39</b>	<b>1.68</b>	<b>31.17</b>
F3	12.76	12.09	12.99	6.95	7.67	5.66	6.74	6.45	6.01	5.21	5.08	4.32	4.81	4.91	5.84	5.92	<b>7.09</b>	<b>2.88</b>	<b>40.62</b>
F4	10.60	13.96	10.89	8.15	9.54	8.92	7.97	6.99	5.25	5.00	4.90	5.30	5.41	4.18	4.28	3.30	<b>7.17</b>	<b>2.99</b>	<b>41.70</b>

Source : Trend and Progress of Banking in India Report of RBI, Various Issues

**CA2 - Debt - Equity Ratio**

The debt/equity ratio is a leverage ratio that represents the amount of debt and equity that is being used to finance a bank's assets. It is calculated as total liabilities divided by total shareholders' equity. The debt/equity ratio is considered a key financial metric because it indicates potential financial risk. A lower debt-equity ratio is considered to be healthy for the banking sector.

A perusal at Table 3 reveals that the select Scheduled Commercial Banks in the study recorded a mixed trend during the study period from 1999-2000 to 2014-2015. The ratio for most of the banks decreased in 2014-2015 compared to 1999-2000. As the banks do the business mostly with the deposits, the banks are observed to have low-gear, and thus, have scope to increase the debt component to their capital structure.

The average debt/equity ratio is found to be higher in Syndicate Bank (N14) at 21.05 times followed by Bank of Maharashtra (N5) at 20.95 times in nationalized banks group with a standard deviation at 1.68 percent and 4.20 percent. On the other hand, Oriental Bank of Commerce (N11) held 14.24 times which was lowest in the group with a standard deviation at 1.86 percent signifying that all the banks are operating with lower risk.

In the private banks group, maximum debt - equity was registered by South Indian Bank (P11) at 17.47 times with a standard deviation at 3.08 percent whilst the minimum ratio was held by ICICI Bank (P5) at 8.73 times followed by Tamilnadu Mercantile Bank Ltd (P12) at 9.95 times with a standard deviation at 2.63 percent and 1.17 percent.

Among the banks in SBI group, State Bank of Travancore (S6) witnessed a higher debt/equity ratio at 20.94 times with a standard deviation at 1.53 percent when State Bank of India (S3) held the least among the group at 15.36 times with a standard deviation at 1.96 percent.

When considering the foreign banks group, maximum debt - equity at 7.69 times was held by Citi Bank (F1) with the standard deviation at 2.51 percent and the minimum average by Deutsche Bank (F2) at 5.39 times with a standard deviation at 1.68 percent respectively.

**Table 4**  
**CA3 - Advances to Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	41.80	43.45	44.39	44.72	44.21	46.85	52.72	60.12	59.95	60.22	58.84	61.89	60.76	63.36	62.61	66.00	<b>54.48</b>	<b>8.68</b>	<b>15.93</b>
N2	35.27	36.41	46.22	46.65	47.71	53.52	54.34	59.90	60.50	64.47	62.11	65.60	66.82	67.24	64.33	68.02	<b>56.23</b>	<b>10.87</b>	<b>19.33</b>
N3	41.62	43.30	47.47	46.26	41.83	45.85	52.84	58.98	59.41	63.20	62.89	63.81	64.24	59.98	60.20	59.87	<b>54.51</b>	<b>8.62</b>	<b>15.81</b>
N4	45.00	53.42	54.88	55.64	54.04	58.46	58.05	64.02	63.45	63.37	61.28	60.68	64.71	63.93	64.68	64.98	<b>59.38</b>	<b>5.60</b>	<b>9.43</b>
N5	34.49	35.05	38.45	38.15	36.42	39.72	52.76	61.05	60.82	58.09	56.74	61.33	61.51	64.53	65.23	67.52	<b>51.98</b>	<b>12.46</b>	<b>23.97</b>
N6	43.28	41.89	45.87	49.32	47.86	54.78	59.80	59.76	59.40	62.93	63.96	62.89	62.14	58.73	61.20	60.23	<b>55.86</b>	<b>7.58</b>	<b>13.57</b>
N7	38.11	39.85	40.46	40.56	36.00	39.77	50.19	59.03	58.89	57.89	57.69	61.85	64.19	64.12	61.25	60.42	<b>51.88</b>	<b>10.72</b>	<b>20.66</b>
N8	46.40	43.98	46.55	45.79	47.64	54.67	59.16	58.96	58.84	55.82	56.60	60.52	61.43	61.37	61.74	64.19	<b>55.22</b>	<b>6.82</b>	<b>12.35</b>
N9	42.24	39.10	39.93	41.84	42.47	47.06	53.61	58.81	59.58	59.59	61.58	63.28	64.87	57.99	62.11	60.76	<b>53.47</b>	<b>9.54</b>	<b>17.84</b>
N10	41.90	43.23	42.78	42.39	42.89	49.60	58.55	58.96	59.31	61.85	60.26	62.55	64.07	65.55	63.98	60.13	<b>54.90</b>	<b>9.22</b>	<b>16.79</b>
N11	38.00	40.91	43.88	46.13	47.99	46.79	56.97	59.88	60.16	60.84	60.75	59.44	63.07	64.25	63.13	63.02	<b>54.72</b>	<b>9.06</b>	<b>16.56</b>
N12	40.04	38.66	40.55	40.66	40.17	40.22	47.83	59.73	59.27	59.51	57.60	62.20	63.30	63.91	60.56	65.34	<b>52.44</b>	<b>10.62</b>	<b>20.25</b>
N13	41.70	44.14	47.14	46.66	46.15	47.85	51.37	59.94	60.04	62.65	62.91	63.99	64.12	64.47	63.46	63.07	<b>55.61</b>	<b>8.66</b>	<b>15.57</b>
N14	44.94	46.44	46.87	47.35	43.72	51.29	59.71	60.42	59.79	62.59	65.02	68.21	67.75	68.60	69.05	66.87	<b>58.00</b>	<b>9.60</b>	<b>16.55</b>
N15	32.39	36.90	40.81	45.61	47.09	50.66	60.44	61.02	61.34	61.62	60.08	60.63	64.01	64.58	62.55	59.92	<b>54.37</b>	<b>10.55</b>	<b>19.40</b>
N16	41.77	44.91	48.19	49.97	50.46	55.38	59.89	60.01	59.90	59.97	61.14	63.98	67.84	66.67	64.76	66.99	<b>57.61</b>	<b>8.23</b>	<b>14.29</b>
N17	23.39	26.72	29.96	30.29	30.81	39.14	46.69	51.94	51.29	57.05	54.97	59.42	61.80	60.12	52.57	54.27	<b>45.61</b>	<b>13.32</b>	<b>29.20</b>
N18	36.64	40.12	38.38	41.36	45.89	48.87	52.84	57.21	56.40	56.86	59.12	59.40	60.47	62.86	59.34	60.78	<b>52.23</b>	<b>8.99</b>	<b>17.21</b>

Source : Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 4**  
**CA3 - Advances to Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	52.58	44.78	37.23	36.61	38.77	41.34	44.87	53.95	54.45	55.21	57.76	58.67	59.43	57.84	60.03	60.85	<b>50.93</b>	<b>8.80</b>	<b>17.28</b>
P2	49.89	48.22	45.34	46.19	48.47	57.59	61.78	62.14	61.74	61.02	59.12	63.43	66.14	66.35	64.40	64.46	<b>57.87</b>	<b>7.54</b>	<b>13.03</b>
P3	53.08	55.04	51.15	50.96	50.95	52.45	56.85	57.92	58.16	57.64	61.71	62.10	62.28	62.08	58.23	61.90	<b>57.05</b>	<b>4.30</b>	<b>7.54</b>
P4	28.85	29.69	28.64	38.64	41.94	49.71	47.70	47.63	47.63	53.95	56.56	57.68	57.83	59.88	61.64	61.90	<b>48.12</b>	<b>11.61</b>	<b>24.13</b>
P5	30.29	35.63	45.18	49.88	49.59	54.52	58.14	57.03	56.43	57.56	49.86	53.26	51.88	54.07	56.96	59.98	<b>51.23</b>	<b>8.16</b>	<b>15.93</b>
P6	44.07	48.97	54.62	54.01	51.78	57.61	52.83	55.67	55.01	57.11	58.10	57.34	60.88	60.46	63.32	63.04	<b>55.89</b>	<b>5.06</b>	<b>9.05</b>
P7	44.07	42.48	41.22	48.39	53.39	59.00	61.02	56.93	57.36	52.59	54.63	60.5	61.13	57.94	59.31	61.03	<b>54.46</b>	<b>6.87</b>	<b>12.61</b>
P8	33.31	37.45	43.70	47.70	43.78	47.16	54.76	58.06	57.65	55.53	54.19	51.86	54.88	54.64	59.00	58.60	<b>50.74</b>	<b>7.79</b>	<b>15.35</b>
P9	42.69	42.36	44.02	42.09	44.13	50.19	52.11	55.92	56.06	51.67	53.42	54.74	57.05	60.70	60.27	61.12	<b>51.79</b>	<b>6.84</b>	<b>13.21</b>
P10	48.26	53.17	48.14	54.13	56.61	58.59	61.67	65.03	64.61	61.02	61.30	63.12	63.64	63.08	65.95	67.93	<b>59.74</b>	<b>6.06</b>	<b>10.14</b>
P11	45.48	47.32	49.29	47.36	45.35	56.61	58.83	61.53	61.17	58.14	61.97	62.43	67.58	63.89	65.89	63.25	<b>57.23</b>	<b>7.68</b>	<b>13.42</b>
P12	40.80	43.30	41.43	41.51	41.54	46.76	51.23	60.38	60.14	58.45	61.00	66.75	67.85	68.64	64.94	65.00	<b>54.97</b>	<b>10.82</b>	<b>19.68</b>
<b>SBI Group</b>																			
S1	35.30	37.27	38.14	37.55	42.44	51.37	57.77	61.03	60.93	64.37	64.97	65.45	67.90	66.89	70.61	67.98	<b>55.62</b>	<b>13.04</b>	<b>23.44</b>
S2	39.25	38.66	38.08	36.98	38.55	44.67	51.35	58.63	58.18	56.93	59.77	60.66	65.12	66.03	67.61	67.99	<b>53.00</b>	<b>11.79</b>	<b>22.25</b>
S3	37.51	35.99	34.69	36.65	38.73	44.01	52.99	58.17	57.76	56.25	59.99	61.84	64.96	66.76	67.50	63.48	<b>52.30</b>	<b>12.23</b>	<b>23.38</b>
S4	42.19	45.54	47.47	46.41	45.84	53.05	60.78	64.01	63.58	63.27	65.04	65.40	65.95	66.83	66.89	65.47	<b>57.96</b>	<b>9.31</b>	<b>16.06</b>
S5	46.91	47.70	50.06	50.48	48.65	48.76	53.79	62.05	61.63	62.61	60.92	63.27	63.88	67.99	66.54	67.38	<b>57.64</b>	<b>7.82</b>	<b>13.57</b>
S6	41.27	44.17	45.08	48.18	46.38	51.42	59.21	63.94	64.10	66.06	64.69	64.87	64.37	66.43	65.92	65.08	<b>57.58</b>	<b>9.55</b>	<b>16.59</b>
<b>Foreign Banks</b>																			
F1	46.71	47.64	52.96	50.04	51.56	53.57	53.82	46.21	45.77	37.92	38.39	36.38	36.68	40.53	38.98	43.88	<b>45.04</b>	<b>6.27</b>	<b>13.92</b>
F2	37.86	37.99	34.39	27.51	24.41	23.64	21.43	36.82	36.26	35.25	45.61	49.84	43.84	55.26	50.29	58.67	<b>38.66</b>	<b>11.27</b>	<b>29.15</b>
F3	33.97	40.05	40.94	39.23	37.97	45.24	44.87	40.02	39.44	29.16	25.96	30.06	32.51	33.63	30.50	33.87	<b>36.05</b>	<b>5.67</b>	<b>15.73</b>
F4	47.42	42.05	47.77	44.49	47.03	53.67	52.39	44.91	45.41	38.46	46.81	46.28	45.69	51.73	52.23	51.92	<b>47.42</b>	<b>4.13</b>	<b>8.71</b>

Source : Trend and Progress of Banking in India Report of RBI, Various Issues

**CA3 - Advances to Assets**

Advances to Assets ratio (CA3) shows the aggressiveness in lending and the proportion of loans and advances deployed by the banks. A higher ratio indicates higher investment which results in higher profitability. Table 4 portrays the advances to assets ratio of select Scheduled Commercial Banks from 1999-2000 to 2014-2015.

The Advances to Assets ratio (CA3) of all the banks recorded an oscillating trend throughout the study period. The advances disbursed by most of the banks increased around 50 percent in all the banking groups except the foreign banks group in 2014-2015 when compared with the ratio in 1999-2000.

When considering the nationalized banks group, Bank of India (N4) proved to be more aggressive in lending by recording the highest mean value at 59.38 percent with a minimum standard deviation at 5.60 percent. Syndicate Bank (N14) occupied the second highest position at 58 percent with a standard deviation at 9.60 percent. On the other hand, United Bank of India (N17) issued the less volume of advances among the group by recording the lowest average at 45.61 percent.

In the private banks group, Karur Vysya Bank (P10) took the lead by in disbursing its advances by recording the average at 59.74 percent with the standard deviation at 6.06 percent and HDFC Bank (P4) recorded the lower average at 48.12 percent with a maximum standard deviation at 11.61 percent. The huge deviation of HDFC Bank (P4) is due to an increasing trend in the ratio, where the advances disbursed by the bank stood triple times higher in 2014-2015 when compared to 1999-2000.

In SBI group, State Bank of Mysore (S4) has recorded the maximum average at 57.96 percent followed by State Bank of Patiala (S5) at 57.64 percent and State Bank of Travancore (S6) at 57.58 percent with a standard deviation at 9.31 percent, 7.82 percent and 9.55 percent respectively. The lowest mean value was registered by State Bank of India (S3) at 52.30 percent with a standard deviation at 12.23 per cent.

In the foreign banks group, all the select banks held the ratio below 50 percent stating the lower lending exposure of the banks.

**Table 5**

**CA4 - Investments in Government Securities to Assets of Scheduled Commercial Banks in India**

**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	30.15	30.16	32.43	33.72	33.88	34.62	25.64	20.95	21.02	21.90	25.46	23.20	24.71	22.40	22.66	20.12	<b>26.20</b>	<b>5.27</b>	<b>20.11</b>
N2	39.42	41.75	34.19	35.99	32.62	26.82	23.97	23.44	23.12	22.22	21.85	20.86	21.46	22.54	23.86	22.95	<b>26.49</b>	<b>6.44</b>	<b>24.31</b>
N3	19.66	19.03	21.66	28.83	33.00	29.62	22.03	19.12	18.24	17.71	17.76	16.58	15.47	18.65	14.52	13.55	<b>20.38</b>	<b>5.76</b>	<b>28.26</b>
N4	20.93	21.93	21.39	21.16	22.16	20.16	19.53	17.47	18.82	18.86	20.68	19.18	18.61	17.56	16.87	16.49	<b>19.43</b>	<b>1.78</b>	<b>9.16</b>
N5	37.40	37.78	37.89	40.85	37.76	38.94	30.98	21.98	22.25	27.40	25.65	24.26	22.65	21.70	22.31	20.11	<b>28.82</b>	<b>7.69</b>	<b>26.68</b>
N6	21.67	21.75	22.95	28.40	28.26	26.28	23.05	23.34	23.72	23.14	23.71	21.18	23.72	24.73	21.87	22.91	<b>23.96</b>	<b>2.16</b>	<b>9.02</b>
N7	29.12	28.68	27.91	33.40	38.76	35.50	31.20	20.11	21.62	25.65	24.55	22.77	22.07	22.43	23.45	24.17	<b>26.83</b>	<b>5.58</b>	<b>20.80</b>
N8	22.07	23.41	24.85	31.77	29.74	24.52	21.96	20.98	21.22	20.20	22.20	19.57	22.64	24.09	23.28	21.52	<b>23.48</b>	<b>3.34</b>	<b>14.22</b>
N9	25.65	23.93	27.90	29.65	34.30	33.08	26.49	22.13	21.92	20.55	23.11	21.53	22.21	23.59	23.24	21.96	<b>25.03</b>	<b>4.32</b>	<b>17.26</b>
N10	30.41	30.89	34.85	38.13	36.00	30.94	26.14	24.02	24.32	21.85	24.45	21.30	22.75	22.18	21.44	23.06	<b>26.84</b>	<b>5.76</b>	<b>21.46</b>
N11	26.75	27.20	26.51	29.84	30.36	26.91	23.09	22.22	22.70	22.14	23.83	22.68	22.16	21.96	20.99	22.48	<b>24.37</b>	<b>3.00</b>	<b>12.31</b>
N12	24.96	26.20	25.87	29.00	33.08	36.25	30.25	24.10	23.94	26.48	26.95	23.65	23.41	23.24	22.94	21.32	<b>26.43</b>	<b>4.14</b>	<b>15.66</b>
N13	29.74	29.04	26.48	29.39	32.32	32.63	23.01	21.96	22.22	22.08	22.24	21.01	21.77	22.47	20.40	20.54	<b>24.52</b>	<b>4.27</b>	<b>17.41</b>
N14	30.15	30.16	32.43	33.72	33.88	34.62	25.64	20.95	21.02	21.90	25.46	23.20	24.71	22.40	22.66	20.52	<b>26.22</b>	<b>5.24</b>	<b>19.98</b>
N15	28.25	29.09	30.70	34.52	33.85	35.69	25.19	23.76	23.47	20.98	20.34	19.36	20.00	18.67	19.16	22.66	<b>25.14</b>	<b>6.04</b>	<b>24.03</b>
N16	26.73	26.58	27.13	28.27	30.93	28.13	26.52	21.17	20.94	20.35	22.55	21.21	22.07	21.80	22.29	19.05	<b>23.92</b>	<b>3.62</b>	<b>15.13</b>
N17	23.14	23.32	24.19	27.38	27.30	21.87	22.17	22.72	22.45	21.65	21.86	19.66	19.25	19.79	19.71	28.47	<b>22.77</b>	<b>2.93</b>	<b>12.87</b>
N18	37.53	38.30	38.99	41.59	44.74	41.86	36.20	24.06	23.08	22.67	25.41	21.24	22.23	22.37	28.04	24.49	<b>30.34</b>	<b>8.74</b>	<b>28.81</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 5**  
**CA4 - Investments in Government Securities to Assets of Scheduled Commercial Banks in India**  
**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	20.51	22.50	0.00	23.62	20.94	19.92	23.67	19.02	18.01	19.24	18.93	18.19	20.45	21.21	18.03	17.59	<b>18.84</b>	<b>5.38</b>	<b>28.56</b>
P2	24.57	27.93	0.00	37.23	36.44	28.72	21.68	20.73	20.32	21.16	22.24	19.77	20.96	19.86	21.28	19.69	<b>22.64</b>	<b>8.28</b>	<b>36.57</b>
P3	23.36	21.34	25.88	28.33	29.48	30.14	27.51	24.12	23.99	21.35	21.24	19.37	19.02	20.52	21.21	20.37	<b>23.57</b>	<b>3.66</b>	<b>15.53</b>
P4	27.60	21.85	22.26	20.89	27.25	21.83	26.71	24.08	23.78	28.46	22.95	19.34	22.56	21.21	19.25	20.39	<b>23.13</b>	<b>2.93</b>	<b>12.67</b>
P5	23.32	20.62	21.83	23.92	23.88	20.55	20.32	19.06	18.85	16.71	18.82	15.79	17.78	17.21	16.01	16.35	<b>19.43</b>	<b>2.77</b>	<b>14.26</b>
P6	18.42	21.11	19.15	20.40	24.99	21.80	26.01	24.27	23.37	22.79	24.09	21.96	20.66	19.25	17.67	16.41	<b>21.34</b>	<b>2.71</b>	<b>12.70</b>
P7	18.42	18.08	21.88	19.64	22.14	21.91	22.38	19.76	19.12	29.06	24.18	21.09	19.09	22.82	17.38	19.12	<b>20.96</b>	<b>2.92</b>	<b>13.93</b>
P8	24.03	25.23	23.59	22.72	23.77	23.69	24.01	20.95	21.18	20.18	19.84	20.44	19.16	19.60	19.01	17.68	<b>21.58</b>	<b>2.28</b>	<b>10.57</b>
P9	23.09	32.39	36.26	36.35	28.08	26.89	27.13	24.03	23.48	25.93	23.69	21.13	22.39	21.35	22.19	22.09	<b>26.00</b>	<b>5.00</b>	<b>19.23</b>
P10	18.42	17.74	19.91	21.41	23.72	23.36	20.66	21.13	20.81	22.36	25.91	23.96	24.59	27.02	23.66	21.66	<b>22.25</b>	<b>2.56</b>	<b>11.51</b>
P11	31.31	31.97	28.46	34.27	38.69	30.37	22.68	20.94	21.01	19.86	22.03	20.69	20.34	20.05	20.92	20.89	<b>25.28</b>	<b>6.18</b>	<b>24.45</b>
P12	18.63	21.10	23.26	21.84	26.18	24.49	23.43	22.04	21.6	21.85	22.27	20.69	21.67	20.78	22.60	22.33	<b>22.15</b>	<b>1.70</b>	<b>7.67</b>
<b>SBI Group</b>																			
S1	32.11	32.33	34.97	37.61	38.36	33.55	27.20	23.91	23.52	22.45	24.12	20.87	22.30	20.55	18.19	20.17	<b>26.99</b>	<b>6.74</b>	<b>24.97</b>
S2	37.09	40.26	37.46	38.69	43.67	38.42	32.86	23.23	22.62	23.70	22.72	21.65	22.83	23.33	22.52	20.10	<b>29.41</b>	<b>8.44</b>	<b>28.70</b>
S3	26.03	30.55	33.69	38.34	38.63	37.28	27.25	20.12	19.51	23.46	21.52	18.86	19.16	17.19	17.20	18.44	<b>25.41</b>	<b>7.90</b>	<b>31.09</b>
S4	26.63	28.18	30.99	33.32	34.04	31.38	26.82	24.16	23.61	24.52	23.48	21.95	21.47	21.51	21.50	21.12	<b>25.88</b>	<b>4.46</b>	<b>17.23</b>
S5	27.95	22.40	26.41	33.10	36.84	36.09	28.32	22.08	23.08	23.79	22.84	20.79	19.55	18.46	18.78	19.21	<b>25.04</b>	<b>5.96</b>	<b>23.80</b>
S6	33.66	33.26	35.25	39.12	42.27	35.03	31.63	23.91	24.11	23.73	22.86	20.23	21.15	23.00	22.34	21.17	<b>28.31</b>	<b>7.24</b>	<b>25.57</b>
<b>Foreign Banks</b>																			
F1	23.08	23.55	22.39	22.44	17.87	19.11	20.08	21.04	20.35	22.21	28.80	26.45	32.99	32.05	34.22	41.00	<b>25.43</b>	<b>6.57</b>	<b>25.84</b>
F2	24.78	24.48	0.00	37.19	23.64	17.86	19.08	38.13	37.80	27.66	23.52	18.63	17.89	19.55	27.24	18.26	<b>23.46</b>	<b>9.42</b>	<b>40.15</b>
F3	22.63	22.8	23.26	34.18	34.83	27.28	22.96	18.91	19.19	18.89	31.04	22.66	19.45	26.13	35.11	30.46	<b>25.63</b>	<b>5.82</b>	<b>22.71</b>
F4	20.93	25.16	0.00	22.34	20.37	20.36	17.58	15.21	15.76	14.40	16.83	18.60	18.28	20.96	18.01	21.43	<b>17.92</b>	<b>5.53</b>	<b>30.86</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

#### **CA4 - Investments in Government Securities to Assets Ratio**

The investment in government securities to assets signifies the risk concerned with the assets held by the bank. A higher proportion of investment in government securities denotes the safer investments of the bank. The investment in government securities to assets ratio (CA4) of the select Scheduled Commercial Banks for the study period from 1999-2000 to 2014-2015 is shown in Table 5.

The investments in government securities of nationalized and SBI group have decreased during 2014-2015 compared to 1999-2000 and have increased in foreign and private bank groups.

In nationalized banks group, the average of the ratio was observed to be higher in Vijaya Bank (N18) at 30.34 percent with a standard deviation at 8.74 percent indicating that the bank is conservative in making its investments. At the same time, this approach of the bank will affect its return on investments. The mean value of Bank of India (N4) at 19.43 percent was found to be lower in the group with a standard deviation at 1.78 percent stating that the bank makes steady and safe investments in government securities.

The mean value was observed to be higher in Karnataka Bank (P9) at 26 percent with a standard deviation at 5 percent in private banks group. ICICI Bank (P5) reported a lower mean value at 19.43 percent with standard deviation at 2.77 percent implying the high risk taking ability of the bank to improve its return on investments

Among the banks in the SBI group, the ratio was reported to be more in State Bank of Hyderabad (S2) at an average of 29.41 percent and with a higher standard deviation at 8.44 percent. The lower mean value was observed in State Bank of Patiala (S5) at 25.04 percent with a standard deviation at 5.96 percent.

In foreign banks group, HSBC Bank (F3) recorded the highest average at 25.63 percent followed by Citibank (F1) at 25.43 percent signifying that the banks have more risk free investments in their investment portfolio. Standard Chartered Bank (F4) at 17.92 percent and with a standard deviation at 5.53 percent recorded the lowest average in the group.

**Table 6**

**CA5 - Government Securities to Total Investments of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	72.29	76.29	77.52	76.45	75.60	82.31	78.82	75.24	74.51	72.12	80.62	81.17	83.29	78.50	78.08	80.92	<b>77.69</b>	<b>3.41</b>	<b>4.39</b>
N2	81.70	86.11	85.03	84.44	85.39	82.45	85.19	87.12	87.84	89.97	94.55	93.87	90.21	87.62	88.04	91.41	<b>87.60</b>	<b>3.70</b>	<b>4.22</b>
N3	62.09	60.69	64.46	72.99	73.88	75.64	71.15	75.42	76.47	76.53	80.81	83.23	83.15	84.06	82.45	79.22	<b>75.21</b>	<b>7.45</b>	<b>9.91</b>
N4	70.40	71.68	67.62	66.37	69.24	66.75	69.00	80.02	79.02	80.85	84.78	78.42	82.50	84.02	84.69	85.14	<b>76.22</b>	<b>7.22</b>	<b>9.47</b>
N5	76.13	81.36	82.09	86.27	87.24	88.44	85.16	85.95	86.15	87.99	85.47	82.44	79.30	80.73	81.65	79.98	<b>83.53</b>	<b>3.56</b>	<b>4.26</b>
N6	58.88	67.38	71.37	76.52	78.60	76.19	82.82	86.02	85.98	87.98	90.10	85.07	86.97	84.20	84.83	86.37	<b>80.58</b>	<b>8.58</b>	<b>10.65</b>
N7	70.70	70.31	69.59	73.23	78.18	78.96	81.36	82.51	82.68	87.97	88.69	87.62	85.62	82.82	78.82	78.99	<b>79.89</b>	<b>6.29</b>	<b>7.87</b>
N8	62.05	67.22	72.81	78.22	81.15	81.06	83.52	81.24	81.58	70.38	71.81	64.65	78.01	80.13	78.10	76.71	<b>75.56</b>	<b>6.63</b>	<b>8.77</b>
N9	62.50	62.87	68.73	70.34	78.07	81.97	82.03	82.65	82.37	79.84	84.79	81.26	84.27	77.92	79.27	78.16	<b>77.30</b>	<b>7.20</b>	<b>9.31</b>
N10	81.95	79.51	81.97	84.35	84.45	82.68	81.88	86.99	87.03	84.75	85.13	78.33	89.92	88.35	83.92	81.00	<b>83.89</b>	<b>3.16</b>	<b>3.77</b>
N11	56.78	59.87	62.31	68.61	74.14	79.33	80.92	85.95	86.12	87.49	91.53	73.87	75.52	75.27	75.23	75.70	<b>75.53</b>	<b>9.95</b>	<b>13.17</b>
N12	61.76	63.87	61.92	67.36	73.28	80.46	82.81	87.19	87.45	86.75	85.37	86.97	85.08	82.98	76.64	77.89	<b>78.00</b>	<b>9.50</b>	<b>12.18</b>
N13	72.84	73.40	68.46	74.48	78.52	81.29	81.40	82.01	81.90	86.03	84.88	83.54	81.30	82.83	78.10	81.94	<b>79.55</b>	<b>4.89</b>	<b>6.15</b>
N14	78.06	77.87	81.86	85.99	89.21	91.29	89.07	89.33	89.57	89.47	85.69	86.41	89.43	87.99	86.87	89.73	<b>86.76</b>	<b>4.11</b>	<b>4.74</b>
N15	63.38	66.99	69.21	69.82	76.91	80.56	83.51	77.67	77.55	77.34	71.15	80.72	87.05	82.88	79.01	80.93	<b>76.54</b>	<b>6.60</b>	<b>8.62</b>
N16	70.51	66.48	69.67	72.17	70.93	69.48	76.24	82.39	82.24	81.07	78.40	79.46	80.95	76.41	74.42	77.25	<b>75.50</b>	<b>5.11</b>	<b>6.77</b>
N17	72.09	72.44	76.18	79.85	83.08	84.58	85.17	69.01	68.81	78.46	75.06	72.83	78.04	76.62	78.18	75.15	<b>76.58</b>	<b>5.00</b>	<b>6.53</b>
N18	66.51	70.63	75.63	79.13	82.69	86.62	84.56	81.96	82.16	82.24	84.72	72.77	82.74	83.30	78.11	78.46	<b>79.53</b>	<b>5.60</b>	<b>7.04</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 6**  
**CA5 - Government Securities to Total Investments of Scheduled Commercial Banks in India**  
(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	66.22	57.77	0.00	59.08	64.88	49.96	54.67	59.11	59.58	61.34	61.09	61.33	62.68	63.52	60.85	61.39	<b>56.50</b>	<b>15.55</b>	<b>27.52</b>
P2	71.35	78.08	0.00	89.06	90.94	91.08	84.60	86.93	86.93	81.64	80.07	79.77	83.89	86.66	89.34	86.21	<b>79.16</b>	<b>21.75</b>	<b>27.48</b>
P3	66.62	62.02	69.90	75.93	80.89	87.43	90.54	78.03	77.78	68.44	71.07	68.54	66.26	68.90	65.61	69.14	<b>72.93</b>	<b>8.08</b>	<b>11.08</b>
P4	55.97	47.76	44.11	47.48	59.88	58.02	69.14	63.98	64.11	88.68	87.10	75.64	78.19	76.07	78.25	72.32	<b>66.68</b>	<b>13.81</b>	<b>20.71</b>
P5	63.73	49.72	63.31	72.04	69.96	68.24	71.39	67.30	67.63	61.50	56.58	47.61	54.49	53.90	53.77	56.60	<b>61.13</b>	<b>7.97</b>	<b>13.04</b>
P6	60.16	73.24	78.65	79.68	94.93	83.68	84.72	82.02	81.99	77.87	81.92	73.96	81.68	71.78	71.33	72.03	<b>78.10</b>	<b>7.76</b>	<b>9.94</b>
P7	60.16	68.15	65.20	62.57	71.53	80.36	85.83	77.16	77.58	88.21	78.24	74.42	70.54	68.45	62.78	67.97	<b>72.47</b>	<b>8.30</b>	<b>11.45</b>
P8	59.65	59.16	60.28	56.63	59.64	64.05	70.61	78.94	79.20	70.84	60.49	52.42	53.39	54.62	57.06	53.55	<b>61.92</b>	<b>8.63</b>	<b>13.94</b>
P9	64.28	77.59	81.18	75.98	60.88	73.93	73.10	71.23	71.78	66.13	64.06	58.19	63.32	65.99	68.52	71.63	<b>69.27</b>	<b>6.39</b>	<b>9.22</b>
P10	58.25	60.93	66.12	71.49	77.58	83.00	80.99	85.97	86.07	80.91	86.07	87.45	88.07	91.27	92.04	90.12	<b>80.40</b>	<b>10.71</b>	<b>13.32</b>
P11	79.56	83.46	85.55	87.16	90.36	91.87	89.66	78.18	78.52	66.62	78.60	76.09	87.38	79.71	80.16	73.88	<b>81.69</b>	<b>6.75</b>	<b>8.26</b>
P12	46.26	52.12	54.82	48.14	56.62	60.19	60.55	75.02	74.98	76.61	86.45	88.53	89.99	92.03	88.12	86.58	<b>71.06</b>	<b>16.60</b>	<b>23.36</b>
<b>SBI Group</b>																			
S1	82.63	84.19	86.26	88.32	92.18	94.02	94.36	92.32	92.19	94.63	96.01	97.16	97.01	87.73	93.11	91.84	<b>91.49</b>	<b>4.44</b>	<b>4.85</b>
S2	82.06	84.31	84.32	80.77	89.11	92.14	93.66	87.12	86.96	86.66	83.64	81.21	92.39	93.47	92.98	85.10	<b>87.23</b>	<b>4.53</b>	<b>5.19</b>
S3	74.08	78.47	80.83	83.61	84.85	86.97	82.84	74.01	74.27	81.98	76.65	78.06	81.95	76.74	77.38	76.29	<b>79.33</b>	<b>4.03</b>	<b>5.08</b>
S4	72.91	74.72	77.16	79.33	85.35	89.62	91.09	91.85	92.93	87.26	92.75	88.35	88.05	86.20	82.86	81.62	<b>85.20</b>	<b>6.49</b>	<b>7.62</b>
S5	76.08	75.69	80.26	86.76	89.18	92.33	92.10	95.11	94.81	97.24	95.66	97.82	87.39	83.66	87.17	84.52	<b>88.47</b>	<b>7.09</b>	<b>8.01</b>
S6	85.91	88.35	91.25	92.61	94.13	95.50	94.81	93.16	93.21	88.50	85.79	80.11	81.07	85.81	84.19	83.89	<b>88.65</b>	<b>5.00</b>	<b>5.64</b>
<b>Foreign Banks</b>																			
F1	77.34	81.83	80.14	80.48	79.05	79.58	86.43	92.59	92.50	95.36	97.83	97.09	98.15	93.35	96.75	99.53	<b>89.24</b>	<b>8.22</b>	<b>9.21</b>
F2	54.94	55.61	0.00	88.39	89.25	85.14	70.53	92.03	91.85	79.30	73.64	62.15	60.81	74.66	79.74	87.35	<b>71.58</b>	<b>22.88</b>	<b>31.96</b>
F3	58.28	61.39	70.97	80.58	84.97	83.02	70.88	75.94	75.52	57.38	67.99	55.41	52.69	61.42	81.85	84.30	<b>70.14</b>	<b>11.18</b>	<b>15.94</b>
F4	60.69	57.46	0.00	64.06	69.43	74.58	75.97	89.97	90.53	90.23	80.88	85.66	81.36	81.64	83.12	84.73	<b>73.18</b>	<b>22.13</b>	<b>30.24</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **CA5 - Ratio of Government Securities to Total Investments**

The ratio shows the risk taking ability of the banks. It indicates a bank's strategy as being high risk – high profit or low risk – low profit. As government securities are risk-free, the higher the ratio, the lower the risk involved in bank's investments.

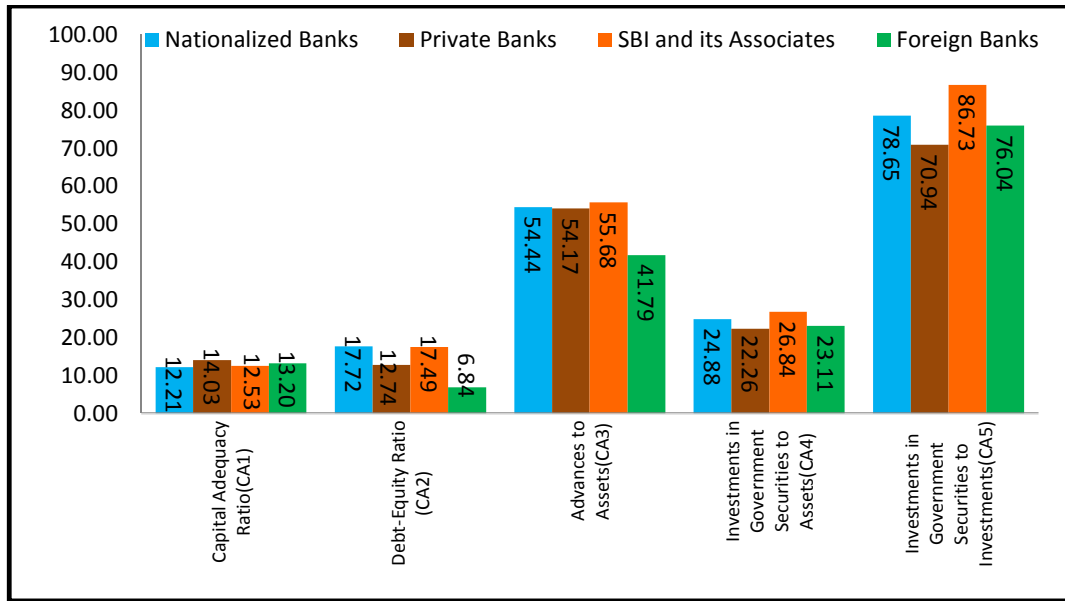
Investments in government securities to total investments ratio of select Scheduled Commercial Banks in India is portrayed in Table 6. Government Securities to Total Investments (CA5) of most of the banks under study increased in 2014-2015 when paired with 1999-2000 by recording a fluctuating trend. The increased investment in government securities shows that the banks prefer low risk to secure their investments than generating returns.

In nationalized banks group, Andhra Bank (N2) recorded the highest average at 87.60 percent followed by Syndicate Bank (N14) at 86.76 percent with a standard deviation at 3.70 percent and 4.11 percent respectively. The lowest average was reported by Bank of Baroda (N3) at 75.21 percent and with a standard deviation at 7.45 percent.

When considering the private banks group, the average of the ratio was identified to be higher in South Indian Bank (P11) in private banks group at 81.69 percent with a standard deviation at 6.75 percent. The lowest average was found in Axis Bank (P1) in private banks group at 56.50 percent stating the diversified investment portfolio of the bank and risk taking ability to a greater extent.

Among the banks in SBI group, the average of the ratio was ascertained to be higher in State Bank of Bikaner and Jaipur (S1) at 91.49 percent with a standard deviation at 4.44 percent, it is also considered to be the highest in the industry. State Bank of India (S3) in SBI group at 79.33 percent reported the lower mean value in the group.

In foreign banks group Citi Bank (F1) registered higher average at 89.24 percent and a lower standard deviation at 8.22 percent. HSBC Bank (F3) reported the lowest mean value in the group at 70.14 percent with a standard deviation at 11.18 percent.



Source: Computed data

**Figure 3**  
**Bank Group - wise Capital Adequacy of Scheduled Commercial Banks in India**

Figure 3 illustrates bank group-wise capital adequacy indicators of the select Scheduled Commercial Banks in India between 1999-2000 and 2014-2015. When considering Capital Adequacy Ratio (CA1), all the groups have maintained sufficient capital base above the prescribed level by Basel II norms at 8 percent and RBI regulations at 9 percent. The private banks group possessed highest capital base with 14.03 percent followed by foreign banks with 13.20 percent. The third position was occupied by SBI group at 12.53 percent while nationalized banks held the least Capital Adequacy Ratio (CA1) in the industry at 12.28 percent.

The Debt – Equity Ratio (CA2) was reported to be high in nationalized banks at 17.72 times signifying that the sector operates with more debts in industry. Subsequently, SBI group covered the debts at 17.49 times and private banks at 12.74 times. But, foreign banks group have a control on their debts by maintaining their very low debt to equity ratio in the industry at 6.84 times.

Group-wise Ratio of Advances to Assets (CA3) indicates that SBI group with an average at 55.68 percent proved to be aggressive in lending after which

nationalized banks recorded 54.44 percent followed by the private banks at 54.17 percent. The foreign banks with 41.79 percent are observed to be the lowest lenders compared to other bank groups in the industry.

While considering Investments in Government Securities to Assets (CA4), SBI group invested 26.84 percent in government securities out of its assets, stating low risk to its assets. Subsequently, nationalized banks stood at 24.88 percent, foreign banks group at 23.11 percent and private banks group at 22.26 percent.

Bank group-wise risk in the investments is portrayed through Investments in Government Securities to Investments (CA5). SBI group have made much secured investments, as its average stands at 86.73 percent followed by nationalized banks at 78.65 percent and foreign banks at 76.04 percent. The private banks group with an average of 70.94 percent indicates high risk taking ability of the banks.

To find whether the capital adequacy of the Scheduled Commercial Banks varied before and after financial crisis paired t-test was applied and the results thereof is presented in Table 7.

H<sub>01</sub>: There is no difference in the capital adequacy of select Scheduled Commercial Banks before and after financial crisis.

**Table 7**  
**Difference in Capital Adequacy Before and After Crisis**

Variables		Mean	Std. Deviation	Paired Differences		t	'p' value	Significance
				Mean	Std. Deviation			
CA1	Before Crisis	13.47	1.89	1.06	2.72	6.62	0.000	Significant
	After Crisis	12.40	2.23					
CA2	Before Crisis	14.30	4.89	-2.00	5.19	-6.52	0.000	Significant
	After Crisis	16.30	5.43					
CA3	Before Crisis	59.24	7.52	1.36	9.30	24.82	0.000	Significant
	After Crisis	45.60	7.68					
CA4	Before Crisis	21.87	3.06	-5.74	7.43	-13.07	0.000	Significant
	After Crisis	27.60	7.02					
CA5	Before Crisis	79.97	10.03	6.09	15.20	6.79	0.000	Significant
	After Crisis	73.88	14.13					

Source: Computed data

In order to find if there was any significant difference in the capital adequacy ratios before and after financial crisis, paired t-test was employed, and the results thereof is presented in Table 7 . It is identified that Capital Adequacy Ratio (CA1), Debt Equity Ratio (CA2), Ratio of Advances to Assets (CA3), Investments in Government Securities to Assets (CA4) and Investments in Government Securities to Investments (CA5) have explicit difference before and after financial crisis and is highly significant at 1percent level of significance. Hence, it is concluded that the average Capital Adequacy Ratio (CA1), Ratio of Advances to Assets (CA3) and Investments in Government Securities to Investments (CA5) decreased after the global financial crisis while the Debt Equity Ratio (CA2) and Investments in Government Securities to Assets (CA4) increased after the catastrophe.

### **Asset Quality**

Asset quality determines the robustness of the financial institutions against loss of value in the assets. The solvency of financial institutions in general is at risk when their assets become impaired. Consequently, it is important to monitor indicators of the quality of the bank's assets to reduce the risk of loss. The asset quality of the banks is studied through the following ratios:-

- AQ1 - Return on Investments,
- AQ2 - Return on Advances,
- AQ3 - Net NPA to Advances,
- AQ4 - Priority Sector Advances to Advances, and
- AQ5 - Interest Income to Total Assets.

**Table 8**

**AQ1 - Return on Investments of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	11.72	10.99	11.05	10.45	9.33	8.47	8.05	8.37	7.92	6.97	5.71	6.54	7.62	7.95	7.46	7.45	<b>8.50</b>	<b>1.74</b>	<b>20.47</b>
N2	11.84	11.79	10.80	9.67	9.13	7.85	7.16	6.96	6.63	6.91	6.29	6.83	7.33	7.36	7.25	7.64	<b>8.22</b>	<b>1.84</b>	<b>22.38</b>
N3	11.57	11.20	10.84	10.01	8.60	7.96	8.05	7.31	6.95	6.87	6.43	7.20	8.00	7.32	7.32	8.14	<b>8.36</b>	<b>1.64</b>	<b>19.62</b>
N4	10.47	10.35	9.52	8.59	8.03	7.62	7.15	6.59	6.83	7.14	7.46	6.76	8.27	8.01	8.05	8.04	<b>8.06</b>	<b>1.19</b>	<b>14.76</b>
N5	12.52	11.47	11.73	10.48	9.83	8.89	9.49	8.08	7.17	6.46	6.54	6.94	7.04	7.77	7.41	7.44	<b>8.70</b>	<b>1.98</b>	<b>22.76</b>
N6	10.92	10.78	11.18	9.88	9.04	8.28	7.61	8.09	8.03	7.62	7.18	7.36	7.59	8.17	8.27	8.03	<b>8.63</b>	<b>1.33</b>	<b>15.41</b>
N7	6.52	11.80	11.06	10.77	9.25	8.59	8.61	8.03	7.94	6.88	7.07	7.17	7.64	7.25	7.26	7.39	<b>8.33</b>	<b>1.61</b>	<b>19.33</b>
N8	12.01	11.60	11.04	10.31	10.24	8.40	8.16	6.62	6.79	7.13	6.00	5.97	6.75	6.50	6.82	6.43	<b>8.17</b>	<b>2.13</b>	<b>26.07</b>
N9	11.39	11.89	11.40	10.36	9.52	8.35	7.82	7.47	7.09	7.28	6.82	6.92	7.39	7.04	7.21	7.49	<b>8.47</b>	<b>1.81</b>	<b>21.37</b>
N10	15.73	11.33	11.05	9.88	9.38	9.04	8.81	7.94	7.65	7.23	6.92	6.88	7.57	7.48	7.58	7.22	<b>8.86</b>	<b>2.31</b>	<b>26.07</b>
N11	14.09	12.08	11.82	11.25	10.35	9.52	9.19	8.73	8.43	8.17	7.66	7.26	7.22	6.97	7.18	7.19	<b>9.19</b>	<b>2.16</b>	<b>23.50</b>
N12	11.98	11.33	11.06	10.30	9.75	8.82	8.36	8.37	7.81	6.52	7.18	7.00	7.59	7.41	7.40	7.76	<b>8.67</b>	<b>1.70</b>	<b>19.61</b>
N13	11.89	11.61	11.26	10.60	9.67	8.56	8.79	7.63	7.28	7.27	6.46	6.52	7.10	7.55	7.50	7.18	<b>8.55</b>	<b>1.86</b>	<b>21.75</b>
N14	11.85	11.09	10.75	9.94	8.63	8.20	6.51	8.02	7.77	6.92	7.14	6.49	7.21	7.47	7.47	7.83	<b>8.33</b>	<b>1.67</b>	<b>20.05</b>
N15	11.54	11.24	10.81	9.98	8.52	8.08	8.05	7.51	7.18	6.54	6.00	6.25	7.12	7.42	7.33	7.62	<b>8.20</b>	<b>1.76</b>	<b>21.46</b>
N16	15.74	12.12	11.52	10.43	9.27	8.33	8.02	7.84	7.39	7.37	7.15	7.10	7.57	7.92	8.33	8.17	<b>9.02</b>	<b>2.35</b>	<b>26.05</b>
N17	12.19	12.11	11.50	10.97	9.95	8.70	8.17	7.73	7.81	7.02	7.03	6.39	6.79	7.23	6.63	6.66	<b>8.56</b>	<b>2.09</b>	<b>24.42</b>
N18	12.28	11.79	11.57	10.64	9.44	7.82	8.02	8.12	7.65	7.74	6.66	6.97	6.96	7.20	7.05	7.68	<b>8.60</b>	<b>1.91</b>	<b>22.21</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 8**

**AQ1 - Return on Investments of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	9.92	11.95	11.14	7.96	8.17	7.60	7.03	6.74	6.94	7.63	6.70	6.94	7.74	7.49	7.34	7.42	<b>8.04</b>	<b>1.57</b>	<b>19.53</b>
P2	12.76	11.39	11.14	9.95	9.65	8.45	7.11	7.26	7.25	6.92	6.91	7.18	7.40	7.56	7.81	8.44	<b>8.57</b>	<b>1.85</b>	<b>21.59</b>
P3	12.09	11.79	11.35	10.19	8.68	6.70	7.59	7.01	7.29	6.32	6.22	6.29	8.24	7.60	7.85	7.57	<b>8.30</b>	<b>1.98</b>	<b>23.86</b>
P4	9.59	9.86	9.02	8.77	8.10	6.79	6.84	6.98	7.18	7.41	6.78	7.22	7.72	7.48	7.77	7.45	<b>7.81</b>	<b>0.99</b>	<b>12.68</b>
P5	11.26	8.82	5.60	8.16	6.22	4.75	6.05	6.13	7.37	6.90	5.77	6.19	6.58	6.65	6.63	6.57	<b>6.85</b>	<b>1.52</b>	<b>22.19</b>
P6	11.03	12.50	10.23	9.72	8.00	7.16	6.56	6.94	6.44	6.57	6.05	6.12	7.67	7.49	7.17	7.24	<b>7.93</b>	<b>1.91</b>	<b>24.09</b>
P7	11.03	11.80	11.41	9.37	7.01	6.41	7.07	6.25	6.47	5.60	4.94	6.00	8.26	8.43	8.00	8.27	<b>7.90</b>	<b>2.10</b>	<b>26.58</b>
P8	12.24	11.73	11.66	10.01	8.75	7.38	6.23	6.20	6.70	6.62	5.71	6.34	6.79	7.27	6.49	7.18	<b>7.96</b>	<b>2.21</b>	<b>27.76</b>
P9	12.66	10.70	10.15	9.87	8.70	7.56	7.37	7.79	7.58	7.13	5.97	5.97	6.05	7.14	7.13	7.59	<b>8.09</b>	<b>1.88</b>	<b>23.24</b>
P10	13.84	13.91	13.82	9.81	13.22	8.65	8.28	8.44	7.36	6.71	7.00	7.31	7.85	7.81	8.84	9.05	<b>9.49</b>	<b>2.63</b>	<b>27.71</b>
P11	12.73	11.62	11.29	10.10	8.88	7.26	6.37	7.09	6.82	6.74	5.71	5.99	6.78	6.81	7.10	6.78	<b>8.00</b>	<b>2.21</b>	<b>27.63</b>
P12	14.32	13.69	13.03	12.34	11.72	10.49	9.91	9.38	8.89	7.90	7.58	7.87	7.90	7.76	8.54	8.39	<b>9.98</b>	<b>2.32</b>	<b>23.25</b>
<b>SBI Group</b>																			
S1	12.08	11.41	11.13	10.23	10.22	9.49	8.85	7.30	7.34	7.29	6.91	7.31	7.72	7.91	8.18	9.07	<b>8.90</b>	<b>1.68</b>	<b>18.88</b>
S2	11.57	10.88	10.65	9.94	8.86	7.82	8.21	7.03	7.53	7.43	6.76	7.01	7.85	8.19	8.22	7.49	<b>8.47</b>	<b>1.50</b>	<b>17.71</b>
S3	11.65	10.46	10.65	9.61	8.78	8.37	7.77	6.71	7.05	6.69	6.20	6.71	7.88	8.20	8.53	8.30	<b>8.35</b>	<b>1.58</b>	<b>18.92</b>
S4	11.99	12.18	11.33	10.72	9.37	8.57	7.66	7.40	7.54	7.13	6.77	7.08	7.23	7.35	7.28	7.28	<b>8.56</b>	<b>1.92</b>	<b>22.43</b>
S5	11.59	11.97	11.87	10.14	8.31	7.85	7.16	5.89	6.94	7.45	6.57	7.35	7.60	7.55	7.53	7.33	<b>8.32</b>	<b>1.95</b>	<b>23.44</b>
S6	12.10	11.84	11.50	10.06	8.80	8.58	8.47	7.34	7.27	6.98	6.59	6.80	7.17	7.31	8.06	8.20	<b>8.57</b>	<b>1.84</b>	<b>21.47</b>
<b>Foreign Banks</b>																			
F1	12.34	10.18	8.80	7.72	10.91	7.46	9.46	7.76	8.08	7.57	6.81	8.92	8.32	8.25	7.49	7.71	<b>8.61</b>	<b>1.47</b>	<b>17.07</b>
F2	12.66	10.76	10.13	7.38	6.14	4.85	6.51	5.95	6.82	6.99	7.00	7.11	7.42	7.26	6.37	7.32	<b>7.54</b>	<b>1.98</b>	<b>26.26</b>
F3	12.49	11.76	12.07	8.78	6.58	7.10	7.81	9.18	8.88	8.83	6.76	6.94	8.28	7.81	7.30	7.75	<b>8.65</b>	<b>1.89</b>	<b>21.85</b>
F4	12.53	8.97	10.01	8.80	8.80	6.94	8.38	11.09	10.01	8.77	8.30	8.95	7.89	8.07	8.03	8.07	<b>8.98</b>	<b>1.37</b>	<b>15.26</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **AQ1 - Return on Investments**

Return on investment is a key metric that shows the profits earned out of the investments. A higher ratio indicates good strategic investments of the banks. The return on investments of select Scheduled Commercial Banks for 16 years from 1999-2000 to 2015-2016 is portrayed in Table 8.

Return on Investments (AQ1) of most of the select Scheduled Commercial Banks was observed to have decreased in 2014-2015 compared to 1999-2000 indicating the conservative investment approach of the banks. An ebb and flow trend was reported by all the banks under study. The average Return on Investments (AQ1) was above 8 percent for majority of the select Scheduled Commercial Banks.

Among the nationalized banks, Union Bank of India (N16) recorded the highest average Return on investments at 9.02 percent with a standard deviation at 2.35 percent. All the other banks in the group reported an average above 8 percent stating the effective investment portfolio of the banks in earning returns out of their investments.

In private banks group, Tamilnadu Mercantile Bank (P12) at 9.98 percent registered the highest average followed by Karur Vysya Bank (P10) at 9.49 percent with a standard deviation at 2.32 percent and 2.63 percent respectively. The average of the ratio was found to be lower in ICICI Bank (P5) at 6.57 percent with a standard deviation at 1.52 percent, stating the deprived returns of the bank from its investments.

When considering SBI group, the average return on investments of all the banks were above 8 percent and the standard deviation was around 2 percent stating that the banks have the ability to make steady returns out of their investments.

In foreign banks group, except Deutsche Bank (F2) with an average return on investments at 7.54 percent and standard deviation at 1.98 percent, all the other banks in the group reported the average above 8 percent.

**Table 9**  
**AQ2 - Return on Advances of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	11.62	11.94	10.87	10.30	9.49	9.22	8.71	9.22	9.80	10.13	9.81	10.02	11.39	10.59	10.40	10.40	<b>10.24</b>	<b>0.90</b>	<b>8.79</b>
N2	12.76	12.22	11.47	11.54	10.09	8.99	8.90	9.22	10.23	10.76	10.30	10.49	12.00	11.37	10.79	10.91	<b>10.75</b>	<b>1.13</b>	<b>10.51</b>
N3	11.39	11.34	10.02	8.89	7.90	7.35	7.31	8.27	8.84	8.96	7.88	8.02	8.67	8.40	7.69	7.47	<b>8.65</b>	<b>1.27</b>	<b>14.68</b>
N4	11.10	10.97	9.39	8.80	7.48	7.13	7.58	8.51	9.34	9.78	8.42	8.12	8.76	8.60	8.22	8.20	<b>8.78</b>	<b>1.13</b>	<b>12.87</b>
N5	12.65	11.79	11.18	9.98	8.06	7.85	8.02	8.66	9.81	10.28	9.03	9.19	10.67	11.10	11.18	10.47	<b>10.00</b>	<b>1.43</b>	<b>14.30</b>
N6	11.55	11.37	10.27	9.76	8.67	7.85	7.85	8.44	9.60	10.44	9.07	8.96	10.57	10.27	10.48	10.16	<b>9.71</b>	<b>1.14</b>	<b>11.74</b>
N7	8.40	11.36	10.81	10.36	9.52	8.95	8.00	8.20	8.49	9.78	9.06	9.57	10.40	10.59	10.66	10.67	<b>9.68</b>	<b>1.06</b>	<b>10.95</b>
N8	11.46	11.36	10.14	8.86	7.64	7.75	7.76	8.79	9.32	10.00	8.91	8.63	10.21	10.45	10.33	10.49	<b>9.51</b>	<b>1.23</b>	<b>12.93</b>
N9	12.32	11.88	11.15	10.93	9.16	8.27	7.71	8.56	9.45	9.89	9.35	9.52	10.17	11.14	10.26	10.19	<b>10.00</b>	<b>1.28</b>	<b>12.80</b>
N10	14.99	10.95	10.86	10.55	9.80	9.20	8.77	9.54	10.28	10.78	9.95	9.27	10.76	10.57	10.28	10.32	<b>10.43</b>	<b>1.38</b>	<b>13.23</b>
N11	11.87	11.79	11.22	10.29	9.00	8.06	8.03	8.49	9.80	10.60	9.96	9.98	11.62	11.42	10.87	10.65	<b>10.23</b>	<b>1.28</b>	<b>12.51</b>
N12	11.86	11.8	10.88	10.57	10.01	9.81	8.59	9.87	10.17	11.57	9.62	9.58	11.16	11.70	11.00	10.53	<b>10.55</b>	<b>0.95</b>	<b>9.00</b>
N13	12.08	11.16	10.63	9.95	8.86	7.89	7.91	8.93	9.66	10.64	9.77	9.85	10.61	10.57	9.84	9.54	<b>9.87</b>	<b>1.11</b>	<b>11.25</b>
N14	12.31	12.47	11.43	9.83	8.61	8.62	8.65	9.49	9.88	10.13	8.95	9.33	10.74	9.97	8.97	8.56	<b>9.87</b>	<b>1.28</b>	<b>12.97</b>
N15	11.02	10.75	10.23	9.71	8.84	7.96	8.09	8.39	9.32	10.00	9.39	9.37	10.61	10.55	9.81	9.36	<b>9.59</b>	<b>0.94</b>	<b>9.80</b>
N16	13.76	12.17	11.15	10.01	8.79	8.31	8.04	8.76	9.85	10.41	8.98	8.90	9.75	9.92	9.95	9.89	<b>9.92</b>	<b>1.47</b>	<b>14.82</b>
N17	11.38	11.37	10.30	10.26	8.75	8.67	8.57	8.78	8.98	9.50	9.47	9.67	10.35	10.46	11.61	10.63	<b>9.92</b>	<b>1.02</b>	<b>10.28</b>
N18	13.18	12.52	11.99	10.73	10.28	9.06	8.66	8.63	9.67	11.41	9.97	9.29	11.35	10.67	10.20	10.24	<b>10.49</b>	<b>1.33</b>	<b>12.68</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 9**  
**AQ2 - Return on Advances of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	10.45	14.87	12.80	11.21	12.06	11.43	11.43	11.77	13.41	14.33	14.31	13.47	10.45	14.87	12.80	10.12	<b>12.49</b>	<b>1.60</b>	<b>12.81</b>
P2	11.37	13.76	12.63	12.33	10.68	9.41	11.06	10.52	13.13	13.14	13.51	12.63	11.37	13.76	12.63	12.72	<b>12.17</b>	<b>1.28</b>	<b>10.52</b>
P3	10.61	12.60	12.67	10.90	2.85	8.73	10.30	11.43	12.46	10.75	12.63	12.39	10.61	12.60	12.67	11.50	<b>10.98</b>	<b>2.45</b>	<b>22.31</b>
P4	11.75	11.63	11.57	8.47	11.99	8.55	9.77	10.53	10.93	10.44	10.89	11.65	11.75	11.63	11.57	11.12	<b>10.89</b>	<b>1.10</b>	<b>10.10</b>
P5	9.28	11.46	10.26	7.52	10.53	10.59	8.83	9.50	9.73	9.80	9.17	11.45	9.28	11.46	10.26	9.81	<b>9.93</b>	<b>1.06</b>	<b>10.67</b>
P6	7.84	10.42	9.35	7.68	8.77	9.95	8.08	8.42	8.38	8.93	9.15	10.46	7.84	10.42	9.35	12.46	<b>9.22</b>	<b>1.28</b>	<b>13.88</b>
P7	8.06	10.72	8.91	8.91	8.59	9.13	8.54	8.48	8.73	8.91	9.36	10.05	8.06	10.72	8.91	11.22	<b>9.21</b>	<b>0.96</b>	<b>10.42</b>
P8	9.13	10.49	9.62	10.57	9.41	10.24	8.64	8.58	9.38	9.86	9.72	10.79	9.13	10.49	9.62	11.35	<b>9.81</b>	<b>0.79</b>	<b>8.05</b>
P9	9.83	12.19	10.81	12.62	10.72	11.94	9.74	10.44	11.01	10.43	10.46	10.79	9.83	12.19	10.81	11.68	<b>10.97</b>	<b>0.90</b>	<b>8.20</b>
P10	10.57	12.87	12.42	14.96	10.06	12.56	11.13	11.53	12.28	11.50	11.40	12.47	10.57	12.87	12.42	12.01	<b>11.98</b>	<b>1.17</b>	<b>9.77</b>
P11	8.59	12.11	11.55	10.77	8.70	11.63	9.69	10.65	10.58	11.22	10.98	11.50	8.59	12.11	11.55	11.28	<b>10.72</b>	<b>1.20</b>	<b>11.19</b>
P12	8.43	12.00	10.76	10.56	8.26	12.14	9.65	10.68	10.75	10.77	10.63	11.33	8.43	12.00	10.76	11.97	<b>10.57</b>	<b>1.28</b>	<b>12.11</b>
<b>SBI Group</b>																			
S1	11.69	11.48	10.91	10.29	8.99	8.72	8.59	9.40	10.14	10.89	9.59	9.88	11.23	11.22	10.78	10.65	<b>10.28</b>	<b>0.99</b>	<b>9.63</b>
S2	11.90	11.70	11.06	10.05	8.93	8.09	8.15	9.03	9.83	10.57	9.73	10.01	11.54	11.45	11.21	10.92	<b>10.26</b>	<b>1.24</b>	<b>12.09</b>
S3	10.59	10.53	9.44	8.69	7.62	7.24	7.62	8.29	9.34	9.67	8.62	8.64	9.98	9.46	9.09	8.95	<b>8.99</b>	<b>0.99</b>	<b>11.01</b>
S4	13.67	12.30	10.80	10.38	9.65	8.70	8.50	9.00	10.16	10.84	10.00	10.07	11.00	11.30	10.39	10.71	<b>10.47</b>	<b>1.30</b>	<b>12.42</b>
S5	11.53	11.39	10.28	10.13	8.33	7.90	8.03	8.72	10.20	11.25	10.25	10.32	11.25	11.18	10.89	10.63	<b>10.14</b>	<b>1.23</b>	<b>12.13</b>
S6	10.97	10.77	9.87	9.51	8.55	7.79	7.90	8.65	9.84	10.45	9.47	9.53	10.65	10.98	10.81	10.54	<b>9.77</b>	<b>1.07</b>	<b>10.95</b>
<b>Foreign Banks</b>																			
F1	15.68	14.14	12.71	11.33	9.93	9.06	9.57	10.16	11.57	12.61	10.5	9.06	9.68	9.78	9.73	9.90	<b>10.96</b>	<b>1.92</b>	<b>17.52</b>
F2	11.19	11.36	9.77	8.52	5.01	5.37	6.07	9.46	10.29	13.31	8.70	8.52	13.11	11.51	9.84	9.67	<b>9.48</b>	<b>2.45</b>	<b>25.84</b>
F3	11.24	11.42	10.10	9.60	8.40	7.86	8.72	10.60	12.26	13.63	10.36	9.47	8.74	9.91	9.09	9.25	<b>10.04</b>	<b>1.52</b>	<b>15.14</b>
F4	14.14	14.67	14.03	13.23	10.47	9.27	9.15	9.58	10.90	12.30	10.56	9.75	11.29	11.38	11.58	11.02	<b>11.46</b>	<b>1.77</b>	<b>15.45</b>

Source: Trend and Progress of Banking in India Report of RBI. Various Issues

## **AQ2 - Return on Advances**

The ratio measures the returns of the banks on the advances issued to its customers. A higher ratio indicates the effective business operations of the banks. Table 9 exhibits the return on advances of the banks.

The return on advances of almost all the select banks in nationalized banks group, SBI group and foreign banks group decreased in 2014-2015 compared to 1999-2000, while most of the private banks under study increased their return on advances in 2014-2015 by registering an oscillating trend.

When considering the nationalized banks group, the average Return on Advances (AQ2) was observed to be more in Andhra Bank (N2) at 10.75 percent followed by Punjab and Sind Bank (N12) at 10.55 percent with a standard deviation at 1.13 percent and 0.95 percent respectively. The higher ratio implies that the banks were able to make more returns out of the loans and advances disbursed to their customers. The average of the ratio was reported to be lower in Bank of Baroda (N3) at 8.65 percent with a standard deviation at 1.27 percent.

In private banks group, Axis Bank (P1) at 12.49 percent was observed to have a higher mean value followed by City Union Bank (P2) at 12.17 percent with a standard deviation at 1.60 percent and 1.28 percent respectively, indicating the vigorous lending by the banks. The lower mean value was reported by ING Vysya Bank (P7) at 9.21 percent preceded by Indusind (P6) at 9.22 percent in the group.

In SBI group, State Bank of Mysore (S4) at 10.47 percent recorded the highest average with a standard deviation at 1.30 percent. The lower return on advances in the group was reported by State Bank of India (S3) at 8.99 percent with a standard deviation at 0.99 percent.

Among the foreign banks, Standard Chartered Bank (F4) was observed to have registered a higher mean value at 11.46 percent with a standard deviation at 1.77 percent. The lowest average in the group was reported by Deutsche Bank (F2) at 9.48 percent and standard deviation at 2.45 percent.

**Table 10**  
**AQ3 - Net NPA to Advances of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	12.24	11.23	10.57	7.08	2.37	1.28	0.84	1.07	0.80	0.72	0.66	0.79	0.98	3.19	4.15	3.99	<b>3.87</b>	<b>4.11</b>	<b>106.20</b>
N2	3.47	2.95	2.45	1.79	0.93	0.28	0.24	0.17	0.15	0.18	0.17	0.38	0.91	2.45	3.11	2.93	<b>1.41</b>	<b>1.28</b>	<b>90.78</b>
N3	5.94	6.77	5.06	3.72	2.99	1.45	0.87	0.60	0.47	0.31	0.34	0.35	0.54	1.28	1.52	1.89	<b>2.13</b>	<b>2.14</b>	<b>100.47</b>
N4	7.55	6.72	6.02	5.59	4.50	2.80	1.49	0.95	0.52	0.44	1.31	0.91	1.47	2.06	2.00	3.36	<b>2.98</b>	<b>2.36</b>	<b>79.19</b>
N5	6.97	7.41	5.81	4.82	2.46	2.15	2.03	1.21	0.87	0.79	1.64	1.32	0.84	0.52	2.03	4.19	<b>2.82</b>	<b>2.28</b>	<b>80.85</b>
N6	5.20	4.84	3.89	3.59	2.89	1.88	1.12	0.94	0.84	1.09	1.06	1.10	1.46	2.18	1.98	2.65	<b>2.29</b>	<b>1.42</b>	<b>62.01</b>
N7	9.84	9.72	7.98	6.74	5.57	2.98	2.59	1.70	1.45	1.24	0.69	0.65	3.09	2.90	3.75	3.61	<b>4.03</b>	<b>3.05</b>	<b>75.68</b>
N8	1.92	1.98	2.31	1.65	1.80	1.12	0.64	0.47	0.32	0.29	0.31	0.46	0.87	1.19	2.32	3.08	<b>1.30</b>	<b>0.87</b>	<b>66.92</b>
N9	13.47	18.37	16.31	11.83	9.40	5.23	3.04	1.99	0.94	1.09	1.21	1.22	1.01	1.39	2.35	3.82	<b>5.79</b>	<b>6.03</b>	<b>104.15</b>
N10	7.65	7.01	6.32	5.23	2.85	1.27	0.65	0.55	0.60	1.33	2.52	1.19	1.35	2.50	3.20	5.68	<b>3.12</b>	<b>2.45</b>	<b>78.53</b>
N11	3.80	3.60	3.20	1.40	0.00	1.29	0.49	0.49	0.99	0.65	0.87	0.98	2.21	2.27	2.82	3.34	<b>1.78</b>	<b>1.25</b>	<b>70.22</b>
N12	9.39	12.27	11.7	10.89	9.62	8.11	2.43	0.66	0.37	0.32	0.36	0.56	1.19	2.16	3.35	3.55	<b>4.81</b>	<b>4.62</b>	<b>96.05</b>
N13	8.52	6.69	5.32	3.86	0.98	0.2	0.29	0.76	0.64	0.17	0.53	0.85	1.52	2.35	2.85	4.06	<b>2.47</b>	<b>2.56</b>	<b>103.64</b>
N14	3.17	4.05	4.63	4.29	2.58	1.59	0.86	0.76	0.97	0.77	1.07	0.97	0.96	0.76	1.56	1.90	<b>1.93</b>	<b>1.37</b>	<b>70.98</b>
N15	8.75	6.35	5.45	4.36	3.65	2.93	2.10	2.14	1.98	1.18	1.17	1.84	1.96	3.17	2.38	4.30	<b>3.36</b>	<b>2.07</b>	<b>61.61</b>
N16	7.97	6.87	6.26	4.91	2.87	2.64	1.56	0.96	0.17	0.34	0.81	1.19	1.70	1.61	2.33	2.71	<b>2.81</b>	<b>2.41</b>	<b>85.77</b>
N17	12.70	10.50	7.90	5.52	3.75	2.43	1.95	1.50	1.10	1.48	1.84	1.42	1.72	2.87	7.18	6.22	<b>4.38</b>	<b>3.59</b>	<b>81.96</b>
N18	6.65	6.23	6.02	2.61	0.91	0.59	0.85	0.59	0.57	0.82	1.40	1.52	1.72	1.30	1.55	1.92	<b>2.20</b>	<b>2.11</b>	<b>95.91</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 10**  
**AQ3 - Net NPA to Advances of Scheduled Commercial Banks in India**

(In percent)

Bank s	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	4.71	3.43	2.74	2.39	1.29	1.39	0.98	0.72	0.42	0.40	0.40	0.29	0.27	0.36	0.44	0.46	<b>1.07</b>	<b>1.01</b>	<b>94.39</b>
P2	7.26	8.20	8.22	8.21	6.37	3.37	1.95	1.09	0.98	1.08	0.58	0.52	0.44	0.63	1.23	1.30	<b>2.94</b>	<b>3.11</b>	<b>105.78</b>
P3	8.56	10.08	11.66	4.95	2.89	2.21	0.95	0.44	0.23	0.30	0.48	0.60	0.53	0.98	0.74	0.73	<b>2.52</b>	<b>3.63</b>	<b>144.05</b>
P4	0.77	0.45	0.50	0.37	0.16	0.24	0.44	0.43	0.47	0.63	0.31	0.19	0.18	0.20	0.27	0.25	<b>0.34</b>	<b>0.14</b>	<b>41.18</b>
P5	1.53	2.19	5.48	5.21	2.21	1.65	0.72	1.02	1.55	2.09	2.12	1.11	0.73	0.77	0.97	1.61	<b>1.96</b>	<b>1.48</b>	<b>75.51</b>
P6	9.11	5.25	6.59	4.25	2.72	2.71	2.09	2.47	2.27	1.14	0.50	0.28	0.27	0.31	0.33	0.31	<b>2.10</b>	<b>1.99</b>	<b>94.76</b>
P7	9.11	4.77	4.59	3.55	2.6	2.13	0.95	0.70	0.70	1.20	1.20	0.39	0.18	0.03	0.28	1.11	<b>1.63</b>	<b>1.57</b>	<b>96.32</b>
P8	3.22	2.45	1.88	1.58	1.48	1.41	0.92	1.13	1.07	1.38	0.28	0.20	0.15	0.14	0.22	2.77	<b>1.14</b>	<b>0.84</b>	<b>73.68</b>
P9	5.73	6.93	5.90	7.36	4.98	2.29	1.18	1.22	0.98	0.98	1.31	1.62	2.11	1.51	1.91	1.98	<b>2.82</b>	<b>2.26</b>	<b>80.14</b>
P10	3.77	4.73	6.33	4.20	2.32	1.66	0.81	0.23	0.18	0.25	0.23	0.07	0.33	0.37	0.41	0.78	<b>1.53</b>	<b>1.98</b>	<b>129.41</b>
P11	8.67	15.85	6.64	5.98	4.55	3.81	1.86	0.98	0.33	1.13	0.39	0.29	0.28	0.78	0.78	0.96	<b>2.97</b>	<b>4.16</b>	<b>140.07</b>
P12	5.77	5.99	6.66	8.70	5.00	2.95	2.17	0.98	0.38	0.34	0.24	0.27	0.45	0.66	1.22	0.67	<b>2.45</b>	<b>2.78</b>	<b>113.47</b>
<b>SBI Group</b>																			
S1	10.14	7.83	5.72	4.13	1.24	1.61	1.18	1.09	0.83	0.85	0.78	0.83	1.92	2.27	2.76	2.54	<b>2.37</b>	<b>2.05</b>	<b>86.50</b>
S2	7.30	7.82	4.97	3.25	0.65	0.61	0.36	0.22	0.16	0.38	0.55	0.87	1.30	1.61	3.12	2.24	<b>1.87</b>	<b>2.15</b>	<b>114.97</b>
S3	6.41	6.03	5.63	4.50	3.48	2.65	1.88	1.56	1.78	1.79	1.72	1.63	1.82	2.10	2.57	2.12	<b>2.75</b>	<b>1.48</b>	<b>53.82</b>
S4	8.12	7.65	7.36	5.19	2.96	0.92	0.74	0.45	0.43	0.50	1.02	1.38	1.93	2.69	3.29	2.16	<b>2.58</b>	<b>2.39</b>	<b>92.64</b>
S5	6.09	4.92	2.94	1.49	0.00	1.23	0.99	0.83	0.60	0.60	1.04	1.21	1.35	1.62	3.17	3.88	<b>1.72</b>	<b>1.37</b>	<b>79.65</b>
S6	8.58	7.75	5.72	3.06	1.39	1.81	1.47	1.08	0.94	0.58	0.91	0.98	1.54	1.46	2.78	2.04	<b>2.23</b>	<b>1.99</b>	<b>89.24</b>
<b>Foreign Banks</b>																			
F1	1.05	0.70	0.40	1.17	1.40	1.00	0.95	1.02	1.23	2.63	2.14	1.21	0.90	1.47	1.24	0.40	<b>1.19</b>	<b>0.59</b>	<b>49.58</b>
F2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.22	0.88	0.79	0.23	0.09	0.13	0.09	0.13	<b>0.16</b>	<b>0.28</b>	<b>171.41</b>
F3	1.04	0.99	2.27	1.03	0.70	0.50	0.58	0.43	0.58	1.42	2.31	0.91	0.62	0.33	0.27	0.51	<b>0.90</b>	<b>0.64</b>	<b>71.11</b>
F4	2.04	1.53	0.40	0.31	0.52	1.12	1.57	1.43	1.04	1.37	1.40	0.27	0.70	1.63	0.45	0.34	<b>0.94</b>	<b>0.53</b>	<b>56.38</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **AQ3 - Net NPA to Advances (AQ3)**

Net NPAs as a percentage of net advances is considered to be the most standard measure of quality of loan assets. The ratio shows the quality of the loans and advances disbursed by the banks. A ratio below 1 percent is considered to be tolerable and desirable. The management of net NPA to advances of Scheduled Commercial Banks under study is established in Table 10.

Non-Performing Assets of all the select banks under study recorded a fluctuating trend. Except foreign banks, the ratio of Net NPA to Advances increased in majority of the banks from 2011-2012 and continues to show an increasing trend. The ratio was observed to be above 1 percent in all the public sector banks and in some of the private sector banks in 2014-2015 stating the poor quality of advances disbursed by the banks.

When considering the average ratio of Net NPA to Advances in the nationalized banks group, all the banks have reported above 1 percent stating that all the banks are facing a very high credit risk. Out of which, Dena Bank (N9) registered a higher ratio at 5.79 percent with a higher standard deviation at 6.03 percent followed by Punjab and Sind Bank (N12) at 4.81 percent and United Bank of India (N17) at 4.38 percent. The ratio was found to be higher around 4 times than the expected ratio at 1 percent.

In private banks group, the highest average was recorded by South Indian Bank (P11) at 2.97 percent followed by City Union Bank (P2) at 2.94 percent. The ratio was found to be lower in HDFC Bank (P4) at 0.34 percent with a lower standard deviation at 0.14 percent stating the ability of the bank in providing quality advances.

In SBI group, the highest average was reported by State Bank of India (S3) at 2.75 percent. The average of the ratio was found to be lower in State Bank of Patiala (S5) at 1.72 percent with a standard deviation at 1.37 percent.

Among the foreign banks, except Citibank (F1) at 1.19 percent average, all the other banks reported the ratio below 1 percent stating the efficiency of the banks in collecting their debts and controlling their NPAs.

Table 11

## AQ4 - Priority Sector Advances to Advances of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	39.33	42.36	41.91	42.68	41.93	43.40	41.91	36.94	36.94	34.75	33.91	32.86	33.65	30.43	33.81	35.97	<b>37.67</b>	<b>4.24</b>	<b>11.26</b>
N2	38.32	35.73	34.06	39.90	37.19	39.44	37.26	36.98	36.98	36.23	35.52	33.00	33.24	35.19	37.76	35.45	<b>36.39</b>	<b>2.00</b>	<b>5.50</b>
N3	27.02	24.29	22.80	25.96	27.88	28.26	29.36	27.62	27.62	26.70	26.35	24.01	22.59	24.21	21.20	22.31	<b>25.51</b>	<b>2.47</b>	<b>9.68</b>
N4	26.13	23.88	23.97	26.16	28.26	28.59	31.50	28.41	28.41	26.27	25.48	25.76	22.56	22.45	20.88	21.16	<b>25.62</b>	<b>2.99</b>	<b>11.67</b>
N5	35.19	37.79	35.40	35.79	35.29	41.18	41.65	37.80	37.80	36.73	39.44	34.36	33.63	32.25	35.67	37.80	<b>36.74</b>	<b>2.57</b>	<b>7.00</b>
N6	28.91	28.99	28.04	30.07	33.90	33.74	37.68	39.15	39.15	33.27	33.48	32.19	29.80	33.88	32.10	32.40	<b>32.92</b>	<b>3.44</b>	<b>10.45</b>
N7	36.79	38.07	38.54	41.76	43.52	44.78	43.48	32.88	32.88	31.39	32.14	31.23	26.11	29.10	34.64	37.00	<b>35.89</b>	<b>5.54</b>	<b>15.44</b>
N8	29.02	33.10	37.31	33.01	35.85	34.75	33.27	35.31	35.31	31.74	31.57	27.52	29.19	31.35	34.81	36.02	<b>33.07</b>	<b>2.82</b>	<b>8.53</b>
N9	40.11	39.12	37.60	37.54	40.54	38.97	41.01	34.36	34.36	33.98	32.92	33.80	30.26	28.15	29.46	35.08	<b>35.45</b>	<b>4.03</b>	<b>11.37</b>
N10	29.63	30.95	32.16	33.52	39.13	39.16	39.47	33.61	33.61	32.44	34.48	29.19	30.03	31.07	32.04	34.93	<b>33.46</b>	<b>3.32</b>	<b>9.92</b>
N11	39.70	38.76	38.53	38.45	38.05	37.42	35.12	32.13	32.13	31.01	33.65	36.45	35.75	35.86	36.54	35.00	<b>35.91</b>	<b>2.61</b>	<b>7.27</b>
N12	40.30	40.68	40.87	44.77	47.18	46.56	41.20	32.30	32.30	29.23	32.76	30.82	28.01	27.20	27.24	27.51	<b>35.56</b>	<b>7.31</b>	<b>20.56</b>
N13	36.87	38.73	39.11	39.86	43.91	46.79	45.68	38.67	38.67	31.81	35.70	32.48	31.33	30.04	33.74	36.33	<b>37.48</b>	<b>5.01</b>	<b>13.37</b>
N14	25.66	29.05	27.55	30.92	32.57	36.27	36.99	32.13	32.13	32.37	34.38	30.13	29.46	26.63	29.16	27.67	<b>30.82</b>	<b>3.29</b>	<b>10.67</b>
N15	28.74	27.25	31.05	30.42	31.75	36.21	34.99	33.03	33.03	31.29	29.53	24.32	25.03	25.98	31.09	32.53	<b>30.39</b>	<b>3.42</b>	<b>11.25</b>
N16	32.74	32.39	32.95	37.40	39.37	42.50	38.10	38.06	38.06	33.13	35.04	32.04	23.87	26.60	30.40	33.58	<b>34.14</b>	<b>4.79</b>	<b>14.03</b>
N17	23.48	20.22	19.44	27.13	33.91	33.97	38.53	32.44	32.44	31.10	31.68	31.94	35.15	36.49	37.87	37.75	<b>31.47</b>	<b>5.99</b>	<b>19.03</b>
N18	39.77	35.20	35.88	35.87	40.28	39.92	40.85	35.70	35.70	35.01	34.71	29.48	29.56	27.54	27.08	31.76	<b>34.64</b>	<b>4.46</b>	<b>12.88</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 11**

**AQ4 -Priority Sector Advances to Advances of Scheduled Commercial Banks in India**

**(In percent)**

<b>Banks</b>	<b>1999-2000</b>	<b>2000-2001</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>Average</b>	<b>S.D</b>	<b>CV</b>
<b>Private Banks</b>																			
P1	8.64	7.22	16.21	22.83	26.23	28.22	34.64	27.78	27.78	28.14	28.69	28.99	28.56	24.62	27.28	24.82	<b>24.42</b>	<b>7.47</b>	<b>30.59</b>
P2	33.91	33.88	33.69	38.92	38.49	39.86	40.82	34.12	34.12	32.33	36.83	36.96	36.23	37.65	46.03	46.27	<b>37.51</b>	<b>4.18</b>	<b>11.14</b>
P3	35.43	32.24	31.92	31.40	31.32	32.15	34.30	36.51	36.51	37.80	36.55	33.13	32.28	26.07	35.72	33.81	<b>33.57</b>	<b>2.91</b>	<b>8.67</b>
P4	17.42	14.40	10.75	12.10	14.08	21.97	30.99	27.47	27.47	30.12	35.09	34.24	32.68	32.01	29.58	29.03	<b>24.96</b>	<b>8.46</b>	<b>33.89</b>
P5	13.60	16.85	4.22	16.77	23.40	21.98	29.20	26.48	26.48	28.42	29.79	24.68	23.37	20.60	19.06	19.67	<b>21.54</b>	<b>6.62</b>	<b>30.73</b>
P6	37.46	16.63	17.01	18.69	32.19	23.50	26.78	39.12	39.12	35.31	30.79	35.76	35.67	32.32	32.95	33.30	<b>30.41</b>	<b>7.62</b>	<b>25.06</b>
P7	37.46	32.76	35.10	34.93	30.61	31.17	30.31	34.74	34.74	36.73	37.15	34.09	33.06	34.47	34.07	32.12	<b>33.97</b>	<b>2.19</b>	<b>6.45</b>
P8	23.09	24.76	20.50	18.80	21.17	21.79	19.53	25.81	25.81	35.10	37.44	39.23	30.11	29.20	27.58	33.23	<b>27.07</b>	<b>6.47</b>	<b>23.90</b>
P9	37.37	33.71	34.96	38.49	40.92	33.31	35.58	36.59	36.59	37.02	36.39	35.96	36.53	37.14	38.39	39.73	<b>36.79</b>	<b>1.98</b>	<b>5.38</b>
P10	38.85	38.63	36.29	33.26	37.50	39.03	42.79	33.71	33.71	36.32	33.10	31.58	31.27	34.43	37.02	39.52	<b>36.06</b>	<b>3.23</b>	<b>8.96</b>
P11	31.97	29.74	28.43	27.79	30.75	31.87	35.59	34.24	34.24	34.00	31.23	30.25	18.76	26.13	31.66	35.36	<b>30.75</b>	<b>4.19</b>	<b>13.63</b>
P12	44.00	42.12	39.68	40.81	45.14	47.38	46.06	44.51	44.51	41.97	43.48	42.79	42.73	45.42	49.14	48.89	<b>44.29</b>	<b>2.69</b>	<b>6.07</b>
<b>SBI Group</b>																			
S1	41.50	39.60	40.59	43.16	43.86	45.16	41.30	40.99	40.99	38.80	37.85	36.55	35.35	35.31	36.04	38.73	<b>39.74</b>	<b>3.01</b>	<b>7.57</b>
S2	35.63	34.74	34.41	32.54	39.51	39.69	41.68	32.78	32.78	31.97	33.93	36.17	34.53	33.72	35.08	35.82	<b>35.31</b>	<b>2.79</b>	<b>7.90</b>
S3	26.38	26.55	26.15	25.49	27.04	28.59	30.56	28.61	28.61	26.48	26.99	30.61	28.84	25.28	23.21	22.23	<b>26.98</b>	<b>2.32</b>	<b>8.60</b>
S4	39.09	36.39	35.40	36.46	36.52	40.45	42.45	31.85	31.85	33.22	30.55	34.52	28.26	29.86	30.09	31.20	<b>34.26</b>	<b>4.11</b>	<b>12.00</b>
S5	36.92	37.03	36.45	40.98	39.39	44.04	37.87	31.60	31.6	32.15	38.47	37.55	32.23	31.33	36.10	38.43	<b>36.38</b>	<b>3.73</b>	<b>10.25</b>
S6	33.23	31.50	30.40	33.60	37.22	38.36	41.10	41.73	41.73	39.92	36.64	37.47	36.21	36.30	38.83	37.45	<b>36.98</b>	<b>3.43</b>	<b>9.28</b>
<b>Foreign Banks</b>																			
F1	18.73	20.77	21.93	21.25	22.51	23.33	23.73	30.32	30.32	29.37	36.20	32.78	28.87	26.65	26.70	29.42	<b>26.43</b>	<b>4.90</b>	<b>18.54</b>
F2	47.09	31.05	28.24	21.44	23.49	26.29	27.13	21.32	21.32	33.03	26.55	32.26	24.89	22.56	22.82	23.70	<b>27.07</b>	<b>6.57</b>	<b>24.27</b>
F3	18.04	20.06	16.29	15.91	14.72	17.62	20.67	28.18	28.18	32.76	34.99	35.05	30.25	27.72	24.06	20.76	<b>24.08</b>	<b>6.98</b>	<b>28.99</b>
F4	21.08	27.63	20.36	21.21	24.61	29.17	28.68	28.41	28.41	25.84	27.56	26.37	26.39	28.64	30.16	30.21	<b>26.55</b>	<b>3.19</b>	<b>12.02</b>

**Source: Trend and Progress of Banking in India Report of RBI, Various Issues**

#### **AQ4 - Priority Sector Advances to Advances**

Priority sector advances to advances measures the loans lent to the priority sectors which is meant for overall growth of the economy as opposed to the financial sector. As per the guidelines issued by RBI in 2017, all the Scheduled Commercial Banks are required to provide 40 percent of its total lending to the priority sector. Table 11 interprets the priority sector lending by the select Scheduled Commercial Banks from 1999-2000 to 2014-2015.

The priority sector advances to advances (AQ4) of the select Scheduled Commercial Banks fluctuated throughout the study period. The ratio has increased in most of the banks in 2014-2015 compared to 1999-2000, as RBI insists on increasing the priority sector lending towards economic growth.

In the nationalized banks group, Allahabad Bank (N1) at 37.67 percent average took the lead in lending advances to the priority sectors and the second position was occupied by Punjab National Bank (N13) at 37.48 percent with a standard deviation at 4.24 percent and 5.01 percent respectively. The lower average was recorded by Bank of Baroda (N3) at 25.51 percent followed by Bank of India (N4) at 25.62 percent. Except Bank of Baroda (N3) and Bank of India (N4), all the other banks registered the average above 30 percent.

When considering the private banks group, the highest average in the group was recorded by Tamilnadu Mercantile Bank (P12) at 44.29 percent with a standard deviation at 2.69 percent. The lowest mean value was found in ICICI Bank (P5) at 21.54 percent with a high standard deviation at 6.62 percent.

In SBI group, State Bank of Bikaner and Jaipur (S1) at 39.74 percent recorded the highest average with a standard deviation at 3.01 percent. The lowest average in the group was recorded by State Bank of India (S3) at 26.98 percent with the lowest standard deviation at 2.32 percent.

As far as the foreign banks are concerned, the highest average was reported by Deutsche Bank (F2) at 27.07 percent and the lowest average was recorded by HSBC Bank (F3) at 24.08 percent with a highest standard deviation at 24.08 percent.

**Table 12**

**AQ5 - Interest Income to Total Assets of Scheduled Commercial Banks in India**

**(In percent)**

<b>Banks</b>	<b>1999-2000</b>	<b>2000-2001</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>Average</b>	<b>S.D</b>	<b>CV</b>
<b>Nationalized Banks</b>																			
N1	9.94	9.90	9.71	9.73	8.51	7.98	7.50	7.94	8.20	8.16	7.63	8.07	9.29	9.00	8.83	8.81	<b>8.70</b>	<b>0.82</b>	<b>9.43</b>
N2	10.53	10.36	9.82	9.62	8.62	7.64	7.29	7.52	8.08	8.60	8.03	8.32	9.71	9.53	9.12	9.29	<b>8.88</b>	<b>1.01</b>	<b>11.37</b>
N3	9.42	9.44	8.87	8.28	7.61	7.16	6.78	7.02	7.32	7.43	6.61	6.87	7.37	7.08	6.45	6.25	<b>7.50</b>	<b>1.00</b>	<b>13.33</b>
N4	8.61	9.20	8.67	8.10	7.18	6.71	6.78	7.03	7.71	8.09	7.14	6.95	7.74	7.62	7.39	7.29	<b>7.64</b>	<b>0.73</b>	<b>9.55</b>
N5	10.71	9.96	9.86	8.97	7.71	7.27	7.72	7.75	7.89	8.01	7.28	7.54	8.61	9.24	9.44	8.97	<b>8.56</b>	<b>1.07</b>	<b>12.50</b>
N6	9.46	9.30	9.19	8.63	7.72	7.22	7.17	7.61	8.20	8.56	7.74	7.64	8.69	8.67	8.75	8.41	<b>8.31</b>	<b>0.72</b>	<b>8.66</b>
N7	9.04	9.61	9.33	9.25	8.41	7.89	7.52	7.44	7.27	7.70	7.30	7.76	8.71	8.78	8.76	8.78	<b>8.35</b>	<b>0.79</b>	<b>9.46</b>
N8	10.11	9.90	8.99	8.43	7.94	7.13	7.06	7.21	7.57	7.91	7.04	7.16	8.48	8.59	8.64	8.73	<b>8.18</b>	<b>0.98</b>	<b>11.98</b>
N9	10.02	9.88	9.30	9.09	8.20	7.47	6.96	7.31	7.64	7.92	7.56	7.84	8.59	8.86	8.37	8.45	<b>8.34</b>	<b>0.91</b>	<b>10.91</b>
N10	12.73	9.65	9.65	9.10	8.49	8.05	8.00	8.24	8.41	8.65	8.13	7.81	8.98	8.91	8.73	8.54	<b>8.88</b>	<b>1.16</b>	<b>13.06</b>
N11	11.35	10.69	10.25	9.95	8.80	7.51	7.29	7.77	8.29	8.71	8.21	8.09	9.33	9.36	9.03	8.86	<b>8.97</b>	<b>1.15</b>	<b>12.82</b>
N12	10.04	9.78	9.32	9.09	8.67	8.13	7.48	8.42	8.39	8.98	8.03	7.88	9.15	9.57	9.11	8.93	<b>8.81</b>	<b>0.72</b>	<b>8.17</b>
N13	10.26	9.97	9.75	9.41	8.25	7.40	7.06	7.30	7.89	8.58	7.88	8.00	8.72	8.94	8.40	8.03	<b>8.49</b>	<b>0.96</b>	<b>11.31</b>
N14	9.94	10.08	9.61	8.69	7.56	7.57	7.16	8.03	8.05	8.03	7.46	7.75	9.01	8.61	7.97	7.79	<b>8.33</b>	<b>0.90</b>	<b>10.80</b>
N15	8.93	8.94	8.66	8.43	7.87	7.21	7.48	7.62	7.91	8.06	7.65	7.56	8.51	8.84	8.33	7.98	<b>8.12</b>	<b>0.55</b>	<b>6.77</b>
N16	11.32	10.09	9.64	9.02	8.26	7.60	7.26	7.70	8.13	8.34	7.47	7.63	8.44	8.75	8.81	8.73	<b>8.57</b>	<b>1.07</b>	<b>12.49</b>
N17	9.24	9.42	9.19	9.01	8.27	7.77	7.57	7.48	7.36	7.41	7.55	7.59	8.29	8.54	8.84	8.21	<b>8.23</b>	<b>0.73</b>	<b>8.87</b>
N18	10.03	10.03	10.12	9.49	8.99	7.85	7.60	7.64	7.89	8.84	7.84	7.68	8.99	8.76	8.62	8.77	<b>8.70</b>	<b>0.89</b>	<b>10.23</b>

**Source: Trend and Progress of Banking in India Report of RBI, Various Issues**

**(Continued)**

**Table 12**

**AQ5 - Interest Income to Total Assets of Scheduled Commercial Banks in India**

**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	9.13	10.21	9.38	8.62	7.25	6.22	6.60	7.26	7.66	8.42	7.09	7.16	8.33	8.68	8.47	8.40	<b>8.06</b>	<b>1.08</b>	<b>13.40</b>
P2	11.89	11.01	10.48	9.61	9.49	8.69	8.56	8.43	9.38	9.69	9.19	9.32	10.30	10.59	10.61	10.21	<b>9.84</b>	<b>0.95</b>	<b>9.65</b>
P3	11.25	11.19	10.99	9.95	8.73	7.46	7.67	7.88	8.73	9.29	8.90	8.52	9.92	9.37	9.54	9.42	<b>9.30</b>	<b>1.17</b>	<b>12.58</b>
P4	8.50	9.24	8.69	7.49	7.01	6.60	7.16	8.07	9.01	10.32	7.97	7.97	9.06	9.50	9.22	8.96	<b>8.42</b>	<b>1.02</b>	<b>12.11</b>
P5	8.95	7.81	3.47	8.87	7.67	6.43	6.83	7.38	8.27	7.98	6.92	6.75	7.49	7.81	7.81	7.91	<b>7.40</b>	<b>1.26</b>	<b>17.03</b>
P6	9.60	8.75	7.53	7.39	7.89	7.39	7.15	7.78	8.51	9.08	8.60	8.86	10.38	10.67	10.3	9.88	<b>8.74</b>	<b>1.17</b>	<b>13.39</b>
P7	9.60	9.31	8.84	8.11	7.45	6.92	7.60	7.03	7.50	7.80	6.79	7.39	8.97	9.55	9.03	9.16	<b>8.19</b>	<b>1.00</b>	<b>12.21</b>
P8	9.79	9.25	9.87	9.06	8.01	6.79	6.71	6.89	7.93	8.44	7.62	7.98	8.73	9.30	9.00	9.13	<b>8.41</b>	<b>1.03</b>	<b>12.25</b>
P9	10.89	10.53	10.29	9.53	8.55	7.27	7.41	8.06	8.78	9.24	7.92	8.08	9.12	9.67	9.46	9.50	<b>9.02</b>	<b>1.08</b>	<b>11.97</b>
P10	12.18	11.55	10.32	9.13	9.75	7.88	7.71	8.64	8.62	9.14	9.02	8.84	9.93	10.06	10.41	10.31	<b>9.59</b>	<b>1.22</b>	<b>12.72</b>
P11	11.69	11.19	10.46	9.24	8.06	7.57	7.5	7.98	8.40	9.00	8.43	8.38	9.79	9.84	9.57	9.27	<b>9.15</b>	<b>1.24</b>	<b>13.55</b>
P12	11.29	11.14	10.89	10.48	10.96	9.58	9.36	9.67	9.54	9.72	9.01	9.23	10.34	11.23	10.79	10.10	<b>10.21</b>	<b>0.78</b>	<b>7.64</b>
<b>SBI Group</b>																			
S1	9.83	9.62	9.23	8.56	8.22	7.97	7.72	7.66	8.07	8.71	7.91	8.19	9.29	9.46	9.24	9.32	<b>8.69</b>	<b>0.74</b>	<b>8.52</b>
S2	10.33	10.01	9.48	8.57	7.80	7.09	7.28	7.50	7.96	8.25	7.67	8.05	9.46	9.79	9.70	9.34	<b>8.64</b>	<b>1.07</b>	<b>12.38</b>
S3	9.17	9.01	8.98	8.59	7.77	7.47	7.54	7.02	7.60	7.57	7.04	7.15	8.32	8.25	8.12	7.94	<b>7.97</b>	<b>0.70</b>	<b>8.78</b>
S4	10.55	10.34	9.83	9.56	8.42	7.75	7.50	7.69	8.33	8.83	8.29	8.37	9.03	9.35	8.96	9.05	<b>8.87</b>	<b>0.90</b>	<b>10.15</b>
S5	10.11	10.09	9.50	9.13	7.84	7.31	6.77	6.91	8.09	9.02	8.20	8.23	9.03	9.24	9.12	8.97	<b>8.60</b>	<b>1.03</b>	<b>11.98</b>
S6	9.93	9.77	9.39	8.92	8.09	7.60	7.57	7.70	8.39	8.84	8.05	8.02	8.79	9.21	9.38	9.07	<b>8.67</b>	<b>0.77</b>	<b>8.88</b>
<b>Foreign Banks</b>																			
F1	11.01	10.41	9.33	8.47	8.31	6.95	7.73	7.84	7.94	7.23	6.05	6.06	6.47	6.94	6.73	7.20	<b>7.79</b>	<b>1.45</b>	<b>18.61</b>
F2	10.35	10.60	8.16	5.86	4.17	4.03	5.30	6.53	6.81	7.58	5.93	6.60	8.37	7.82	7.22	7.43	<b>7.05</b>	<b>1.85</b>	<b>26.24</b>
F3	9.08	9.34	8.63	7.39	6.11	6.11	6.74	7.59	7.61	7.42	5.58	5.72	6.25	6.53	6.27	6.21	<b>7.04</b>	<b>1.18</b>	<b>16.76</b>
F4	11.21	10.5	10.53	9.48	7.93	6.97	7.35	7.72	7.37	6.61	6.09	6.51	6.97	7.53	7.96	7.72	<b>8.03</b>	<b>1.55</b>	<b>19.30</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **AQ5 - Interest Income to Total Assets**

The ratio is the measure of income earned by the banks as interest through their lending practices. It indicates the competency of the banks. Table 12 shows the interest income to assets of the select Scheduled Commercial Banks from 1999-2000 to 2014-2015.

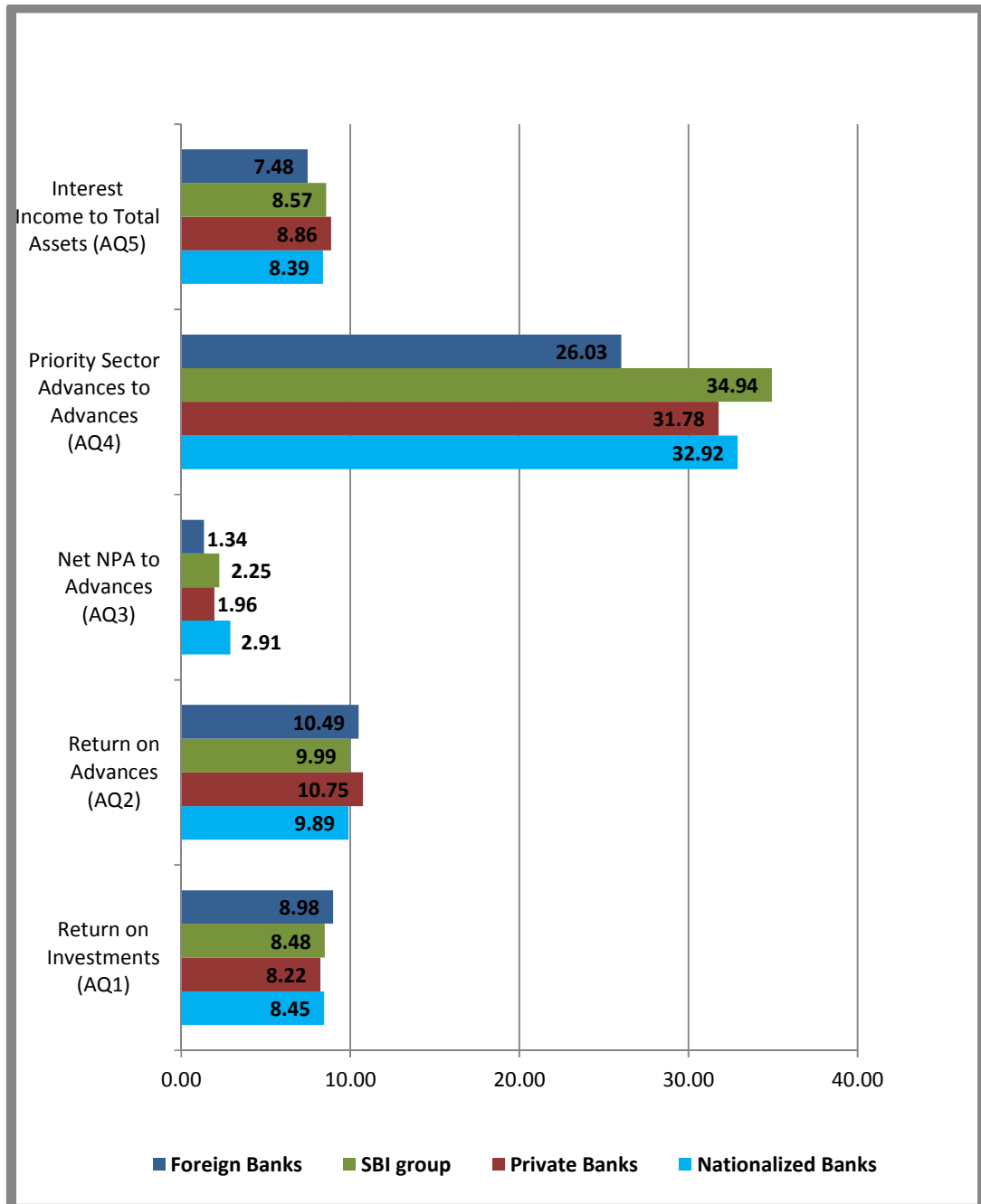
The interest income to total assets of the select Scheduled Commercial Banks steadily fluctuated throughout the study period and is further observed that the ratio of all the banks under study declined in 2014-2015 when compared to 1999-2000.

In nationalized banks group, the average of the ratio was above 8 percent in most of the banks except Bank of Baroda (N3) at 7.50 percent and Bank of India (N4) at 7.64 percent with a standard deviation at 1 percent and 0.73 percent respectively.

When considering the average interest income to total assets (AQ5) in the private banks group, Tamilnadu Mercantile Bank (P12) recorded a very highest average at 10.21 percent, which is also the highest in the industry with a lower standard deviation at 0.78 percent. The higher ratio indicates the ability of the bank to earn out of its lending. The lower average of the ratio was recorded by ICICI Bank (P5) at 7.40 percent with a higher standard deviation in the group at 1.26 percent.

Among the banks in the SBI group, the highest average was recorded by State Bank of Mysore (S4) at 8.87 percent with a standard deviation at 0.90 percent. The average was observed to be lower in State Bank of India (S3) at 7.97 percent with a standard deviation at 0.70 percent.

When considering the banks in the foreign banks group, Standard Chartered Bank (F4) reported highest average at 8.03 percent with a highest standard deviation at 1.55 percent. The lowest average was found in HSBC Bank (F3) at 7.04 percent followed by Deutsche Bank (F2) at 7.05 percent with a standard deviation at 1.18 percent and 1.85 percent respectively.



Source : Computed data

Figure 4

**Bank Group - wise Asset Quality of Scheduled Commercial Banks in India**

Group – wise asset quality of the Scheduled Commercial Banks is illustrated in Figure 4. It is ascertained that the average Return on Investments (AQ1) of all the groups are above 8 percent, indicating the capability of the banks to earn out of their investments. Amongst the select Scheduled Commercial Banks, foreign banks group took the lead with 8.98 percent. SBI group held the second position at 8.48 percent while nationalized banks occupied the third position with 8.45 percent. The return on investment of private banks was observed to be low in the industry with 8.22 percent.

When considering Return on Advances (AQ2), Private Banks group is at a lead with an average of 10.75 percent followed by foreign banks group with 10.49 percent, after which SBI group stood at 9.99 percent. The nationalized banks group held 9.89 percent resulting in lower returns on the average opening and closing balances of advances in the industry.

The average net NPA to advances ratio (AQ3) was found to be higher in the nationalized banks at 2.91 percent stating the high risk in the credit disbursed by the banks in the group. Next bank group with more net NPA to advances ratio (AQ3) is SBI group at 2.25 percent. Subsequently, the private banks held 1.96 percent, and the risk was observed to be very less in foreign banks at 1.34 percent in the industry.

Group-wise disbursement of advances to the priority sector is portrayed through priority sector advances to advances ratio (AQ4). The ratio was found to be higher in SBI group at 34.94 percent followed by nationalized banks at 32.92 percent, since they have to meet the social objectives. The consecutive banking group is private banks group with 31.78 percent while the foreign banks group lent advances to the priority sector at 26.03 percent out of its total advances.

The average interest income to total assets (AQ5) was observed to be more than 8 percent private banks, nationalized banks and SBI group. The private banks group was observed to be in the lead to generate more interest income in the industry at 8.86 percent. The proportion of interest earned by the banks to its total assets was recorded to be lower in the foreign banks group at 7.50 percent.

To find whether there is any difference in asset quality parameters before and after financial crisis, paired t-test was employed and the results thereof is presented in Table 13.

H<sub>02</sub>: There is no difference in the asset quality of select Scheduled Commercial Banks before and after crisis.

**Table 13**  
**Difference in Asset Quality Before and After Crisis**

Variables	Mean	Std. Deviation	Paired Differences		t	'p' value	Significance	
			Mean	Std. Deviation				
AQ1	Before Crisis	7.21	0.70	-2.61	2.23	-19.83	0.000	Significant
	After Crisis	9.82	2.04					
AQ2	Before Crisis	10.50	1.22	0.35	2.15	2.73	0.007	Significant
	After Crisis	10.15	1.88					
AQ3	Before Crisis	1.15	0.89	-2.95	3.99	-12.49	0.000	Significant
	After Crisis	4.10	3.70					
AQ4	Before Crisis	31.87	5.07	-0.44	8.12	-0.92	0.360	Insignificant
	After Crisis	32.31	8.56					
AQ5	Before Crisis	8.32	0.97	-0.39	1.77	-3.70	0.000	Significant
	After Crisis	8.70	1.46					

Source: Computed data

To identify if there was any difference in the asset quality performance before and after economic crisis, paired t-test was utilized, and the results is displayed in Table 13 .It is found that the variable priority sector advances to advances (AQ4) was insignificant stating that the advances provided to priority sector did not vary before and after the global economic devastation. The other variables namely AQ1 (Return on investments), AQ2 (Return on advances), AQ3 (Net NPA to advances) and AQ5 (interest income to total assets) showed difference at 1% level of significance and thus the hypothesis for these variables is rejected. Hence, it is inferred that the return on advances decreased in the select banks while there is an increase in the net NPA to advances after the crisis.

### **Management Ability**

Management ability is a key determinant of whether a bank possesses the ability to correctly diagnose and respond to financial stress. The management component provides examiners with objective, and not merely subjective, indicators. Managerial effectiveness includes both the board of directors' and management's ability to identify, measure, monitor and control the risks of the bank's actions, ensure its safe and sound operations, and ensure compliance with applicable laws and regulations. Management practices should be able to respond to various risks, namely, credit, interest rate, liquidity, transaction, compliance, reputation, strategic, and other risks. The management ability of the banks is observed through the ratios mentioned below:

- MA1 - Current and Savings Account Ratio,
- MA2 - Total Advances to Total Deposits,
- MA3 - Business per Employee,
- MA4 - Profit per Employee,
- MA5 - Intermediation Cost to Total Assets, and
- MA6 - Burden to Total Assets.

**Table 14**

**MA1 - Current and Savings Account Ratio of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	41.93	42.02	42.23	43.17	41.90	16.07	16.72	18.32	16.01	15.46	15.63	13.85	11.93	11.11	9.51	9.25	<b>22.82</b>	<b>13.76</b>	<b>60.30</b>
N2	30.07	24.77	28.31	30.53	37.34	18.48	17.66	17.52	17.65	17.40	17.23	15.45	11.99	11.32	10.55	12.50	<b>19.92</b>	<b>7.93</b>	<b>39.81</b>
N3	31.90	32.99	32.97	33.73	36.39	16.41	17.26	15.46	14.98	14.67	15.23	14.86	14.75	14.76	17.20	16.74	<b>21.27</b>	<b>8.67</b>	<b>40.76</b>
N4	33.53	33.01	33.63	32.07	33.66	15.21	15.45	15.40	16.50	13.12	13.70	11.01	10.97	10.35	8.97	7.98	<b>19.04</b>	<b>10.14</b>	<b>53.26</b>
N5	38.35	34.21	34.43	32.42	31.79	16.53	21.19	24.22	24.29	19.11	19.49	19.67	22.01	23.30	18.14	18.29	<b>24.84</b>	<b>7.01</b>	<b>28.22</b>
N6	37.99	34.93	33.83	34.81	33.78	18.23	17.45	17.06	17.11	15.32	15.44	16.54	9.02	8.30	8.22	8.16	<b>20.39</b>	<b>10.84</b>	<b>53.16</b>
N7	41.55	39.67	39.43	40.86	43.27	19.87	22.52	20.38	17.77	15.04	18.16	17.01	12.82	12.37	10.56	9.97	<b>23.83</b>	<b>12.43</b>	<b>52.16</b>
N8	27.09	26.47	26.01	28.53	33.99	30.03	28.64	31.69	37.78	35.58	28.98	24.08	18.05	18.32	15.34	13.07	<b>26.48</b>	<b>7.16</b>	<b>27.04</b>
N9	37.25	38.32	39.36	39.74	41.54	20.09	19.93	23.46	17.96	16.43	17.83	16.98	18.95	14.02	12.31	11.18	<b>24.08</b>	<b>10.99</b>	<b>45.64</b>
N10	32.16	31.56	29.98	32.15	34.37	22.50	22.46	19.71	21.28	16.18	17.02	16.23	13.75	13.05	12.28	11.88	<b>21.66</b>	<b>7.98</b>	<b>36.84</b>
N11	25.08	25.6	25.12	28.54	28.56	17.85	19.79	19.72	19.75	15.54	16.93	13.47	11.98	13.24	12.26	12.57	<b>19.13</b>	<b>5.88</b>	<b>30.74</b>
N12	31.21	30.99	32.95	36.34	41.51	19.70	32.73	21.93	16.55	12.30	12.74	11.53	11.04	10.02	10.29	11.01	<b>21.43</b>	<b>11.04</b>	<b>51.52</b>
N13	44.88	44.26	44.32	46.87	45.87	22.97	26.74	22.59	20.45	17.25	18.32	16.40	14.43	14.50	13.33	12.75	<b>26.62</b>	<b>13.50</b>	<b>50.71</b>
N14	34.46	37.16	37.91	39.40	33.90	21.21	22.17	19.26	22.09	17.73	17.00	15.68	15.44	15.00	13.10	13.45	<b>23.44</b>	<b>9.61</b>	<b>41.00</b>
N15	40.08	39.01	36.8	35.02	32.40	15.65	14.45	16.49	14.22	14.23	14.22	10.42	10.12	19.03	16.47	16.46	<b>21.57</b>	<b>10.85</b>	<b>50.30</b>
N16	39.41	41.53	41.10	36.22	35.78	15.82	15.54	19.39	21.76	18.42	18.46	18.93	16.86	17.95	14.99	13.12	<b>24.08</b>	<b>10.53</b>	<b>43.73</b>
N17	36.45	36.83	40.11	42.72	44.83	20.75	20.63	20.80	21.14	19.22	19.11	21.21	20.94	17.75	13.31	15.28	<b>25.69</b>	<b>10.49</b>	<b>40.83</b>
N18	36.44	33.97	32.43	32.20	30.82	22.63	24.16	22.00	19.97	15.13	14.58	14.08	11.26	10.74	9.48	10.61	<b>21.28</b>	<b>9.44</b>	<b>44.36</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 14**

**MA1 - Current and Savings Account Ratio of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	16.99	15.38	16.50	23.04	38.08	44.11	38.64	37.19	44.73	41.16	44.57	38.26	35.17	37.10	33.48	33.58	<b>33.62</b>	<b>10.06</b>	<b>29.92</b>
P2	24.01	23.75	21.26	20.71	20.51	18.73	18.62	24.41	19.32	16.92	21.31	16.77	14.70	13.14	13.10	13.86	<b>18.82</b>	<b>3.79</b>	<b>20.14</b>
P3	22.24	23.48	22.73	21.15	23.09	11.19	10.45	11.17	11.18	8.69	9.82	10.85	10.38	9.99	11.11	11.34	<b>14.30</b>	<b>5.79</b>	<b>40.49</b>
P4	46.33	40.82	40.66	42.97	54.72	56.92	51.81	57.00	56.24	39.30	43.85	44.06	36.44	34.96	33.15	32.28	<b>44.47</b>	<b>8.57</b>	<b>19.27</b>
P5	21.50	27.49	16.31	15.53	22.95	25.52	19.82	18.34	20.00	19.47	29.95	29.94	26.61	24.54	25.29	26.35	<b>23.10</b>	<b>4.55</b>	<b>19.70</b>
P6	20.64	11.05	12.96	12.18	11.17	13.33	15.56	19.15	18.74	26.55	32.77	36.32	32.13	31.02	31.37	32.59	<b>22.35</b>	<b>9.22</b>	<b>41.25</b>
P7	20.64	21.51	21.83	21.06	24.91	21.10	22.25	24.18	32.02	25.90	30.90	33.23	35.48	34.32	32.93	27.15	<b>26.84</b>	<b>5.43</b>	<b>20.23</b>
P8	36.27	30.79	34.05	33.39	30.26	25.08	25.43	27.39	29.84	27.83	26.01	23.80	21.29	19.77	19.57	19.75	<b>26.91</b>	<b>5.29</b>	<b>19.66</b>
P9	21.18	19.59	18.69	18.52	20.28	13.55	13.51	15.38	13.14	11.37	14.37	13.57	13.29	13.65	13.54	12.48	<b>15.38</b>	<b>3.14</b>	<b>20.42</b>
P10	20.19	21.48	21.95	21.47	22.87	23.32	24.95	26.20	24.42	19.79	21.25	20.23	15.43	15.79	16.36	15.79	<b>20.72</b>	<b>3.40</b>	<b>16.41</b>
P11	21.90	20.24	18.96	19.19	20.97	11.25	11.73	10.06	10.16	9.32	9.12	8.08	6.91	6.97	7.94	7.00	<b>12.49</b>	<b>5.62</b>	<b>45.00</b>
P12	28.10	26.86	25.17	24.27	25.24	27.86	28.74	27.49	24.07	19.98	23.55	20.87	15.80	14.36	13.82	13.72	<b>22.49</b>	<b>5.40</b>	<b>24.01</b>
<b>SBI Group</b>																			
S1	41.65	43.48	43.43	46.93	45.51	26.20	22.66	15.91	19.17	17.89	14.55	12.51	12.15	11.89	10.83	9.64	<b>24.65</b>	<b>14.31</b>	<b>58.05</b>
S2	37.89	36.77	34.62	33.58	34.39	25.91	26.11	22.83	22.18	23.31	18.33	21.03	15.77	16.40	16.49	18.47	<b>25.26</b>	<b>7.79</b>	<b>30.84</b>
S3	39.47	36.33	36.48	37.33	40.77	28.85	33.94	35.14	34.23	28.40	29.38	27.16	18.20	18.13	15.81	15.42	<b>29.69</b>	<b>8.59</b>	<b>28.93</b>
S4	35.43	34.68	35.18	36.45	36.23	18.53	18.04	15.61	16.96	12.88	14.07	13.59	11.96	9.70	10.58	10.58	<b>20.65</b>	<b>10.71</b>	<b>51.86</b>
S5	45.85	43.39	41.74	38.09	34.41	16.66	16.55	13.75	14.97	9.93	12.08	10.86	8.32	8.75	16.41	11.30	<b>21.44</b>	<b>13.85</b>	<b>64.60</b>
S6	33.14	33.71	31.96	31.26	31.70	11.81	11.26	10.10	10.71	9.98	8.73	9.53	7.10	5.94	5.91	5.97	<b>16.18</b>	<b>11.42</b>	<b>70.58</b>
<b>Foreign Banks</b>																			
F1	28.75	26.36	30.53	33.37	46.15	67.74	72.10	72.29	59.08	56.98	60.53	63.23	61.49	55.94	50.23	54.66	<b>52.46</b>	<b>15.25</b>	<b>29.07</b>
F2	50.57	43.33	51.92	60.59	59.05	108.11	138.06	137.56	129.86	131.16	96.74	118.76	115.75	85.15	83.71	70.84	<b>92.57</b>	<b>33.71</b>	<b>36.42</b>
F3	31.92	31.00	30.55	33.90	46.24	55.62	70.89	56.33	61.18	52.81	57.08	57.91	55.15	52.39	41.45	42.87	<b>48.58</b>	<b>12.16</b>	<b>25.03</b>
F4	33.83	37.46	37.72	36.81	44.83	51.85	62.99	51.71	58.25	51.25	57.36	52.28	48.24	44.19	41.04	39.54	<b>46.83</b>	<b>8.72</b>	<b>18.62</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues.

**MA1 - Current and Savings Account Ratio**

Current and Savings Account, widely known as CASA is the ratio of deposits in current and savings account to total deposits. The higher ratio indicates lower cost of funds of the banks. Table 14 shows the CASA ratio of select scheduled commercial banks from 1999-2000 to 2014-2015.

The management of higher CASA leads to improve the profitability of the banks. But the ratio of all the banks in the nationalized banks group and SBI group dropped sharply in the year 2004-2005 due to macroeconomic imbalance and continued to decrease since then with fluctuations. The ratio also decreased in majority of the private banks in 2014-2015 when paired with 1999-2000.

When considering the nationalized banks group, the average was found to be higher in Punjab National Bank (N13) at 26.62 percent, but with a standard deviation at 13.50 percent. The lowest mean value was recorded by Bank of India (N4) at 19.04 percent with a standard deviation at 10.14 percent.

In private banks group, the ratio increased in Axis Bank (P1), ICICI Bank (P5), Indusind Bank (P6) and ING Vysya (P7) in 2014-2015 compared to 1999-2000 by recording a fluctuating trend. When considering the average CASA ratio (MA1), HDFC Bank (P4) the top position followed by Axis Bank (P1) at 33.62 percent with a highest standard deviation at 10.06 percent. The lower average was reported by South Indian Bank (P11) at 12.49 percent in the group.

Among the banks in the SBI group, State Bank of India (S3) recorded the highest average at 29.69 percent and standard deviation at 8.59 percent. The mean value was observed to be lower in State Bank of Travancore (S6) at 16.18 percent with a standard deviation at 11.42 percent.

As far as foreign banks are concerned, all the banks in the group showed increasing trend. The ratio has increased tremendously in 2014-2015 when compared with 1999-2000 indicating the efficiency of the banks in generating lower cost of funds and through which they can improve their earnings. Deutsche Bank (F2) at an average of 92.57 percent with a highest standard deviation at 33.71 percent held the highest position, The deviation is due to very high increase in the ratio between 2004-2005 and 2011-2012. Standard Chartered Bank (F4) at 8.72 percent reported the lowest average in the group.

**Table 15**

**MA2 - Total Advances to Total Deposits of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	46.71	47.66	48.50	49.26	48.74	51.89	60.10	83.50	69.43	69.20	67.52	70.99	69.64	72.45	72.31	77.49	<b>62.84</b>	<b>12.24</b>	<b>19.48</b>
N2	38.66	40.58	52.34	54.66	56.17	63.58	65.15	82.59	69.26	74.32	72.23	77.52	78.62	79.46	75.89	81.25	<b>66.39</b>	<b>14.16</b>	<b>21.33</b>
N3	47.54	50.79	54.47	53.26	48.79	53.36	63.97	85.42	70.18	74.46	72.55	74.87	74.67	69.25	69.79	69.32	<b>64.54</b>	<b>11.52</b>	<b>17.85</b>
N4	52.85	61.58	64.16	66.15	64.58	70.45	69.38	94.66	75.64	75.33	73.33	71.30	78.20	75.78	77.73	75.58	<b>71.67</b>	<b>9.21</b>	<b>12.85</b>
N5	39.18	39.19	43.15	42.88	44.36	45.28	61.21	86.34	70.13	65.62	63.68	70.13	73.25	80.00	76.13	80.74	<b>61.33</b>	<b>16.51</b>	<b>26.92</b>
N6	49.05	47.12	51.74	56.14	55.17	62.42	68.00	75.32	69.60	73.96	72.16	72.00	71.09	68.05	71.56	69.65	<b>64.56</b>	<b>9.51</b>	<b>14.73</b>
N7	44.06	45.36	45.16	45.26	40.79	44.90	56.38	88.19	66.17	65.12	65.01	72.33	75.20	76.06	73.86	73.75	<b>61.10</b>	<b>15.06</b>	<b>24.65</b>
N8	54.47	52.33	58.06	55.37	59.89	68.10	72.89	92.51	70.70	65.57	68.15	74.39	73.80	71.51	70.88	72.77	<b>67.59</b>	<b>10.02</b>	<b>14.82</b>
N9	53.57	48.05	48.99	51.15	51.29	54.12	60.24	83.15	67.83	67.08	69.07	69.82	73.47	67.67	70.49	68.08	<b>62.75</b>	<b>10.37</b>	<b>16.53</b>
N10	47.59	47.77	47.67	47.54	48.92	56.97	68.78	87.87	71.63	74.80	71.30	77.00	78.87	79.34	77.15	69.81	<b>65.81</b>	<b>14.02</b>	<b>21.30</b>
N11	42.21	44.88	49.70	52.59	55.17	52.87	66.89	85.26	70.08	69.64	69.43	68.97	71.80	73.31	71.88	71.20	<b>63.49</b>	<b>12.16</b>	<b>19.15</b>
N12	45.14	43.52	44.68	44.56	44.20	44.61	53.81	94.95	73.87	70.99	66.40	71.39	73.11	72.81	67.55	73.66	<b>61.58</b>	<b>15.78</b>	<b>25.63</b>
N13	47.54	49.93	53.60	53.06	53.72	58.56	62.35	85.44	71.79	73.75	74.84	77.38	77.39	78.86	77.38	75.90	<b>66.97</b>	<b>12.45</b>	<b>18.59</b>
N14	51.60	52.27	52.14	53.18	48.48	57.74	68.00	81.46	67.30	70.36	77.25	78.75	78.27	79.61	81.90	79.38	<b>67.36</b>	<b>12.70</b>	<b>18.85</b>
N15	41.56	46.83	47.69	50.80	52.56	55.90	68.53	84.92	68.93	68.65	67.40	68.19	75.02	73.97	74.97	68.75	<b>63.42</b>	<b>12.45</b>	<b>19.63</b>
N16	46.98	50.18	53.74	57.02	58.20	64.86	72.04	87.19	71.51	69.60	70.17	74.58	79.81	78.90	76.96	80.68	<b>68.28</b>	<b>11.93</b>	<b>17.47</b>
N17	27.18	31.06	34.79	34.96	34.99	44.93	53.07	74.95	59.31	64.90	62.09	68.73	70.74	68.46	58.98	61.35	<b>53.16</b>	<b>16.01</b>	<b>30.12</b>
N18	40.44	45.28	42.21	46.37	52.56	55.96	60.14	84.27	66.09	65.04	67.02	66.51	69.72	71.91	65.57	68.62	<b>60.48</b>	<b>12.26</b>	<b>20.27</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 15**  
**MA2 - Total Advances to Total Deposits of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	61.30	53.02	43.56	42.32	44.68	49.20	55.63	101.49	68.09	69.48	73.84	75.25	77.13	77.97	81.89	87.17	<b>66.38</b>	<b>17.30</b>	<b>26.06</b>
P2	57.40	54.38	51.23	52.41	54.34	65.03	72.48	96.55	70.62	68.79	66.44	71.67	74.28	75.09	73.11	74.62	<b>67.40</b>	<b>11.63</b>	<b>17.26</b>
P3	62.44	63.32	58.53	56.79	57.14	58.07	65.64	87.58	72.95	69.54	74.74	74.28	77.15	76.54	72.72	72.41	<b>68.74</b>	<b>8.85</b>	<b>12.87</b>
P4	39.90	39.77	38.60	52.53	58.35	70.33	62.84	92.87	62.94	69.24	75.17	76.70	79.21	80.92	82.49	81.08	<b>66.43</b>	<b>16.78</b>	<b>25.26</b>
P5	37.07	42.93	146.59	110.61	91.17	91.57	88.54	97.88	92.30	99.98	89.70	95.91	99.31	99.19	102.05	107.18	<b>93.25</b>	<b>24.89</b>	<b>26.69</b>
P6	53.04	58.95	66.36	62.20	69.75	68.63	62.04	72.52	67.21	71.33	76.94	76.14	82.77	81.90	91.07	92.79	<b>72.10</b>	<b>11.10</b>	<b>15.40</b>
P7	53.04	53.02	54.76	61.08	67.25	72.24	76.73	95.01	71.61	67.32	71.55	78.17	81.61	76.87	86.93	86.49	<b>72.11</b>	<b>12.44</b>	<b>17.25</b>
P8	37.34	42.65	49.75	54.59	49.75	53.21	61.67	74.95	66.04	63.42	61.92	58.63	62.00	61.04	66.90	67.80	<b>58.23</b>	<b>9.81</b>	<b>16.85</b>
P9	47.38	46.55	48.81	47.03	49.62	58.02	58.83	77.24	63.72	58.08	60.83	63.46	65.55	69.91	69.85	68.86	<b>59.61</b>	<b>9.58</b>	<b>16.07</b>
P10	58.48	62.35	58.85	65.30	68.06	69.24	73.32	100.87	75.07	68.93	69.78	72.06	74.58	76.27	77.68	80.80	<b>71.98</b>	<b>10.03</b>	<b>13.93</b>
P11	52.02	52.87	54.58	52.66	50.69	63.18	66.50	85.41	68.97	65.49	68.76	68.94	74.74	71.88	76.29	72.03	<b>65.31</b>	<b>10.22</b>	<b>15.65</b>
P12	47.10	49.67	47.52	47.98	48.00	54.41	60.09	88.56	69.51	68.70	71.20	78.00	80.53	80.38	75.70	75.38	<b>65.17</b>	<b>14.31</b>	<b>21.95</b>
<b>SBI Group</b>																			
S1	48.50	50.05	50.86	51.18	54.96	63.22	73.27	88.05	73.52	76.10	76.37	76.52	79.98	79.78	86.87	82.56	<b>69.49</b>	<b>14.04</b>	<b>20.20</b>
S2	48.60	47.78	48.40	46.91	48.70	53.92	61.32	86.38	71.54	69.94	72.39	73.02	78.04	79.29	80.04	80.71	<b>65.44</b>	<b>14.28</b>	<b>21.82</b>
S3	49.84	46.78	44.65	46.52	49.57	55.14	68.89	95.69	77.55	73.11	78.58	81.03	83.13	86.94	86.76	82.45	<b>69.16</b>	<b>17.48</b>	<b>25.27</b>
S4	52.70	56.34	57.65	58.37	56.90	64.64	71.81	95.48	76.57	77.82	75.97	78.73	79.37	78.87	80.38	78.75	<b>71.27</b>	<b>12.02</b>	<b>16.87</b>
S5	56.72	59.04	62.23	60.14	58.23	57.97	65.66	92.90	74.94	72.64	71.80	75.56	79.25	83.23	84.68	84.83	<b>71.24</b>	<b>11.60</b>	<b>16.28</b>
S6	50.39	55.28	55.24	57.58	56.45	61.53	72.57	90.81	79.59	77.55	75.59	79.17	77.44	79.75	77.69	75.45	<b>70.13</b>	<b>12.03</b>	<b>17.15</b>
<b>Foreign Banks</b>																			
F1	64.88	65.99	74.69	71.18	74.56	84.30	87.62	101.32	83.20	77.25	67.32	71.64	72.80	78.18	72.17	68.49	<b>75.97</b>	<b>9.42</b>	<b>12.40</b>
F2	81.30	90.31	76.24	82.65	82.84	71.41	58.95	128.40	65.14	62.19	87.95	97.59	74.51	107.60	111.11	93.54	<b>85.73</b>	<b>18.84</b>	<b>21.98</b>
F3	49.14	62.77	63.49	64.07	59.18	74.18	67.37	85.99	70.26	55.21	42.11	50.64	57.82	62.79	56.07	54.68	<b>60.99</b>	<b>10.53</b>	<b>17.27</b>
F4	86.27	101.93	124.70	72.44	80.97	88.67	84.60	97.59	90.13	89.68	86.22	84.22	86.88	99.69	94.88	93.90	<b>91.42</b>	<b>11.54</b>	<b>12.62</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

## **MA2 -Total Advances to Total Deposits**

Total advances to total deposits (MA2) measures the competence and ability of the management in converting the deposits available with the bank into high earning advances. Table 15 portrays the total advances to total deposits (MA2) of select Scheduled Commercial Banks between 1999-2000 and 2014-2015.

Total advances to total deposits (MA2) of the select Scheduled Commercial Banks increased in 2014-2015 compared to 1999-2000 reporting an ebb and flow trend. The ratio is observed to have increased sharply in the year 2006-2007 due to the proactive policy measures to improve the productivity and competitiveness of the Indian economy.

In the nationalized banks group, the highest average was reported by Bank of India (N4) at 71.67 percent with a lower standard deviation at 9.21 percent. The lowest average was recorded by United Bank of India (N17) at 53.16 percent with a standard deviation at 16.01 percent.

When considering the private banks, ICICI Bank (P5) reported a very high average at 93.25 percent, which is also highest in the industry with a highest standard deviation at 24.89 percent. The lowest average in the group was reported by Jammu & Kashmir Bank Ltd (P8) at 58.23 percent with a standard deviation at 9.81 percent.

Among the banks in the SBI group, State Bank of Mysore (S4) reported a highest average at 71.27 percent followed by State Bank of Patiala (S5) at 71.24 percent with a standard deviation at 12.02 percent and 11.60 percent respectively. The lowest average in the group was recorded by State Bank of Hyderabad (S2) at 65.44 percent with a standard deviation at 14.28 percent.

In the foreign banks group, Standard Chartered Bank (F4) reported a very high average at 91.42 percent with a standard deviation at 11.52 percent. The lowest average in the group was recorded by HSBC Bank (F3) at 60.99 percent with a standard deviation at 10.53 percent.

**Table 16**

**MA3 - Business per Employee of Scheduled Commercial Banks in India**

(Amount in ₹ million)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D (%)	CV (%)
<b>Nationalized Banks</b>																			
N1	10.50	12.90	15.30	18.30	21.50	28.20	33.60	49.50	60.40	70.60	84.50	106.30	121.70	137.30	135.00	143.00	<b>65.54</b>	<b>49.24</b>	<b>75.13</b>
N2	11.17	15.36	19.60	22.67	27.74	34.63	42.68	53.61	62.65	72.83	93.90	116.50	126.20	135.50	134.70	153.60	<b>70.21</b>	<b>49.46</b>	<b>70.45</b>
N3	14.28	16.61	22.28	23.77	25.25	31.60	39.60	55.50	71.00	91.40	98.10	122.90	146.60	168.90	186.50	188.90	<b>81.45</b>	<b>63.40</b>	<b>77.84</b>
N4	13.57	18.43	21.87	24.30	26.67	32.00	38.10	49.80	65.20	83.30	101.10	128.40	136.00	158.20	196.30	206.90	<b>81.26</b>	<b>65.51</b>	<b>80.62</b>
N5	11.48	16.48	19.14	22.20	26.87	29.47	30.62	40.49	51.57	63.60	76.20	82.50	96.70	125.60	143.50	156.00	<b>62.03</b>	<b>47.08</b>	<b>75.90</b>
N6	13.52	19.07	21.49	25.01	29.76	35.11	44.16	54.88	60.94	78.02	98.26	119.90	137.40	142.00	143.80	143.50	<b>72.93</b>	<b>50.18</b>	<b>68.81</b>
N7	9.33	11.04	14.88	16.79	18.15	20.69	24.05	30.39	40.10	56.03	71.18	83.52	86.16	106.70	102.50	113.77	<b>50.33</b>	<b>37.85</b>	<b>75.20</b>
N8	20.77	24.53	29.04	32.86	36.56	43.80	52.70	63.70	83.90	104.90	126.80	157.20	171.30	192.10	193.30	191.40	<b>95.30</b>	<b>66.73</b>	<b>70.02</b>
N9	14.50	20.70	22.10	24.20	27.40	31.30	36.40	45.80	55.90	71.40	82.70	107.70	128.40	143.10	145.30	144.20	<b>68.82</b>	<b>49.41</b>	<b>71.80</b>
N10	11.69	14.14	17.54	20.44	23.25	26.95	35.47	46.72	58.27	68.95	71.20	100.50	117.60	128.80	136.70	132.40	<b>63.16</b>	<b>46.11</b>	<b>73.01</b>
N11	21.82	26.32	31.80	34.30	41.60	51.22	57.03	74.26	92.44	114.20	133.10	141.80	146.20	162.00	170.90	174.25	<b>92.08</b>	<b>56.23</b>	<b>61.07</b>
N12	12.50	16.81	18.17	19.65	20.51	21.76	27.72	32.86	46.69	65.60	96.30	119.00	130.20	137.00	153.10	159.50	<b>67.34</b>	<b>55.30</b>	<b>82.12</b>
N13	10.65	14.20	16.78	19.56	22.82	27.69	33.09	40.74	50.45	65.49	80.80	101.70	113.20	116.50	128.30	131.90	<b>60.87</b>	<b>44.49</b>	<b>73.09</b>
N14	11.14	13.37	15.51	18.00	24.03	28.02	34.86	48.92	58.60	75.07	74.68	87.54	107.40	125.70	143.00	153.90	<b>63.73</b>	<b>48.05</b>	<b>75.40</b>
N15	8.90	9.70	13.40	19.70	24.90	32.10	38.70	46.40	58.00	73.20	86.40	106.90	116.40	118.90	136.10	137.70	<b>64.21</b>	<b>46.80</b>	<b>72.89</b>
N16	13.54	18.32	21.48	24.97	28.65	34.31	43.65	50.92	62.00	69.40	85.30	104.30	107.00	121.50	137.60	144.60	<b>66.72</b>	<b>44.53</b>	<b>66.74</b>
N17	10.03	12.00	14.40	16.20	16.90	20.80	25.40	35.00	46.30	58.50	71.40	86.00	97.10	108.30	106.70	115.30	<b>52.52</b>	<b>39.21</b>	<b>74.66</b>
N18	10.55	12.28	16.94	19.36	24.94	31.05	36.93	45.52	61.27	75.60	83.60	92.80	112.80	124.00	138.20	149.60	<b>64.72</b>	<b>47.32</b>	<b>73.11</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 16**  
**MA3 - Business per Employee of Scheduled Commercial Banks in India**

**(Amount in ₹ million)**

<b>Banks</b>	<b>1999-2000</b>	<b>2000-2001</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>Average</b>	<b>S.D (%)</b>	<b>CV (%)</b>
<b>Private Banks</b>																			
<b>P1</b>	124.90	95.90	89.60	92.60	80.80	102.10	102.00	102.40	111.70	106.00	111.10	136.60	127.60	121.50	123.00	137.10	<b>110.31</b>	<b>16.83</b>	<b>15.26</b>
<b>P2</b>	15.59	16.74	20.35	23.01	28.68	32.58	33.97	35.01	49.91	56.52	65.10	78.10	84.70	93.80	90.60	96.50	<b>51.32</b>	<b>29.56</b>	<b>57.60</b>
<b>P3</b>	16.10	19.00	19.92	27.00	32.70	36.60	43.10	54.40	65.50	75.00	81.30	92.30	101.10	107.50	99.70	111.50	<b>61.42</b>	<b>34.45</b>	<b>56.09</b>
<b>P4</b>	94.20	64.30	77.80	86.50	86.60	80.60	75.80	60.70	50.60	44.60	59.00	65.30	65.40	75.00	89.00	101.00	<b>73.53</b>	<b>15.90</b>	<b>21.62</b>
<b>P5</b>	59.50	81.52	48.65	112.00	101.00	88.00	90.50	102.70	100.80	115.40	76.50	73.50	70.80	73.50	74.70	83.20	<b>84.52</b>	<b>18.51</b>	<b>21.90</b>
<b>P6</b>	18.61	158.20	158.70	128.40	108.00	92.58	88.02	103.90	106.20	83.60	83.75	84.40	78.84	84.05	71.71	71.92	<b>95.06</b>	<b>33.92</b>	<b>35.68</b>
<b>P7</b>	18.61	19.96	19.80	24.24	32.43	39.49	42.60	48.61	54.73	60.64	62.38	67.48	55.98	64.43	66.60	77.08	<b>47.19</b>	<b>19.43</b>	<b>41.17</b>
<b>P8</b>	17.50	21.20	26.40	28.70	34.50	43.50	51.60	58.50	59.60	50.00	73.10	85.60	88.60	104.90	117.40	114.30	<b>60.96</b>	<b>33.07</b>	<b>54.25</b>
<b>P9</b>	17.77	21.03	24.72	27.53	32.02	38.09	47.83	52.40	58.90	64.90	72.70	77.10	85.90	96.60	95.90	105.20	<b>57.41</b>	<b>29.19</b>	<b>50.84</b>
<b>P10</b>	16.90	19.20	21.90	28.80	33.00	38.70	43.90	48.90	60.40	63.80	78.90	92.60	98.40	101.40	105.50	113.00	<b>60.33</b>	<b>33.68</b>	<b>55.83</b>
<b>P11</b>	12.90	17.10	21.80	26.50	30.60	35.20	42.2	50.80	60.04	64.50	77.10	91.80	107.90	120.10	119.90	115.40	<b>62.12</b>	<b>38.59</b>	<b>62.12</b>
<b>P12</b>	18.03	21.49	24.55	27.08	29.24	31.70	35.83	45.12	54.2	67.93	87.02	95.92	106.80	113.30	107.40	108.39	<b>60.88</b>	<b>36.39</b>	<b>59.77</b>
<b>SBI Group</b>																			
<b>S1</b>	8.65	10.519	12.94	14.56	16.98	22.03	27.69	35.59	44.55	55.54	62.80	75.10	82.70	90.00	97.70	110.00	<b>47.96</b>	<b>34.46</b>	<b>71.85</b>
<b>S2</b>	12.60	16.50	16.60	22.62	26.59	33.97	41.43	47.36	59.91	83.98	75.56	103.77	116.87	138.79	131.40	151.60	<b>67.47</b>	<b>47.95</b>	<b>71.07</b>
<b>S3</b>	11.12	13.658	17.30	19.10	21.06	24.31	29.92	35.70	45.60	55.60	63.60	70.47	79.84	94.39	106.30	123.40	<b>50.71</b>	<b>35.62</b>	<b>70.24</b>
<b>S4</b>	8.16	11.215	12.50	14.65	16.28	20.35	29.00	39.80	49.50	60.20	67.20	79.50	88.10	95.50	103.70	117.10	<b>50.80</b>	<b>37.09</b>	<b>73.01</b>
<b>S5</b>	12.36	14.345	19.43	24.64	30.52	36.12	49.30	59.95	75.98	91.02	89.52	95.63	105.57	113.50	111.30	119.00	<b>65.51</b>	<b>38.93</b>	<b>59.43</b>
<b>S6</b>	12.17	15.732	17.88	21.77	27.18	34.63	38.12	50.61	55.87	65.80	69.60	88.80	106.60	125.90	115.40	122.20	<b>60.52</b>	<b>40.16</b>	<b>66.36</b>
<b>Foreign Banks</b>																			
<b>F1</b>	116.0	133.6	156.60	166.00	166.60	135.90	160.70	136.00	176.30	188.00	197.90	174.50	197.50	212.40	222.60	347.65	<b>180.52</b>	<b>53.62</b>	<b>29.70</b>
<b>F2</b>	75.71	83.53	98.62	89.42	109.90	160.80	101.60	114.30	161.60	143.40	184.10	198.80	215.60	257.50	318.30	419.72	<b>170.81</b>	<b>94.98</b>	<b>55.61</b>
<b>F3</b>	46.74	52.87	59.58	62.28	82.09	85.25	97.57	97.97	101.20	96.18	113.50	122.10	165.80	188.90	227.40	267.83	<b>116.70</b>	<b>64.04</b>	<b>54.88</b>
<b>F4</b>	57.15	61.78	80.10	84.05	78.01	78.64	83.73	92.42	81.74	97.14	108.30	134.50	154.60	168.70	207.10	190.00	<b>109.87</b>	<b>46.56</b>	<b>42.38</b>

**Source: Trend and Progress of Banking in India Report of RBI, Various Issues**

**MA3 - Business per Employee**

The ratio is the key indicator to measure the productivity of the employees of a bank. The business per employee between 1999-2000 and 2014-2015 of select Scheduled Commercial Banks is depicted in Table 16.

Business per employee (MA3) of all the banks under study increased in 2014-2015 when paired with 1999-2000. Majority of the banks increased their business per employee (MA3) steadily while few banks recorded fluctuations. The increase rate was observed to be more than 100 times in majority of nationalized banks, SBI and its associates and foreign banks in 2014-2015 compared to 1999-2000. The increase in ratio indicating the higher productivity of the employees in nationalized banks and, SBI and its associates were due to regulations of RBI in improving the operational functions of the banks and due to the competitive edge.

When considering the average business per employee (MA3) in nationalized banks group, Corporation Bank (N8) reported the highest average at ₹ 95.30 million followed by Oriental Bank of Commerce (N11) at ₹ 92.08 million with a standard deviation at 66.73 percent and 56.23 percent respectively. The higher ratio indicates the efficient productivity of employees of the banks. The lowest average in the group was reported by Central Bank of India (N7) at ₹ 50.33 million

In private banks group, Axis Bank (P1) took the lead by recording an average at ₹110.31 million with a standard deviation 16.83 percent. The average of the ratio was found to be lower in ING Vysya Bank (P7) at ₹ 47.19 million with a standard deviation at 19.43 percent.

Among the banks in the SBI group, State Bank of Hyderabad (S2) reported a highest average at ₹67.47 million with a standard deviation at 47.95 percent. The ratio was reported to be lower in State Bank of Bikaner & Jaipur (S1) at ₹ 47.96 million with a standard deviation at 34.46 percent.

In foreign banks group, Citi Bank (F1) held the highest average at ₹180.52 million with a standard deviation at 53.62 percent. The lower average in the group was reported by Standard Chartered Bank (F4) at ₹ 109.87 million.

**Table 17**

**MA4 - Profit per Employee of Scheduled Commercial Banks in India  
(Amount in ₹ million)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D (%)	CV (%)
<b>Nationalized Banks</b>																			
N1	0.03	0.02	0.04	0.09	0.25	0.29	0.37	0.37	0.49	0.38	0.58	0.67	0.84	0.53	0.48	0.26	<b>0.36</b>	<b>0.24</b>	<b>66.67</b>
N2	0.08	0.10	0.16	0.31	0.35	0.40	0.37	0.41	0.43	0.46	0.70	0.90	0.90	0.90	0.20	0.30	<b>0.44</b>	<b>0.28</b>	<b>63.64</b>
N3	0.11	0.06	0.14	0.19	0.24	0.17	0.21	0.27	0.39	0.60	0.80	1.10	1.20	1.00	1.00	0.70	<b>0.51</b>	<b>0.40</b>	<b>78.43</b>
N4	0.03	0.06	0.12	0.20	0.24	0.08	0.17	0.27	0.50	0.75	0.44	0.62	0.64	0.64	0.63	0.37	<b>0.36</b>	<b>0.24</b>	<b>66.67</b>
N5	0.06	0.03	0.10	0.16	0.22	0.13	0.04	0.20	0.24	0.28	0.32	0.24	0.31	0.56	0.27	0.30	<b>0.22</b>	<b>0.13</b>	<b>59.09</b>
N6	0.05	0.06	0.16	0.23	0.30	0.25	0.30	0.32	0.37	0.50	0.74	0.98	0.82	0.70	0.50	0.50	<b>0.42</b>	<b>0.27</b>	<b>64.29</b>
N7	0.03	0.01	0.04	0.08	0.16	0.09	0.07	0.14	0.16	0.17	0.33	0.40	0.15	0.27	-0.31	0.15	<b>0.12</b>	<b>0.16</b>	<b>133.33</b>
N8	0.22	0.26	0.30	0.41	0.50	0.40	0.41	0.48	0.65	0.76	0.95	1.09	1.09	0.97	0.33	0.30	<b>0.57</b>	<b>0.31</b>	<b>54.39</b>
N9	0.05	0.00	0.01	0.11	0.22	0.06	0.07	0.20	0.36	0.43	0.49	0.62	0.79	0.73	0.43	0.20	<b>0.30</b>	<b>0.26</b>	<b>86.67</b>
N10	0.01	0.05	0.09	0.17	0.21	0.27	0.32	0.40	0.48	0.52	0.26	0.42	0.38	0.20	0.20	-0.14	<b>0.24</b>	<b>0.18</b>	<b>75.00</b>
N11	0.19	0.15	0.24	0.34	0.51	0.67	0.54	0.56	0.58	0.62	0.74	0.90	0.62	0.70	0.58	0.25	<b>0.51</b>	<b>0.22</b>	<b>43.14</b>
N12	0.05	0.01	0.02	0.01	0.01	-0.07	0.11	0.23	0.42	0.50	0.60	0.60	0.60	0.40	0.30	0.10	<b>0.24</b>	<b>0.24</b>	<b>100.00</b>
N13	0.06	0.08	0.10	0.14	0.19	0.24	0.25	0.27	0.37	0.56	0.73	0.84	0.84	0.81	0.55	0.50	<b>0.41</b>	<b>0.28</b>	<b>68.29</b>
N14	0.07	0.08	0.09	0.13	0.16	0.15	0.21	0.28	0.32	0.36	0.32	0.40	0.53	0.81	0.68	0.56	<b>0.32</b>	<b>0.22</b>	<b>68.75</b>
N15	0.01	0.01	0.07	0.1	0.18	0.14	0.08	0.13	0.18	0.24	0.44	0.42	0.51	0.27	0.66	0.48	<b>0.25</b>	<b>0.20</b>	<b>80.00</b>
N16	0.03	0.06	0.12	0.22	0.28	0.28	0.27	0.33	0.54	0.63	0.75	0.8	0.60	0.70	0.50	0.50	<b>0.41</b>	<b>0.25</b>	<b>60.98</b>
N17	0.02	0.01	0.07	0.18	0.18	0.17	0.12	0.16	0.20	0.12	0.21	0.35	0.41	0.25	-0.74	1.60	<b>0.21</b>	<b>0.45</b>	<b>214.29</b>
N18	0.04	0.05	0.12	0.18	0.37	0.35	0.12	0.30	0.33	0.23	0.45	0.63	0.50	0.50	0.30	0.30	<b>0.30</b>	<b>0.17</b>	<b>56.67</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

Table 17

## MA4 - Profit per Employee of Scheduled Commercial Banks in India

(Amount in ₹ million)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D (%)	CV (%)
<b>Private Banks</b>																			
P1	0.69	0.73	0.78	0.82	0.81	0.80	0.87	0.76	0.84	1.00	1.20	1.40	1.40	1.50	1.50	1.70	1.05	0.34	32.38
P2	0.15	0.16	0.21	0.24	0.41	0.32	0.35	0.38	0.47	0.50	0.60	0.80	0.80	0.90	0.80	0.90	0.50	0.27	54.00
P3	0.07	0.10	0.08	0.17	0.21	0.14	0.35	0.44	0.54	0.69	0.60	0.70	0.90	0.90	0.80	0.90	0.47	0.32	68.09
P4	0.96	0.86	0.98	1.01	0.94	0.88	0.74	0.61	0.50	0.42	0.60	0.74	0.80	1.00	1.20	1.00	0.83	0.21	25.30
P5	0.78	1.05	0.53	1.10	1.20	1.10	1.00	0.90	1.00	1.10	0.90	1.00	1.10	1.40	1.40	1.60	1.07	0.25	23.36
P6	0.08	0.70	0.69	0.95	1.50	1.01	0.16	0.26	0.26	0.35	0.65	0.82	0.86	0.92	0.90	0.94	0.69	0.38	55.07
P7	0.08	0.06	0.12	0.17	0.12	-0.07	0.02	0.17	0.27	0.30	0.39	0.45	0.46	0.63	0.65	0.49	0.27	0.22	81.48
P8	0.19	0.26	0.40	0.50	0.60	0.20	0.30	0.40	0.50	0.50	0.70	0.80	0.90	1.10	1.30	0.50	0.57	0.32	56.14
P9	0.14	0.11	0.22	0.26	0.31	0.34	0.41	0.40	0.50	0.50	0.30	0.40	0.40	0.50	0.40	0.60	0.36	0.13	36.11
P10	0.26	0.25	0.38	0.44	0.57	0.38	0.47	0.49	0.58	0.60	0.81	0.91	0.88	0.82	0.59	0.65	0.57	0.21	36.84
P11	0.06	0.11	0.17	0.20	0.24	0.02	0.14	0.27	0.36	0.40	0.50	0.50	0.70	0.80	0.70	0.40	0.35	0.24	68.57
P12	0.19	0.23	0.25	0.29	0.37	0.36	0.44	0.48	0.53	0.64	0.81	0.99	1.10	1.39	0.84	0.92	0.61	0.36	59.02
<b>SBI Group</b>																			
S1	0.17	0.20	0.13	0.16	0.55	0.17	0.12	0.26	0.27	0.36	0.40	0.50	0.50	0.60	0.60	0.60	0.35	0.19	54.28
S2	0.09	0.11	0.17	0.23	0.29	0.19	0.33	0.39	0.44	0.49	0.56	0.79	0.86	0.83	0.61	0.83	0.45	0.27	60.00
S3	0.09	0.07	0.12	0.10	0.18	0.21	0.22	0.24	0.37	0.47	0.45	0.39	0.53	0.65	0.49	0.60	0.32	0.19	59.38
S4	0.14	0.03	0.07	0.12	0.18	0.22	0.22	0.26	0.33	0.35	0.44	0.50	0.40	0.40	0.20	0.40	0.27	0.14	51.85
S5	0.10	0.12	0.20	0.28	0.37	0.25	0.27	0.32	0.37	0.47	0.45	0.52	0.59	0.50	0.30	0.20	0.33	0.14	42.42
S6	0.05	0.09	0.11	0.15	0.22	0.22	0.23	0.30	0.34	0.50	0.60	0.80	0.42	0.50	0.20	0.30	0.31	0.20	64.52
<b>Foreign Banks</b>																			
F1	1.92	1.93	2.21	2.43	2.83	2.18	2.17	1.73	3.77	4.51	1.83	2.86	3.60	5.02	5.09	5.90	3.12	1.35	43.27
F2	0.99	1.78	2.80	4.33	6.52	2.03	1.86	2.10	2.75	2.69	2.98	4.34	6.09	6.17	4.21	7.92	3.72	2.03	54.57
F3	0.44	6.62	0.50	0.45	0.63	0.97	1.21	1.43	1.67	1.61	1.17	2.32	3.47	4.04	3.10	3.43	2.07	1.69	81.64
F4	1.03	1.12	2.00	2.52	1.34	1.15	1.45	1.96	2.02	2.38	2.63	2.64	2.31	4.11	2.39	4.18	2.20	0.94	42.73

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**MA4 - Profit per Employee**

Another important indicator to measure the productivity of employees is profit per employee. This ratio describes the profit earned by each employee of the bank. Higher ratio indicates the potentials of the employees of the bank. Table 17 explicates the profit per employee (MA4) of select Scheduled Commercial Banks from 1999-2000 to 2014-2015.

The ratio of all the banks under study undulated throughout the study period. The profit per employee ratio of all the select banks increased in 2014-2015 compared to 1999-2000 except in Indian Overseas Bank (N10) which held a negative profit per employee (MA4) at ₹ 0.14 million.

When the average profit per employee (MA4) of nationalized banks is considered, Corporation Bank (N8) recorded the highest average at ₹ 0.57 million followed by Bank of Baroda (N3) and Oriental Bank of Commerce (N11) at 0.51 percent with a standard deviation at 0.31 percent, 0.40 percent and 0.22 percent respectively. The average of the ratio was found to be lower in Central Bank of India (N7) at 0.12 percent.

In the private banks group ICICI Bank (P5) held more profit per employee (MA4) at ₹ 1.07 million followed by Axis Bank (N1) at ₹ 1.05 million with a standard deviation at 0.25 percent and 0.34 percent. The lower average in the group was reported by ING Vysya Bank (P7) at ₹ 0.27 million.

When considering SBI group, State Bank of Hyderabad (S2) reported a higher average at ₹ 0.45 million with a highest standard deviation in the group at 0.27 percent. The lowest average in the group was reported by State Bank of Mysore (S4) at ₹ 0.27 million.

In foreign banks group, all the banks reported the average profit per employee (MA4) above ₹ 2 million stating the efficiency of the employees in yielding profit. Among the foreign banks, Deutsche Bank (F2) reported a higher standard deviation at 2.03 percent followed by HSBC Bank (F3) at 1.69 percent and Citibank (F1) at 1.35 percent stating a tremendous increase in profit per employee (MA4) during the study period.

**Table 18**  
**MA5 - Intermediation Cost to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	2.89	3.15	3.02	3.48	3.06	2.68	2.06	1.67	1.54	1.55	1.48	1.71	1.61	1.53	1.63	1.66	2.17	0.73	33.64
N2	2.62	2.52	2.20	2.64	2.55	2.78	2.34	2.12	1.75	1.77	1.70	1.71	1.55	1.50	1.47	1.55	2.05	0.47	22.93
N3	2.35	2.64	2.33	2.24	2.24	2.20	2.29	1.98	1.88	1.76	1.51	1.45	1.28	1.20	1.18	1.12	1.85	0.50	27.03
N4	2.54	3.02	2.37	2.25	2.17	2.15	2.04	2.05	1.65	1.53	1.47	1.62	1.34	1.27	1.31	1.36	1.88	0.52	27.66
N5	3.06	3.16	2.37	2.23	1.96	2.21	2.06	2.12	1.92	1.80	1.65	2.23	1.96	1.73	1.89	1.79	2.13	0.43	20.19
N6	2.63	2.76	2.3	2.27	2.09	2.01	1.93	1.72	1.61	1.53	1.44	1.47	1.32	1.31	1.34	1.40	1.82	0.48	26.37
N7	1.97	3.26	2.87	2.78	2.59	2.56	2.40	2.01	1.61	1.37	1.35	2.04	1.71	1.70	1.86	1.86	2.12	0.56	26.42
N8	1.92	1.87	1.77	1.89	2.07	2.11	2.01	1.72	1.50	1.36	1.27	1.29	1.16	1.12	1.15	1.13	1.58	0.37	23.42
N9	2.6	3.34	2.51	2.62	2.36	2.67	2.22	2.11	1.86	1.76	1.60	1.67	1.46	1.29	1.38	1.44	2.06	0.59	28.64
N10	3.32	3.03	2.69	2.47	2.29	2.36	2.29	1.96	1.61	1.74	1.96	1.66	1.59	1.47	1.44	1.50	2.09	0.58	27.75
N11	1.98	2.03	1.78	1.76	1.72	1.67	1.71	1.50	1.31	1.38	1.35	1.27	1.37	1.41	1.39	1.45	1.57	0.24	15.29
N12	2.98	3.16	2.81	2.92	4.06	3.72	2.78	2.55	2.12	1.93	1.47	1.57	1.64	1.43	1.43	1.39	2.37	0.87	36.71
N13	3.03	3.18	2.64	2.58	2.51	2.87	2.23	2.16	1.95	1.89	1.75	1.89	1.67	1.74	1.81	1.82	2.23	0.50	22.42
N14	3.47	3.89	3.43	3.28	2.82	2.55	2.54	1.84	1.52	1.51	1.51	1.72	1.66	1.60	1.41	1.31	2.25	0.88	39.11
N15	2.82	2.93	2.85	2.62	2.21	2.21	2.02	1.74	1.59	1.45	1.27	1.38	1.20	1.15	1.11	1.10	1.85	0.67	36.22
N16	3.75	2.76	2.32	2.13	1.98	1.92	1.74	1.54	1.41	1.55	1.41	1.83	1.60	1.57	1.65	1.67	1.93	0.60	31.09
N17	2.54	2.64	3.43	2.52	2.68	2.56	2.61	2.06	1.87	1.68	1.54	1.56	1.44	1.39	1.42	1.46	2.09	0.63	30.14
N18	3.18	3.24	2.77	3.16	2.31	2.02	2.05	1.76	1.42	1.56	1.62	1.88	1.35	1.32	1.36	1.37	2.02	0.70	34.65

Source: Trend and Progress of Banking in India Report of RBI, Various Issues.

(Continued)

**Table 18**  
**MA5 - Intermediation Cost to Total Assets of Scheduled Commercial Banks in India**

(In percent)

<b>Banks</b>	<b>1999-2000</b>	<b>2000-2001</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>Average</b>	<b>S.D</b>	<b>CV</b>
<b>Private Banks</b>																			
P1	1.24	1.48	1.63	1.90	1.92	1.88	1.86	1.98	2.36	2.22	2.26	2.26	2.27	2.21	2.18	2.18	<b>1.99</b>	<b>0.32</b>	<b>16.08</b>
P2	2.08	1.97	1.86	1.64	1.54	1.87	1.84	1.90	1.73	1.68	1.59	1.66	1.70	1.81	2.00	1.92	<b>1.80</b>	<b>0.16</b>	<b>8.89</b>
P3	2.26	2.13	2.02	1.99	2.07	1.97	1.95	1.78	1.63	1.60	1.64	1.76	1.75	1.80	1.98	2.07	<b>1.90</b>	<b>0.20</b>	<b>10.53</b>
P4	2.14	2.27	2.13	2.19	2.23	2.32	2.71	2.94	3.34	3.50	2.93	2.86	3.02	3.04	2.70	2.59	<b>2.68</b>	<b>0.44</b>	<b>16.42</b>
P5	1.61	2.10	1.00	1.91	2.22	2.25	2.39	2.24	2.19	1.81	1.58	1.72	1.75	1.76	1.82	1.85	<b>1.89</b>	<b>0.35</b>	<b>18.52</b>
P6	2.14	1.24	1.00	1.17	1.74	1.73	1.90	1.78	1.82	2.15	2.34	2.49	2.60	2.68	2.73	2.78	<b>2.02</b>	<b>0.57</b>	<b>28.22</b>
P7	2.14	1.91	2.48	2.99	2.79	2.66	3.23	2.80	2.72	2.69	2.46	2.82	2.58	2.50	2.59	2.56	<b>2.62</b>	<b>0.31</b>	<b>11.83</b>
P8	1.76	1.42	1.71	1.65	1.54	1.41	1.36	1.35	1.31	1.34	1.44	1.63	1.45	1.50	1.56	1.82	<b>1.52</b>	<b>0.16</b>	<b>10.53</b>
P9	1.99	1.70	1.81	1.65	1.55	1.71	1.49	1.52	1.72	1.64	1.55	1.87	1.67	1.71	1.98	1.83	<b>1.71</b>	<b>0.15</b>	<b>8.77</b>
P10	2.50	2.47	2.30	1.84	2.36	2.28	2.07	1.92	1.69	1.63	1.79	1.72	1.64	1.81	2.06	2.10	<b>2.01</b>	<b>0.30</b>	<b>14.93</b>
P11	2.80	2.38	2.05	2.00	2.29	2.00	2.23	1.79	1.61	1.75	1.60	1.59	1.69	1.70	1.69	1.72	<b>1.93</b>	<b>0.35</b>	<b>18.13</b>
P12	2.38	2.07	2.15	2.06	2.32	2.33	2.21	2.24	2.11	2.03	1.86	2.01	1.92	1.90	1.95	2.02	<b>2.10</b>	<b>0.16</b>	<b>7.62</b>
<b>SBI Group</b>																			
S1	3.24	3.24	2.72	2.68	2.75	2.85	2.98	2.43	1.98	1.80	1.77	2.17	1.96	1.99	2.27	1.83	<b>2.42</b>	<b>0.51</b>	<b>21.07</b>
S2	2.61	2.66	2.05	1.87	1.88	2.05	2.16	1.80	1.44	1.35	1.19	1.55	1.54	1.65	1.63	1.89	<b>1.83</b>	<b>0.41</b>	<b>22.40</b>
S3	2.60	2.88	2.17	2.19	2.36	2.32	2.46	2.23	1.96	1.86	2.01	2.02	2.04	2.02	2.13	2.01	<b>2.20</b>	<b>0.27</b>	<b>12.27</b>
S4	3.73	3.92	3.17	3.02	2.95	3.16	2.84	2.43	2.06	1.81	1.69	1.88	1.85	1.73	1.89	1.99	<b>2.51</b>	<b>0.75</b>	<b>29.88</b>
S5	2.50	2.82	2.25	2.05	1.86	1.64	1.68	1.49	1.33	1.23	1.24	1.69	1.47	1.61	1.81	1.74	<b>1.78</b>	<b>0.44</b>	<b>24.72</b>
S6	2.52	2.67	2.15	2.07	2.10	1.90	2.08	1.85	1.68	1.71	1.76	1.69	1.57	1.53	1.80	1.83	<b>1.93</b>	<b>0.32</b>	<b>16.58</b>
<b>Foreign Banks</b>																			
F1	3.70	3.57	3.70	3.58	3.68	3.86	3.85	3.31	2.90	2.74	2.35	2.62	2.33	2.25	2.09	2.22	<b>3.05</b>	<b>0.67</b>	<b>21.97</b>
F2	3.98	4.23	3.43	2.89	2.38	2.84	4.09	5.00	4.97	4.65	3.59	3.94	3.68	3.21	2.58	2.29	<b>3.61</b>	<b>0.87</b>	<b>24.10</b>
F3	2.73	2.94	2.89	3.07	2.70	2.62	3.14	3.43	3.28	2.57	2.11	2.41	2.41	2.29	2.22	2.33	<b>2.70</b>	<b>0.40</b>	<b>14.81</b>
F4	3.29	3.48	2.88	2.40	2.43	2.35	2.89	2.68	3.10	2.93	2.60	2.66	2.40	2.41	2.56	2.25	<b>2.71</b>	<b>0.36</b>	<b>13.28</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **MA5 - Intermediation Cost to Total Assets**

The ratio measures the ability of the banks in controlling their administration and operating costs. The banks must try to maintain a lower ratio to ensure high profits. The efficiency of the banks in managing their costs is established in Table 18.

Intermediation cost to total assets (MA5) of all the banks in nationalized banks group, SBI group and foreign group decreased while the ratio increased in most of the private banks in 2014-2015 compared to 1999-2000. All the banks registered a fluctuating trend during the study period.

When the average is considered in nationalized banks group, lower average was recorded by Oriental Bank of Commerce (N11) at 1.57 percent followed by Corporation Bank (N8) at 1.58 percent with a lower standard deviation at 0.24 percent and 0.37 percent respectively. The lower ratio indicates the efficiency of the banks in controlling their operating expenses. Higher average in the group was reported by Punjab and Sind Bank (N12) at 2.37 percent with a higher standard deviation at 0.87 percent.

Among the private banks group, the average intermediation cost to total assets (MA5) was observed to be lower in Jammu and Kashmir Bank (P8) at 1.52 percent with a lower standard deviation at 0.16 percent. The average was found to be highest in HDFC Bank (P4) at 2.68 percent with a standard deviation at 0.44 percent.

In SBI group, the lowest average was registered by State Bank of Mysore (S4) in SBI group at 1.78 percent with a standard deviation at 0.44 percent followed by State Bank of Hyderabad (S2) at 1.83 percent with a standard deviation at 0.41 percent. The average of the ratio was found to be highest in State Bank of Mysore (S4) at 2.51 percent with a highest standard deviation in the group at 0.75 percent.

When considering the foreign banks group, the average of the ratio was observed to be lower in HSBC Bank (F3) at 2.70 percent. The average intermediation cost to total assets (MA5) in the group was higher in Deutsche Bank (F2) at 3.61 percent.

**Table 19**

**MA6 - Burden to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	1.50	1.99	1.38	1.49	0.67	1.08	1.10	1.06	0.26	0.29	0.09	0.71	0.83	0.76	0.61	0.77	<b>0.91</b>	<b>0.51</b>	<b>56.04</b>
N2	0.92	1.39	0.73	-0.01	-0.08	0.25	1.27	1.10	0.54	0.54	0.48	0.81	0.81	0.73	0.62	0.70	<b>0.68</b>	<b>0.40</b>	<b>58.82</b>
N3	1.19	1.48	0.85	0.53	0.11	0.74	1.21	0.91	0.61	0.40	0.40	0.57	0.43	0.47	0.44	0.48	<b>0.68</b>	<b>0.36</b>	<b>52.94</b>
N4	1.11	1.53	0.66	0.01	-0.05	0.86	0.90	0.82	0.33	0.02	0.42	0.78	0.44	0.37	0.47	0.65	<b>0.58</b>	<b>0.42</b>	<b>72.41</b>
N5	1.72	1.86	0.85	0.67	0.33	1.03	1.89	1.37	1.05	0.86	0.74	1.51	1.20	0.85	1.19	1.08	<b>1.14</b>	<b>0.44</b>	<b>38.60</b>
N6	1.00	1.24	0.24	0.31	-0.19	0.54	0.85	0.75	0.33	0.38	0.26	0.54	0.49	0.51	0.48	0.52	<b>0.52</b>	<b>0.33</b>	<b>63.46</b>
N7	1.28	2.21	1.66	1.77	0.99	1.16	1.65	1.44	0.78	0.58	0.29	1.39	1.07	1.03	1.17	1.23	<b>1.23</b>	<b>0.47</b>	<b>38.21</b>
N8	0.21	0.27	0.01	-0.24	0.21	0.32	0.73	0.36	0.32	-0.08	-0.24	0.30	0.19	0.22	0.36	0.47	<b>0.21</b>	<b>0.25</b>	<b>119.05</b>
N9	1.26	2.19	0.58	0.38	-0.56	1.32	0.48	0.76	0.49	0.78	0.49	0.84	0.72	0.64	0.61	0.88	<b>0.74</b>	<b>0.57</b>	<b>77.03</b>
N10	2.17	1.98	1.08	1.12	0.62	0.73	1.31	1.41	0.49	0.31	1.05	0.87	0.74	0.62	0.61	0.74	<b>0.99</b>	<b>0.52</b>	<b>52.53</b>
N11	0.95	0.99	0.19	0.13	-0.21	0.61	0.73	0.59	0.55	0.32	0.39	0.62	0.63	0.53	0.46	0.50	<b>0.50</b>	<b>0.30</b>	<b>60.00</b>
N12	1.61	1.85	1.13	0.75	2.33	2.05	2.09	1.44	0.92	0.80	0.63	0.87	1.05	0.92	0.94	0.94	<b>1.27</b>	<b>0.55</b>	<b>43.31</b>
N13	1.59	1.86	1.20	1.01	0.53	1.40	1.29	1.04	0.85	0.51	0.42	0.82	0.67	0.84	0.93	0.80	<b>0.99</b>	<b>0.40</b>	<b>40.40</b>
N14	2.22	2.87	2.51	1.79	0.92	1.36	1.54	1.02	0.62	0.74	0.64	1.10	1.03	1.01	0.85	0.55	<b>1.30</b>	<b>0.71</b>	<b>54.62</b>
N15	1.70	1.76	0.86	0.78	0.63	1.16	1.38	0.94	0.65	0.44	0.50	0.76	0.63	0.65	0.51	0.27	<b>0.85</b>	<b>0.44</b>	<b>51.76</b>
N16	2.43	1.91	1.12	0.41	0.46	0.75	1.12	0.82	0.24	0.51	0.30	0.89	0.62	0.68	0.80	0.71	<b>0.86</b>	<b>0.58</b>	<b>67.44</b>
N17	1.78	1.84	1.65	0.70	0.67	0.82	1.21	1.14	0.91	0.83	0.74	0.79	0.68	0.40	0.42	0.05	<b>0.91</b>	<b>0.50</b>	<b>54.95</b>
N18	2.20	2.08	1.53	1.20	-0.13	0.70	1.12	1.02	0.34	0.38	0.59	1.18	0.76	0.73	0.79	0.74	<b>0.95</b>	<b>0.61</b>	<b>64.21</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 19**

**MA6 - Burden to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	-0.49	-0.39	-1.67	-0.52	-0.55	0.53	0.19	0.33	0.39	-0.03	-0.14	0.07	0.22	0.12	0.14	0.20	<b>-0.10</b>	<b>0.54</b>	<b>-540.00</b>
P2	-0.16	0.25	-0.52	-0.57	-0.74	0.87	0.80	0.76	0.31	0.19	0.21	0.45	0.44	0.49	0.74	0.39	<b>0.24</b>	<b>0.50</b>	<b>208.33</b>
P3	0.57	0.61	-0.31	-0.11	-0.11	0.64	0.79	0.45	0.26	0.16	0.35	0.67	0.80	0.79	1.03	0.96	<b>0.47</b>	<b>0.40</b>	<b>85.11</b>
P4	0.58	0.91	0.43	0.44	0.91	0.93	0.91	1.10	1.30	1.42	0.96	1.13	1.14	1.19	0.92	0.92	<b>0.95</b>	<b>0.28</b>	<b>29.47</b>
P5	-0.43	0.72	0.08	-1.09	-0.43	-0.08	0.39	-0.08	-0.18	-0.14	-0.44	-0.01	0.08	0.13	-0.02	-0.11	<b>-0.10</b>	<b>0.40</b>	<b>-400.00</b>
P6	-0.12	-0.16	-0.95	-1.39	-1.02	0.09	0.77	0.52	0.47	0.36	0.58	0.73	0.64	0.60	0.37	0.33	<b>0.11</b>	<b>0.67</b>	<b>609.09</b>
P7	-0.12	0.62	-0.21	-0.22	-0.14	1.80	2.36	1.22	0.85	0.78	0.57	1.02	1.02	1.07	1.09	1.27	<b>0.81</b>	<b>0.73</b>	<b>90.12</b>
P8	0.60	0.72	-0.17	-0.17	-0.04	0.99	0.92	0.77	0.52	0.59	0.40	0.85	0.84	0.77	1.04	1.05	<b>0.61</b>	<b>0.41</b>	<b>67.21</b>
P9	0.63	0.26	-1.53	-1.16	-1.17	-0.21	0.27	0.41	0.38	0.12	0.03	0.88	0.65	0.69	0.83	0.80	<b>0.12</b>	<b>0.76</b>	<b>633.33</b>
P10	0.81	1.12	0.06	-0.50	1.24	0.77	0.64	0.73	0.26	-0.05	0.52	0.66	0.58	0.73	0.91	1.00	<b>0.59</b>	<b>0.45</b>	<b>76.27</b>
P11	0.95	0.88	-0.30	-0.57	-0.49	0.90	1.51	0.95	0.69	0.88	0.69	0.91	1.01	0.96	0.98	0.85	<b>0.68</b>	<b>0.59</b>	<b>86.76</b>
P12	0.57	0.55	0.58	0.74	0.93	1.06	0.88	0.98	0.47	0.68	0.47	0.74	0.64	0.77	1.07	0.98	<b>0.76</b>	<b>0.20</b>	<b>26.32</b>
<b>SBI Group</b>																			
S1	1.30	1.43	0.68	0.66	0.18	0.64	2.01	0.84	0.73	0.48	0.61	1.08	1.08	1.08	1.28	0.87	<b>0.93</b>	<b>0.44</b>	<b>47.31</b>
S2	0.76	0.96	0.25	-0.04	-0.61	0.76	0.95	0.50	0.22	0.24	0.17	0.54	0.63	0.89	0.93	1.00	<b>0.51</b>	<b>0.45</b>	<b>88.24</b>
S3	1.13	1.48	0.91	0.61	0.42	0.68	0.90	0.95	0.61	0.35	0.53	0.63	0.92	0.91	1.02	0.84	<b>0.81</b>	<b>0.29</b>	<b>35.80</b>
S4	1.56	1.99	0.81	0.31	0.23	0.65	0.97	0.92	0.65	0.50	0.70	0.95	0.93	0.80	1.08	0.99	<b>0.88</b>	<b>0.43</b>	<b>48.86</b>
S5	1.08	1.54	0.58	0.26	-0.75	0.42	0.73	0.49	0.21	0.25	0.31	0.73	0.64	0.88	1.03	0.86	<b>0.58</b>	<b>0.50</b>	<b>86.21</b>
S6	0.85	1.23	0.67	0.38	-0.08	0.36	0.93	0.81	0.61	0.49	0.79	0.80	0.83	0.83	0.98	0.86	<b>0.71</b>	<b>0.31</b>	<b>43.66</b>
<b>Foreign Banks</b>																			
F1	0.83	0.47	-0.22	0.35	0.45	0.88	1.22	0.91	-0.36	-1.05	0.76	0.74	1.17	0.70	-0.11	-0.09	<b>0.42</b>	<b>0.62</b>	<b>147.62</b>
F2	-0.19	-0.64	-0.62	-3.39	-5.99	-1.38	-0.78	0.61	0.17	0.55	0.52	0.50	1.05	0.50	1.60	-0.02	<b>-0.47</b>	<b>1.87</b>	<b>-397.87</b>
F3	0.39	0.14	0.14	0.66	-0.35	0.14	0.30	0.81	0.04	-0.59	-0.20	0.44	0.22	0.69	0.94	0.78	<b>0.28</b>	<b>0.43</b>	<b>153.57</b>
F4	0.63	0.68	-0.43	0.08	0.24	0.89	0.34	0.11	-0.41	-0.7	-0.45	0.13	-0.22	0.08	0.05	-0.25	<b>0.05</b>	<b>0.45</b>	<b>900.00</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **MA6 - Burden to Total Assets**

Burden is the difference between non-interest expenditure and non-interest income of a bank. It is a measure which indicates how well the banks control their non-interest expenditure and increase their profitability. The burden to total assets (MA6) of select scheduled commercial banks between 1999-2000 and 2014-2015 is portrayed in Table 19.

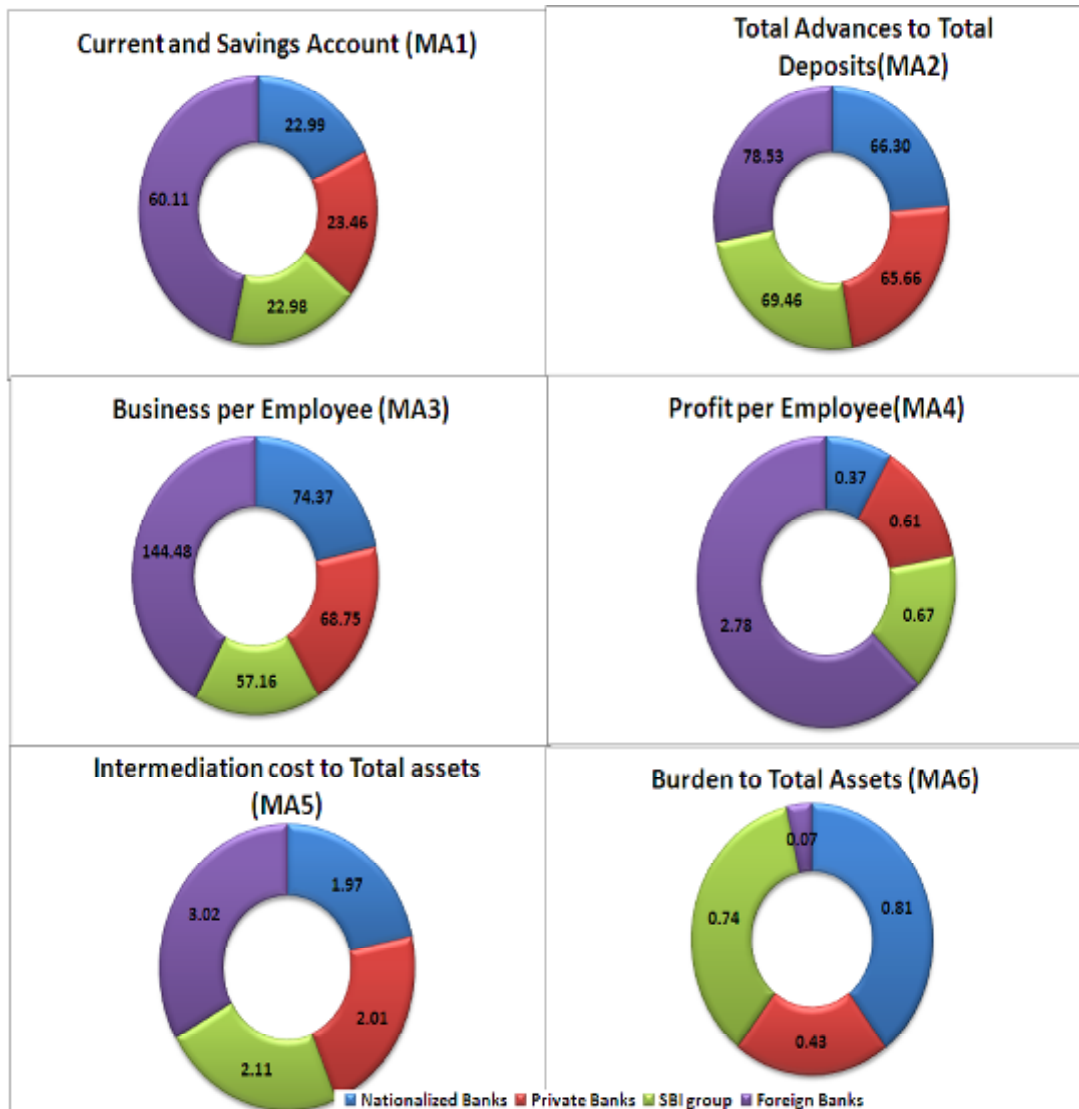
All the banks under study have shown a fluctuating trend throughout the study period. The ratio decreased in nationalized banks group and SBI group stating that the banks have controlled their non-interest expenditure in 2014-2015 compared to 1999-2000. Most of the private banks and foreign banks have controlled their burden throughout the study period.

Among the nationalized banks group, the average burden to total assets (MA6) was observed to be less in Corporation Bank (N8) at 0.21 percent with a lower standard deviation at 0.25 percent. The lower ratio indicates the potentials of the banks in earning more non-interest income, besides meeting their non-interest expenditure. The higher average was reported by Syndicate Bank (N14) at 1.30 percent with a standard deviation at 0.71 percent.

In the private banks group, Axis Bank (P1) and ICICI Bank (P5) in private banks group registered -0.10 percent average with a standard deviation at 0.54 percent and 0.40 percent respectively. The higher non-interest expenditure was incurred by HDFC Bank (P4) by recording the average at 0.95 percent with a standard deviation at 0.28 percent.

When considering SBI group, the average burden to total assets (MA6) was observed to be lower in State Bank of Hyderabad (S2) at 0.51 percent with a standard deviation at 0.45 percent. State Bank of Bikaner & Jaipur (S1) at 0.93 percent reported a higher average in the group with a standard deviation at 0.44 percent.

Among foreign banks, Deutsche Bank (F2) held the lowest burden to total assets (MA6) at -0.47 percent with a very high standard deviation at 1.87 percent and the average was found to be highest in Citi Bank (F1) at 0.42 percent.



Source: Computed data

**Figure 5**  
**Bank Group – wise Management Ability of Scheduled Commercial Banks in India**

Figure 5 establishes Bank group – wise management ability of the Scheduled Commercial Banks. When considering current and savings account (MA1), the foreign banks group held more of current and savings account with respect to the total deposits during the study period and stood at 60.11 percent stating the potentiality of the group to get more of low rate funds leading to higher

profitability. The subsequent banking group is private banks group at 23.46 percent, whereby nationalized banks group held 22.99 percent, and SBI group held 22.98 percent.

Maximum total advances to total deposits (MA2) at 78.59 percent is registered by the foreign banks group stating higher competence and ability of the management in converting the deposits into high earnings advances. The next banking groups are SBI and its Associates with 68.70 percent and private banks with 68.03 percent while nationalized banks registered low total advances to total deposits (MA2) in the industry at 65.82 percent

The productivity of the bank employees is witnessed to be very effective in foreign banks at ₹ 133.72 followed by the nationalized banking group at ₹ 68.80, the private banks stood at ₹ 66.57 and the least among the industry is registered by SBI group at ₹ 52.71.

The profit per employee (MA4) witnessing higher productivity of the banks through the revenue earned by the employees is exceedingly high in foreign banks at ₹2.61. The private banks held ₹ 0.59 while nationalized banks recorded ₹ 0.37 and SBI group at ₹ 0.33 indicate a very low proportion of profit after tax (PAT) earned by the group.

When considering intermediation cost to total assets (MA5), private banks and nationalized banks registered lower operating expenses at 2 percent while it is high in SBI group at 2.13 percent. The administration and operational costs incurred by the foreign banks for offering its services is very high at 3.06 percent which will affect the profitability of the banks.

The burden to total assets (MA6) was observed to be less in foreign banks at 0.07 percent. The lower ratio indicates the ability of banks in earning non-interest income. The second position was occupied by private banks group at 0.43 percent followed by SBI group at 0.74 percent and nationalized banks at 0.81 percent.

To understand whether there is any significant difference in the management ability of select Scheduled Commercial Banks before and after global financial crisis, the following hypothesis was tested and results are presented in Table 20.

H<sub>03</sub>: There is no difference in the management ability of select Scheduled Commercial Banks before and after crisis.

**Table 20**  
**Difference in Management Ability Before and After Global Financial Crisis**

Variables	Mean	Std. Deviation	Paired Differences		t	'P' value	Significance	
			Mean	Std. Deviation				
MA1	Before Crisis	23.12	18.58	-8.26	17.25	-8.11	0.000	Significant
	After Crisis	31.38	13.70					
MA2	Before Crisis	74.46	8.84	1.60	20.34	13.29	0.000	Significant
	After Crisis	58.50	21.62					
MA3	Before Crisis	1.06	45.31	6.51	39.02	28.24	0.000	Significant
	After Crisis	40.72	36.05					
MA4	Before Crisis	0.87	0.94	0.42	0.64	11.08	0.000	Significant
	After Crisis	0.44	0.76					
MA5	Before Crisis	1.83	0.56	-0.60	0.71	-14.22	0.000	Significant
	After Crisis	2.43	0.62					
MA6	Before Crisis	0.57	0.39	-0.05	0.94	-0.90	0.364	Insignificant
	After Crisis	0.62	0.91					

**Source: Computed data**

To find if the management ability ratios varied before and after the global economic crisis, paired t-test was applied and the results stated that there was no difference in Burden to total assets (MA6) whilst the other indicators CASA (MA1), Total advances to total deposits (MA2), Business per employee (MA3), Profit per employee (MA4) and Intermediation cost to total assets (MA5) varied before and after crisis and was found to be highly significant at 99% confidence level. Therefore, it is inferred that there was a control in the burden of the banks, while intermediation cost of the banks increased after the crisis. Further, the

CASA, Total advances to total deposits, Business per employee and Profit per employee increased massively indicating the effective managerial competency of the banks.

### **Earning Efficiency**

Strong earnings and profitability profile of the banks replicate the ability to support present and future operations of the business. In particular, this determines the capacity to absorb losses, finance its expansion, pay dividends to its shareholders, and build up an adequate level of capital base. Being front line of defense against erosion of capital base from losses, the need for high earnings and profitability can hardly be overemphasized. The criteria of ratio that explicates the earning efficiency of the banks are listed below:-

- EE1 - Net Interest Margin,
- EE2 - Return on Assets,
- EE3 - Return on Equity,
- EE4 - Non-Interest Income to Total Assets, and
- EE5 - Operating Profits to Total Assets.

**Table 21**  
**EE1 - Net Interest Margin of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	3.04	3.26	3.12	3.45	3.46	3.42	3.14	2.85	2.22	2.39	2.42	2.95	3.09	2.51	2.50	2.76	<b>2.91</b>	<b>0.41</b>	<b>14.09</b>
N2	3.04	2.77	2.78	3.30	3.52	3.58	3.19	3.21	2.57	2.60	2.76	3.23	3.22	2.77	2.38	2.57	<b>2.97</b>	<b>0.36</b>	<b>12.12</b>
N3	3.09	3.18	2.80	2.86	3.18	3.31	3.05	2.79	2.42	2.52	2.35	2.76	2.56	2.28	1.98	1.92	<b>2.69</b>	<b>0.43</b>	<b>15.99</b>
N4	2.35	2.86	2.84	2.78	2.73	2.49	2.54	2.71	2.64	2.72	2.30	2.49	2.26	2.16	2.11	1.90	<b>2.49</b>	<b>0.29</b>	<b>11.65</b>
N5	3.41	3.26	2.90	2.92	2.70	2.71	3.03	3.12	2.59	2.34	1.99	2.67	3.00	2.92	2.77	2.74	<b>2.82</b>	<b>0.34</b>	<b>12.06</b>
N6	2.80	3.12	2.63	2.89	2.95	3.01	2.95	2.70	2.04	2.36	2.35	2.56	2.17	2.00	1.98	1.86	<b>2.52</b>	<b>0.42</b>	<b>16.67</b>
N7	1.77	3.27	3.07	3.46	3.52	3.60	3.32	2.95	1.95	1.64	1.54	2.71	2.35	2.30	2.33	2.41	<b>2.64</b>	<b>0.70</b>	<b>26.52</b>
N8	2.89	3.19	2.89	3.18	3.48	3.58	3.30	2.81	2.42	2.20	1.92	2.30	2.05	1.92	1.82	1.82	<b>2.61</b>	<b>0.62</b>	<b>23.75</b>
N9	2.64	2.58	2.41	2.91	2.80	2.97	2.86	2.95	2.45	2.44	2.07	2.75	2.66	2.37	2.10	1.92	<b>2.56</b>	<b>0.33</b>	<b>12.89</b>
N10	3.68	3.04	2.95	3.19	3.62	3.78	3.75	3.62	2.66	2.57	2.51	2.72	2.52	2.26	2.15	1.92	<b>2.93</b>	<b>0.61</b>	<b>20.82</b>
N11	3.29	3.06	3.28	3.64	3.88	3.21	2.84	2.55	2.03	1.96	2.33	2.80	2.49	2.49	2.44	2.26	<b>2.78</b>	<b>0.56</b>	<b>20.14</b>
N12	2.48	2.66	2.33	2.74	3.34	3.73	3.63	3.74	2.97	2.80	2.42	2.49	2.12	2.14	1.85	1.75	<b>2.70</b>	<b>0.64</b>	<b>23.70</b>
N13	3.22	3.47	3.37	3.93	3.84	3.51	3.44	3.39	3.06	3.06	3.12	3.50	3.21	3.17	3.14	2.87	<b>3.33</b>	<b>0.28</b>	<b>8.41</b>
N14	3.36	3.95	3.69	3.66	3.50	3.41	3.32	2.86	2.11	2.15	2.03	2.97	3.00	2.74	2.37	1.99	<b>2.94</b>	<b>0.65</b>	<b>22.11</b>
N15	2.49	2.60	2.49	2.66	3.04	2.86	2.69	2.32	1.81	1.63	1.87	2.56	2.27	2.42	2.77	2.29	<b>2.42</b>	<b>0.39</b>	<b>16.12</b>
N16	3.70	3.30	3.21	3.14	3.17	3.16	2.94	2.91	2.52	2.68	2.35	2.88	2.73	2.63	2.37	2.30	<b>2.87</b>	<b>0.39</b>	<b>13.59</b>
N17	2.24	2.51	2.72	3.06	3.12	3.33	3.27	3.04	1.87	2.00	2.00	2.60	2.58	2.30	2.14	2.01	<b>2.55</b>	<b>0.49</b>	<b>19.22</b>
N18	3.25	3.40	3.19	3.65	3.88	3.70	3.20	2.90	1.68	1.90	2.19	2.56	2.14	1.82	1.68	1.64	<b>2.67</b>	<b>0.81</b>	<b>30.34</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 21**

**EE1 - Net Interest Margin of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	1.71	1.13	1.59	1.90	2.58	2.36	2.47	2.39	2.83	2.87	3.05	3.10	3.04	3.09	3.30	3.37	<b>2.55</b>	<b>0.67</b>	<b>26.27</b>
P2	3.16	3.19	2.70	2.73	3.31	3.31	3.67	3.53	3.14	2.92	2.67	3.21	3.03	3.02	3.17	3.05	<b>3.11</b>	<b>0.28</b>	<b>9.00</b>
P3	2.30	2.89	2.91	3.04	3.09	3.15	3.20	3.13	3.01	3.69	3.42	3.67	3.49	3.00	3.06	3.02	<b>3.13</b>	<b>0.33</b>	<b>10.54</b>
P4	3.82	3.71	3.21	3.08	3.68	3.79	4.08	4.21	4.66	4.69	4.13	4.22	4.19	4.28	4.14	4.14	<b>4.00</b>	<b>0.44</b>	<b>11.00</b>
P5	1.95	2.54	0.96	1.35	1.62	1.94	2.25	1.89	1.96	2.15	2.19	2.34	2.40	2.70	2.91	3.07	<b>2.14</b>	<b>0.55</b>	<b>25.70</b>
P6	1.34	1.91	1.73	1.84	2.54	2.71	1.90	1.41	1.36	1.80	2.81	3.40	3.30	3.41	3.61	3.49	<b>2.41</b>	<b>0.84</b>	<b>34.85</b>
P7	1.34	1.82	1.75	1.94	1.97	2.49	2.99	2.47	2.22	2.26	2.52	2.76	2.81	3.02	3.04	3.11	<b>2.41</b>	<b>0.54</b>	<b>22.41</b>
P8	3.17	3.07	3.20	3.34	3.26	2.61	2.61	2.79	2.64	2.79	2.79	3.32	3.32	3.51	3.57	3.43	<b>3.09</b>	<b>0.33</b>	<b>10.68</b>
P9	2.15	2.45	1.95	1.82	2.15	2.74	2.66	2.69	2.58	2.39	1.08	2.09	2.15	2.32	2.39	2.36	<b>2.25</b>	<b>0.41</b>	<b>18.22</b>
P10	3.99	3.89	3.52	3.00	4.47	3.42	3.35	3.46	2.66	2.59	2.90	3.06	2.79	2.75	2.61	2.80	<b>3.20</b>	<b>0.56</b>	<b>17.50</b>
P11	2.95	3.09	2.64	2.48	2.37	2.74	3.06	3.00	2.45	2.79	2.48	2.71	2.79	2.84	2.67	2.39	<b>2.72</b>	<b>0.24</b>	<b>8.82</b>
P12	3.20	3.58	3.61	3.76	4.40	4.32	4.20	4.49	3.29	3.32	3.02	3.66	3.57	3.91	3.52	3.15	<b>3.69</b>	<b>0.46</b>	<b>12.47</b>
<b>SBI Group</b>																			
S1	3.29	3.46	3.33	3.28	3.74	3.98	3.90	3.03	2.48	2.52	2.41	3.02	3.28	3.24	3.19	3.05	<b>3.20</b>	<b>0.46</b>	<b>14.38</b>
S2	3.62	3.61	3.21	3.10	2.96	2.94	2.90	2.74	2.01	2.12	2.26	2.92	2.99	3.08	2.86	2.97	<b>2.89</b>	<b>0.45</b>	<b>15.57</b>
S3	2.86	2.86	2.74	2.76	2.85	3.21	3.27	2.84	2.64	2.48	2.35	2.86	3.38	3.06	2.93	2.86	<b>2.87</b>	<b>0.27</b>	<b>9.41</b>
S4	3.71	3.54	3.19	3.56	3.62	3.63	3.41	2.96	2.54	2.28	2.88	3.36	2.82	2.88	2.73	2.72	<b>3.11</b>	<b>0.44</b>	<b>14.15</b>
S5	4.11	4.54	4.15	4.09	3.41	3.34	2.74	2.27	1.67	1.75	2.11	2.97	2.60	2.37	2.33	2.25	<b>2.92</b>	<b>0.92</b>	<b>31.51</b>
S6	2.41	2.94	2.74	2.94	3.18	3.39	3.15	2.84	2.34	2.75	2.57	2.60	2.42	2.27	2.30	2.17	<b>2.69</b>	<b>0.36</b>	<b>13.38</b>
<b>Foreign Banks</b>																			
F1	4.75	4.59	3.94	4.06	4.94	4.58	5.20	4.81	4.86	4.67	4.04	3.91	4.07	4.03	3.99	4.13	<b>4.41</b>	<b>0.43</b>	<b>9.75</b>
F2	5.12	5.57	3.76	2.73	1.01	0.88	2.07	3.39	4.28	5.21	4.79	4.98	6.31	5.78	4.53	4.27	<b>4.04</b>	<b>1.64</b>	<b>40.59</b>
F3	3.18	3.34	2.89	3.01	2.99	3.69	4.20	4.97	4.53	4.30	3.51	3.67	3.74	3.74	3.24	2.97	<b>3.62</b>	<b>0.61</b>	<b>16.85</b>
F4	4.52	4.29	4.55	4.70	4.56	3.87	4.49	4.57	4.15	3.70	4.18	4.10	3.73	4.15	4.30	4.25	<b>4.26</b>	<b>0.30</b>	<b>7.04</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **EE1 - Net Interest Margin**

Net interest margin is a performance metric that examines how successful a bank's investment decisions are, compared to its debt situations. An inverse value denotes that the firm did not make an optimal decision, because interest expenses were larger than the amount of returns generated by investments. Table 21 reveals the net interest margin of the select banks under study from 1999-2000 to 2014-2015.

The net interest margin of all the banks recorded an oscillating trend throughout the study period. The ratio was found to have decreased in nationalized banks group, SBI group and foreign banks, while it increased in private banks group in 2014-2015 compared to 1999-2000. The higher ratio states the ability of the banks to earn interest from their investments while keeping a control over their interest expenditure.

When considering the average net interest margin (EE1) of nationalized banks group, it was high in Punjab National Bank (N13) at 3.33 percent with a standard deviation at 0.28 percent. The average of the ratio was found to be lower in UCO Bank (N15) at 2.42 percent with a standard deviation at 0.39 percent.

In the private banks group, the average net interest margin (EE1) was observed to be higher in HDFC Bank (P4) at 4 percent with a standard deviation at 0.44 percent. The lowest average in the group was reported by ICICI Bank (P5) at 2.14 percent with a standard deviation at 0.55 percent

Among the banks in SBI group, State Bank of Bikaner and Jaipur (S1) reported the highest average at 3.20 percent followed by State Bank of Mysore (S4) at 3.11 percent with a standard deviation at 0.46 percent and 0.44 percent respectively. The lowest average in the group was reported by State Bank of Travancore (S6) at 2.69 percent with a standard deviation at 0.36 percent.

In foreign banks group, Citibank (F1) took the lead by reporting the highest average at 4.41 percent with a standard deviation at 0.43 percent. The average was lower in HSBC Bank (F3) at 3.62 percent with a standard deviation at 0.61 percent.

**Table 22**  
**EE2 - Return on Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	0.35	0.18	0.32	0.59	1.34	1.33	1.42	1.26	1.32	0.90	1.16	1.11	1.02	0.64	0.57	0.29	<b>0.86</b>	<b>0.44</b>	<b>51.16</b>
N2	0.76	0.59	0.97	1.63	1.72	1.59	1.38	1.31	1.16	1.09	1.39	1.36	1.19	0.99	0.29	0.38	<b>1.11</b>	<b>0.43</b>	<b>38.74</b>
N3	0.85	0.45	0.81	1.05	1.20	0.75	0.79	0.80	0.89	1.09	1.21	1.33	1.24	0.90	0.75	0.49	<b>0.91</b>	<b>0.26</b>	<b>28.57</b>
N4	0.31	0.44	0.78	1.16	1.25	0.38	0.68	0.88	1.25	1.49	0.70	0.82	0.72	0.65	0.51	0.27	<b>0.77</b>	<b>0.36</b>	<b>46.75</b>
N5	0.59	0.24	0.68	0.89	0.95	0.54	0.16	0.76	0.75	0.72	0.70	0.47	0.55	0.74	0.30	0.33	<b>0.59</b>	<b>0.23</b>	<b>38.98</b>
N6	0.43	0.43	1.03	1.24	1.34	1.01	1.13	0.98	0.92	1.06	1.30	1.42	0.95	0.77	0.54	0.55	<b>0.94</b>	<b>0.32</b>	<b>34.04</b>
N7	0.38	0.10	0.31	0.85	0.98	0.53	0.37	0.62	0.54	0.45	0.66	0.70	0.26	0.44	-0.47	0.21	<b>0.43</b>	<b>0.33</b>	<b>76.74</b>
N8	1.54	1.55	1.60	1.88	1.96	1.12	1.24	1.17	1.29	1.24	1.28	1.21	1.06	0.88	0.29	0.28	<b>1.22</b>	<b>0.47</b>	<b>38.52</b>
N9	0.38	0.00	0.06	0.57	1.11	0.26	0.29	0.71	1.06	1.02	1.01	1.00	1.08	0.86	0.51	0.22	<b>0.63</b>	<b>0.39</b>	<b>61.90</b>
N10	0.15	0.38	0.65	1.01	1.08	1.28	1.32	1.36	1.30	1.17	0.53	0.71	0.52	0.24	0.23	-0.16	<b>0.74</b>	<b>0.49</b>	<b>66.22</b>
N11	1.10	0.80	1.00	1.30	1.70	2.01	1.39	1.21	1.02	0.88	0.91	1.03	0.67	0.71	0.56	0.23	<b>1.03</b>	<b>0.43</b>	<b>41.75</b>
N12	0.52	0.10	0.17	0.03	0.06	-0.45	0.64	1.01	1.49	1.24	1.05	0.90	0.65	0.44	0.35	0.13	<b>0.52</b>	<b>0.52</b>	<b>100.00</b>
N13	0.75	0.73	0.77	0.98	1.08	1.17	1.09	1.03	1.15	1.39	1.44	1.34	1.19	1.00	0.64	0.53	<b>1.02</b>	<b>0.27</b>	<b>26.47</b>
N14	0.89	0.91	0.98	1.31	1.67	0.82	0.91	0.91	0.88	0.81	0.62	0.76	0.81	1.07	0.78	0.58	<b>0.92</b>	<b>0.26</b>	<b>28.26</b>
N15	0.18	0.14	0.60	0.66	1.13	0.73	0.34	0.47	0.52	0.59	0.87	0.66	0.69	0.33	0.70	0.48	<b>0.57</b>	<b>0.25</b>	<b>43.86</b>
N16	0.29	0.40	0.71	1.08	1.22	1.10	0.84	0.92	1.26	1.27	1.25	1.05	0.79	0.79	0.52	0.49	<b>0.87</b>	<b>0.32</b>	<b>36.78</b>
N17	0.17	0.10	0.54	1.37	1.25	1.04	0.66	0.73	0.68	0.34	0.45	0.66	0.70	0.38	-0.99	0.21	<b>0.52</b>	<b>0.54</b>	<b>103.85</b>
N18	0.38	0.53	0.86	1.13	1.91	1.43	0.45	0.92	0.75	0.59	0.76	0.72	0.66	0.59	0.35	0.33	<b>0.77</b>	<b>0.42</b>	<b>54.55</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 22**  
**EE2 - Return on Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	0.77	0.80	0.93	1.17	1.42	1.21	1.18	1.10	1.24	1.44	1.67	1.68	1.68	1.70	1.78	1.83	<b>1.35</b>	<b>0.35</b>	<b>25.93</b>
P2	1.28	1.21	1.33	1.33	1.86	1.33	1.46	1.57	1.60	1.50	1.52	1.67	1.71	1.58	1.44	1.49	<b>1.49</b>	<b>0.17</b>	<b>11.41</b>
P3	0.62	0.69	0.53	0.86	0.90	0.62	1.28	1.38	1.34	1.48	1.15	1.34	1.41	1.35	1.20	1.32	<b>1.09</b>	<b>0.33</b>	<b>30.28</b>
P4	1.84	1.62	1.48	1.52	1.45	1.47	1.38	1.33	1.32	1.28	1.53	1.58	1.77	1.90	2.00	2.02	<b>1.59</b>	<b>0.24</b>	<b>15.09</b>
P5	0.87	0.82	0.67	1.13	1.31	1.59	1.30	1.09	1.12	0.98	1.13	1.35	1.50	1.70	1.78	1.86	<b>1.26</b>	<b>0.35</b>	<b>27.78</b>
P6	0.55	0.47	0.50	0.91	1.74	1.50	0.22	0.34	0.34	0.58	1.14	1.46	1.57	1.63	1.81	1.90	<b>1.04</b>	<b>0.61</b>	<b>58.65</b>
P7	0.55	0.37	0.64	0.74	0.45	-0.25	0.05	0.52	0.74	0.70	0.80	0.89	1.09	1.26	1.20	0.82	<b>0.66</b>	<b>0.39</b>	<b>59.09</b>
P8	1.13	1.32	1.77	2.01	1.92	0.47	0.67	0.96	1.09	1.09	1.20	1.22	1.56	1.70	1.74	0.70	<b>1.28</b>	<b>0.46</b>	<b>35.94</b>
P9	1.10	0.73	1.26	1.29	1.34	1.27	1.28	1.15	1.37	1.25	0.67	0.72	0.73	0.89	0.71	0.91	<b>1.04</b>	<b>0.27</b>	<b>25.96</b>
P10	1.90	1.70	2.42	2.25	2.43	1.45	1.65	1.53	1.63	1.49	1.76	1.71	1.56	1.35	0.86	0.88	<b>1.66</b>	<b>0.45</b>	<b>27.11</b>
P11	0.58	0.89	1.07	1.25	1.00	0.09	0.53	0.88	1.01	1.09	1.07	1.05	1.12	1.17	1.00	0.56	<b>0.90</b>	<b>0.31</b>	<b>34.44</b>
P12	1.32	1.37	1.29	1.35	1.59	1.52	1.67	1.57	1.58	1.51	1.54	1.74	1.75	2.00	1.19	1.38	<b>1.52</b>	<b>0.21</b>	<b>13.82</b>
<b>SBI Group</b>																			
S1	1.06	0.80	1.06	1.13	1.49	0.88	0.53	1.00	0.87	0.92	0.93	0.96	0.99	0.96	0.87	0.84	<b>0.96</b>	<b>0.20</b>	<b>20.83</b>
S2	0.82	0.82	1.02	1.15	1.25	0.79	1.13	1.14	1.00	0.91	1.03	1.22	1.15	0.99	0.70	0.89	<b>1.00</b>	<b>0.17</b>	<b>17.00</b>
S3	0.75	0.50	0.70	0.86	0.94	0.99	0.89	0.84	1.01	1.04	0.88	0.71	0.88	0.97	0.65	0.68	<b>0.83</b>	<b>0.15</b>	<b>18.07</b>
S4	0.58	0.27	0.64	1.02	1.28	1.25	1.23	1.10	1.08	0.91	1.06	1.03	0.67	0.66	0.40	0.54	<b>0.86</b>	<b>0.32</b>	<b>37.21</b>
S5	1.13	1.12	1.34	1.51	1.60	0.91	0.73	0.77	0.83	0.83	0.79	0.88	0.93	0.68	0.42	0.33	<b>0.93</b>	<b>0.35</b>	<b>37.63</b>
S6	0.53	0.67	0.73	0.90	1.02	0.86	0.86	0.86	0.89	1.30	1.26	1.12	0.65	0.66	0.29	0.32	<b>0.81</b>	<b>0.29</b>	<b>35.80</b>
<b>Foreign Banks</b>																			
F1	3.40	3.24	3.60	2.88	3.55	2.84	3.07	2.79	2.24	2.12	0.96	1.37	1.64	2.12	2.07	2.43	<b>2.52</b>	<b>0.79</b>	<b>31.35</b>
F2	1.10	1.71	2.24	2.92	3.17	0.72	1.04	1.23	1.56	1.75	1.73	1.95	2.58	2.98	1.54	2.55	<b>1.92</b>	<b>0.75</b>	<b>39.06</b>
F3	0.96	1.29	0.87	0.80	0.91	1.27	1.58	1.82	1.82	1.51	0.88	1.68	1.97	1.81	1.26	1.33	<b>1.36</b>	<b>0.40</b>	<b>29.41</b>
F4	3.69	3.14	2.17	2.92	1.74	1.97	2.49	3.06	3.13	2.87	3.03	2.44	1.49	2.43	1.20	2.42	<b>2.51</b>	<b>0.67</b>	<b>26.69</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**EE2 - Return on Assets**

Return on assets ratio measures the net income generated by the bank on its total assets. ROA shows the efficiency of the management in using its assets to generate earnings. A higher percentage states the good productivity of the banks. Table 22 presents the return on assets (EE2) of select Scheduled Commercial Banks between 1999-2000 and 2014-2015.

The Return on Assets (EE2) decreased in majority of the public sector banks, while the ratio increased in majority of private and foreign banks in 2014-2015 compared to 1999-2000 by recording a fluctuating trend.

When considering the nationalized banks group, the average Return on Assets (EE2) was found to be higher in Corporation Bank (N8) at 1.22 percent, but the ratio declined steadily from 2009-2010 due to higher provisioning and write-offs that stifled banks advances growth. The lower average was reported by Central Bank of India (N7) at 0.43 percent

Among the private banks, Karur Vysya Bank (P10) at 1.66 percent followed by HDFC Bank (P4) at 1.59 percent reported the highest average with a standard deviation at 0.45 percent and 0.24 percent respectively. Except ING vysya Bank (P7) with an average at 0.66 percent, all the other banks registered the average around 1 percent.

In SBI group, State Bank of Hyderabad (S2) recorded the highest average at 1 percent followed by State Bank of Bikaner & Jaipur (S1) at 0.96 percent with the standard deviation at 0.17 percent and 0.20 percent respectively. The lowest mean value in the group was observed in State Bank of Travancore (S6) at 0.81 percent.

All the banks in the foreign banks group recorded the average Return on Assets (EE2) above 1 percent. The higher average indicates the ability of the banks in generating a higher net income on its total assets.

**Table 23**  
**EE3 - Return on Equity of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	7.97	4.42	8.45	15.43	34.04	27.93	23.67	18.49	20.10	13.88	19.14	18.65	19.64	10.84	10.12	5.08	<b>16.12</b>	<b>8.25</b>	<b>51.18</b>
N2	22.45	18.10	24.66	40.31	36.10	31.62	20.52	17.78	17.97	18.94	25.96	23.24	19.25	16.19	5.07	6.79	<b>21.56</b>	<b>9.19</b>	<b>42.63</b>
N3	16.40	8.33	15.20	18.81	20.32	12.58	12.28	12.45	14.58	18.62	21.86	23.47	20.64	15.07	13.36	8.96	<b>15.81</b>	<b>4.48</b>	<b>28.34</b>
N4	7.03	9.69	18.40	26.65	26.71	8.03	14.85	20.65	24.38	24.97	12.56	15.79	14.00	12.25	10.14	5.57	<b>15.73</b>	<b>7.13</b>	<b>45.33</b>
N5	17.63	8.05	22.80	26.46	25.21	11.90	3.26	16.41	18.64	17.46	16.35	9.68	9.91	13.66	5.61	5.84	<b>14.30</b>	<b>7.04</b>	<b>49.23</b>
N6	9.43	10.54	23.59	26.74	28.47	19.53	20.29	16.25	15.01	18.25	22.48	23.20	15.36	12.08	8.95	8.79	<b>17.44</b>	<b>6.41</b>	<b>36.75</b>
N7	1.56	1.82	7.20	13.82	22.90	11.46	7.68	13.77	11.31	9.25	15.01	13.49	4.57	7.31	-8.12	3.65	<b>8.54</b>	<b>7.12</b>	<b>83.37</b>
N8	21.94	21.01	18.16	18.84	19.62	13.81	13.82	15.02	18.39	19.57	21.93	21.89	19.54	16.08	5.72	5.68	<b>16.94</b>	<b>5.14</b>	<b>30.34</b>
N9	8.26	-33.11	1.29	11.56	19.89	5.65	5.98	14.22	21.82	21.29	21.43	19.55	19.75	15.83	8.55	3.64	<b>10.35</b>	<b>13.54</b>	<b>130.82</b>
N10	13.79	13.78	22.29	32.10	28.96	27.98	27.23	28.14	27.15	22.07	9.63	12.73	9.88	4.47	4.06	-2.86	<b>17.59</b>	<b>10.75</b>	<b>61.11</b>
N11	20.95	13.63	20.23	24.51	28.67	24.19	13.11	10.78	6.21	13.51	14.51	15.55	9.91	10.74	8.70	3.65	<b>14.93</b>	<b>7.03</b>	<b>47.09</b>
N12	15.45	3.12	5.27	0.98	1.92	-15.67	13.03	16.63	21.86	20.37	21.40	16.39	11.21	7.66	6.25	2.29	<b>9.26</b>	<b>9.83</b>	<b>106.16</b>
N13	19.42	18.76	18.59	22.72	24.52	21.41	16.41	15.55	18.01	22.92	24.12	22.60	19.80	15.70	9.75	8.17	<b>18.65</b>	<b>4.74</b>	<b>25.42</b>
N14	24.69	20.73	19.06	23.02	24.92	19.64	21.32	22.17	21.42	19.63	15.29	16.53	16.32	20.47	15.29	12.23	<b>19.55</b>	<b>3.58</b>	<b>18.31</b>
N15	1.39	1.25	6.11	10.46	29.14	17.86	8.68	12.34	14.75	16.20	22.08	14.36	13.83	6.76	14.45	9.57	<b>12.45</b>	<b>7.19</b>	<b>57.75</b>
N16	8.79	8.65	15.88	23.65	25.19	21.46	16.52	17.34	22.13	21.46	21.65	17.96	13.05	13.52	9.48	9.32	<b>16.63</b>	<b>5.66</b>	<b>34.03</b>
N17	1.59	0.97	6.06	15.55	16.07	15.33	10.81	12.60	12.57	6.44	9.24	11.74	11.93	6.84	-21.73	4.61	<b>7.54</b>	<b>9.12</b>	<b>120.95</b>
N18	9.18	13.52	20.74	26.66	38.32	26.02	7.79	18.58	16.59	9.36	15.32	12.63	11.54	10.83	7.27	7.29	<b>15.73</b>	<b>8.62</b>	<b>54.80</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 23**  
**EE3 - Return on Equity of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	22.86	31.84	29.28	25.07	27.08	18.81	18.28	20.96	17.60	19.12	19.15	19.34	20.29	18.53	17.43	17.75	<b>21.46</b>	<b>4.49</b>	<b>20.92</b>
P2	20.60	19.17	21.82	21.74	31.03	20.88	21.40	22.03	21.82	19.90	20.55	23.47	24.91	22.33	18.94	16.74	<b>21.71</b>	<b>3.12</b>	<b>14.37</b>
P3	13.55	15.70	18.98	21.47	23.14	13.13	22.82	21.27	13.56	12.13	10.30	11.98	14.37	13.89	12.60	13.69	<b>15.79</b>	<b>4.25</b>	<b>26.92</b>
P4	19.14	22.99	20.81	18.48	20.61	18.45	17.74	19.46	17.74	17.17	16.30	16.74	18.69	20.34	21.28	19.37	<b>19.08</b>	<b>1.80</b>	<b>9.43</b>
P5	14.45	13.09	6.53	17.38	20.93	18.86	14.33	13.17	11.63	7.80	7.96	9.65	11.20	13.10	14.02	14.55	<b>13.04</b>	<b>3.95</b>	<b>30.29</b>
P6	8.62	7.52	9.17	15.49	37.37	25.79	4.34	7.10	6.24	9.84	17.25	17.91	18.26	17.15	16.89	18.22	<b>14.82</b>	<b>8.44</b>	<b>56.95</b>
P7	8.62	6.20	10.27	12.40	8.12	-4.80	0.97	8.38	11.89	11.66	12.01	12.86	13.82	14.24	11.25	6.85	<b>9.05</b>	<b>5.01</b>	<b>55.36</b>
P8	25.13	27.30	31.75	31.00	28.66	7.06	10.21	14.42	16.79	16.72	18.19	18.96	21.22	23.56	22.34	8.60	<b>20.12</b>	<b>7.67</b>	<b>38.12</b>
P9	20.31	13.72	23.02	21.48	20.78	17.56	16.85	15.07	18.47	18.10	9.83	9.60	9.79	12.76	10.53	14.02	<b>15.74</b>	<b>4.48</b>	<b>28.46</b>
P10	31.25	24.44	28.60	25.28	25.35	14.30	16.58	16.54	18.49	18.57	22.63	22.26	20.81	19.00	13.40	12.03	<b>20.60</b>	<b>5.49</b>	<b>26.65</b>
P11	14.78	20.47	25.31	24.29	23.56	2.05	9.29	15.26	16.09	15.80	16.76	17.56	19.99	19.41	15.92	8.82	<b>16.59</b>	<b>6.06</b>	<b>36.53</b>
P12	19.69	20.03	18.19	17.50	18.47	15.90	16.65	14.94	15.67	16.27	17.27	19.96	20.89	24.08	14.02	15.60	<b>17.82</b>	<b>2.61</b>	<b>14.65</b>
<b>SBI Group</b>																			
S1	25.55	18.61	24.17	24.56	29.39	16.81	10.73	19.99	18.71	21.46	20.39	20.91	18.59	16.36	14.46	13.67	<b>19.65</b>	<b>4.79</b>	<b>24.38</b>
S2	22.94	21.77	25.74	26.80	26.99	15.03	22.01	21.72	21.28	20.87	22.02	24.35	21.98	17.70	12.74	14.66	<b>21.16</b>	<b>4.21</b>	<b>19.90</b>
S3	18.20	12.53	16.95	19.15	19.67	19.43	17.04	15.41	16.75	17.05	14.80	12.62	15.72	15.43	10.03	10.62	<b>15.71</b>	<b>2.97</b>	<b>18.91</b>
S4	18.41	8.97	20.49	29.63	34.83	30.82	25.62	24.00	25.31	18.47	18.06	15.77	9.62	10.00	6.18	8.62	<b>19.05</b>	<b>8.82</b>	<b>46.30</b>
S5	18.17	18.82	22.48	25.22	27.39	15.21	14.17	15.52	15.92	18.20	16.01	16.65	17.95	13.17	7.80	5.41	<b>16.76</b>	<b>5.54</b>	<b>33.05</b>
S6	16.31	20.56	21.50	25.66	29.68	24.05	21.02	22.26	23.28	30.64	26.88	23.09	13.93	14.94	6.81	6.83	<b>20.47</b>	<b>7.08</b>	<b>34.59</b>
<b>Foreign Banks</b>																			
F1	26.87	24.74	21.35	20.27	23.70	19.98	18.43	16.44	22.62	20.83	6.87	10.01	12.42	16.30	16.14	17.89	<b>18.43</b>	<b>5.36</b>	<b>29.08</b>
F2	9.89	16.00	18.39	22.14	31.04	7.18	9.90	13.42	12.39	9.50	9.20	11.98	13.75	14.46	8.62	14.45	<b>13.89</b>	<b>6.00</b>	<b>43.20</b>
F3	15.02	20.83	14.35	8.52	8.33	11.17	13.30	16.38	16.31	13.13	6.94	11.83	13.88	12.84	9.48	9.66	<b>12.62</b>	<b>3.61</b>	<b>28.61</b>
F4	28.58	25.01	35.87	39.26	21.56	20.16	23.21	26.33	24.08	20.45	19.44	16.70	12.76	17.78	8.19	13.41	<b>22.05</b>	<b>8.06</b>	<b>36.55</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**EE3 - Return on Equity**

Return on Equity (ROE) measures the returns earned by a bank on its total net worth. The ratio shows how well a company uses investments to generate earnings growth. Higher ratio is generally considered good as it shows the sound performance of the bank. Return on Equity (EE3) of select Scheduled Commercial Banks from 1999-2000 to 2014-2015 is presented in Table 23.

The return on equity of majority of the banks under study declined in 2014-2015 when paired with 1999-2000. Further, the ratio fluctuated immensely throughout the study period.

In nationalized banks, Andhra Bank (N2) at 21.56 percent mean value reported the highest average, but the bank reported a heavy drop in ratio in the years 2013-2014 and 2014-2015 with a standard deviation at 9.19 percent. The lowest average in the group was registered by United Bank of India (N17) at 7.54 percent with a standard deviation at 9.12 percent.

Among the private banks, City Union Bank (P2) recorded the highest average Return on Equity (EE3) at 21.71 percent followed by Axis Bank (P1) at 21.46 percent with a standard deviation at 3.12 percent and 4.49 percent. The increase in ratio indicates that the bank is effectively using the contributions of equity investors to generate additional profits. The lowest average was reported by ING vysya Bank (P7) at 9.05 percent with a standard deviation at 5.01 percent.

In SBI group, State Bank of Hyderabad (S2) registered the highest average at 21.16 percent with a standard deviation at 4.21 percent while the lowest average in the group was reported by State Bank of India (S3) at 15.71 percent with a standard deviation at 2.97 percent.

When the foreign banks are considered, Standard Chartered Bank (F4) held the largest Return on Equity (EE3) at 22.05 percent with a standard deviation at 8.06 percent. The lowest average in the group was reported by HSBC Bank (F3) at 12.62 percent with a standard deviation at 3.61 percent.

**Table 24**

**EE4 - Non-Interest Income to Total Assets of Scheduled Commercial Banks in India**

**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	1.39	1.16	1.64	1.99	2.39	1.60	0.96	0.61	1.28	1.26	1.38	1.00	0.78	0.76	1.02	0.89	<b>1.26</b>	<b>0.47</b>	<b>37.30</b>
N2	1.70	1.13	1.47	2.65	2.62	2.52	1.07	1.01	1.20	1.22	1.21	0.90	0.74	0.77	0.85	0.85	<b>1.37</b>	<b>0.66</b>	<b>48.18</b>
N3	1.16	1.16	1.48	1.71	2.13	1.46	1.08	1.08	1.27	1.36	1.11	0.88	0.85	0.73	0.74	0.64	<b>1.18</b>	<b>0.39</b>	<b>33.05</b>
N4	1.43	1.49	1.71	2.24	2.22	1.29	1.14	1.23	1.32	1.51	1.05	0.84	0.90	0.90	0.84	0.71	<b>1.30</b>	<b>0.46</b>	<b>35.38</b>
N5	1.35	1.30	1.52	1.55	1.63	1.18	0.16	0.75	0.87	0.93	0.91	0.72	0.76	0.88	0.71	0.71	<b>1.00</b>	<b>0.39</b>	<b>39.00</b>
N6	1.63	1.52	2.06	1.96	2.28	1.47	1.08	0.97	1.28	1.16	1.18	0.94	0.82	0.80	0.87	0.88	<b>1.31</b>	<b>0.47</b>	<b>35.88</b>
N7	0.69	1.06	1.20	1.01	1.60	1.39	0.74	0.57	0.83	0.79	1.05	0.64	0.63	0.67	0.69	0.63	<b>0.89</b>	<b>0.30</b>	<b>33.71</b>
N8	0.69	1.06	1.20	1.01	1.60	1.39	0.74	0.57	0.83	0.79	1.05	0.64	0.63	0.67	0.69	0.66	<b>0.89</b>	<b>0.30</b>	<b>33.71</b>
N9	1.34	1.15	1.92	2.24	2.92	1.35	1.74	1.35	1.36	0.99	1.11	0.83	0.74	0.65	0.77	0.57	<b>1.31</b>	<b>0.63</b>	<b>48.09</b>
N10	1.15	1.04	1.61	1.36	1.67	1.63	0.98	0.55	1.13	1.43	0.91	0.79	0.84	0.85	0.84	0.76	<b>1.10</b>	<b>0.35</b>	<b>31.82</b>
N11	1.02	1.04	1.60	1.63	1.92	1.06	0.98	0.91	0.76	1.05	0.96	0.64	0.73	0.87	0.92	0.94	<b>1.06</b>	<b>0.35</b>	<b>33.02</b>
N12	1.37	1.31	1.68	2.17	1.73	1.67	0.69	1.11	1.2	1.13	0.84	0.70	0.59	0.51	0.49	0.45	<b>1.10</b>	<b>0.52</b>	<b>47.27</b>
N13	1.45	1.32	1.43	1.57	1.98	1.47	0.94	1.12	1.11	1.37	1.33	1.07	1.00	0.90	0.89	1.02	<b>1.25</b>	<b>0.30</b>	<b>24.00</b>
N14	1.25	1.02	0.92	1.50	1.90	1.19	0.99	0.82	0.91	0.77	0.87	0.62	0.63	0.59	0.57	0.76	<b>0.96</b>	<b>0.36</b>	<b>37.50</b>
N15	1.12	1.17	1.99	1.84	1.59	1.05	0.64	0.81	0.94	1.01	0.78	0.62	0.56	0.50	0.60	0.83	<b>1.00</b>	<b>0.45</b>	<b>45.00</b>
N16	1.32	0.84	1.20	1.73	1.52	1.17	0.61	0.72	1.16	1.04	1.11	0.95	0.98	0.89	0.85	0.96	<b>1.07</b>	<b>0.29</b>	<b>27.10</b>
N17	0.76	0.80	1.78	1.82	2.02	1.74	1.40	0.92	0.96	0.84	0.80	0.76	0.76	0.98	1.01	1.41	<b>1.17</b>	<b>0.45</b>	<b>38.46</b>
N18	0.98	1.16	1.24	1.96	2.44	1.32	0.93	0.74	1.08	1.18	1.02	0.70	0.59	0.59	0.57	0.63	<b>1.07</b>	<b>0.51</b>	<b>47.66</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 24**

**EE4 - Non-Interest Income to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	1.72	1.87	3.31	2.42	2.47	1.34	1.67	1.64	1.96	2.25	2.40	2.19	2.05	2.09	2.05	1.98	<b>2.09</b>	<b>0.45</b>	<b>21.53</b>
P2	2.24	1.72	2.37	2.22	2.28	1.00	1.04	1.14	1.42	1.49	1.38	1.20	1.26	1.32	1.26	1.53	<b>1.55</b>	<b>0.47</b>	<b>30.32</b>
P3	1.69	1.52	2.32	2.10	2.18	1.33	1.16	1.32	1.37	1.45	1.29	1.09	0.95	1.01	0.95	1.12	<b>1.43</b>	<b>0.44</b>	<b>30.77</b>
P4	1.57	1.36	1.70	1.75	1.32	1.39	1.80	1.84	2.03	2.08	1.96	1.73	1.88	1.86	1.78	1.66	<b>1.73</b>	<b>0.23</b>	<b>13.29</b>
P5	2.04	1.38	0.93	2.99	2.64	2.33	2.00	2.32	2.37	1.95	2.01	1.73	1.68	1.63	1.84	1.96	<b>1.99</b>	<b>0.49</b>	<b>24.62</b>
P6	2.26	1.40	1.96	2.56	2.76	1.63	1.14	1.27	1.35	1.79	1.76	1.76	1.96	2.08	2.36	2.45	<b>1.91</b>	<b>0.48</b>	<b>25.13</b>
P7	2.26	1.30	2.69	3.21	2.93	0.86	0.87	1.59	1.87	1.91	1.89	1.80	1.56	1.43	1.50	1.29	<b>1.81</b>	<b>0.68</b>	<b>37.57</b>
P8	1.16	0.69	1.88	1.82	1.59	0.42	0.44	0.58	0.80	0.74	1.04	0.78	0.60	0.73	0.52	0.77	<b>0.91</b>	<b>0.47</b>	<b>51.65</b>
P9	1.36	1.44	3.34	2.81	2.72	1.91	1.21	1.12	1.34	1.53	1.52	0.99	1.02	1.02	1.14	1.03	<b>1.59</b>	<b>0.73</b>	<b>45.91</b>
P10	1.68	1.35	2.24	2.35	1.12	1.51	1.43	1.19	1.43	1.68	1.27	1.05	1.06	1.07	1.15	1.11	<b>1.42</b>	<b>0.40</b>	<b>28.17</b>
P11	1.86	1.50	2.35	2.57	2.79	1.09	0.71	0.84	0.93	0.88	0.91	0.67	0.68	0.74	0.70	0.87	<b>1.26</b>	<b>0.73</b>	<b>57.94</b>
P12	1.81	1.52	1.57	1.32	1.38	1.27	1.33	1.26	1.64	1.35	1.39	1.27	1.27	1.13	0.88	1.04	<b>1.34</b>	<b>0.23</b>	<b>17.16</b>
<b>SBI Group</b>																			
S1	1.94	1.82	2.04	2.02	2.57	2.21	0.97	1.59	1.25	1.32	1.16	1.09	0.88	0.92	0.99	0.96	<b>1.48</b>	<b>0.54</b>	<b>36.49</b>
S2	1.86	1.70	1.81	1.91	2.49	1.29	1.22	1.30	1.22	1.11	1.02	1.01	0.91	0.77	0.71	0.90	<b>1.33</b>	<b>0.49</b>	<b>36.84</b>
S3	1.47	1.39	1.26	1.59	1.94	1.64	1.56	1.28	1.35	1.51	1.48	1.39	1.12	1.11	1.10	1.18	<b>1.40</b>	<b>0.23</b>	<b>16.43</b>
S4	2.17	1.93	2.36	2.71	2.71	2.51	1.87	1.52	1.41	1.31	0.99	0.93	0.92	0.93	0.81	1.00	<b>1.63</b>	<b>0.69</b>	<b>42.33</b>
S5	1.42	1.28	1.67	1.79	2.62	1.22	0.95	1.00	1.12	0.98	0.93	0.96	0.84	0.73	0.78	0.87	<b>1.20</b>	<b>0.49</b>	<b>40.83</b>
S6	1.67	1.44	1.49	1.69	2.18	1.55	1.16	1.04	1.07	1.23	0.97	0.89	0.74	0.70	0.82	0.96	<b>1.23</b>	<b>0.41</b>	<b>33.33</b>
<b>Foreign Banks</b>																			
F1	2.87	3.10	3.92	3.23	3.24	2.98	2.63	2.41	3.26	3.79	1.59	1.88	1.16	1.56	2.20	2.31	<b>2.63</b>	<b>0.81</b>	<b>30.80</b>
F2	4.17	4.87	4.05	6.28	8.38	4.22	4.87	4.39	4.80	4.11	3.07	3.44	2.63	2.71	0.98	2.31	<b>4.08</b>	<b>1.70</b>	<b>41.67</b>
F3	2.33	2.80	2.75	2.41	3.05	2.48	2.84	2.62	3.24	3.17	2.31	1.97	2.20	1.60	1.28	1.55	<b>2.41</b>	<b>0.58</b>	<b>24.07</b>
F4	2.66	2.80	3.31	2.32	2.20	1.47	2.54	2.57	3.51	3.62	3.05	2.53	2.62	2.33	2.51	2.50	<b>2.66</b>	<b>0.53</b>	<b>19.92</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**EE4 - Non-Interest Income to Total Assets**

The prime income of the banks is out of the interest on the advances dispensed. The income earned from allied services is termed as non-interest income which is an additional source of revenue to the bank that increases their profitability. The ability of the select Scheduled Commercial Banks in raising their non-interest income between 1999-2000 and 2014-2015 is presented in Table 24.

The non-interest income to total assets (EE4) of majority of the banks declined in 2014-2015 compared to 1999-2000 and showed an oscillating trend throughout the study period.

When the banks in the nationalized banks group is considered, the average non-interest income in Andhra Bank (N2) at 1.37 percent was reported to be highest followed by Canara Bank (N6) and Dena Bank (N9) at 1.31 percent with a standard deviation at 0.66 percent, 0.47 percent and 0.63 percent respectively. The lowest average in the group was reported by Central Bank of India (N7) and Corporation Bank (N8) at 0.89 percent.

Among the private banks, the average was observed to be highest in Axis Bank (P1) at 2.09 percent with a standard deviation at 0.45 percent. The higher non-interest income to total assets (EE4) indicates the increase in income through the improved agency services of the bank. Jammu and Kashmir Bank (P8) reported the lowest average at 0.91 percent with a standard deviation at 0.47 percent.

In SBI group, the average was found to be highest in State Bank of Mysore (S4) at 1.63 percent with a standard deviation at 0.69 percent. The lowest average in the group was registered by State Bank of Patiala (S5) at 1.20 percent with a standard deviation at 0.49 percent.

When the foreign banks are considered, Deutsche Bank (F2) at 4.08 percent recorded the highest average with a standard deviation at 1.70 percent and the lowest average in the group was found in HSBC Bank (F3) at 2.41 percent with a standard deviation at 0.58 percent.

**Table 25**

**EE5 - Operating Profits to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	1.54	1.27	1.74	1.95	2.79	2.34	2.04	1.79	1.96	2.11	2.32	2.24	2.26	1.75	1.89	1.99	<b>2.00</b>	<b>0.36</b>	<b>18.00</b>
N2	2.12	1.37	2.06	3.31	3.60	3.32	1.91	2.11	2.03	2.06	2.28	2.42	2.41	2.04	1.76	1.87	<b>2.29</b>	<b>0.61</b>	<b>26.64</b>
N3	1.90	1.70	1.95	2.33	3.08	2.57	1.84	1.88	1.81	2.12	1.95	2.19	2.13	1.81	1.54	1.44	<b>2.02</b>	<b>0.40</b>	<b>19.80</b>
N4	1.24	1.34	2.18	2.77	2.78	1.62	1.64	1.89	2.31	2.70	1.88	1.72	1.82	1.78	1.64	1.26	<b>1.91</b>	<b>0.51</b>	<b>26.70</b>
N5	1.69	1.40	2.05	2.24	2.37	1.68	1.14	1.75	1.54	1.48	1.25	1.16	1.81	2.07	1.58	1.67	<b>1.68</b>	<b>0.36</b>	<b>21.43</b>
N6	1.80	1.87	2.39	2.59	3.15	2.47	2.10	1.95	1.71	1.98	2.09	2.03	1.67	1.50	1.50	1.34	<b>2.01</b>	<b>0.47</b>	<b>23.38</b>
N7	0.49	1.06	1.41	1.68	2.54	2.44	1.67	1.51	1.17	1.06	1.25	1.32	1.28	1.27	1.16	1.18	<b>1.41</b>	<b>0.50</b>	<b>35.46</b>
N8	2.68	2.92	2.88	3.42	3.27	3.26	2.56	2.45	2.10	2.28	2.15	2.00	1.86	1.70	1.46	1.35	<b>2.40</b>	<b>0.64</b>	<b>26.67</b>
N9	1.38	0.39	1.83	2.53	3.23	1.65	2.37	2.19	1.96	1.67	1.59	1.91	1.93	1.73	1.49	1.04	<b>1.81</b>	<b>0.63</b>	<b>34.81</b>
N10	1.50	1.06	1.88	2.07	3.00	3.05	2.44	2.20	2.17	2.26	1.46	1.85	1.77	1.64	1.54	1.19	<b>1.94</b>	<b>0.57</b>	<b>29.38</b>
N11	2.34	2.07	3.09	3.51	4.09	2.59	2.11	1.95	1.48	1.64	1.94	2.17	1.85	1.95	1.97	1.75	<b>2.28</b>	<b>0.71</b>	<b>31.14</b>
N12	0.87	0.81	1.21	1.99	1.01	1.68	1.54	2.30	2.05	2.00	1.79	1.62	1.07	1.22	0.91	0.81	<b>1.43</b>	<b>0.50</b>	<b>34.97</b>
N13	1.63	1.61	2.16	2.91	3.31	2.10	2.15	2.35	2.22	2.55	2.70	2.68	2.54	2.33	2.21	2.07	<b>2.35</b>	<b>0.44</b>	<b>18.72</b>
N14	1.14	1.07	1.18	1.87	2.58	2.05	1.78	1.84	1.50	1.41	1.39	1.86	1.97	1.74	1.53	1.44	<b>1.65</b>	<b>0.39</b>	<b>23.64</b>
N15	0.80	0.84	1.62	1.88	2.41	1.70	1.31	1.38	1.16	1.19	1.37	1.79	1.64	1.77	2.26	2.02	<b>1.57</b>	<b>0.46</b>	<b>29.30</b>
N16	1.27	1.38	2.09	2.73	2.71	2.41	1.82	2.09	2.28	2.16	2.05	2.00	2.11	1.94	1.57	1.58	<b>2.01</b>	<b>0.42</b>	<b>20.90</b>
N17	0.46	0.67	1.07	2.36	2.45	2.51	2.07	1.90	0.97	1.16	1.26	1.80	1.90	1.89	1.72	1.96	<b>1.63</b>	<b>0.63</b>	<b>38.65</b>
N18	1.05	1.32	1.66	2.45	4.01	3.00	2.08	1.88	1.34	1.52	1.59	1.38	1.38	1.09	0.89	0.90	<b>1.72</b>	<b>0.83</b>	<b>48.26</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

Table 25

## EE5 - Operating Profits to Total Assets of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	2.20	1.52	3.26	2.41	3.14	1.83	2.27	2.06	2.43	2.90	3.19	3.03	2.81	2.97	3.17	3.17	2.65	0.55	20.75
P2	3.32	2.95	3.21	3.31	4.05	2.44	2.86	2.77	2.83	2.73	2.46	2.76	2.59	2.53	2.42	2.66	2.87	0.43	14.98
P3	1.73	2.28	3.22	3.15	3.20	2.51	2.41	2.68	2.76	3.53	3.07	3.00	2.69	2.21	2.03	2.07	2.66	0.51	19.17
P4	3.24	2.80	2.78	2.64	2.77	2.87	3.17	3.11	3.36	3.27	3.17	3.09	3.05	3.10	3.22	3.22	3.05	0.21	6.89
P5	2.38	1.82	0.88	2.44	2.04	2.02	1.86	1.97	2.14	2.29	2.62	2.35	2.32	2.57	2.93	3.18	2.24	0.52	23.21
P6	1.46	2.07	2.68	3.23	3.56	2.61	1.13	0.89	0.89	1.45	2.24	2.67	2.66	2.81	3.24	3.16	2.30	0.88	38.26
P7	1.46	1.20	1.96	2.17	2.11	0.69	0.63	1.26	1.37	1.48	1.95	1.74	1.79	1.95	1.96	1.84	1.60	0.47	29.38
P8	2.57	2.34	3.36	3.52	3.31	1.62	1.69	2.02	2.12	2.20	2.39	2.47	2.47	2.74	2.53	2.37	2.48	0.54	21.77
P9	1.52	2.19	3.47	2.98	3.32	2.95	2.39	2.29	2.20	2.28	1.05	1.21	1.50	1.63	1.55	1.56	2.13	0.75	35.21
P10	3.18	2.77	3.46	3.50	3.23	2.66	2.71	2.73	2.40	2.64	2.38	2.39	2.20	2.01	1.70	1.80	2.61	0.54	20.69
P11	2.00	2.21	2.94	3.05	2.87	1.84	1.54	2.06	1.76	1.91	1.79	1.80	1.78	1.88	1.69	1.55	2.04	0.48	23.53
P12	2.63	3.03	3.03	3.02	3.46	3.25	3.32	3.51	2.81	2.64	2.54	2.92	2.93	3.14	2.45	2.16	2.93	0.37	12.63
<b>SBI Group</b>																			
S1	2.10	2.04	2.66	2.62	3.56	3.34	1.89	2.19	1.75	2.04	1.80	1.95	2.20	2.16	1.92	2.18	2.28	0.52	22.81
S2	2.87	2.65	2.97	3.14	3.57	2.18	1.95	2.24	1.79	1.88	2.08	2.38	2.36	2.19	1.94	1.97	2.39	0.52	21.76
S3	1.74	1.37	1.82	2.15	2.44	2.53	2.37	1.89	2.04	2.13	1.82	2.23	2.47	2.14	1.91	2.03	2.07	0.31	14.98
S4	2.15	1.56	2.38	3.25	3.39	2.98	2.44	2.04	1.89	1.78	2.18	2.41	1.88	2.09	1.65	1.73	2.24	0.55	24.55
S5	3.03	3.00	3.57	3.83	4.17	2.92	2.01	1.78	1.46	1.50	1.80	2.24	1.96	1.49	1.30	1.39	2.34	0.94	40.17
S6	1.56	1.71	2.07	2.56	3.26	3.03	2.22	2.03	1.73	2.27	1.79	1.80	1.59	1.44	1.32	1.30	1.98	0.57	28.79
<b>Foreign Banks</b>																			
F1	3.92	4.12	4.16	3.71	4.50	3.70	3.98	3.90	5.22	5.72	3.28	3.16	2.89	3.33	4.10	4.22	3.99	0.73	18.30
F2	5.30	6.21	4.38	6.12	7.00	2.26	2.85	2.78	4.11	4.66	4.27	4.47	5.26	5.27	2.93	4.29	4.51	1.34	29.71
F3	2.79	3.20	2.75	2.35	2.49	3.55	3.91	4.16	4.49	4.89	3.71	3.23	3.52	3.06	2.30	2.19	3.29	0.81	24.62
F4	3.89	3.61	4.98	4.60	4.33	2.99	4.14	4.46	4.56	4.40	4.63	3.97	3.95	4.07	4.25	4.50	4.21	0.47	11.16

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**EE5 - Operating Profits to Total Assets**

The operating profit to total assets is the ratio that measures the ability of the banks in earning profits through their business operations. Table 25 reveals the capability of the Scheduled Commercial Banks under study in earning the operating profits from 1999-2000 to 2014-2015.

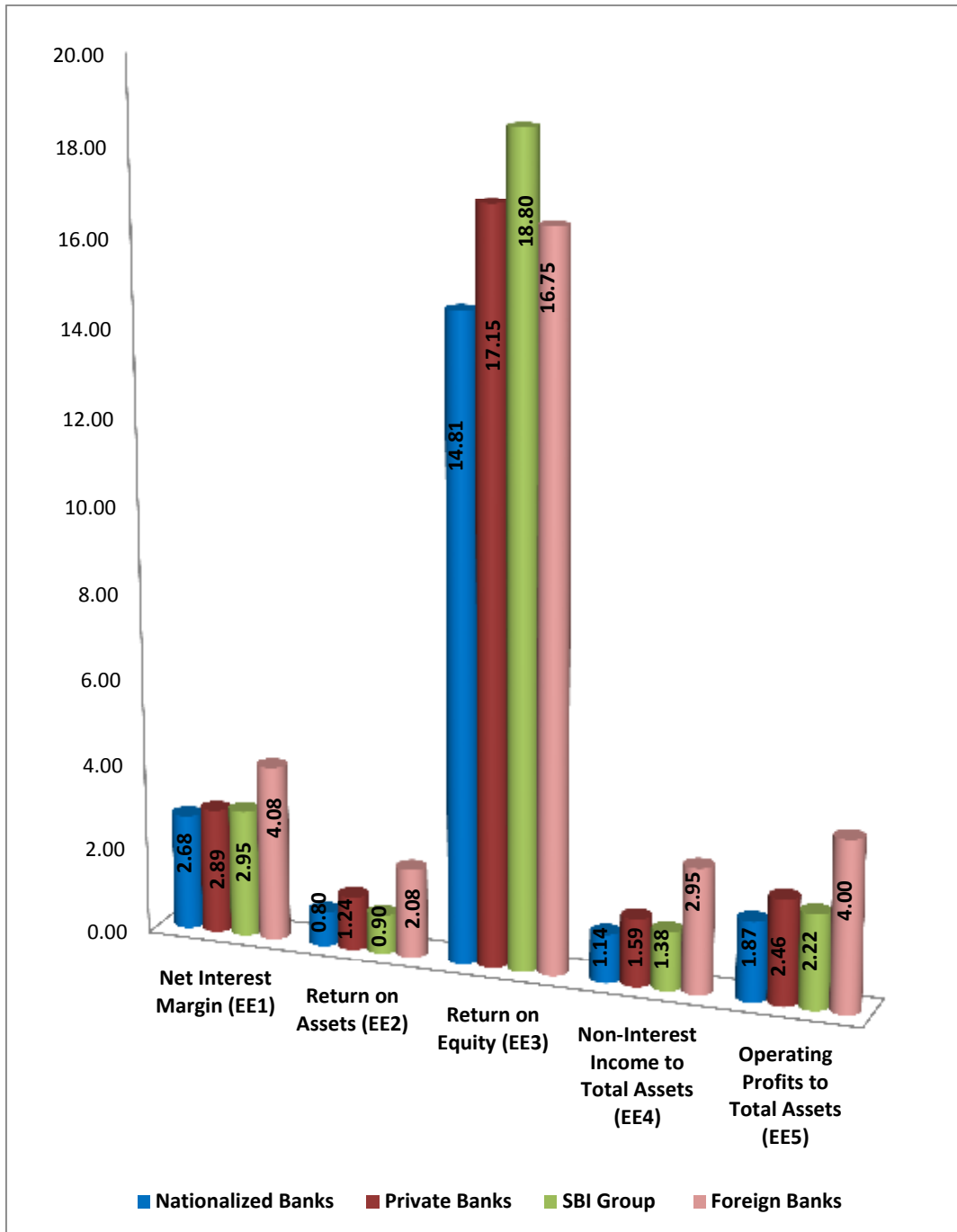
Operating profits to total assets (EE5) of the select Scheduled Commercial Banks fluctuated throughout the study period. All the banks have maintained a lower standard deviation during the study period indicating the standard collection of deposits and lending activities of the banks.

When the average ratio of the nationalized banks is considered, Corporation Bank (N8) held the highest average at 2.40 percent with a standard deviation at 0.64 percent. The highest percentage states the efficiency of the bank in its business operations. The lower average in the group was observed in Central Bank of India (N7) at 1.41 percent with a standard deviation at 0.50 percent.

Among the private banks, the highest average was recorded by HDFC Bank (P4) at 3.05 percent with a lower standard deviation at 0.21 percent. The average was found to be lower in ING Vysya Bank (P7) at 1.60 percent with a standard deviation at 0.47 percent with a standard deviation at 0.47 percent.

In SBI group, the highest average of operating profit to total assets (EE5) was reported by State Bank of Hyderabad (S2) at 2.39 percent with a standard deviation at 0.52 percent. The lowest average was observed in State Bank of Travancore at 1.98 percent with a standard deviation at 0.57 percent.

When considering the foreign banks, all the banks reported the average operating profit to total assets (EE5) above 3 percent indicating the effective functionality of the banks in earning more operating profits. The highest average in the group was registered by Deutsche Bank (F2) at 4.51 percent with a standard deviation at 1.34 percent while HSBC Bank recorded the lower average at 3.29 percent with a standard deviation at 0.81 percent.



Source: Computed data

**Figure 6**  
**Bank Group-wise Earning Efficiency of Scheduled Commercial Banks in India**

Figure 6 presents the bank group-wise earning efficiency of Scheduled Commercial Banks. The Net Interest Margin (EE1), indicating the effectiveness of the banks in generating income out of the investments, with respect to the interest expenses, was found to be very high in foreign banks at 4.08 percent. The subsequent banking groups are SBI group at 2.95 percent, private banks at 2.89 percent and the nationalized banks witnessed 2.68 percent which is lowest in the industry.

The average Returns on Assets (EE2) ratio of the foreign banks stood at 2.08 percent stating the effective utilization of assets by the banks in generating earnings followed by private banks at 1.24 percent. The next banking group was SBI and its Associates with 0.90 percent while the least average in the industry was registered by the nationalized banks at 0.80 percent.

The average returns earned by SBI and its Associates on its total net worth was registered at 18.80 percent indicating effective use of its investments in generating higher earnings for its growth. The consecutive banking groups are private banks at 17.15 percent and foreign banks at 16.75 percent, while the lower Return on Equity (EE3) was recorded by the nationalized banks at 14.81 percent.

When considering Non-interest income to Total Assets (EE4), the average was observed to be more in foreign banks at 2.95 percent signifying the effectiveness of the banks in generating additional sources of revenue from their allied services followed by private banks group at 1.59 percent after which SBI and its associates stood at 1.38 percent and the nationalized banks held 1.18 percent which was least in the industry.

The average operating profit with respect to the total assets was more in foreign banks at 4 percent. The subsequent banking groups are private banks at 2.46 percent and SBI group stood at 2.22 percent, while nationalized banks registered lower mean value at 1.87 percent stating lower operating profits generated through the business.

To find whether the earning efficiency of the Scheduled Commercial Banks varied before and after financial crisis paired t-test was used and the results are presented in Table 26.

H<sub>04</sub>: There is no significant difference in the earning efficiency of select Scheduled Commercial Banks before and after financial crisis.

**Table 26**  
**Difference in Earning Efficiency Before and After Crisis**

Variables	Mean	Std. Deviation	Paired Differences		t	'p' value	Significance	
			Mean	Std. Deviation				
EE1	Before Crisis	2.77	0.78	-0.32	0.91	-5.90	0.000	Significant
	After Crisis	3.09	0.76					
EE2	Before Crisis	1.09	0.52	0.01	0.61	0.39	0.693	Insignificant
	After Crisis	1.07	0.67					
EE3	Before Crisis	15.42	5.76	-2.59	9.78	-4.47	0.000	Significant
	After Crisis	18.00	8.89					
EE4	Before Crisis	1.25	0.65	-0.54	0.76	-12.20	0.000	Significant
	After Crisis	1.80	0.86					
EE5	Before Crisis	2.20	0.84	-0.26	0.85	-5.14	0.000	Significant
	After Crisis	2.46	0.98					

**Source: Computed data**

With a view to assess whether there is any difference in earning efficiency before and after global financial catastrophe, paired t-test was employed, and the results thereof are reported in Table 26. It is identified from the analysis that except Return on Assets (EE2), the variations were observed in Net Interest Margin (EE1), Return on equity (EE3), Non-interest income to total assets (EE4) and Operating profits to total assets (EE5) at 1% level of significance. Hence, it is concluded that the average return on assets did not show much variations while the other profitability indicators showed an increase after the financial upheaval. The conservative steps taken by the regulatory body after crisis increased the net interest margin, returns on the net worth, non-interest income and operating profits.

## **Liquidity Management**

An adequate liquidity position refers to a situation, where an institution can obtain sufficient funds, either by increasing liabilities or by converting its assets quickly at a reasonable cost. It is therefore, generally evaluated in terms of overall assets and liability management, as mismatching gives rise to liquidity risk. Efficient fund management refers to a situation where spread between rate sensitive assets and rate sensitive liabilities are maintained. The bank may be driven towards closure by poor management of short-term liquidity. Therefore, a financial institution is liquid if it has ready access to cash. The following are the criteria that measure the liquidity capability of the banks:-

- LM1 - Cash-Deposit ratio,
- LM2 - Term Deposits to Total Deposits,
- LM3 - Liquid Assets to Total Assets,
- LM4 - Liquid Assets to Demand Deposits, and
- LM5 - Liquid Assets to Total Deposits.

Table 27

## LM1 - Cash-Deposit ratio of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	11.18	10.52	7.35	6.07	6.85	5.95	5.49	6.83	8.78	6.02	6.77	5.99	5.46	4.37	4.63	4.99	<b>6.70</b>	<b>1.95</b>	<b>29.10</b>
N2	11.81	8.91	6.89	6.14	8.91	7.53	11.38	7.11	9.92	8.17	8.62	7.80	5.26	4.86	5.58	4.85	<b>7.73</b>	<b>2.15</b>	<b>27.81</b>
N3	6.83	8.09	4.18	5.22	4.19	3.33	3.56	5.13	6.16	5.51	5.61	6.50	5.63	2.84	3.27	3.64	<b>4.98</b>	<b>1.49</b>	<b>29.92</b>
N4	6.76	7.42	6.08	5.20	5.96	4.95	5.95	6.00	7.83	4.70	6.79	7.29	4.71	5.75	4.00	5.11	<b>5.91</b>	<b>1.10</b>	<b>18.61</b>
N5	9.48	10.86	8.56	8.68	17.16	7.38	6.96	6.69	9.32	7.43	8.40	5.75	5.93	5.58	5.13	5.45	<b>8.05</b>	<b>2.95</b>	<b>36.65</b>
N6	8.00	6.58	12.28	7.78	7.98	5.15	6.78	6.39	8.67	5.37	6.70	7.50	5.44	4.33	5.27	4.64	<b>6.80</b>	<b>1.96</b>	<b>28.82</b>
N7	10.06	9.91	6.48	7.21	6.13	9.17	5.09	6.61	10.46	8.41	10.49	7.85	6.68	6.00	4.97	5.52	<b>7.57</b>	<b>1.94</b>	<b>25.63</b>
N8	8.14	6.57	7.06	5.91	7.31	7.05	4.99	7.04	12.82	7.56	9.53	6.97	6.82	5.33	7.10	5.09	<b>7.21</b>	<b>1.88</b>	<b>26.07</b>
N9	9.42	8.22	6.67	6.76	6.72	7.13	7.14	7.07	10.41	11.57	8.48	7.35	6.73	8.89	5.67	7.84	<b>7.88</b>	<b>1.55</b>	<b>19.67</b>
N10	12.01	8.54	6.96	7.32	10.44	9.44	6.09	6.82	10.82	5.93	6.92	6.89	5.72	4.87	5.15	5.14	<b>7.44</b>	<b>2.19</b>	<b>29.44</b>
N11	10.30	8.22	8.25	6.36	7.38	13.48	8.49	8.34	9.40	6.99	6.72	6.84	5.43	4.65	5.16	4.99	<b>7.56</b>	<b>2.26</b>	<b>29.89</b>
N12	11.08	8.41	6.90	6.84	7.82	6.68	4.93	5.56	7.87	5.64	7.71	7.67	5.77	4.60	5.71	4.33	<b>6.72</b>	<b>1.72</b>	<b>25.60</b>
N13	11.54	9.56	7.96	8.66	7.67	9.17	19.55	8.85	9.17	8.13	7.35	7.60	4.87	4.57	4.93	4.83	<b>8.40</b>	<b>3.57</b>	<b>42.50</b>
N14	11.80	7.80	6.91	5.38	10.58	5.81	5.87	8.36	10.9	10.82	6.14	7.70	5.58	4.37	5.99	4.69	<b>7.42</b>	<b>2.41</b>	<b>32.48</b>
N15	8.09	9.49	4.97	6.81	5.97	6.02	3.73	5.85	7.14	6.57	5.92	7.16	5.07	3.29	4.03	3.86	<b>5.87</b>	<b>1.69</b>	<b>28.79</b>
N16	10.01	7.86	6.01	5.02	4.75	5.90	5.92	6.95	9.10	6.48	7.33	8.70	5.22	4.08	6.19	4.75	<b>6.52</b>	<b>1.70</b>	<b>26.07</b>
N17	12.06	8.10	7.74	8.08	4.67	6.27	4.90	7.23	11.18	8.31	6.90	7.63	5.71	3.82	5.62	5.34	<b>7.10</b>	<b>2.23</b>	<b>31.41</b>
N18	10.67	6.74	6.99	6.38	4.17	5.00	8.12	9.04	11.81	10.51	6.62	6.66	5.47	4.04	4.46	5.17	<b>6.99</b>	<b>2.42</b>	<b>34.62</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

Table 27

## LM1 - Cash-Deposit ratio of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	7.01	9.69	9.14	9.43	18.03	10.88	6.06	7.93	8.34	8.02	6.71	7.34	4.86	5.86	6.07	6.15	<b>8.22</b>	<b>3.09</b>	<b>37.59</b>
P2	10.01	10.01	7.28	6.63	7.13	5.20	6.08	6.74	10.83	7.25	8.44	8.15	4.99	5.01	4.72	5.12	<b>7.10</b>	<b>1.95</b>	<b>27.46</b>
P3	6.04	3.42	5.18	5.56	5.39	4.54	6.79	5.71	9.09	6.88	6.43	6.82	4.95	4.76	5.20	4.77	<b>5.72</b>	<b>1.30</b>	<b>22.73</b>
P4	10.08	8.46	6.86	9.30	8.36	7.29	5.93	7.43	12.46	9.47	9.25	12.03	6.08	4.94	6.90	6.10	<b>8.18</b>	<b>2.16</b>	<b>26.41</b>
P5	7.32	7.52	5.53	10.14	7.94	6.36	5.41	8.12	12.02	8.03	13.62	9.27	8.01	6.51	6.57	7.10	<b>8.09</b>	<b>2.24</b>	<b>27.69</b>
P6	8.24	5.36	6.07	6.68	11.92	4.85	4.03	5.79	8.02	5.39	7.86	7.15	6.85	6.01	7.30	5.44	<b>6.69</b>	<b>1.84</b>	<b>27.50</b>
P7	8.24	8.15	6.79	5.56	5.97	5.30	6.31	6.13	11.06	7.20	9.01	7.23	5.63	4.70	7.99	10.04	<b>7.21</b>	<b>1.78</b>	<b>24.69</b>
P8	14.88	9.74	7.87	4.91	8.22	7.74	3.99	7.36	11.26	6.98	7.37	6.66	5.22	4.20	4.39	3.61	<b>7.15</b>	<b>2.98</b>	<b>41.68</b>
P9	10.21	6.48	4.88	5.27	4.13	6.35	4.04	5.89	8.71	6.71	7.35	7.10	5.39	4.76	5.30	5.41	<b>6.12</b>	<b>1.65</b>	<b>26.96</b>
P10	9.13	6.61	5.02	4.50	5.53	5.72	6.21	6.37	8.76	6.38	6.22	6.79	5.98	4.21	5.82	6.03	<b>6.21</b>	<b>1.29</b>	<b>20.77</b>
P11	7.51	6.32	5.08	5.78	4.89	5.10	5.70	5.72	6.42	5.51	6.04	6.15	4.31	3.83	4.63	4.70	<b>5.48</b>	<b>0.92</b>	<b>16.79</b>
P12	12.72	10.36	8.52	6.63	5.08	6.30	5.41	6.11	8.85	7.46	7.90	6.22	4.07	4.54	4.57	4.96	<b>6.86</b>	<b>2.36</b>	<b>34.40</b>
<b>SBI Group</b>																			
S1	13.76	12.99	7.79	6.64	8.06	4.86	7.52	12.83	11.46	9.17	8.03	9.98	7.04	8.54	9.13	9.24	<b>9.19</b>	<b>2.48</b>	<b>26.99</b>
S2	10.96	7.31	7.54	8.87	7.50	4.81	6.69	6.92	11.07	8.69	7.00	9.07	5.81	5.63	5.55	4.45	<b>7.37</b>	<b>1.97</b>	<b>26.73</b>
S3	9.60	7.62	8.08	4.30	5.98	4.58	5.70	6.68	9.59	7.49	7.62	10.11	5.18	5.47	6.09	7.35	<b>6.97</b>	<b>1.79</b>	<b>25.68</b>
S4	10.57	8.77	6.73	5.16	6.41	6.93	4.56	9.52	9.69	5.27	7.11	6.26	6.03	4.22	4.64	5.89	<b>6.74</b>	<b>1.95</b>	<b>28.93</b>
S5	10.85	9.41	5.12	6.58	4.84	6.30	4.47	5.66	8.84	6.20	6.17	5.89	8.98	4.52	9.08	5.65	<b>6.79</b>	<b>1.99</b>	<b>29.31</b>
S6	5.56	6.09	7.38	5.20	4.86	8.55	4.76	7.95	9.26	5.54	6.82	8.10	6.68	5.37	4.99	5.86	<b>6.44</b>	<b>1.43</b>	<b>22.20</b>
<b>Foreign Banks</b>																			
F1	7.32	6.55	7.63	6.95	17.09	11.10	9.06	7.94	10.16	6.35	6.24	8.73	10.42	7.19	6.10	5.59	<b>8.40</b>	<b>2.85</b>	<b>33.93</b>
F2	15.27	6.70	5.79	8.21	13.22	11.08	15.02	13.32	17.96	11.75	12.08	7.39	17.98	12.87	13.65	7.39	<b>11.86</b>	<b>3.85</b>	<b>32.46</b>
F3	5.77	5.62	5.09	7.16	4.49	8.14	5.84	9.34	11.54	7.43	7.12	8.98	6.40	8.73	5.20	5.01	<b>6.99</b>	<b>1.95</b>	<b>27.90</b>
F4	10.85	7.67	8.22	6.43	5.19	5.34	4.92	5.86	12.52	6.02	7.89	7.78	5.21	5.05	5.54	6.03	<b>6.91</b>	<b>2.18</b>	<b>31.55</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**LM1 - Cash-Deposit ratio**

Cash-deposit ratio of Scheduled Commercial Banks is the ratio of cash in hands and balances with the RBI as percentage of aggregate deposits. This ratio indicates the ability of the banks in meeting the obligations of their customers. The cash-deposit ratio of the select Scheduled Commercial Banks is revealed in Table 27.

The proportion of cash to the total deposits fluctuated throughout the study period between 1999-2000 and 2014-2015. The ratio of majority of the banks declined double the times in 2014-2015 compared to 1999-2000. The decline in the ratio is due to utilization of cash for productive business operations, besides meeting the cash reserves requirement to meet the demands of the depositors.

Among the nationalized banks, the average cash-deposit ratio (LM1) was reported to be highest in Punjab National Bank (N13) at 8.40 percent with 3.57 percent standard deviation. The average was found to be lower in Bank of Baroda (N3) at 4.98 percent with a standard deviation at 1.49 percent.

When considering the banks in the private banks group, the average was observed to be higher in Axis Bank (P1) at 8.22 percent followed by HDFC Bank (P4) at 8.18 percent with a standard deviation at 3.09 percent and 2.16 percent respectively. The lower average was reported by South Indian Bank (P11) at 5.48 percent with a standard deviation at 0.92 percent.

In SBI group, State Bank of Bikaner and Jaipur (S1) registered the highest average at 9.19 percent with a standard deviation at 2.48 percent. The lower average in the group was observed in State Bank of Travancore (S6) at 6.44 percent with a standard deviation at 1.43 percent.

When considering the foreign banks, the average was observed to be very high in Deutsche Bank (F2) at 11.86 percent with a highest standard deviation at 3.85 percent. The average cash-deposit ratio (LM1) was reported to be lower in Standard Chartered Bank (F4) at 6.91 percent with a standard deviation at 2.18 percent.

**Table 28**

**LM2 - Term Deposits to Total Deposits of Scheduled Commercial Banks in India**

**(In percent)**

<b>Banks</b>	<b>1999-2000</b>	<b>2000-2001</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>	<b>2004-2005</b>	<b>2005-2006</b>	<b>2006-2007</b>	<b>2007-2008</b>	<b>2008-2009</b>	<b>2009-2010</b>	<b>2010-2011</b>	<b>2011-2012</b>	<b>2012-2013</b>	<b>2013-2014</b>	<b>2014-2015</b>	<b>Average</b>	<b>S.D</b>	<b>CV</b>
<b>Nationalized Banks</b>																			
N1	58.07	57.98	57.77	56.83	58.10	61.31	60.72	62.03	63.96	65.40	65.50	66.52	69.51	69.27	68.65	66.44	<b>63.00</b>	<b>4.32</b>	<b>6.86</b>
N2	69.93	75.23	71.69	69.47	62.66	63.85	63.69	65.47	66.43	68.59	70.57	70.94	73.60	74.35	75.19	72.65	<b>69.64</b>	<b>4.05</b>	<b>5.82</b>
N3	68.10	67.01	67.03	66.27	63.61	63.55	62.06	66.82	68.78	70.41	70.38	71.32	73.10	74.68	74.25	73.61	<b>68.81</b>	<b>3.83</b>	<b>5.57</b>
N4	66.47	66.99	66.37	67.93	66.34	65.45	64.98	67.78	69.39	73.24	72.16	74.58	73.35	74.36	77.06	77.70	<b>70.26</b>	<b>4.17</b>	<b>5.94</b>
N5	61.65	65.79	65.57	67.58	68.21	66.95	57.17	56.84	57.85	64.31	63.09	59.56	58.67	59.21	64.11	62.91	<b>62.47</b>	<b>3.72</b>	<b>5.95</b>
N6	62.01	65.07	66.17	65.19	66.22	66.21	66.71	68.48	68.51	69.95	70.91	71.67	75.66	75.82	75.45	76.04	<b>69.38</b>	<b>4.33</b>	<b>6.24</b>
N7	58.45	60.33	60.57	59.14	56.73	56.44	53.20	57.91	63.86	66.64	65.56	64.83	66.73	67.45	66.67	65.95	<b>61.90</b>	<b>4.43</b>	<b>7.16</b>
N8	72.91	73.53	73.99	71.47	66.01	65.41	65.67	65.93	64.99	68.56	71.45	74.05	77.88	78.32	79.67	80.28	<b>71.88</b>	<b>5.19</b>	<b>7.22</b>
N9	62.75	61.68	60.64	60.26	58.46	57.97	56.35	55.49	60.76	65.22	64.04	64.48	65.45	71.04	71.82	72.18	<b>63.04</b>	<b>5.05</b>	<b>8.01</b>
N10	67.84	68.44	70.02	67.85	65.63	61.12	60.09	65.14	66.55	69.75	67.45	69.80	73.58	73.49	74.66	74.91	<b>68.52</b>	<b>4.23</b>	<b>6.17</b>
N11	74.92	74.40	74.88	71.46	71.44	71.74	67.35	69.70	72.10	76.26	75.03	75.44	75.87	75.45	75.69	75.80	<b>73.60</b>	<b>2.54</b>	<b>3.45</b>
N12	68.79	69.01	67.05	63.66	58.49	53.71	47.87	54.28	63.66	72.24	74.96	76.05	76.07	77.72	79.12	78.47	<b>67.57</b>	<b>9.52</b>	<b>14.09</b>
N13	55.12	55.74	55.68	53.13	54.13	53.66	51.01	53.84	57.01	61.17	59.15	61.55	64.66	60.84	61.70	63.34	<b>57.61</b>	<b>4.03</b>	<b>7.00</b>
N14	65.54	62.84	62.09	60.60	66.10	62.95	61.82	69.37	69.05	72.40	68.77	69.07	70.55	71.97	73.63	75.05	<b>67.61</b>	<b>4.44</b>	<b>6.57</b>
N15	59.92	60.99	63.20	64.98	67.60	70.77	70.45	70.80	74.34	75.89	75.35	77.95	77.66	67.86	70.48	70.65	<b>69.93</b>	<b>5.42</b>	<b>7.75</b>
N16	60.59	58.47	58.90	63.78	64.22	67.32	67.64	65.50	65.14	69.93	68.27	68.24	68.72	69.05	70.50	70.76	<b>66.06</b>	<b>3.83</b>	<b>5.80</b>
N17	63.55	63.17	59.89	57.28	55.17	53.42	53.62	57.97	61.43	62.21	61.89	59.22	59.23	60.35	63.02	57.95	<b>59.34</b>	<b>3.16</b>	<b>5.33</b>
N18	63.56	66.03	67.57	67.80	69.18	67.44	64.68	69.21	72.70	75.97	75.38	74.75	77.98	79.03	81.60	79.63	<b>72.03</b>	<b>5.62</b>	<b>7.80</b>

**Source: Trend and Progress of Banking in India Report of RBI, Various Issues**

**(Continued)**

Table 28

## LM2 - Term Deposits to Total Deposits of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	83.01	84.62	83.50	76.96	61.92	62.02	60.02	60.14	54.32	56.85	53.27	58.90	58.46	55.62	54.99	55.22	<b>63.74</b>	<b>11.31</b>	<b>17.74</b>
P2	75.99	76.25	78.74	79.29	79.49	78.15	77.05	75.69	79.08	81.10	78.14	80.42	81.81	83.23	82.21	80.77	<b>79.21</b>	<b>2.28</b>	<b>2.88</b>
P3	77.76	76.52	77.27	78.85	76.91	75.48	74.98	74.77	74.91	75.50	73.81	73.14	72.46	72.83	68.75	69.24	<b>74.57</b>	<b>2.82</b>	<b>3.78</b>
P4	53.67	59.18	59.34	57.03	45.28	39.35	44.55	42.32	45.51	55.63	47.97	47.31	51.60	52.57	55.19	55.97	<b>50.78</b>	<b>6.24</b>	<b>12.29</b>
P5	78.50	72.51	83.69	84.47	77.05	75.73	77.28	78.22	73.91	71.30	58.31	54.94	56.55	58.11	57.10	54.54	<b>69.51</b>	<b>10.90</b>	<b>15.68</b>
P6	79.36	88.95	87.04	87.82	88.83	89.31	87.13	85.08	84.30	80.76	76.33	72.85	72.70	70.68	67.45	65.87	<b>80.28</b>	<b>8.21</b>	<b>10.23</b>
P7	79.36	78.49	78.17	78.94	75.09	75.77	72.99	71.09	68.46	73.03	67.42	65.36	65.72	67.50	66.62	69.33	<b>72.08</b>	<b>5.05</b>	<b>7.01</b>
P8	63.73	69.21	65.95	66.61	69.74	68.00	65.83	62.98	60.84	61.89	59.31	59.52	59.29	60.77	60.94	58.21	<b>63.30</b>	<b>3.79</b>	<b>5.99</b>
P9	78.82	80.41	81.31	81.48	79.72	78.40	79.12	76.63	77.86	80.05	76.74	75.12	75.44	75.09	74.60	75.06	<b>77.87</b>	<b>2.38</b>	<b>3.06</b>
P10	79.81	78.52	78.05	78.53	77.13	75.56	73.09	72.29	74.41	78.11	76.47	76.72	80.84	80.75	79.46	77.98	<b>77.36</b>	<b>2.52</b>	<b>3.26</b>
P11	78.10	79.76	81.04	80.81	79.03	75.21	73.59	76.06	75.92	76.20	76.87	78.45	80.33	81.40	79.31	79.41	<b>78.22</b>	<b>2.33</b>	<b>2.98</b>
P12	71.90	73.14	74.83	75.73	74.76	73.62	71.58	72.09	75.09	77.99	75.03	75.78	79.37	81.14	80.81	80.36	<b>75.83</b>	<b>3.20</b>	<b>4.22</b>
<b>SBI Group</b>																			
S1	58.35	56.52	56.57	53.07	54.49	56.88	57.93	64.99	64.74	62.18	60.94	61.49	62.65	64.12	60.49	61.15	<b>59.79</b>	<b>3.64</b>	<b>6.09</b>
S2	62.11	63.23	65.38	66.42	65.61	67.37	65.66	68.62	69.40	69.33	71.55	69.83	72.13	71.14	69.18	66.79	<b>67.73</b>	<b>2.91</b>	<b>4.30</b>
S3	60.53	63.67	63.52	62.67	59.23	58.72	52.45	51.52	53.04	58.36	52.74	50.58	55.19	55.18	57.09	58.66	<b>57.07</b>	<b>4.29</b>	<b>7.52</b>
S4	64.57	65.32	64.82	63.55	63.77	64.31	64.49	68.05	68.13	71.12	68.42	65.78	67.79	68.45	66.64	66.14	<b>66.33</b>	<b>2.14</b>	<b>3.23</b>
S5	54.15	56.61	58.26	61.91	65.59	68.37	70.42	72.76	74.11	77.40	74.00	71.63	75.45	74.87	68.60	70.30	<b>68.40</b>	<b>7.16</b>	<b>10.47</b>
S6	66.86	66.29	68.04	68.74	68.30	70.38	69.60	71.67	70.72	67.57	69.59	69.68	72.66	74.21	72.35	70.21	<b>69.80</b>	<b>2.18</b>	<b>3.12</b>
<b>Foreign Banks</b>																			
F1	71.25	73.64	69.47	66.63	53.85	43.98	41.30	44.16	50.63	52.52	48.50	44.43	45.48	47.12	51.97	50.61	<b>53.47</b>	<b>10.67</b>	<b>19.96</b>
F2	49.43	56.67	48.08	39.41	40.95	42.03	25.14	25.63	30.55	29.72	45.84	33.59	35.02	52.17	53.44	60.42	<b>41.76</b>	<b>11.12</b>	<b>26.63</b>
F3	68.08	69.00	69.45	66.10	53.76	49.30	46.20	56.47	53.88	58.70	52.14	50.00	53.25	52.45	62.28	64.19	<b>57.83</b>	<b>7.66</b>	<b>13.25</b>
F4	66.17	62.54	62.28	63.19	55.17	53.82	50.10	57.32	52.60	56.94	52.51	57.28	59.86	61.64	64.83	65.30	<b>58.85</b>	<b>5.08</b>	<b>8.63</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

### **LM2 - Term Deposits to Total Deposits**

Term deposits are usually held by the banks for a fixed term. The banks which procure more term deposits can utilize those deposits for their effective business operations. The effectiveness of select banks in acquiring more term deposits is portrayed in Table 28 from 1999-2000 to 2014-2015.

Majority of the Scheduled Commercial Banks under study held more than 50 percent of term deposits throughout the study period, indicating that these deposits could be effectively utilized for their lending and other functions. But, the cost of these funds is higher.

When considering the nationalized banks group, Oriental Bank of Commerce (N11) held the highest average at 73.60 percent with a standard deviation at 2.54 percent. The second highest average in the group was reported by Vijaya Bank (N18) at 72.03 percent with a standard deviation at 5.62 percent. The average was observed to be lowest in Punjab National Bank (N13) at 57.61 percent with a standard deviation at 4.03 percent.

In the private banks group, the average was found to be higher in Indusind Bank (P6) at 80.28 percent with a standard deviation at 8.21 percent. The lower average in the group was reported by HDFC Bank (P4) at 50.78 percent with a standard deviation at 6.24 percent.

Among the banks in SBI group, the highest average was held by State Bank of Travancore (S6) at 69.80 percent with a standard deviation at 2.18 percent. The average term deposits to total deposits (LM2) was observed to be lower in State Bank of India (S3) at 57.07 percent with a standard deviation at 4.29 percent.

When considering the banks in the foreign banks group, the highest average in the group was held by Standard Chartered Bank (F4) at 58.85 percent with a standard deviation at 5.08 percent. The average was found to be lower in Deutsche Bank (F2) at 41.76 percent with a standard deviation at 11.12 percent.

**Table 29**

**LM3 - Liquid Assets to Total Assets of Scheduled Commercial Banks in India**

**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	10.98	11.23	8.94	7.16	7.48	7.34	7.94	8.49	8.49	6.80	7.53	7.29	7.67	6.40	6.48	7.54	<b>7.99</b>	<b>1.40</b>	<b>17.52</b>
N2	13.54	11.07	8.13	6.78	9.53	10.77	12.64	10.06	10.06	7.72	12.36	9.60	6.94	4.38	5.64	4.14	<b>8.96</b>	<b>2.87</b>	<b>32.03</b>
N3	21.29	19.64	12.62	8.92	8.54	9.78	11.87	12.42	12.42	10.63	12.74	13.93	14.35	15.61	19.84	20.75	<b>14.08</b>	<b>4.20</b>	<b>29.83</b>
N4	15.86	10.78	9.46	9.13	10.08	7.92	10.19	9.91	9.91	9.65	11.36	10.62	9.03	12.12	10.71	12.35	<b>10.57</b>	<b>1.81</b>	<b>17.12</b>
N5	10.89	13.27	9.79	10.18	17.43	11.78	7.65	8.78	8.78	6.95	9.42	5.30	6.30	5.28	4.48	4.62	<b>8.81</b>	<b>3.49</b>	<b>39.61</b>
N6	13.87	19.82	17.31	9.38	12.08	7.86	9.65	9.88	9.88	7.58	7.42	9.14	7.53	8.42	9.11	8.88	<b>10.49</b>	<b>3.60</b>	<b>34.32</b>
N7	12.69	11.59	12.14	7.89	8.02	10.28	6.42	10.36	10.36	8.30	10.52	7.29	6.15	5.26	4.28	4.75	<b>8.52</b>	<b>2.69</b>	<b>31.57</b>
N8	13.61	16.16	14.18	9.25	9.73	10.55	10.09	12.17	12.17	12.13	9.66	7.24	7.15	6.56	6.41	5.64	<b>10.17</b>	<b>3.08</b>	<b>30.29</b>
N9	9.31	12.45	8.14	7.20	6.55	7.42	9.43	10.45	10.45	12.09	8.88	7.64	6.35	8.66	5.10	7.45	<b>8.60</b>	<b>2.04</b>	<b>23.72</b>
N10	16.98	13.49	10.23	8.73	11.08	9.75	6.25	10.15	10.15	9.02	7.49	6.72	7.40	6.24	6.91	8.72	<b>9.33</b>	<b>2.84</b>	<b>30.44</b>
N11	10.73	9.79	10.33	7.43	8.78	13.95	9.38	11.26	11.26	10.86	10.62	7.20	4.92	4.28	6.48	4.67	<b>8.87</b>	<b>2.78</b>	<b>31.34</b>
N12	13.86	13.08	11.19	10.54	10.17	10.72	11.27	9.50	9.50	6.87	8.39	7.14	5.92	5.07	6.69	4.32	<b>9.01</b>	<b>2.80</b>	<b>31.08</b>
N13	11.51	9.56	8.78	9.37	8.62	8.78	17.07	9.46	9.46	8.67	7.91	7.85	6.29	5.67	8.22	9.27	<b>9.16</b>	<b>2.50</b>	<b>27.29</b>
N14	14.62	10.68	9.90	7.32	13.93	5.89	8.54	10.88	10.88	11.06	9.16	7.64	7.61	7.71	5.96	7.86	<b>9.35</b>	<b>2.55</b>	<b>27.27</b>
N15	10.95	11.76	8.79	8.99	9.56	11.93	5.41	9.02	9.02	9.72	5.90	10.39	7.54	6.21	6.28	9.01	<b>8.78</b>	<b>2.03</b>	<b>23.12</b>
N16	18.71	13.64	11.06	7.64	6.60	9.08	7.17	8.14	8.14	9.93	8.08	8.52	5.98	5.19	6.52	5.86	<b>8.77</b>	<b>3.40</b>	<b>38.77</b>
N17	11.24	8.12	7.92	8.63	8.20	7.32	8.35	10.81	10.81	10.33	8.28	8.14	7.13	7.84	8.64	4.90	<b>8.54</b>	<b>1.61</b>	<b>18.85</b>
N18	13.24	10.15	10.25	8.40	4.65	5.50	8.99	10.85	10.85	12.30	7.90	7.01	6.69	5.99	6.89	5.15	<b>8.43</b>	<b>2.63</b>	<b>31.20</b>

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 29**

**LM3 - Liquid Assets to Total Assets of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	13.39	11.26	12.18	18.20	23.45	11.93	7.32	11.41	11.41	10.17	8.42	8.82	4.88	6.00	7.37	7.81	10.88	4.66	42.83
P2	11.93	12.56	8.75	6.76	7.50	6.49	6.45	11.12	11.12	9.57	9.52	8.82	6.19	7.71	8.72	9.10	8.89	2.01	22.61
P3	6.70	5.41	6.69	7.44	8.55	9.25	9.07	8.45	8.45	8.85	6.24	7.28	5.83	5.24	6.07	5.77	7.21	1.39	19.28
P4	13.88	16.72	14.54	10.42	8.65	8.70	9.41	11.10	11.10	9.55	13.46	10.70	6.20	6.81	8.05	6.15	10.34	3.07	29.69
P5	28.29	18.21	12.28	6.08	6.76	7.71	6.78	9.52	9.52	7.90	10.70	8.39	7.41	7.72	6.98	6.55	10.05	5.71	56.82
P6	16.15	15.59	14.63	11.62	14.94	7.39	8.40	9.36	9.36	6.97	7.36	8.82	9.62	9.34	7.78	9.88	10.45	3.14	30.05
P7	16.15	20.93	15.03	10.68	7.61	7.24	6.70	12.47	12.47	7.16	8.93	6.46	6.88	5.17	9.64	7.57	10.07	4.32	42.90
P8	21.74	16.17	13.39	9.06	13.75	13.01	8.65	13.55	13.55	13.99	10.85	7.03	7.39	7.53	5.36	4.91	11.25	4.47	39.73
P9	17.88	12.66	8.28	6.86	7.08	10.96	8.12	8.38	8.38	6.39	6.68	6.27	5.14	4.70	4.97	5.04	7.99	3.42	42.80
P10	15.95	13.11	16.81	11.15	8.41	8.31	8.69	8.14	8.14	8.05	5.63	6.29	5.41	3.84	5.20	5.17	8.64	3.82	44.21
P11	11.67	11.06	14.04	10.23	8.71	7.40	12.41	9.96	9.96	9.99	7.78	7.51	6.54	8.71	5.85	6.08	9.24	2.35	25.43
P12	13.64	11.53	9.97	8.14	7.56	9.25	7.02	8.77	8.77	8.26	8.79	5.64	3.57	5.00	5.34	4.82	7.88	2.63	33.38
<b>SBI Group</b>																			
S1	18.25	17.38	12.71	9.43	9.22	7.58	8.92	10.98	10.98	9.31	7.72	9.61	6.14	7.37	7.71	7.76	10.07	3.44	34.16
S2	9.93	7.64	10.77	9.22	6.91	8.81	7.45	10.25	10.25	9.07	8.44	9.76	7.61	5.73	4.87	4.80	8.22	1.90	23.11
S3	18.03	19.23	18.65	12.02	10.68	8.55	9.02	9.35	9.35	10.83	8.18	10.04	7.28	7.33	7.40	8.54	10.91	4.06	37.21
S4	13.36	11.88	8.88	8.43	10.00	9.46	7.03	8.79	8.79	5.29	6.56	5.65	5.57	5.21	3.98	5.36	7.77	2.63	33.85
S5	9.99	15.12	7.21	6.87	5.12	7.44	7.71	8.13	8.13	7.23	7.83	7.49	7.63	3.75	7.32	4.56	7.60	2.50	32.89
S6	15.32	13.16	12.07	6.53	5.86	9.80	4.34	8.40	8.40	4.97	6.95	6.84	6.76	4.69	5.38	5.69	7.82	3.23	41.30
<b>Foreign Banks</b>																			
F1	13.40	16.54	12.46	15.15	17.6	14.12	13.93	13.90	13.90	15.25	15.90	19.06	14.28	14.82	11.25	6.73	14.27	2.76	19.34
F2	8.00	10.95	26.09	20.39	37.70	45.90	43.01	16.67	16.67	19.29	6.62	5.02	11.82	9.39	6.91	14.10	18.66	13.06	69.99
F3	16.50	14.54	17.27	5.65	5.71	7.93	7.67	12.10	12.10	11.87	9.02	9.01	10.57	8.62	11.58	18.71	11.18	3.96	35.42
F4	7.41	5.51	6.41	4.68	4.82	4.13	10.42	7.72	7.72	4.33	5.39	6.40	4.00	4.60	5.64	6.89	6.00	1.73	28.83

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

**LM3 - Liquid Assets to Total Assets**

The proportion of liquid assets to assets indicates the overall liquidity of the bank. Adequate liquid assets are essential for the banks to meet their short-term obligations. Higher value of this ratio indicates good liquidity position of the banks. Table 29 shows the liquidity position of the select banks under study from 1999-2000 to 2014-2015.

The liquid assets of majority of the banks declined at a higher rate in 2014-2015 when paired with 1999-2000 by recording an oscillating trend throughout the study period.

Among the nationalized banks, Bank of Baroda (N3) held highest average liquid assets to total assets (LM3) at 14.08 percent with a standard deviation at 4.20 percent. A higher ratio indicates that the banks have the ability to maintain sufficient current assets to meet the demands of the short-term requirements. The lowest average in the group was observed in Allahabad Bank (N1) at 7.99 percent with a standard deviation at 1.40 percent.

When considering the private banks group, Jammu and Kashmir Bank (P8) reported the highest average at 11.25 percent with a standard deviation at 4.47 percent. The average liquid assets to total assets (LM3) was found to be lower in Federal Bank (P3) at 7.21 percent with a standard deviation at 1.39 percent.

In SBI group, the average of the ratio was reported to be higher in State Bank of India (S3) at 10.91 percent with a standard deviation at 4.06 percent. State Bank of Patiala (S5) registered the lower average in the group at 7.60 percent with a standard deviation at 2.50 percent.

Among the foreign banks, Deutsche Bank (F2) at 18.66 percent registered the highest average while the ratio was observed to be lower in Standard Chartered Bank (F4) at 6 percent with a standard deviation at 1.73 percent. A lower ratio states the poor liquidity of the bank.

**Table 30**

**LM4 - Liquid Assets to Demand Deposits of Scheduled Commercial Banks in India**

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	127.50	134.20	118.20	88.63	91.20	100.50	107.50	128.20	121.8	100.20	110.20	120.40	147.00	131.30	157.10	191.20	123.40	26.20	21.20
N2	135.80	173.50	121.90	104.20	115.90	137.70	166.60	155.50	129.10	101.30	165.50	146.00	135.70	91.14	125.90	78.96	130.30	27.50	21.10
N3	225.80	221.00	141.30	114.20	107.30	134.60	160.50	225.80	190.60	166.60	187.40	215.80	221.70	239.30	261.40	280.90	193.40	51.80	26.70
N4	145.90	108.90	91.82	123.30	146.50	123.40	154.50	189.10	142.00	172.90	196.50	221.10	193.20	270.30	284.30	355.70	182.50	71.00	38.90
N5	107.30	143.00	108.20	132.60	250.40	161.40	83.40	102.50	83.09	81.94	107.90	61.36	67.97	55.19	57.16	59.20	103.90	50.40	48.50
N6	106.20	167.80	174.80	98.21	138.90	96.78	124.90	143.30	134.50	116.00	106.80	125.30	190.10	233.00	252.60	245.00	153.40	52.20	34.00
N7	120.40	126.50	130.70	81.95	82.03	114.80	62.83	150.60	128.30	121.10	127.50	99.04	111.40	97.25	91.44	112.10	109.90	22.60	20.50
N8	119.40	149.00	144.60	83.12	79.68	87.48	86.14	119.50	77.13	80.00	80.22	73.86	95.06	83.24	95.97	97.77	97.02	23.60	24.30
N9	98.10	136.50	91.15	85.44	74.77	83.91	105.10	123.00	131.00	163.80	110.00	98.60	75.56	142.90	92.79	147.70	110.00	27.50	25.00
N10	179.80	150.20	136.30	98.84	125.30	98.85	65.04	151.70	114.90	134.30	102.20	101.80	132.30	115.50	135.50	170.00	125.80	29.40	23.30
N11	139.70	128.00	144.40	91.98	115.60	174.90	110.00	160.60	131.50	158.50	142.80	123.60	93.09	73.65	120.00	83.93	124.50	29.00	23.30
N12	200.70	211.20	184.40	159.10	123.80	119.90	77.21	138.10	141.70	132.20	150.60	141.30	123.70	114.50	144.60	88.11	140.70	36.00	25.60
N13	114.50	96.16	94.67	81.68	89.09	88.95	148.20	114.30	105.80	113.80	98.97	110.60	101.20	90.83	143.50	166.50	109.90	23.80	21.60
N14	160.50	109.70	94.88	73.31	162.30	61.62	86.53	153.10	109.00	136.80	125.00	111.40	113.00	119.00	107.40	138.10	116.40	29.20	25.10
N15	111.40	124.00	89.91	101.70	122.00	165.10	83.46	148.00	139.90	148.20	90.68	221.30	168.00	47.51	59.35	83.33	119.00	45.00	37.80
N16	135.50	87.60	73.72	77.43	76.90	131.10	106.80	117.10	85.32	121.40	97.21	102.40	81.30	67.16	101.60	106.00	98.06	20.90	21.30
N17	140.30	113.80	100.50	105.60	97.53	79.37	88.65	148.50	115.60	118.80	95.94	85.92	74.71	94.29	133.80	67.43	103.80	23.40	22.50
N18	87.76	82.97	88.70	81.43	55.13	54.83	82.97	146.10	126.40	185.40	122.60	111.20	136.70	127.30	160.30	109.50	109.90	36.70	33.40

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

**Table 30**

**LM4 - Liquid Assets to Demand Deposits of Scheduled Commercial Banks in India**

**(In percent)**

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	134.00	146.10	152.10	143.60	105.00	62.94	45.69	110.60	62.38	60.50	47.26	57.99	35.05	42.29	58.00	64.34	<b>83.01</b>	<b>41.50</b>	<b>50.00</b>
P2	118.10	116.40	98.53	81.07	92.14	78.15	81.28	142.30	131.50	127.30	100.20	118.20	94.43	132.50	151.10	152.00	<b>113.40</b>	<b>24.80</b>	<b>21.80</b>
P3	116.40	73.02	100.70	154.40	184.40	180.60	199.50	225.60	187.40	238.20	148.70	155.80	138.70	127.80	134.00	117.80	<b>155.20</b>	<b>45.10</b>	<b>29.00</b>
P4	58.19	91.44	81.94	64.01	41.40	42.09	46.90	74.59	51.39	61.55	80.43	63.86	46.11	52.15	64.38	49.39	<b>60.61</b>	<b>15.10</b>	<b>24.90</b>
P5	215.10	137.00	467.30	175.80	116.60	100.70	102.80	177.90	154.00	138.50	125.40	98.02	103.50	112.10	96.03	85.43	<b>150.40</b>	<b>91.80</b>	<b>61.00</b>
P6	190.90	207.10	162.90	139.90	263.00	129.20	123.20	127.20	120.80	65.10	59.07	64.17	80.65	77.52	69.25	87.24	<b>122.90</b>	<b>58.90</b>	<b>47.90</b>
P7	190.90	255.10	220.20	151.90	87.23	83.28	74.44	168.10	95.66	68.85	73.97	49.37	50.32	38.73	83.14	77.52	<b>110.50</b>	<b>65.60</b>	<b>59.40</b>
P8	126.00	131.30	96.62	72.85	134.00	115.90	75.96	127.50	103.30	114.00	94.31	66.21	77.67	84.42	61.61	57.03	<b>96.19</b>	<b>26.30</b>	<b>27.30</b>
P9	255.50	214.00	160.70	136.40	131.70	186.60	135.40	150.00	144.80	126.20	105.80	107.00	88.77	79.35	85.03	91.04	<b>137.40</b>	<b>48.80</b>	<b>35.50</b>
P10	172.40	126.10	170.50	120.90	91.50	83.44	82.26	96.61	77.09	91.81	60.23	70.91	82.13	58.82	74.80	77.91	<b>96.10</b>	<b>34.50</b>	<b>35.90</b>
P11	217.80	254.40	315.90	237.80	202.70	146.40	238.38	274.90	220.20	240.70	188.90	205.20	209.20	280.20	170.40	197.70	<b>225.10</b>	<b>42.90</b>	<b>19.00</b>
P12	91.50	81.82	79.53	70.74	67.28	77.08	57.28	93.83	84.23	97.17	87.13	63.17	53.60	81.58	90.13	81.55	<b>78.60</b>	<b>12.90</b>	<b>16.40</b>
<b>SBI Group</b>																			
S1	166.50	148.59	111.40	73.43	81.16	66.28	95.54	186.00	130.70	115.60	118.20	168.90	114.80	143.00	169.60	189.50	<b>129.90</b>	<b>39.40</b>	<b>30.30</b>
S2	65.76	52.43	84.12	80.90	59.09	76.83	62.65	124.20	106.50	90.46	105.50	107.41	111.40	81.73	68.25	60.62	<b>83.61</b>	<b>21.80</b>	<b>26.10</b>
S3	130.20	150.54	153.40	100.90	86.63	69.46	65.53	82.28	68.75	94.27	70.31	93.66	98.60	101.90	117.00	140.30	<b>101.50</b>	<b>29.10</b>	<b>28.70</b>
S4	129.80	132.45	90.86	96.22	115.10	115.60	87.42	157.70	115.70	94.23	102.50	95.90	107.40	122.60	87.29	114.80	<b>110.30</b>	<b>19.20</b>	<b>17.40</b>
S5	60.83	105.82	55.77	59.12	57.29	99.41	108.06	168.40	125.60	160.10	146.30	159.20	221.10	103.10	112.80	100.50	<b>115.20</b>	<b>46.70</b>	<b>40.60</b>
S6	181.90	152.75	163.60	112.00	94.18	165.40	84.08	216.10	179.00	108.70	172.30	165.50	216.00	179.80	204.30	209.80	<b>162.80</b>	<b>42.50</b>	<b>26.10</b>
<b>Foreign Banks</b>																			
F1	81.08	112.61	87.92	105.40	87.27	65.39	62.59	84.89	85.03	108.70	91.87	118.31	91.72	101.80	82.53	37.91	<b>87.82</b>	<b>20.30</b>	<b>23.20</b>
F2	37.41	65.76	119.50	108.00	234.20	253.10	169.52	85.54	45.99	51.83	26.33	16.52	34.27	42.86	36.38	62.93	<b>86.89</b>	<b>73.00</b>	<b>84.00</b>
F3	129.20	138.37	166.20	56.30	32.79	46.41	32.36	93.27	70.19	84.76	51.05	52.21	67.70	60.79	100.80	138.50	<b>82.57</b>	<b>41.30</b>	<b>50.00</b>
F4	59.51	50.84	59.87	37.12	32.31	25.87	52.59	62.71	51.30	38.43	33.65	42.99	30.22	38.39	47.87	60.83	<b>45.28</b>	<b>12.00</b>	<b>26.50</b>

**Source: Trend and Progress of Banking in India Report of RBI, Various Issues**

### **LM4 - Liquid Assets to Demand Deposits**

It is a measure of the ability of a bank to meet the debt of demand deposits. Higher the ratio is better which mean that the bank has sufficient liquid assets to the meet demands of demand depositors. Liquid assets to demand deposits (LM4) of select Scheduled Commercial Banks is presented in Table 30 for the period between 1999-2000 and 2014-2015.

The ratio of select banks under study was observed to have fluctuated tremendously at a higher rate. Most of the select Scheduled Commercial Banks reported the average above 100 percent stating the utmost security and liquidity to the demands of their depositors.

In nationalized banks group, the average liquid assets to demand deposits (LM4) was higher in Bank of Baroda (N3) at 193.40 percent followed by (Bank of India) N4 at 182.50 percent with a standard deviation at 51.80 percent and 71 percent respectively. The higher ratio states that the banks hold more liquid assets to meet their demand deposit obligations and other working capital requirements. The average of the ratio was witnessed to be lower in Corporation Bank (N8) at 97.08 percent with a standard deviation at 23.60 percent.

Among the private banks, the average was observed to be lower in South Indian Bank (P11) at 225.10 percent with a standard deviation at 42.90 percent. The lower average liquid assets to demand deposits (LM4) was recorded by HDFC Bank (P4) at 60.61 percent with a standard deviation at 15.10 percent.

In SBI group, the average of the ratio was found to be higher in State Bank of Travancore (S6) at 162.8 percent with a standard deviation at 42.50 percent and the lower average in the group was reported by State Bank of Hyderabad (S2) at 83.61 percent with a standard deviation at 21.80 percent.

When considering the foreign banks, all the banks reported the average below 100 percent. The highest average in the group was registered by Citi Bank (F1) at 87.82 percent while the lower average was observed in Standard Chartered Bank (F4) at 45.28 percent with a standard deviation at 12 percent.

Table 31

## LM5 - Liquid Assets to Total Deposits of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Nationalized Banks</b>																			
N1	12.26	12.32	9.77	7.89	8.25	8.13	9.05	11.83	9.83	7.81	8.64	8.36	8.79	7.31	7.49	8.86	9.16	1.64	17.90
N2	14.84	12.34	9.20	7.94	11.22	12.79	15.15	13.74	11.52	8.90	14.37	11.35	8.17	5.17	6.66	4.94	10.52	3.34	31.75
N3	24.32	23.04	14.48	10.27	9.96	11.38	14.37	17.85	14.67	12.52	14.70	16.35	16.67	18.02	23.01	24.02	16.60	4.80	28.92
N4	18.63	12.43	11.06	10.86	12.05	9.55	12.19	14.78	11.81	11.47	13.59	12.48	10.91	14.36	12.87	14.36	12.71	2.13	16.76
N5	12.37	14.84	10.99	11.44	21.23	13.43	8.88	12.46	10.12	7.86	10.58	6.06	7.51	6.54	5.22	5.53	10.32	4.14	40.12
N6	15.72	22.30	19.52	10.68	13.93	8.96	10.98	12.53	11.58	8.91	8.38	10.46	8.62	9.76	10.66	10.27	12.08	3.99	33.03
N7	14.67	13.19	13.56	8.81	9.09	11.61	7.21	15.51	11.64	9.33	11.85	8.52	7.20	6.23	5.16	5.79	9.96	3.26	32.73
N8	15.98	19.23	17.68	11.18	12.23	13.15	12.44	19.13	14.62	14.25	11.64	8.90	8.59	7.64	7.36	6.39	12.53	4.12	32.88
N9	11.81	15.3	9.98	8.80	7.91	8.53	10.60	14.58	11.90	13.61	9.96	8.42	7.19	10.10	5.79	8.35	10.18	2.68	26.33
N10	19.28	14.91	11.40	9.79	12.64	11.20	7.34	15.04	12.26	10.91	8.87	8.28	9.11	7.55	8.34	10.12	11.07	3.21	29.00
N11	11.92	10.73	11.70	8.47	10.09	15.76	11.01	15.96	13.12	12.43	12.14	8.36	5.60	4.88	7.37	5.28	10.30	3.42	33.20
N12	15.62	14.73	12.33	11.55	11.19	11.89	12.69	15.22	11.84	8.19	9.67	8.20	6.84	5.77	7.46	4.87	10.50	3.35	31.90
N13	13.12	10.81	9.98	10.65	10.03	10.75	20.71	13.46	11.31	10.21	9.41	9.49	7.59	6.93	10.02	11.16	10.98	3.07	27.96
N14	16.79	12.02	11.01	8.22	15.45	6.63	9.72	14.82	12.25	12.43	10.88	8.82	8.79	8.95	7.07	9.33	10.82	2.97	27.45
N15	14.05	14.92	10.27	10.01	10.67	13.17	6.13	12.49	10.14	10.83	6.62	11.69	8.83	7.12	7.52	10.34	10.30	2.61	25.34
N16	21.04	15.24	12.33	8.71	7.61	10.63	8.62	11.85	9.72	11.52	9.28	9.93	7.03	6.15	7.75	7.06	10.28	3.71	36.09
N17	13.07	9.44	9.20	9.95	9.32	8.41	9.49	15.80	12.50	11.75	9.35	9.41	8.17	8.93	9.70	5.54	10.00	2.34	23.40
N18	14.61	11.45	11.28	9.42	5.32	6.30	10.23	16.21	12.72	14.07	8.96	7.84	7.71	6.85	7.61	5.82	9.78	3.33	34.05

Source: Trend and Progress of Banking in India Report of RBI, Various Issues

(Continued)

Table 31

## LM5 - Liquid Assets to Total Deposits of Scheduled Commercial Banks in India

(In percent)

Banks	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	S.D	CV
<b>Private Banks</b>																			
P1	14.61	11.45	11.28	9.42	5.32	6.30	10.23	16.21	12.72	14.07	8.96	7.84	7.71	6.85	7.61	11.20	10.11	3.18	31.45
P2	13.73	14.17	9.88	7.67	8.41	7.33	7.57	17.38	12.71	10.79	10.70	9.96	6.95	8.72	9.90	10.54	10.40	2.87	27.60
P3	7.88	6.23	7.66	8.29	9.58	10.24	10.47	12.72	10.59	10.67	7.55	8.71	7.22	6.46	7.58	6.75	8.66	1.85	21.36
P4	19.19	22.40	19.59	14.16	12.03	12.31	12.4	21.64	14.67	12.26	17.89	14.22	8.49	9.21	10.78	8.06	14.33	4.56	31.82
P5	34.62	21.94	39.85	13.47	12.44	12.95	10.32	16.50	15.56	13.72	19.24	15.11	14.18	14.15	12.51	11.70	17.39	8.31	47.79
P6	19.44	18.77	17.77	13.38	20.12	8.8	9.87	12.34	11.44	8.70	9.75	11.71	13.08	12.66	11.19	14.54	13.35	3.77	28.24
P7	19.44	26.12	19.96	13.48	9.59	8.87	8.42	20.66	15.57	9.17	11.7	8.35	9.18	6.86	14.14	10.73	13.27	5.61	42.28
P8	24.37	18.42	15.24	10.36	15.63	14.68	9.74	17.61	15.52	15.98	12.39	7.94	8.35	8.42	6.08	5.68	12.90	5.15	39.92
P9	19.84	13.91	9.18	7.67	7.97	12.66	9.17	11.55	9.53	7.18	7.61	7.27	5.90	5.42	5.76	5.68	9.14	3.80	41.58
P10	19.32	15.37	20.55	13.45	10.11	9.82	10.33	12.70	9.45	9.10	6.41	7.18	6.34	4.65	6.12	6.15	10.44	4.74	45.40
P11	13.35	12.35	15.55	11.37	9.74	8.26	14.03	13.91	11.23	11.25	8.64	8.30	7.23	9.80	6.78	6.93	10.55	2.76	26.16
P12	15.75	13.22	11.43	9.41	8.73	10.76	8.24	12.92	10.14	9.71	10.26	6.59	4.23	5.86	6.23	5.59	9.32	3.14	33.69
<b>SBI Group</b>																			
S1	25.08	23.33	16.95	12.86	11.94	9.33	11.31	15.87	13.25	11.01	9.08	11.23	7.23	8.79	9.48	9.42	12.89	5.12	39.72
S2	12.29	9.44	13.68	11.69	8.73	10.63	8.89	15.21	12.60	11.14	10.22	11.75	9.12	6.88	5.76	5.70	10.23	2.70	26.39
S3	23.95	25.00	24.00	15.26	13.67	10.71	11.72	15.49	12.55	14.07	10.72	13.16	9.31	9.55	9.51	11.09	14.36	5.30	36.91
S4	16.69	14.70	10.78	10.61	12.41	11.52	8.30	13.20	10.58	6.51	7.66	6.80	6.70	6.15	4.78	6.44	9.61	3.47	36.11
S5	12.07	18.72	8.96	8.18	6.12	8.84	9.41	12.25	9.88	8.39	9.23	8.94	9.46	4.59	9.31	5.74	9.38	3.19	34.01
S6	18.70	16.47	14.80	7.80	7.13	11.73	5.32	11.90	10.43	5.84	8.12	8.34	8.14	5.63	6.33	6.60	9.58	4.09	42.69
<b>Foreign Banks</b>																			
F1	18.62	22.91	17.58	21.55	25.45	22.22	22.68	30.76	25.26	31.07	27.89	37.54	28.34	28.59	20.83	10.51	24.49	6.37	26.01
F2	17.17	26.02	57.84	61.24	127.97	138.65	118.32	59.02	29.94	34.02	12.76	9.83	20.10	18.28	15.26	22.48	48.06	43.20	89.89
F3	23.87	22.79	26.79	9.23	8.90	13.01	11.52	26.38	21.55	22.48	14.63	15.18	18.80	16.09	21.28	30.20	18.92	6.50	34.36
F4	13.48	13.35	16.73	7.61	8.30	6.83	16.82	16.59	15.32	10.09	9.92	11.65	7.60	8.87	10.25	12.46	11.62	3.46	29.78

Source : Trend and Progress of Banking in India Report of RBI, Various Issues .

**LM5 - Liquid Assets to Total Deposits**

Liquid assets to total deposits (LM5) is an important measure of liquidity of the banks that assesses the capability in meeting its debt particularly deposits. Liquid assets to total deposits (LM5) of Scheduled Commercial Banks from 1999-2000 to 2014-2015 is portrayed in Table 31.

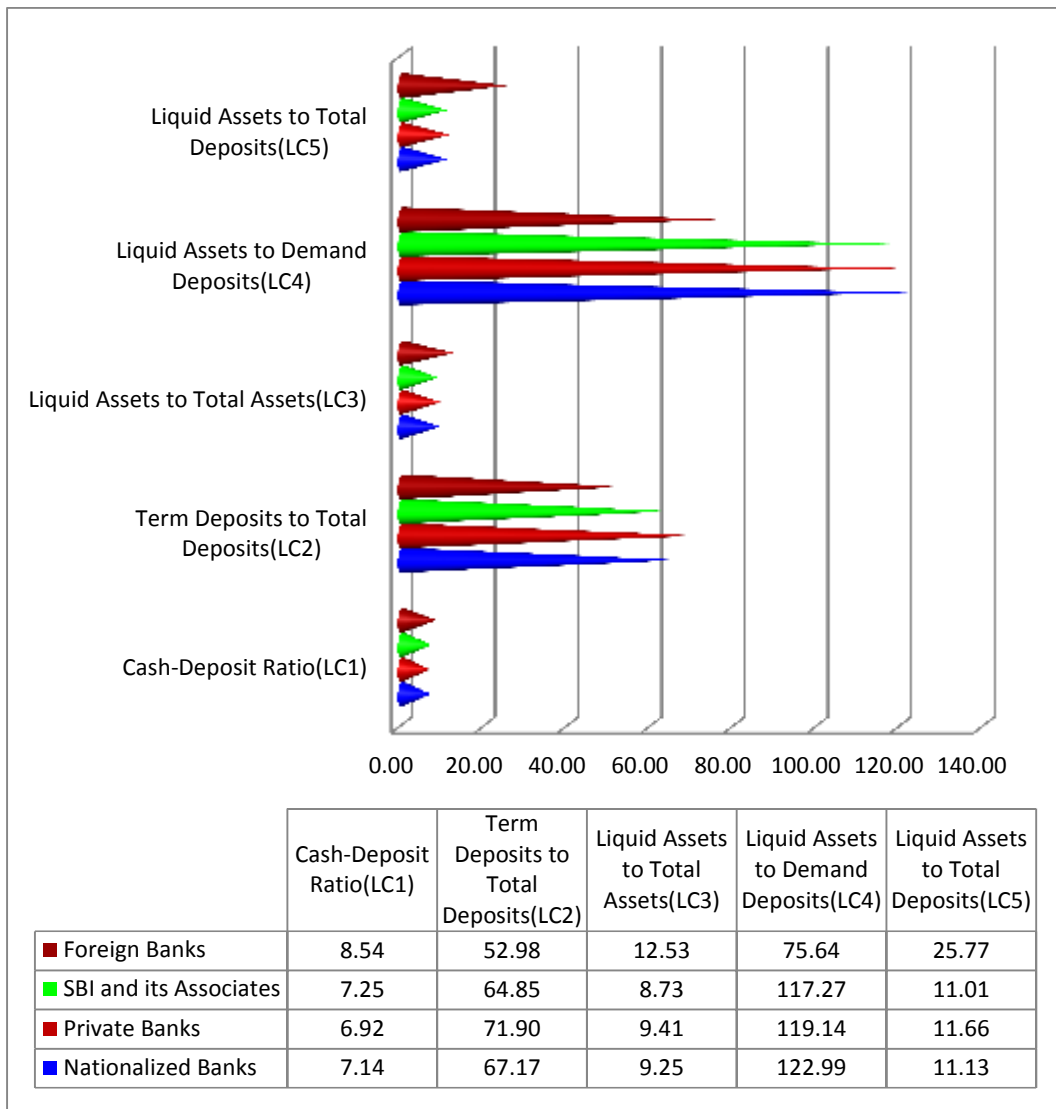
The liquid assets to total deposits of majority of the banks declined in 2014-2015 when paired with 1999-2000 and fluctuated at a high rate throughout the study period. A higher ratio indicates the ability of the banks to reimburse the deposit debts.

In nationalized banks group the mean value was reported to be higher in Bank of Baroda (N3) at 16.60 percent with a standard deviation at 4.80 percent. The lower average in the group was witnessed in Allahabad Bank (N1) at 9.16 percent preceded by Vijaya Bank (N18) at 9.78 percent with a standard deviation at 1.64 percent and 3.33 percent respectively.

Among the private banks, the average liquid assets to total deposits (LM5) was observed to be higher in ICICI Bank (P5) at 17.39 percent with a standard deviation at 8.31 percent. The lower average in the group was found in Federal Bank (P3) at 8.66 percent with a standard deviation at 1.85 percent.

When considering the banks in the SBI group, the average was observed to be higher in State Bank of India (S3) at 14.36 percent with a standard deviation at 5.30 percent while the average was found to be lower in State Bank of Patiala (S5) at 9.38 percent with a standard deviation at 3.19 percent.

In foreign banks group, the mean value of the ratio was found to be very high in Deutsche Bank (F2) at 48.06 percent with a standard deviation at 43.20 percent stating very high fluctuations in the ratio by the bank. The ratio was reported to be lower in Standard Chartered Bank (F4) at 11.62 percent average with a lower standard deviation at 3.46 percent.



Source : Computed data

**Figure 7**  
**Bank Group – wise Liquidity Management of Scheduled Commercial Banks in India**

Figure 7 shows the bank group-wise liquidity management of Scheduled Commercial Banks. The cash-deposit ratio (LM1) of foreign group was on the lead at 8.54 percent average, which indicates that banks have more core funds in meeting out its deposits followed by SBI group at 7.25 percent, after which nationalized banks recorded 7.14 percent and private banks maintained a low cash to its deposits in the industry at 6.92 percent.

The private banks group recorded a very high term deposits to total deposits (LM2) at 71.90 percent signifying that the banks have more funds that could be retained for a long term with the banks for their business operations, but with a high cost. The next banking group with more term deposits to total deposits (LM2) was nationalized banks group which stood at 67.17 percent average followed by SBI group at 64.85 percent. Foreign banks group registered lower term deposits in the industry by recording the average at 52.98 percent.

The proportion of liquid assets to total assets (LM3) was very high in foreign banks at 12.53 percent average stating the availability of liquid assets to meet their short-term obligations followed by private banks at 9.41 percent and nationalized banks at 9.25 percent. A lower liquid assets to total assets (LM3) in the industry was registered by SBI group at 8.73 percent.

The nationalized banking group held more liquid assets to demand deposits (LM4) by recording the average at 122.99 percent in the industry stating its effectiveness of the banks to meet the demand deposit obligations. The consecutive banking groups are private banks at 119.14 percent. SBI group held 117.27 percent while it was extremely low in foreign banks at 75.64 percent indicating that the banking group is at risk to meet its demand deposits.

The liquid assets to total deposits (LM5) in the foreign banks was more at 25.77 percent showing the ability of the banks in meeting their deposit obligations, after which private banks recorded 11.66 percent, nationalized banks stood at 11.13 percent and the ratio was found to be low in SBI and its Associates at 11.01 percent.

To understand whether there is any significant difference in the liquidity management of select Scheduled Commercial Banks before and after global financial crisis, the following hypotheses was tested and the results are shown in Table 32.

H<sub>05</sub>: There is no difference in the liquidity management of select Scheduled Commercial Banks before and after financial crisis.

**Table 32**  
**Difference in Liquidity Management Before and After Crisis**

Variables		Mean	Std. Deviation	Paired Differences		t	'p' value	Significance
				Mean	Std. Deviation			
LM1	Before Crisis	7.13	2.30	-0.30	2.70	-2.44	0.015	Significant
	After Crisis	7.52	2.60					
LM2	Before Crisis	74.46	8.84	1.60	20.34	13.28	0.000	Significant
	After Crisis	58.50	21.62					
LM3	Before Crisis	67.63	9.80	1.55	9.97	2.63	0.009	Significant
	After Crisis	66.08	9.87					
LM4	Before Crisis	8.23	2.68	-2.83	5.04	-9.48	0.000	Significant
	After Crisis	11.06	5.03					
LM5	Before Crisis	10.64	4.74	-4.16	12.73	-5.53	0.000	Significant
	After Crisis	14.81	13.40					

Source: Computed data

Table 32 shows the paired samples statistics of liquidity management. The results indicate that the Term deposits to total deposits (LM2), Liquid assets to total assets (LM3), Liquid assets to demand deposits (LM4), Liquid assets to total deposits (LM5) at 1% level of significance and Cash – Deposit ratio (LM1) at 5% level of significance have significant difference before and after crisis. Thus, the null hypothesis is rejected and alternative hypothesis is accepted. Huge variations in the mean is found after the crisis in term deposits to total deposits, liquid assets to demand deposits and liquid assets to total deposits indicating that the banks have improved their liquidity after the catastrophe.

#### **4.2 DETERMINANTS OF EARNING EFFICIENCY OF SCHEDULED COMMERCIAL BANKS IN INDIA**

The objective to stumble on the determinants that affect the profitability of the banks was examined considering the industrial ratios as internal indicators and macro-economic variables as external indicators during the study period

from 1999-2000 to 2014-2015. All the ratios that measure the financial performance of the banks are internal indicators and, GDP and inflation rate are considered as external indicators. GDP was taken into account, since it influences the economic activity and in turn impacts the operations of the banks. The average inflation rate was considered, as that impacts the lending activity of the banks and is important for the banks, because they typically deal in nominal financial instruments. The EE1 (Net Interest Margin), EE2 (Return on Assets), EE3 (Return on Equity), being the important indicators of profitability are the dependent variables.

To identify the variables influencing earning efficiency the following multivariate techniques have been employed:-

- i) Correlation Analysis, and
- ii) Step-wise Multiple Regression Analysis

#### **i) CORRELATION ANALYSIS**

Correlation Analysis is used to ascertain the relationship between the dependent and independent variables. The correlation co-efficient of the independent variables, with the earning efficiency indicators identifies the most significant variables that affect the profitability of the banks. The correlation matrix has been formed to establish the correlation coefficient of internal and external indicators with the dependent variables.

The correlation of the internal and external variables with the dependent variables Net Interest Margin (EE1), Return on Assets (EE2), Return on Equity (EE3) of the select Scheduled Commercial Banks during the study period is presented in Table 33.

Table 33

## Correlation of Internal and External Variables with Profitability Indicators

Variables	EE1		EE2		EE3	
	r	p	r	p	r	P
CA1	-.466	.040*	.430	.055	.090	.375
CA2	.360	.094	-.176	.266	.322	.121
CA3	-.569	.013*	.043	.439	-.451	.046*
CA4	.637	.005**	.281	.155	.622	.007**
CA5	-.319	.123	.398	.071	-.047	.434
AQ1	.471	.038*	-.285	.152	.190	.249
AQ2	-.258	.176	-.416	.061	-.266	.169
AQ3	.426	.057	-.321	.122	.152	.295
AQ4	.125	.329	.294	.144	.202	.235
AQ5	.065	.408	-.421	.059	-.134	.317
MA1	.576	.012*	.260	.174	.686	.002**
MA2	-.382	.080	.047	.434	-.390	.075
MA3	-.536	.020*	-.086	.380	-.522	.023*
MA4	-.421	.059	.185	.255	-.263	.172
MA5	.709	.002**	-.164	.280	.299	.140
MA6	.277	.159	-.779	.000**	-.759	.001**
EE1	1.000	-	.056	.422	.838	.178
EE2	.056	.422	1.000	-	.891	.000**
EE3	.256	.178	.860	.000**	1.000	-
EE4	.355	.097	.480	.035*	.257	.000**
EE5	.368	.089	.791	.000**	-.314	.000**
LM1	-.086	.380	.037	.448	.212	.178
LM2	-.446	.048*	-.332	.113	-.145	.127
LM3	.359	.094	-.245	.189	.277	.224
LM4	.060	.415	-.412	.063	.176	.303
LM5	.490	.032*	-.119	.336	-.243	.159
GDP	.071	.401	.355	.097	.256	.265
INFLATION	-.670	.003**	.106	.354	.860	.191

Source: Computed data

\*\*Correlation is significant at the 0.01 level ( $p < 0.01$ ) \*Correlation is significant at the 0.05 level ( $p < 0.05$ )

It is understood from Table 33 that Investment in Government Securities to Assets (CA4) and Intermediation Cost to Total Assets (MA5) were positively correlated and the average inflation rate was inversely correlated at 1% level of significance to Net Interest Margin (EE1). Return on Investments (AQ1), CASA

(MA1) and Liquid Assets to Total Deposits (LM5) were observed to have positive correlation with Net Interest Margin (EE1), while Capital Adequacy Ratio (CA1), Ratio of Advances to Assets (CA3), Business per Employee (MA3) and Term Deposits to Total Deposits (LM2) recorded a negative correlation at 5% level of significance.

The variables Return on Equity (EE3) and Operating Profits to Total Assets (EE5) were observed to have high positive correlation with Return on Assets (EE2) while Burden to Total Assets (MA6) established highly negative correlation, statistically significant at 1% level of significance. The Non-Interest Income to Total Assets (EE4) was found to have positive correlation with Return on Assets (EE2) at 5% level of significance.

Investment in Government Securities to Assets (CA4), CASA (MA1), Return on Assets (EE2) and Non-Interest Income to Total Assets (EE4) were found to have highly positive correlation, while an inverse correlation was observed in Burden to Total Assets (MA6) and Operating Profits to Total Assets (EE5) with Return on Equity (EE3), statistically significant at 1% level of significance. Ratio of Advances to Assets (CA3) and Business per Employee (MA3) were negatively correlated with Return on Equity (EE3) at 5% level of significance.

## **ii) STEP-WISE REGRESSION ANALYSIS**

The Step-wise Regression analysis was applied to study the best combination of independent (predictor) variables that would predict the dependent (predicted) variable. To study the influence of internal and external variables in relation to the earning efficiency variables like Net Interest Margin (EE1), Return on Assets (EE2) and Return on Equity (EE3), the forward selection method of stepwise regression analysis was used to form the best model by entering one independent variable with the strongest positive and negative correlation at each step. The addition of the variables is repeated till the model is found to be fit. The internal variables include all the variables measuring each component of the financial performance in the study, while the external variables consist of annual GDP and average inflation rate.

Table 34 shows the expected relation of the independent variables on the dependent variables.

**Table 34**  
**Variable Description for Step-Wise Regression Analysis**

Code	Variables	Expected Relation
<b>Dependent Variables</b>		
MA1	Net Interest Margin	
MA2	Return on Assets	
MA3	Return on Equity	
<b>Independent Variables (Internal)</b>		
CA1	Capital Adequacy Ratio	+
CA2	Debt – Equity Ratio	-
CA3	Ratio of Advances to Assets	+
CA4	Investment in Government Securities to Assets	+
CA5	Investment in Government Securities to Investments	+
AQ1	Return on Investments	+
AQ2	Return on Advances	+
AQ3	Net NPA to Advances	-
AQ4	Priority Sector Advances to Advances	+/-
AQ5	Interest Income to Total Assets	+
MA1	CASA	+
MA2	Total Advances to Total Deposits	+
MA3	Business per Employee	+
MA4	Profit per Employee	+
MA5	Intermediation Cost to Total Assets	-
MA6	Burden to Total Assets	-
EE1	Net Interest Margin	+
EE2	Return on Assets	+
EE3	Return on Equity	+
EE4	Non-Interest Income to Total Assets	+
EE5	Operating Profits to Total Assets	+
LM1	Cash-Deposit Ratio	+
LM2	Term Deposits to Total Deposits	+
LM3	Liquid Assets to Total Assets	+
LM4	Liquid Assets to Demand Deposits	+
LM5	Liquid Assets to Total Deposits	+
<b>Independent Variables (External)</b>		
GDP	GDP	+
AIR	Average Inflation Rate	-

**a) Step-Wise Multiple Regression Analysis for Net Interest Margin**

The model summary for the dependent variable Net Interest Margin (EE1) using step-wise regression analysis from 1999-2000 to 2014-2015 of Scheduled Commercial Banks is presented in Table 35.

**Table 35**  
**Model Summary of Net Interest Margin**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.709	0.502	0.464	0.15048	0.502	13.124	1	13	0.003
2	0.863	0.745	0.703	0.11204	0.243	11.449	1	12	0.005
3	0.908	0.824	0.776	0.09737	0.078	4.888	1	11	0.049
Model 1 : (Constant),MA5									
Model 2 : (Constant),MA5,LM3									
Model 3 : (Constant),MA5,LM3,CA2									

**Source : Computed data**

It is inferred from the model summary of Net Interest Margin that, by including the variables Intermediation cost to Assets (MA5), Liquid Assets to Assets (LM3) and Debt Equity ratio (CA2) in model 3, the R value increased from 0.709 in model 1 to 0.908 in model 3 indicating highest correlation among the variables. The Adjusted R square increased from 0.464 in model 1 to 0.776 in model 3 and f value is found to be statistically significant at 5% level.

**Table 36**  
**Step-wise Multiple Regression Analysis for Net Interest Margin**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	2.497	0.371		6.723	0.000
	MA5 (Intermediation cost to Total Assets)	1.168	0.179	1.819	6.533	0.000
	LM3 (Liquid Assets to Total Assets)	-0.070	0.028	-0.694	-2.497	0.030
	CA2 (Debt-Equity Ratio)	-0.089	0.040	-0.601	-2.211	0.049
Dependent Variable: EE1(Net Interest Margin)						

**Source : Computed data**

Table 36 shows variables that determine the Net interest Margin (EE3). The standardized  $\beta$  coefficient value for Intermediation cost to Assets (MA5) is 1.168, Liquid Assets to Assets (LM3) is -0.070 and Debt-Equity (CA2) is -0.089. Intermediation cost to Assets (MA5) will affect the Net interest margin by 1.168 units stating that the rise in operating expenses inversely influences the profitability of the banks. Liquid Assets to Assets (LM3) impacts the dependent variable at -0.070 units, stating that the liquid assets should be utilized for business operations effectively, besides meeting their Statutory Liquidity Ratio (SLR) at 20 percent. The decrease in the Debt-Equity (CA2) will increase the dependent variable at 0.089 units, as the reduction in the interest expenses increases the Net interest margin (EE3) of the banks.

The equation formed for the dependant variable Net Interest Margin is

$$Y_1 = 2.497 + 1.168 X_{1_1} - 0.070 X_{2_1} - 0.089 X_{3_1}$$

where,

$Y_1$  = Net Interest Margin (EE1)

$X_{1_1}$  = Intermediation cost to Assets (MA5)

$X_{2_1}$  = Liquid Assets to Assets (LM3)

$X_{3_1}$  = Debt – Equity Ratio (CA2)

#### **b) Step-wise Regression Analysis for the dependant variable Return on Assets**

The model summary for the dependent variable Return on Assets (EE2) using step-wise regression analysis from 1999-2000 to 2014-2015 of Scheduled Commercial Banks is presented in Table 37.

**Table 37**  
**Model Summary of Return on Assets**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.860	0.740	0.720	0.08261	0.740	37.027	1	13	0.000
2	0.987	0.974	0.970	0.02723	0.234	107.630	1	12	0.000
3	0.992	0.984	0.979	0.02254	0.010	6.515	1	11	0.027
Model 1: (Constant), EE3									
Model 2 : (Constant), EE3,CA3									
Model 3 : (Constant), EE3, CA3, EE1									

**Source: Computed data**

It is indicated from the model summary of Return on Assets that by including the variables Return on Equity (EE3), Advances to Assets (CA3) and Net Interest Margin (EE1) in model 3, the R value increased from 0.860 in model 1 to 0.992 in model 3 signifying maximum correlation among the variables. The Adjusted R square increased from 0.720 in model 1 to 0.979 in model 3 and f value is found to be highly significant at 99% confidence level in model 1 and model 2 while it is significant at 5% in model 3.

**Table 38**  
**Step-wise Multiple Regression Analysis for Return on Assets**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	-.693	0.150		-4.625	0.001
	EE3 (Return on Equity)	0.051	0.002	1.105	25.559	0.000
	CA3 (Advances to Assets)	0.012	0.001	0.610	12.005	0.000
	EE1(Net Interest Margin)	0.091	0.036	0.120	2.553	0.027
Dependent Variable: EE2 (Return on Assets)						

**Source: Computed data**

Table 38 portrays the variables that impact the Return on assets (EE2). The  $\beta$  coefficient value for Return on Equity (EE3), Advances to Assets (CA3)

and Net Interest Margin (EE1) are 0.051, 0.012 and 0.091 respectively. The Return on Equity (EE3) will have an effect on Return on Assets by 0.051 units, stating that the efficient use net worth in high earning investments will increase the dependent variable. Advances to Assets (CA3) will increase 0.012 units of dependent variable which signifies that more the advances provided by the bank, more will be its Return on Assets. Net Interest Margin (EE1) will increase the dependent variable at 0.091 units, stating more of interest income generated by the banks will enhance the Return on Assets.

The proposed equation for the dependant variable Return on Assets is  

$$Y_2 = -0.693 + 0.051X_{1_2} + 0.012X_{2_2} + 0.091X_{3_2}$$

where,

$Y_2$  = Return on Assets (EE2)

$X_{1_2}$  = Return on Equity (EE3)

$X_{2_2}$  = Advances to Total Assets (CA3)

$X_{3_2}$  = Net Interest Margin (EE1)

**c) Step-wise Regression Analysis for the dependant variable Return on Equity**

The model summary for the dependent variable Return on Equity (EE3) using step-wise regression analysis from 1999-2000 to 2014-2015 of Scheduled Commercial Banks is presented in Table 39.

**Table 39**  
**Model Summary of Return on Equity**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.891	0.794	0.778	1.59143	0.794	50.192	1	13	0.000
2	0.957	0.916	0.902	1.05826	0.122	17.399	1	12	0.001
3	0.976	0.952	0.939	0.83255	0.036	8.388	1	11	0.015
Model 1: (Constant), EE5									
Model 2: (Constant), EE5, LM1									
Model 3: (Constant), EE5, LM1, EE2									

Source: Computed data

It is understood from the model summary of Return on Equity that, by including the variables Operating Profits to Assets (EE5), Cash- Deposit Ratio (LM1) and Return on Assets (EE2) in model 3, the R value increased from 0.891 in model 1 to 0.976 in model 3 stating highest correlation among the variables. The Adjusted R square increased from 0.778 in model 1 to 0.939 in model 3 and the f value is statistically significant at 1% level of significance in model 1 and at 5% level of significance in model 3.

**Table 40**  
**Step-wise Multiple Regression Analysis for Return on Equity**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
3	(Constant)	-21.015	1.841	-	-11.418	0.000
	EE5 (Operating Profits to Assets)	3.410	0.932	0.321	3.657	0.004
	LM1(Cash-Deposit Ratio)	0.359	0.130	0.135	2.755	0.020
	EE2 (Return on Assets)	14.222	1.864	0.657	7.629	0.000
Dependent Variable: EE3 (Return on Equity)						

Source: Computed data

Table 40 shows the variables that contribute to the Return on Equity (EE3). The standardized  $\beta$  coefficient value for Operating Profits to Assets is 3.410, stating that the rise in operating profit of the banks will improve their Return on Equity (EE3). The standardized  $\beta$  coefficient value for Cash-Deposit Ratio (LM1) is 0.359, indicating that cash used by the banks for their effective operations and investments, besides meeting their Cash Reserve Ratio (CRR) at 4 percent will improve the profitability of banks. Return on Assets (EE2) will increase the dependent variable at 14.222, signifying that the quality assets and efficient use of assets will enable the banks to generate more earnings.

The equation proposed for the dependant variable Return on Equity is

$$Y_3 = -21.015 + 3.410X_{13} + 0.359X_{23} + 14.222X_{33}$$

where,

$Y_3$  = Return on Equity (EE3)

$X_{13}$  = Operating Profits to Assets (EE5)

$X_{23}$  = Cash Deposit Ratio (LM1)

$X_{33}$  = Return on Assets (EE2)

**4.3 RANKING THE BANKS BASED ON THE MULTIPLE CRITERIA DECISION - MAKING APPROACH**

A systematic approach for ranking the Scheduled Commercial Banks in the study was carried out by selecting the representative and comprehensive indicators (criteria) of each component through cluster analysis. The selected criteria were assigned weights on the basis of the Rank – Sum method and the ranks for the each year of the study was assigned using the Technique for the Order of Preference by Similarity to Ideal Solution (TOPSIS) method. It is a multiple criterion decision - making approach, which considers the selected representative criteria in the study, for carefully ranking the banks based on their financial performance.

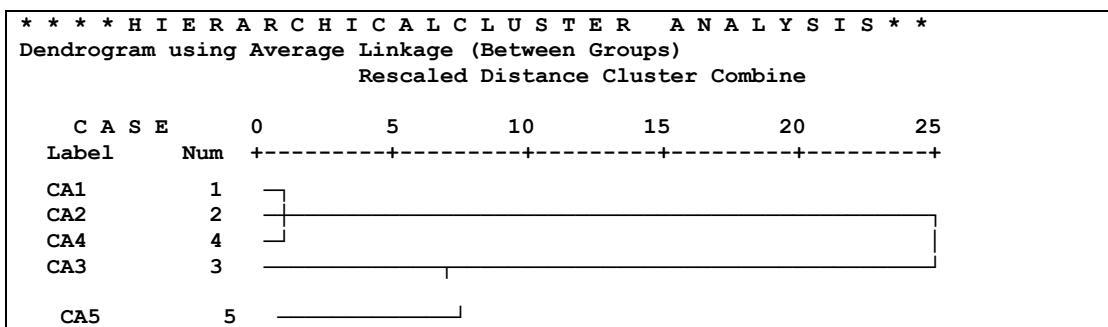
Table 41 shows the results of the cluster analysis for selecting the representative capital adequacy indicators. Two clusters were formed. Capital Adequacy Ratio (CA1), Debt – Equity Ratio (CA2) and Investments in Government Securities to Assets (CA4) are the members of cluster 1 while Advances to Assets (CA3) and Government Securities to Total Investments (CA5) are identified to be the members under cluster 2.

Figure 8 illustrates the arrangement of the clusters produced by hierarchical clustering and the Euclidean distances between the variables of capital adequacy.

**Table 41  
Cluster Membership of Capital Adequacy**

Case	CA1	CA2	CA3	CA4	CA5
<b>2 Clusters</b>	1	1	2	1	2

Source: Computed data





Total Deposits (MA2) and Intermediation Cost to Total Assets (MA5) are the members identified under cluster 2.

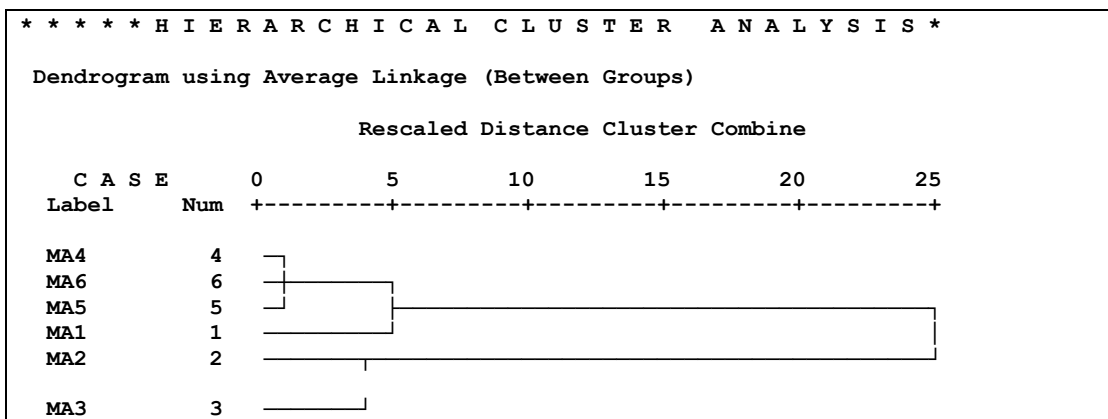
Figure 10 shows the arrangement of the clusters produced by hierarchical clustering and the Euclidean distances between the variables of management ability.

**Table 43**

**Cluster Membership of Management Ability**

Case	MA1	MA2	MA3	MA4	MA5	MA6
<b>2 Clusters</b>	1	2	2	1	1	1

Source: Computed data



Source: Computed data

**Figure 10**

**Dendrogram Chart for Management Ability**

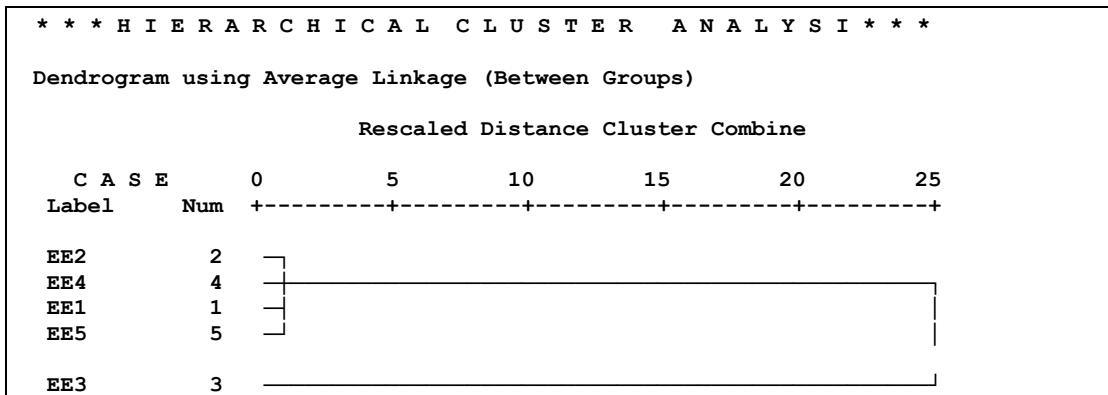
Table 44 shows the results of the cluster analysis for selecting the representative earning efficiency indicators. Net Interest Margin (EE1), Return on Assets (EE2), Non-Interest Income to Total Assets (EE4) and Operating Profits to Total Assets (EE5) are identified to be the members of cluster 1. Return on Equity (EE3) is found to be the only member under cluster 2.

Figure 11 presents the arrangement of the clusters produced by hierarchical clustering and the Euclidean distances between the variables of earning efficiency.

**Table 44**  
**Cluster Membership of Earning Efficiency**

Case	EE1	EE2	EE3	EE4	EE5
<b>2 Clusters</b>	1	1	2	1	1

Source : Computed data



Source : Computed data

**Figure 11**  
**Dendrogram Chart for Earning Efficiency**

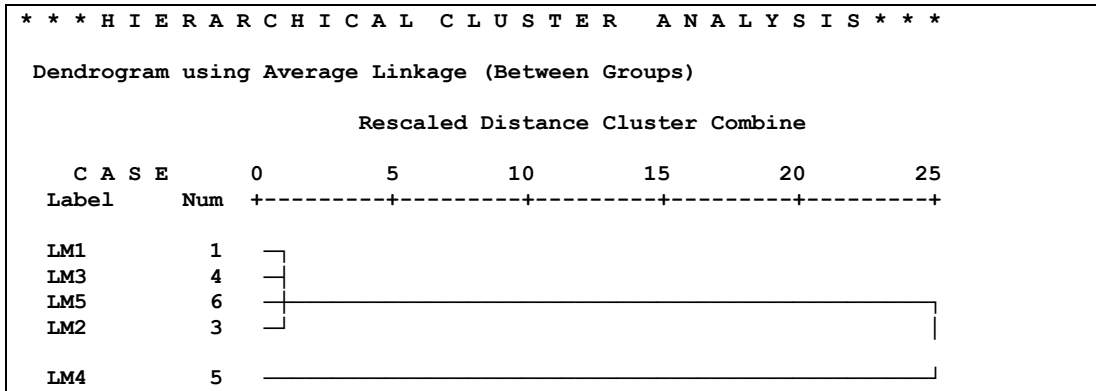
Table 45 shows the members classified under the 2 clusters formed, in the liquidity management component. Cash-Deposit Ratio (LM1), Term Deposits to Total Deposits (LM2), Liquid Assets to Total Assets (LM3) and Liquid Assets to Total Deposits (LM5) are categorized under cluster 1 and Liquid Assets to Demand Deposits (LM4) under cluster 2.

Figure 12 illustrates the arrangement of the clusters produced by hierarchical clustering and the Euclidean distances between the variables of liquidity management.

**Table 45**  
**Cluster Membership of Liquidity Management**

Case	LM1	LM2	LM3	LM4	LM5
<b>2 Clusters</b>	1	1	1	2	1

Source: Computed data



Source: Computed data

**Figure 12**

**Dendrogram Chart for Liquidity Management**

Table 46 portrays the criteria selected under each component, and the weights assigned to the representative and comprehensive criteria using Rank – Sum method.

**Table 46**  
**Comprehensive and Representative Criteria Selection**

Components	No. of Clusters	Criteria	R <sup>2</sup>	Representative Criteria	Weight
CAPITAL ADEQUACY	CLUSTER 1	CA1	0.188	CA1 (Capital Adequacy Ratio)	0.018
		CA2	0.168		
		CA4	0.050		
	CLUSTER 2	CA3	0.172	CA5 (Investment in Government Securities to Investments)	0.164
ASSET QUALITY	CLUSTER 1	AQ1	0.250	AQ5 (Interest Income to Total Assets)	0.091
		AQ2	0.591		
		AQ3	0.158		
		AQ5	0.673		

Continued

**Table 46**  
**Comprehensive and Representative Criteria Selection**

Components	No. of Clusters	Criteria	R <sup>2</sup>	Representative Criteria	Weight
	CLUSTER 2	AQ4		AQ4 (Priority sector Advances to Advances)	0.127
MANAGEMENT ABILITY	CLUSTER 1	MA1	0.757	MA5 (Intermediation Cost to Total Assets)	0.182
		MA4	0.612		
		MA5	0.798		
		MA6	0.568		
	CLUSTER 2	MA2	0.544	MA3 (Business per Employee)	0.073
		MA3	0.544		
EARNING EFFICIENCY	CLUSTER 1	EE1	0.733	EE5 (Operating Profits to Total Assets)	0.055
		EE2	0.857		
		EE4	0.736		
		EE5	0.942		
	CLUSTER 2	EE3		EE3 (Return on Equity)	0.036
LIQUIDITY MANAGEMENT	CLUSTER 1	LM1	0.523	LM5 (Liquidity Assets to Total Deposits)	0.145
		LM2	0.518		
		LM3	0.894		
		LM5	0.925		
	CLUSTER 2	LM4		LM4 (Liquidity Assets to Demand Deposits)	0.109

Source: Computed data

Table 46 illustrates the comprehensive and representative criteria of each component using cluster analysis. The selected criteria were assigned weights using Rank - Sum method. In Capital Adequacy, Capital Adequacy Ratio (CA1) with 0.188 R<sup>2</sup> was chosen as the representative criteria from Cluster 1 and was

assigned the weight at 0.018. Investment in Government Securities to Investments (CA5) was selected from Cluster 2 by considering the Euclidean highest distance in the dendrogram chart and was assigned the weight at 0.164. In Asset Quality, Interest Income to Total Assets (AQ5) with an  $R^2$  of 0.673 was selected under Cluster 1 with a weight at 0.091. Priority sector Advances to Advances (AQ4) under Cluster 2 was selected with a weight at 0.127. In Management ability, the representative and comprehensive variables are Intermediation Cost to Total Assets (MA5) in Cluster 1 with 0.798  $R^2$  and was assigned the weight at 0.182. Business per Employee (MA3) was selected in Cluster 2 which has the highest Euclidean distance in the dendrogram chart with a weight at 0.073. The earning efficiency comprehensive criterion is Operating Profits to Total Assets (EE5) with a  $R^2$  of 0.942 in Cluster 1 and was assigned the weight at 0.055. Return on Equity (EE3) was selected under Cluster 2 of earning efficiency component and was given the weight at 0.036. The Liquidity management representatives are Liquidity Assets to Total Deposits (LM5) under Cluster 1 with a weight at 0.145 and Liquidity Assets to Demand Deposits (LM4) under Cluster 2 with a weight at 0.109.

Table 47

Ranks of the Scheduled Commercial Banks between 2000 and 2015 using TOPSIS Method

Banks	2015		2014		2013		2012		2011		2010		2009		2008	
	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank
F1	0.429	12	0.510	4	0.538	4	0.581	1	0.621	1	0.613	1	0.593	1	0.564	1
F2	0.517	3	0.469	9	0.455	7	0.465	13	0.394	26	0.419	21	0.510	2	0.520	2
F3	0.512	4	0.495	5	0.396	19	0.433	21	0.369	34	0.379	31	0.400	16	0.424	15
F4	0.410	16	0.429	20	0.376	27	0.377	33	0.398	24	0.360	36	0.346	36	0.390	24
N1	0.450	8	0.455	11	0.416	13	0.491	9	0.436	17	0.419	22	0.335	38	0.379	28
N2	0.385	24	0.443	13	0.400	18	0.492	8	0.503	6	0.549	2	0.393	23	0.426	12
N3	0.534	2	0.589	1	0.556	2	0.579	2	0.547	2	0.521	4	0.440	10	0.465	6
N4	0.563	1	0.577	2	0.559	1	0.514	6	0.530	3	0.525	3	0.448	9	0.411	17
N5	0.364	33	0.379	33	0.347	32	0.379	32	0.348	37	0.435	18	0.350	34	0.351	35
N6	0.485	5	0.542	3	0.525	5	0.527	5	0.462	10	0.444	14	0.399	19	0.427	11
N7	0.378	28	0.365	37	0.363	30	0.401	30	0.404	23	0.442	15	0.365	28	0.365	31
N8	0.393	19	0.428	21	0.407	16	0.446	18	0.381	32	0.409	27	0.368	27	0.379	29
N9	0.413	15	0.392	30	0.436	10	0.410	29	0.417	19	0.430	20	0.448	8	0.409	18
N10	0.427	13	0.440	17	0.409	15	0.470	12	0.395	25	0.407	28	0.417	13	0.408	19
N11	0.373	31	0.442	14	0.372	28	0.422	24	0.449	12	0.520	5	0.469	6	0.430	10
N12	0.355	34	0.434	18	0.392	21	0.448	17	0.462	11	0.484	9	0.399	17	0.424	14
N13	0.442	10	0.453	12	0.380	23	0.431	22	0.438	15	0.431	19	0.396	22	0.382	27
N14	0.421	14	0.423	22	0.421	12	0.449	16	0.417	20	0.441	16	0.429	11	0.392	23
N15	0.377	29	0.373	35	0.307	38	0.483	10	0.514	4	0.352	38	0.404	15	0.387	26
N16	0.387	21	0.402	28	0.329	36	0.377	34	0.418	18	0.405	29	0.398	20	0.356	34
N17	0.339	38	0.411	24	0.376	26	0.386	31	0.365	35	0.363	35	0.357	32	0.332	38
N18	0.381	27	0.440	16	0.400	17	0.450	15	0.388	28	0.439	17	0.470	5	0.402	21
P1	0.350	35	0.359	38	0.299	39	0.331	40	0.371	33	0.336	39	0.327	40	0.334	37
P2	0.450	9	0.491	7	0.445	8	0.427	23	0.437	16	0.416	24	0.396	21	0.424	13
P3	0.382	26	0.417	23	0.379	24	0.437	20	0.442	14	0.446	13	0.501	3	0.472	5
P4	0.342	37	0.392	29	0.346	33	0.365	35	0.388	31	0.447	11	0.358	31	0.279	39
P5	0.276	40	0.340	39	0.336	34	0.362	36	0.331	38	0.416	25	0.408	14	0.445	7
P6	0.386	22	0.383	31	0.381	22	0.439	19	0.388	30	0.374	33	0.329	39	0.438	9
P7	0.346	36	0.381	32	0.276	40	0.333	39	0.329	39	0.380	30	0.346	37	0.373	30
P8	0.302	39	0.330	40	0.328	37	0.336	38	0.322	40	0.377	32	0.372	26	0.357	33
P9	0.365	32	0.371	36	0.331	35	0.360	37	0.354	36	0.357	37	0.362	29	0.402	22
P10	0.388	20	0.408	25	0.359	31	0.412	27	0.388	29	0.367	34	0.361	30	0.342	36
P11	0.434	11	0.462	10	0.547	3	0.512	7	0.489	8	0.489	8	0.484	4	0.492	4
P12	0.398	18	0.440	15	0.428	11	0.415	25	0.411	21	0.446	12	0.385	24	0.364	32
S1	0.463	6	0.489	8	0.442	9	0.461	14	0.510	5	0.454	10	0.420	12	0.439	8
S2	0.376	30	0.407	26	0.411	14	0.475	11	0.446	13	0.418	23	0.378	25	0.387	25
S3	0.400	17	0.403	27	0.370	29	0.411	28	0.392	27	0.334	40	0.351	33	0.274	40
S4	0.385	23	0.373	34	0.395	20	0.414	26	0.406	22	0.410	26	0.350	35	0.403	20
S5	0.383	25	0.432	19	0.378	25	0.551	3	0.501	7	0.495	7	0.458	7	0.419	16
S6	0.454	7	0.492	6	0.469	6	0.536	4	0.475	9	0.497	6	0.399	18	0.493	3

Source: Computed data

(continued)

Table 47

Ranks of the Scheduled Commercial Banks between 2000 and 2015 using TOPSIS Method

Banks	2007		2006		2005		2004		2003		2002		2001		2000		Mean Rank
	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	Ci*	Rank	
F1	0.484	2	0.424	3	0.402	3	0.436	4	0.512	2	0.486	4	0.582	2	0.482	4	1
F2	0.545	1	0.648	1	0.769	1	0.694	1	0.567	1	0.460	5	0.492	7	0.420	16	3
F3	0.415	9	0.298	36	0.322	29	0.282	39	0.336	37	0.452	6	0.474	12	0.410	19	20
F4	0.375	23	0.346	16	0.294	39	0.283	38	0.341	35	0.334	39	0.414	31	0.375	30	37
N1	0.336	35	0.342	18	0.350	18	0.325	23	0.368	20	0.404	20	0.446	22	0.390	26	19
N2	0.404	13	0.404	5	0.385	8	0.357	12	0.400	10	0.409	18	0.485	9	0.425	14	7
N3	0.433	7	0.365	7	0.343	21	0.307	31	0.357	29	0.390	24	0.485	10	0.456	8	5
N4	0.400	15	0.353	11	0.315	33	0.337	17	0.363	25	0.363	36	0.397	33	0.391	24	9
N5	0.331	37	0.311	31	0.388	5	0.439	3	0.412	7	0.404	19	0.466	15	0.386	28	29
N6	0.385	20	0.361	8	0.325	27	0.358	10	0.365	22	0.433	10	0.469	14	0.346	39	8
N7	0.356	27	0.287	39	0.351	16	0.314	28	0.348	32	0.401	21	0.423	27	0.366	32	34
N8	0.378	22	0.336	20	0.342	22	0.325	24	0.364	23	0.429	12	0.466	16	0.379	29	23
N9	0.348	29	0.338	19	0.321	30	0.305	32	0.345	34	0.372	32	0.410	32	0.356	37	28
N10	0.400	14	0.311	30	0.350	17	0.358	11	0.379	17	0.414	16	0.455	19	0.452	10	14
N11	0.409	10	0.348	15	0.403	2	0.345	15	0.364	24	0.412	17	0.424	26	0.396	21	11
N12	0.371	24	0.326	26	0.351	15	0.347	14	0.410	8	0.420	15	0.487	8	0.440	12	13
N13	0.342	32	0.403	6	0.349	19	0.328	22	0.363	26	0.383	27	0.418	29	0.390	27	21
N14	0.395	18	0.335	22	0.313	35	0.383	6	0.349	31	0.388	26	0.426	25	0.425	15	17
N15	0.344	30	0.299	35	0.380	9	0.331	20	0.341	36	0.361	38	0.394	37	0.337	40	32
N16	0.342	31	0.329	25	0.355	13	0.295	35	0.345	33	0.370	34	0.395	36	0.417	18	35
N17	0.333	36	0.322	29	0.316	32	0.315	27	0.357	30	0.363	37	0.365	39	0.361	36	39
N18	0.379	21	0.324	28	0.313	36	0.301	34	0.365	21	0.388	25	0.393	38	0.362	35	25
P1	0.365	25	0.292	37	0.320	31	0.375	8	0.446	6	0.366	35	0.464	17	0.460	6	36
P2	0.386	19	0.324	27	0.334	26	0.337	18	0.368	19	0.290	40	0.440	24	0.394	23	18
P3	0.446	5	0.416	4	0.385	6	0.376	7	0.402	9	0.376	28	0.353	40	0.364	34	12
P4	0.310	39	0.309	32	0.290	40	0.270	40	0.322	38	0.374	30	0.417	30	0.395	22	38
P5	0.418	8	0.349	13	0.347	20	0.362	9	0.466	4	0.557	1	0.459	18	0.495	2	16
P6	0.399	16	0.361	9	0.377	10	0.495	2	0.459	5	0.490	3	0.605	1	0.554	1	10
P7	0.407	11	0.301	33	0.304	38	0.293	36	0.398	11	0.449	7	0.535	3	0.433	13	31
P8	0.339	34	0.262	40	0.314	34	0.323	26	0.292	40	0.372	31	0.421	28	0.391	25	40
P9	0.351	28	0.348	14	0.385	7	0.325	25	0.395	12	0.428	13	0.500	6	0.486	3	24
P10	0.330	38	0.336	21	0.337	25	0.331	21	0.393	13	0.444	8	0.446	23	0.446	11	27
P11	0.476	3	0.439	2	0.358	12	0.393	5	0.475	3	0.505	2	0.532	4	0.460	7	2
P12	0.340	33	0.287	38	0.323	28	0.292	37	0.315	39	0.371	33	0.397	34	0.364	33	30
S1	0.443	6	0.352	12	0.339	23	0.343	16	0.383	15	0.426	14	0.502	5	0.476	5	6
S2	0.363	26	0.330	24	0.337	24	0.309	30	0.360	27	0.398	22	0.395	35	0.369	31	26
S3	0.251	40	0.300	34	0.311	37	0.311	29	0.372	18	0.432	11	0.471	13	0.471	20	33
S4	0.398	17	0.345	17	0.371	11	0.351	13	0.379	16	0.390	23	0.449	21	0.417	17	22
S5	0.404	12	0.354	10	0.354	14	0.304	33	0.359	28	0.375	29	0.449	20	0.354	38	15
S6	0.465	4	0.334	23	0.399	4	0.334	19	0.389	14	0.438	9	0.481	11	0.454	9	4

Source: Computed data



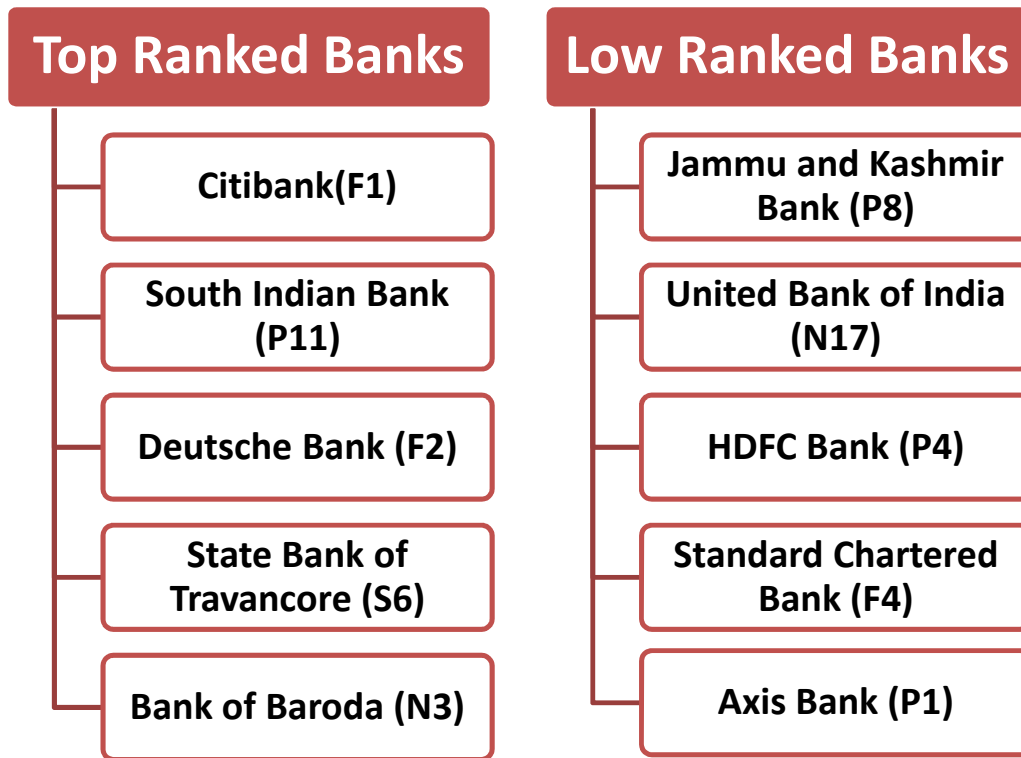
Indicates Top ranked 5 Banks



Indicates Low ranked 5 Banks

Table 47 shows the selection value and the rank obtained by banks through the Technique for the Order of Preference by Similarity to Ideal Solution (TOPSIS) method for 16 years from 2000 to 2015 along with the mean rank. The top five ranked banks and the least five ranked banks have been selected on the basis of the mean rank obtained by the banks during the study period.

Figure 13 shows the classification of top and low ranked banks by taking into consideration the mean rank obtained by the banks.



**Figure 13**

**Classification of Banks Using TOPSIS Analysis**

The Scheduled Commercial Banks were classified as top and low ranked banks on the basis ranks assigned to the banks using TOPSIS analysis. The banks identified under top ranked banks in Figure 13, proved to be the best banks, by witnessing an increase in interest and non-interest income and through the growth in deposits and advances. Further, the NPAs of the top ranked banks are highly under control. The banks that are classified as the low

ranked banks experienced a decline in standalone profit year over year. The operating income of the banks turned down as their deposits and advances decreased and the adverse loan impairment trends also continued to impact their performance. A few banks in the group reported high operating expenses, and a slippage in credit – deposit ratio was also observed. The stressed assets of the low ranked banks lead to pitiable earnings while a few banks suffered a net loss due to inefficient management and liquidity capability.

#### 4.4 DISCRIMINATION OF THE BANKS AS TOP AND LOW RANKED BANKS

The reliability of the banks discriminated as top and low ranked banks using the technique for order of preference by similarity to ideal solution (TOPSIS) was tested using Discriminant Function Analysis. Step-wise method was applied to identify the most discriminating variables of the banks. Discrimination of the scheduled commercial banks on the basis of the ranks using the technique for order of preference by similarity to ideal solution (TOPSIS) is tested using the Discriminant function analysis. Further, the variables discriminating the banks are identified to provide suggestions to the lower ranked banks for improving its financial performance.

**Table 48**

**Discriminating Variables of the Top and Low Ranked Banks**

<b>Variables Entered</b>	<b>Wilks' Lambda</b>	<b>F</b>	<b>df1</b>	<b>df2</b>	<b>Sig.</b>
LM4	0.727	61.342	1	163.000	0.000
MA5	0.533	71.008	2	162.000	0.000
CA5	0.445	66.911	3	161.000	0.000
MA3	0.402	59.474	4	160.000	0.000
AQ4	0.367	54.866	5	159.000	0.000
AQ1	0.345	50.033	6	158.000	0.000
EE3	0.326	46.424	7	157.000	0.000
AQ2	0.311	43.254	8	156.000	0.000
LM5	0.292	41.746	9	155.000	0.000

Source: Computed data

Table 48 shows the most discriminating variables identified through stepwise discriminant function analysis. The values of Wilks' Lambda of the variables identified are less than one and are found to be significant at 1% level of confidence showing that the group mean of the variables is different. The discriminating variables identified are Liquid Assets to Demand Deposits (LM4), Intermediation Cost to Total Assets (MA5), Investment in Government Securities to Investment (CA5), Business per Employee (MA3), Priority Sector Advances to Advances (AQ4), Return on Investments (AQ1), Return on Equity (EE3), Return on Advances (AQ2) and Liquid Assets to Total Deposits (LM5).

**Table 49****Discriminant Function Coefficients of the Variables**

<b>Variables Entered</b>	<b>Canonical Discriminant Function Coefficients</b>	
	<b>Unstandardized</b>	<b>Standardized</b>
LM4	0.027	1.502
MA5	1.534	1.173
MA3	0.016	0.876
AQ4	0.084	0.606
AQ1	0.095	0.448
EE3	0.054	0.385
CA5	0.020	0.301
AQ2	-0.265	-0.448
LM5	-0.023	-0.402
(Constant)	-10.711	

Source: Computed data

Table 49 illustrates the importance of each variable. High standardized discriminant function coefficients mean that the groups differ a lot on that variable. The standardized coefficient value registered by Liquid Assets to Demand Deposits(LM4) is 1.502 which is the most discriminating variable amidst all the other variables followed by Intermediation Cost to Total Assets (MA5) at

1.173, Investment in Government Securities to Investment (CA5) at 0.301, Business per Employee (MA3) at 0.876, Priority Sector Advances to Advances (AQ4) at 0.606, Return on Investments (AQ1) at 0.448, Return on Equity (EE3) at 0.385, Return on Advances (AQ2) at -0.448 and Liquid Assets to Total Deposits (LM5) at -0.402.

The Unstandardized canonical discriminant coefficient is used to maximize the difference in mean discriminant score between the top and low level banks. The equation for the discriminant function is

$$DF = -10.711 + 0.027 LM4 + 1.534 MA5 + 0.016 MA3 + 0.084AQ4 + 0.095AQ1 + 0.054 EE3 + 0.020 CA5 - 0.265 AQ2 - 0.023 LM5$$

where, DF - Discriminant Function

LM4 - Liquid Assets to Demand Deposits

MA5 - Intermediation Cost to Total Assets

MA3 - Business per Employee

AQ4 - Priority Sector Advances to Advances

AQ1 - Return on Investments

EE3 - Return on Equity

CA5 - Investment in Government Securities to Investment

AQ2 - Return on Advances

LM5 - Liquid Assets to Total Deposits

To find whether there is any significant difference in discriminating variables between top and low ranked banks, ANOVA was employed and the result is presented in Table 50.

H<sub>06</sub>: There is no significant difference in discriminating variables between top and lower ranked banks.

**Table 50**  
**Analysis of Variance in Discriminating Variables**

Variables	F	'p' value	Significance
CA5	49.406	0.000	Significant
AQ1	0.915	0.340	Insignificant
AQ2	1.865	0.174	Insignificant
AQ4	17.630	0.000	Significant
MA3	2.851	0.093	Insignificant
MA5	6.309	0.013	Significant
EE3	0.004	0.952	Insignificant
LM4	61.342	0.000	Significant
LM5	8.088	0.005	Significant

Source: Computed data

For determining whether there is any significant mean difference in discriminating variables between top and low ranked banks, ANOVA test was applied and the results are presented in Table 50. The test revealed that there is statistically significant difference in Investments in government securities to investments (CA5), Priority sector advances to advances (AQ4), Intermediation cost to total assets (MA5), Liquid assets to demand deposits (LM4) and Liquid assets to total deposits (LM5) at 5% level of significance between the top and low ranked banks while Return on investments (AQ1), Return on advances (AQ2), Business per employee (MA3) and Return on equity (EE3) do not have significant difference in the mean value of the variables .

**Table 51**  
**Classification Results of the Banks**

Eigen value		2.424	Wilks' Lambda		0.292
Canonical Correlation		0.841	'p' value		0.000
		Bank_Range	Predicted Group Membership		Total
			top	low	
Original	Count	top	84	6	90
		low	4	71	75
	%	top	93.3	6.7	100.0
		low	5.3	94.7	100.0
93.9% of original grouped cases correctly classified.					

Source: Computed data

Table 51 establishes the power of banks discriminated. The high eigen value at 2.424 and canonical correlation at 0.841 elucidate that the statistically significant predictors are good explicators of differences between top and low ranked banks. The lower Wilks' Lambda at 0.292 signifies that the predictor variables have a discriminant power and found to be statistically significant at 99 percent confidence level. Classification results of the banks shows that the banks correctly classified at 93.90 percent. This proves that the result obtained from the TOPSIS analysis is highly reliable in ranking the banks during the study period.

**4.5 CONSISTENCY IN THE FINANCIAL PERFORMANCE OF SCHEDULED COMMERCIAL BANKS IN INDIA**

The consistency in the financial performance of the select Scheduled Commercial Banks was assessed by ranking the banks group-wise and by finding the Spearman's rank correlation co-efficient. The ranks of the banks in group for the adjacent years were correlated to find, if the banks were able to steadily maintain their financial performance during the study period 1999-2000 to 2014-2015.

**Table 52**

**TOPSIS Ranks of Foreign Banks between 2000 and 2015**

<b>Banks</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>Mean Rank</b>
F1	3	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1
F2	1	3	2	2	3	2	2	2	1	1	1	1	1	2	2	2	2
F3	2	2	3	3	4	3	3	3	3	4	3	4	4	3	3	3	3
F4	4	4	4	4	2	4	4	4	4	3	4	3	3	4	4	4	4

Source: Computed data

Table 52 shows the ranks obtained by the foreign banks from 1999-2000 to 2014-2015. Mean rank was calculated to know the average position obtained by the banks. Citibank (F1) took the topmost position in the group followed by Deutsche Bank (F2). Both the banks proved to be competitive by maintaining the

highest position throughout the period. HSBC Bank (F3) registered the third position when considering the mean rank and the last position by Standard Chartered Bank (F4).

**Table 53**  
**TOPSIS Ranks of Nationalised Banks between 2000 and 2015**

<b>Banks</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>Mean Rank</b>
N1	4	4	6	5	9	13	18	13	16	7	8	11	5	7	8	9	<b>9</b>
N2	11	6	9	4	4	1	13	4	3	1	3	5	3	6	2	4	<b>2</b>
N3	2	1	2	1	1	3	5	1	1	3	11	15	12	10	2	1	<b>1</b>
N4	1	2	1	3	2	2	3	6	4	5	16	8	10	16	14	8	<b>4</b>
N5	16	16	16	17	18	10	17	17	18	15	2	1	1	7	5	11	<b>14</b>
N6	3	3	3	2	5	6	9	3	7	4	13	3	6	1	4	17	<b>3</b>
N7	13	18	15	15	13	7	15	15	11	18	6	14	15	9	11	13	<b>15</b>
N8	9	11	8	11	16	14	14	13	9	9	12	11	8	2	5	12	<b>11</b>
N9	8	15	4	14	11	12	3	7	12	8	14	16	16	14	13	16	<b>13</b>
N10	6	8	7	7	14	15	7	8	4	15	8	3	4	4	7	2	<b>7</b>
N11	15	7	14	13	7	4	2	2	2	6	1	7	8	5	10	7	<b>5</b>
N12	17	10	11	10	5	5	9	5	10	12	6	6	2	3	1	3	<b>6</b>
N13	5	5	12	12	8	11	12	12	14	2	10	10	10	13	12	9	<b>10</b>
N14	7	12	5	9	11	8	6	10	6	10	17	2	14	11	9	4	<b>8</b>
N15	14	17	18	6	3	18	8	11	13	17	4	9	18	18	16	18	<b>15</b>
N16	10	14	17	18	10	16	11	16	14	11	5	18	16	15	15	6	<b>17</b>
N17	18	13	13	16	17	17	16	18	17	14	15	13	12	16	18	15	<b>18</b>
N18	12	8	9	8	15	9	1	9	8	13	17	17	6	11	17	14	<b>12</b>

Source: Computed data

Table 53 presents the TOPSIS ranks obtained by the nationalized banks from 1999-2000 to 2014-2015. When considering the mean rank, the top five positions were obtained by Bank of Baroda (N3), Andhra Bank (N2), Canara

Bank (N6), Bank of India (N4) and Oriental Bank of Commerce (N11) consecutively. Out of the top listed banks, Bank of Baroda (N3), Bank of India (N4) and Canara Bank (N6) that showed a deprived performance from 2001 to 2005, started to perform better from 2006 onwards indicating the efficiency and competence of the banks in maintaining their positions. Oriental Bank of Commerce (N11) and Andhra Bank (N2) that recorded a fluctuating performance during the study period are showing a sign of deterioration from 2012. United Bank of India (N17), Union Bank of India (N16), UCO Bank (N15), Central Bank of India (N7) and Bank of Maharashtra (N5) reported the least positions throughout the study period.

**Table 54**  
**TOPSIS Ranks of Private Banks between 2000 and 2015**

<b>Banks</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>Mean Rank</b>
P1	8	10	11	12	8	12	12	11	7	10	9	4	4	11	5	4	<b>10</b>
P2	1	1	2	4	3	5	4	5	6	7	7	6	9	12	8	9	<b>5</b>
P3	6	4	5	3	2	3	1	2	2	2	1	3	5	7	12	11	<b>3</b>
P4	10	6	7	7	5	2	9	12	12	8	12	12	10	8	10	8	<b>10</b>
P5	12	11	8	8	10	5	3	3	3	4	5	5	2	1	6	2	<b>4</b>
P6	5	7	4	2	5	9	11	4	5	3	3	1	3	3	1	1	<b>2</b>
P7	9	8	12	11	11	7	10	7	4	9	11	10	6	4	2	7	<b>9</b>
P8	11	12	10	10	12	8	6	9	10	12	10	9	12	9	9	10	<b>12</b>
P9	7	9	9	9	9	11	7	6	8	5	1	8	7	6	4	3	<b>6</b>
P10	4	5	6	6	5	10	8	10	11	6	6	7	8	5	7	6	<b>7</b>
P11	2	2	1	1	1	1	2	1	1	1	4	2	1	2	3	4	<b>1</b>
P12	3	3	3	5	4	3	5	8	9	11	8	11	11	10	11	11	<b>8</b>

Source: Computed data

Table 54 illustrates the TOPSIS ranks obtained by the private banks from 1999-2000 to 2014-2015. By considering the mean value, South Indian Bank (P11), Indusind Bank (P6), Federal Bank (P3), ICICI Bank (P5) and City Union

Bank (P2) are the banks identified as top performers in the group. South Indian Bank (P11) and City Union Bank (P2) proved to be more efficient in the group by maintaining the top positions, while ICICI Bank (P5) recorded deprived performance from 2010. Jammu & Kashmir Bank Ltd (P8), HDFC Bank (P4) and Axis Bank (P1) took the least position as far as their financial performance is concerned. Out of which, Jammu & Kashmir Bank Ltd (P8) reported an inconsistent performance throughout the study period, while HDFC Bank (P4) and Axis Bank (P1) recorded an average performance.

**Table 55**  
**TOPSIS Ranks of SBI and Its Associates between 2000 and 2015**

<b>Banks</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>Mean Rank</b>
S1	1	2	2	4	1	3	2	2	2	2	4	2	2	3	1	1	<b>2</b>
S2	6	4	3	3	4	4	4	5	5	5	5	5	5	4	6	5	<b>5</b>
S3	3	5	6	6	6	6	5	6	6	6	6	4	4	2	3	4	<b>6</b>
S4	4	6	4	5	5	5	6	4	4	3	2	1	3	5	4	3	<b>4</b>
S5	5	3	5	1	2	2	1	3	3	1	3	6	6	6	4	6	<b>3</b>
S6	2	1	1	2	3	1	3	1	1	4	1	3	1	1	2	2	<b>1</b>

Source: Computed data

Table 55 presents the TOPSIS ranks obtained by SBI and its associates from 1999-2000 to 2014-2015. State Bank of Travancore (S6) and State Bank of Bikaner & Jaipur (S1) held the top positions when the average rank was considered and they recorded a consistent performance during the study period. The least two positions were occupied by State Bank of India (S3) and State Bank of Hyderabad S2 stating the deprived performance of the banks throughout the study period.

Table 56 illustrates the rank correlation coefficient indicating the consistency in the financial performance of the banks.

**Table 56**  
**Consistency in the Financial Performance of the Banks**

Year	Bank Group			
	Foreign Banks	Nationalized Banks	Private Banks	SBI Group
2015 and 2014	1.000**	0.714*	.863**	0.695
2014 and 2013	0.800	0.709**	0.846**	0.714
2013 and 2012	1.000**	0.660**	0.937**	0.371
2012 and 2011	0.400	0.632**	0.874**	0.657
2011 and 2010	0.400	0.553*	0.531	0.771
2010 and 2009	1.000**	0.349	0.615*	0.771
2009 and 2008	1.000**	0.640**	0.671*	0.600
2008 and 2007	0.800	0.812**	0.881**	1.000**
2007 and 2006	0.800	0.414	0.657*	0.600
2006 and 2005	0.800	0.021	0.811**	0.486
2005 and 2004	0.800	0.284	0.699*	0.371
2004 and 2003	1.000**	0.565*	0.797**	0.771
2003 and 2002	0.600	0.626**	0.678*	0.714
2002 and 2001	1.000**	0.814**	0.566	0.657
2001 and 2000	1.000**	0.398	0.839**	0.886*

**Source: Computed data**

Note: \*\* and \* refers to 1% and 5% significance level

It is observed from Table 56 that among all the select Scheduled Commercial Banks, private sector banks were more consistent in the management of their finance throughout the study period except during the adjacent years 2011 and 2010 due to the continuous monetary stimulus of RBI after crisis and allocation of capital investments towards the productive applications. In 2002 and 2001, the banks sensitized to the possibilities of tightening of monetary policy in order to enhance liquidity and monetary management. The next banking group in unswerving the financial performance was nationalized banks group. It recorded inconsistency during 2001 and 2000,

as RBI issued prudential norms to strengthen the operations of PSBs through asset liability management, risk management and technological developments. From 2004-2005 to 2006-2007 due to sharp increase in net interest income, strong growth in credit volumes and containment of operating expenses. The foreign banks and SBI group relatively registered a very low consistency in maintaining their position during the study period.

#### **4.6 SUMMARY**

The financial soundness of the banks measured through the indicators of major financial components proves that private banks and foreign banks outperform nationalized banks and SBI and its associates. The income earned out of lending and through investments is more in private banks and foreign banks proving the operational efficiency of the banks. Management of debts and conservative approach in investment decisions of private banks and foreign banks are better compared to the public sector banks. When managerial efficiency is considered, the foreign banks and private banks dominate all the nationalized banks and SBI group, which in turn improved the earning efficiency of the banks with high liquidity management. But, the performance of private banks is more consistent than that of banking groups, while the performance of foreign banks was highly inconsistent. Further, the results also prove that all the select Scheduled Commercial Banks have improved their financial performance after the economic catastrophe along with the operational and managerial efficiency.