Chapter III

Profitability of State Bank of India and Its Associate Banks.

Analysis of productivity of human resources and branch productivity (Plant Productivity) of banks in chapter two have revealed a consistent increase for the period under study. The productivity shows the ratio of output to input employed by banks for business. So increase in productivity of banks results in increase in the volume of business at lowest cost. The mission and strategy of bank management is focused on achieving higher volume of business with lowest possible cost to maximize profit in a competitive financial market with socio-economic commitments. Therefore, productivity performance of bank business is a nucleus task of profit performance of bank management. Thus productivity is a function of output cost and profit, as under.

I  Equation of Productivity Function.

\[ Pr = F (O) \]

\[ Pr = F (C) \]

However, productivity determines output and cost, but output and cost determine the profit. Therefore, productivity determines the profit i.e.

\[ Pr = F (P) \]

II  Equation of Profit Function
\[ P = F (TR - TC) \]

\[ TR = Pi \times O \]

\[ P = F (Pi) \]

\[ P = F (O) \]

\[ P = F (T.C.) \]

\[ T.C. = F.C. + V.C. \]

Where:

- \( P \) = Profit
- \( Pr \) = Productivity
- \( F \) = Function
- \( T.R. \) = Total Revenue
- \( Pi \) = Price
- \( O \) = Output
- \( T.C. \) = Total Cost
- \( F.C. \) = Fix Cost
- \( V.C. \) = Variable Cost

The equation of profit function \((E \ P \ F)\) has shown that the revenue and cost determine the profit. Therefore, let us evolve a structured framework of identity of functional relationship between profit, revenue and cost.
### III : I

The Functional Relationship Identity of Profit, Revenue and Cost of Banks.

<table>
<thead>
<tr>
<th>Relationship Identity</th>
<th>Revenue / Income</th>
<th>Cost / Expenses</th>
<th>Differences</th>
<th>Symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Interest Income Y</td>
<td>Interest Expenses E</td>
<td>Surplus Y − E</td>
<td>I I S</td>
</tr>
<tr>
<td>II</td>
<td>Non-Interest Income M</td>
<td>Non-Interest Expenses N</td>
<td>N-M</td>
<td>N I E B</td>
</tr>
<tr>
<td>III</td>
<td>Total Income A</td>
<td>Total Expenses B</td>
<td>Net Profit A − B</td>
<td>P</td>
</tr>
</tbody>
</table>

**IIS =** Interest Income Surplus, **NIEB =** Non-Interest Expenses Burden, **P =** Profit


The table I shows the functional relationship identity of profit with income and expenses of banks. The identity I indicate the interest income is the total of interest earned by bank on loans and advances and investments. While interest expenses comprises of interest paid to the depositors and interest paid by bank on borrowing. The difference between interest income and the interest expenses is denoted as interest income surplus. Symbolically it is represented as I. I.S.

Identity II deals with non-interest expenses and non-interest income. The non-interest expenses consist of human resource expenses and operating expenses. The non-interest income is derived from non-fund business/services by bank. The difference between non-interest expenses and non-interest income is denoted by Non-Interest Expense Burden i.e. N.I.E.B.

Identity III shows the total income and total expenses of bank. The difference between total income and total expenses is represented by Profit i.e. ‘P’.

In this structured approach of functional relationship identity of profit, the interest spread (I.I.S.) and non-interest burden (N.I.E.B.) Play a key role in determining the profitability of banks. The bank management can increase its Profit, by increasing its interest spread (I S) and reducing its non-interest burden (NIB).

The structured framework of bank profit, revenue and cost identity is explored in the following exhibit I.
The above structured framework of relationship identity of profit, revenue and cost of bank is transformed into a mathematical model of profit of bank.

**Mathematical Model of Profit.**

I   Total Interest Income Equation

\[ I. I = \sum_{i=1}^{n} x_i y_i \]

Where:

- \( n \) = Total interest earning assets.
- \( x_i \) = Components of interest earning assets.
- \( y_i \) = Interest income earned on ‘\( n \)’
- \( i = 1,2,3,\ldots, n \)

II  Equation of Interest Expenses

\[ I. E. = \sum_{i=1}^{e} d_i t_i \]
Where:

\[ e = \text{Total interest carrying liabilities.} \]

\[ di = \text{Components of interest carrying liabilities.} \]

\[ ti = \text{Interest paid on liabilities} \]

\[ i = 1,2,3, \ldots \ldots n \]

III  Equation of Interest Surplus /Spread

\[
\text{I.S.} = \sum_{i=1}^{n} x_i y_i - \sum_{i=1}^{e} d_i t_i
\]

IV  Equation of Non-Interest Expenses

\[
\text{N.I.E} = \sum_{i=1}^{m} j_i k_i
\]

Where:

\[ m = \text{Total Non-interest expenses.} \]

\[ ji = \text{Components of Non-interest expenses.} \]

\[ ki = \text{Amount paid on components of ‘m’}. \]
\[ i = 1,2,3, \ldots \ldots \ldots m \]

V  Equation of Non-Interest Income.

\[ N.I.E. = \sum_{i=1}^{n} L_{i}p_{i} \]

Where:

\[ N = \text{Total Non-interest income.} \]
\[ L_{i} = \text{Components of Non-interest income.} \]
\[ P_{i} = \text{Amount earned on components of ‘N’.} \]
\[ i = 1,2,3, \ldots \ldots \ldots ‘N’. \]

VI  Equation of Non-Interest Load/Burden.

\[ N.I.E. = \sum_{i=1}^{m} j_{i}k_{i} - \sum_{i=1}^{n} L_{i}p_{i} \]

Model of Bank Profit

\[ \sum_{i=1}^{n} x_{i}y_{i} - \sum_{i=1}^{e} d_{i}t_{i} - \sum_{i=1}^{m} j_{i}k_{i} - \sum_{i=1}^{n} L_{i}p_{i} \]
The above model of bank profit in terms of I.I.S., N.I.E.B. and P are quantified by correlating volume of business for analyzing the profitability behaviour of banks for the period under study

i.e.

\[
P \ \times 100 \\
V.B.
\]

\[
I.S. \ \times 100 \\
V.B.
\]

\[
I.I. \ \times 100 \\
V.B.
\]

\[
I.E. \ \times 100 \\
V.B.
\]

\[
N.I.B. \ \times 100 \\
V.B.
\]

\[
N.I.E. \ \times 100 \\
V.B.
\]

\[
H.R.E. \ \times 100 \\
V.B.
\]
O.E.  
-------- x 100  
V.B.  

N.I.I.  
-------- x 100  
V.B.  

Where:

V.B. = Volume of business.  
I. I. = Interest income.  
I.E. = Interest expenses.  
H.R.E. = Human Resource expenses.  
O. E. = Other expenses.  
N.I.I. = Non Interest income.

The Average Profitability Behaviour of Banks

In order to analyse an impact of increase in productivity on profitability of banks at an aggregate level as well as at an individual bank level, the profitability ratio is calculated by Profit (P) divided by the volume of business (VB). Table 3.1 shows the behaviour of average profitability ratio of banks for period under study. The profitability ratio of banks taken together consistently increased from 0.0048 in 2000-2001 to 0.0085 in 2003-2004. During 2005-2006 to
2009-2010, the profitability ratio at an aggregate level behaved inconsistently. The profitability ratio of banks recorded fall by 0.0065 in 2005-2006 and 0.0058 in 2006-2007. Again it increased to 0.0069 in 2007-2008 and 0.0073 in 2008-2009. But the profitability ratio (PR) of banks declined to 0.0069 in 2009-2010.

The profitability ratio (PR) of S.B.I. consistently increased from 0.0045 in 2000-2001 to 0.0077 in 2003-2004. The same recorded fall to 0.0068 in 2005-2006 and 0.0058 in 2006-2007. Again it increased to 0.0076 in 2007-2008, and 0.0120 in 2008-2009. But it decreased to 0.0063 in 2009-2010.


The profitability ratio of S.B.J., further declined to 0.0053 in 2007-2008 and increased to 0.0058 in 2008-2009 and again declined to 0.0055 in 2009-2010.

The profitability ratio of S.B.H. consistently increased from 0.0068 in 2000-2001 to 1.05 in 2003-2004. But it declined consistently from 0.0077 in 2005-2006 to 0.0058 in 2008-2009 and increased to 0.0065 in 2009-2010.

The profitability ratio of S.B.M. also consistently increased from 0.0021 in 2000-2001 to 1.01 in 2003-2004. But it constantly declined from 0.0077 in 2005-2006 to 0.0065 in 2009-2010.
### Table: III: 1

#### Profitability Ratio of Banks

*Return on Volume of Business of Banks (R O V B)*

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</tr>
</thead>
<tbody>
<tr>
<td>S.B.I.</td>
<td>0.0045 (0.45)</td>
<td>0.0062 (0.62)</td>
<td>0.0071 (0.71)</td>
<td>0.0077 (0.77)</td>
<td>0.0069 (0.69)</td>
<td>0.0068 (0.68)</td>
<td>0.0058 (0.58)</td>
<td>0.0076 (0.76)</td>
<td>0.0121 (1.21)</td>
<td>0.0063 (0.63)</td>
</tr>
<tr>
<td>S.B.J</td>
<td>0.0068 (0.68)</td>
<td>0.0093 (0.93)</td>
<td>0.0101 (1.01)</td>
<td>0.0124 (1.24)</td>
<td>0.0081 (0.81)</td>
<td>0.0038 (0.38)</td>
<td>0.0062 (0.62)</td>
<td>0.0053 (0.53)</td>
<td>0.0058 (0.58)</td>
<td>0.0055 (0.55)</td>
</tr>
<tr>
<td>S.B.H.</td>
<td>0.0068 (0.68)</td>
<td>0.0084 (0.84)</td>
<td>0.0099 (0.99)</td>
<td>0.0105 (1.05)</td>
<td>0.0091 (0.91)</td>
<td>0.0077 (0.77)</td>
<td>0.0072 (0.72)</td>
<td>0.0064 (0.64)</td>
<td>0.0058 (0.58)</td>
<td>0.0065 (0.65)</td>
</tr>
<tr>
<td>S.B.IN.</td>
<td>0.0063 (0.63)</td>
<td>0.0102 (1.02)</td>
<td>0.0139 (1.39)</td>
<td>0.0134 (1.34)</td>
<td>0.0092 (0.92)</td>
<td>0.0048 (0.48)</td>
<td>0.0053 (0.53)</td>
<td>0.0054 (0.54)</td>
<td>0.0055 (0.55)</td>
<td>0.0056 (0.56)</td>
</tr>
<tr>
<td>S.B.M.</td>
<td>0.0021 (0.21)</td>
<td>0.0174 (1.74)</td>
<td>0.0081 (0.81)</td>
<td>0.0101 (1.01)</td>
<td>0.0089 (0.89)</td>
<td>0.0077 (0.77)</td>
<td>0.0064 (0.64)</td>
<td>0.0065 (0.65)</td>
<td>0.0057 (0.57)</td>
<td>0.0065 (0.65)</td>
</tr>
<tr>
<td>S.B.P.</td>
<td>0.0087 (0.87)</td>
<td>0.0103 (1.03)</td>
<td>0.0112 (1.12)</td>
<td>0.0121 (1.21)</td>
<td>0.0087 (0.87)</td>
<td>0.0054 (0.54)</td>
<td>0.0053 (0.53)</td>
<td>0.0048 (0.48)</td>
<td>0.0051 (0.51)</td>
<td>0.0049 (0.49)</td>
</tr>
<tr>
<td>S.B.S.</td>
<td>0.0013 (0.13)</td>
<td>0.0188 (1.88)</td>
<td>0.0067 (0.67)</td>
<td>0.0111 (1.11)</td>
<td>0.0068 (0.68)</td>
<td>0.0026 (0.26)</td>
<td>0.0032 (0.32)</td>
<td>0.0018 (0.18)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B.T.</td>
<td>0.0054 (0.54)</td>
<td>0.0153 (1.53)</td>
<td>0.0068 (0.68)</td>
<td>0.0079 (0.79)</td>
<td>0.0067 (0.67)</td>
<td>0.0057 (0.57)</td>
<td>0.0058 (0.58)</td>
<td>0.0060 (0.60)</td>
<td>0.0081 (0.81)</td>
<td>0.0076 (0.76)</td>
</tr>
<tr>
<td>Total</td>
<td>0.0048 (0.48)</td>
<td>0.0067 (0.67)</td>
<td>0.0077 (0.77)</td>
<td>0.0085 (0.85)</td>
<td>0.0075 (0.75)</td>
<td>0.0065 (0.65)</td>
<td>0.0059 (0.59)</td>
<td>0.0069 (0.69)</td>
<td>0.0073 (0.73)</td>
<td>0.0069 (0.69)</td>
</tr>
</tbody>
</table>

**Source:** Statistical Tables Relating to Banks in India by R B I, Mumbai, 2000-2001 to 2009-2010.

Performance Highlights of Public Sector Banks 2000-2010   I B A

The Figures in brackets are in percentage

\[
R \ O \ V \ B = \frac{\text{N.P.}}{\text{V.B.}}
\]
In case of S.B.P. the profitability ratio consistently increased from 0.0087 in 2000-2001 to 1.0121 in 2003-2004. But it consistently recorded fall from 0.0054 in 2005-2006 to 0.0049 in 2009-2010.

The profitability ratio of S.B.T. recorded increase from 0.0054 in 2000-2001 to 0.0079 in 2003-2004 but declined to 0.0057 in 2005-2006. Since then it increased 0.0076 in 2009-2010.

The Behaviour of Interest Income Spread Ratio of Banks

Table 3.2 reveals the trend behaviour of interest income spread Ratio (I.I.S.R.), at an aggregate level as well as individual bank level for the period under study. At an aggregate level the I.I.S.R. consistently declined from 0.0240 in 2000-2001 to 0.0161 in 2009-2010. The I.I.S.R. of S.B.I. and its Associate Banks have shown a declining trend behaviour by excluding the S.B.IN. for the period under study. The I.I.S.R. of S.B.I. remained fluctuating and it declined from 0.0231 in 2000-2001 to 0.0164 in 2009-2010. The I.I.S.R. of S.B.J. recorded fall from 0.0294 in 2000-2001 to 0.0149 in 2009-2010. The I.I.S.R. of S.B.H. and S.B.M. declined from 0.0278 and 0.0263 in 2000-2001 to 0.0147 and 0.0180 in 2009-2010 respectively. The I.I.S.R. of S.B.P. and S.B.T. also consistently recorded fall from 0.0138 and 0.0156 in 2009-2010 respectively. The N I E B R of S.B.J. declined from 0.0294 in 2000-2001 to 0.0149 in 2009-2010.
### Table : III : 2

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</thead>
<tbody>
<tr>
<td>S.B.I.</td>
<td>0.0231 (2.31)</td>
<td>0.0232 (2.32)</td>
<td>0.0229 (2.29)</td>
<td>0.0234 (2.34)</td>
<td>0.0238 (2.38)</td>
<td>0.0242 (2.42)</td>
<td>0.0207 (2.07)</td>
<td>0.0194 (1.94)</td>
<td>0.0276 (2.76)</td>
<td>0.0164 (1.64)</td>
</tr>
<tr>
<td>S.B.J</td>
<td>0.0294 (2.94)</td>
<td>0.0278 (2.78)</td>
<td>0.0275 (2.75)</td>
<td>0.0295 (2.95)</td>
<td>0.0279 (2.79)</td>
<td>0.0264 (2.64)</td>
<td>0.0218 (2.18)</td>
<td>0.0158 (1.58)</td>
<td>0.0159 (1.59)</td>
<td>0.0149 (1.49)</td>
</tr>
<tr>
<td>S.B.H.</td>
<td>0.0278 (2.78)</td>
<td>0.0251 (2.51)</td>
<td>0.0247 (2.47)</td>
<td>0.0233 (2.33)</td>
<td>0.0216 (2.16)</td>
<td>0.0199 (1.99)</td>
<td>0.0194 (1.94)</td>
<td>0.0129 (1.29)</td>
<td>0.0138 (1.38)</td>
<td>0.0147 (1.47)</td>
</tr>
<tr>
<td>S.B.IN.</td>
<td>0.0230 (2.30)</td>
<td>0.0239 (2.39)</td>
<td>0.0254 (2.54)</td>
<td>0.0269 (2.69)</td>
<td>0.0229 (2.29)</td>
<td>0.0189 (1.89)</td>
<td>0.0165 (1.65)</td>
<td>0.0133 (1.33)</td>
<td>0.0146 (1.46)</td>
<td>0.0148 (1.48)</td>
</tr>
<tr>
<td>S.B.M.</td>
<td>0.0263 (2.63)</td>
<td>0.0234 (2.34)</td>
<td>0.0270 (2.70)</td>
<td>0.0261 (2.61)</td>
<td>0.0239 (2.39)</td>
<td>0.0217 (2.17)</td>
<td>0.0185 (1.85)</td>
<td>0.0157 (1.57)</td>
<td>0.0143 (1.43)</td>
<td>0.0180 (1.80)</td>
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<tr>
<td>S.B.P.</td>
<td>0.0328 (3.28)</td>
<td>0.0290 (2.90)</td>
<td>0.0275 (2.75)</td>
<td>0.0231 (2.31)</td>
<td>0.02045 (2.04)</td>
<td>0.0178 (1.78)</td>
<td>0.0163 (1.63)</td>
<td>0.0104 (1.04)</td>
<td>0.0108 (1.08)</td>
<td>0.0138 (1.38)</td>
</tr>
<tr>
<td>S.B.S.</td>
<td>0.0245 (2.45)</td>
<td>0.0239 (2.39)</td>
<td>0.0233 (2.33)</td>
<td>0.0253 (2.53)</td>
<td>0.0234 (2.34)</td>
<td>0.0215 (2.15)</td>
<td>0.0171 (1.71)</td>
<td>0.0128 (1.28)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B.T.</td>
<td>0.0219 (2.19)</td>
<td>0.0203 (2.03)</td>
<td>0.0208 (2.08)</td>
<td>0.0221 (2.21)</td>
<td>0.02165 (2.16)</td>
<td>0.0212 (2.12)</td>
<td>0.0203 (2.03)</td>
<td>0.0150 (1.50)</td>
<td>0.0171 (1.71)</td>
<td>0.0156 (1.56)</td>
</tr>
<tr>
<td>Total</td>
<td>0.0240 (2.40)</td>
<td>0.0236 (2.36)</td>
<td>0.0234 (2.34)</td>
<td>0.0237 (2.37)</td>
<td>0.02345 (2.34)</td>
<td>0.0232 (2.32)</td>
<td>0.0201 (2.01)</td>
<td>0.0175 (1.75)</td>
<td>0.0168 (1.68)</td>
<td>0.0161 (1.61)</td>
</tr>
</tbody>
</table>


The Figures in brackets are in percentage.

\[
\text{I.I.S.} = \frac{\text{I I S R}}{\text{V.B.}}
\]
The Non-Interest Expense Burden Ratio (N.I.E.B.R.)

Table 3.3 shows the trend behaviour of N I E B R of banks for the period under study. The N.I.E.B.R. of S.B.I. and its Associate Banks taken together recorded consistent fall from 0.0193 in 2000-2001 to 0.0092 in 2009-2010. The N I E B R of S.B.H. and S.B.M. consistently declined from 0.0210 and 0.0242 in 2000-2001 to 0.0080 and 0.0085 in 2008-2009 and again registered a slight increase in 2009-2010 respectively. The N I E B R of S.B.P. and S.B.I. declined from 0.0241 and 0.0165 in 2000-2001 to 0.0070 and 0.0080 in 2009-2010 respectively. In case of S.B.J. also, its N.I.E.B.R. recorded fall from 0.0226 in 2000-2001 to 0.0094 in 2009-2010.

The trend analysis of profitability ratio (PR), I.I.S.R. and N.I.E.B.R. of banks at an aggregate level as well as at an individual bank level for the period under study is done. Now, an attempt is made to explain the behaviour of profitability ratio (PR) of banks by correlating I.I.S.R. with N.I.E.B.R. for the period under study. The I.I.S.R. and N.I.E.B.R. of banks were 0.0240 and 0.0192 in 2000-2001, respectively. As a result the PR was 0.0048 in 2000-2001. In 2001-2002 the I.I.S.R. and N.I.E.B.R. of banks were 0.0236 and 0.0169 respectively. So, the PR of banks increased to 0.0067 in 2001-2002. The I.I.S.R. and N.I.E.B.R. were 0.0234 and 0.0157 in 2002-2003 respectively. As a consequence the PR recorded rise to 0.0077 in 2002-2003. In 2003-2004, the I.I.S.R. and N.I.E.B.R. of banks were 0.0237 and 0.0152 respectively. So, The PR of banks increased to 0.0085 in 2003-2004.
Table III:3
Non-Interest Expense Burden Ratio Of banks
( N I E B R )

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</thead>
<tbody>
<tr>
<td>S.B.I.</td>
<td>0.0186 (1.86)</td>
<td>0.0169 (1.69)</td>
<td>0.0158 (1.58)</td>
<td>0.0157 (1.57)</td>
<td>0.01655 (1.65)</td>
<td>0.0174 (1.74)</td>
<td>0.0148 (1.48)</td>
<td>0.0117 (1.17)</td>
<td>0.0155 (1.55)</td>
<td>0.0101 (1.01)</td>
</tr>
<tr>
<td>S.B.J</td>
<td>0.0226 (2.26)</td>
<td>0.0185 (1.85)</td>
<td>0.0173 (1.73)</td>
<td>0.0171 (1.71)</td>
<td>0.0198 (1.98)</td>
<td>0.0225 (2.25)</td>
<td>0.0155 (1.55)</td>
<td>0.0105 (1.05)</td>
<td>0.0101 (1.01)</td>
<td>0.0094 (0.94)</td>
</tr>
<tr>
<td>S.B.H.</td>
<td>0.0210 (2.10)</td>
<td>0.0167 (1.67)</td>
<td>0.0147 (1.47)</td>
<td>0.0127 (1.27)</td>
<td>0.0124 (1.24)</td>
<td>0.0121 (1.21)</td>
<td>0.0122 (1.22)</td>
<td>0.0064 (0.64)</td>
<td>0.0080 (0.80)</td>
<td>0.0082 (0.82)</td>
</tr>
<tr>
<td>S.B.IN.</td>
<td>0.0167 (1.67)</td>
<td>0.0136 (1.36)</td>
<td>0.0115 (1.15)</td>
<td>0.0164 (1.64)</td>
<td>0.01525 (1.52)</td>
<td>0.0141 (1.41)</td>
<td>0.0111 (1.11)</td>
<td>0.0078 (0.78)</td>
<td>0.0091 (0.91)</td>
<td>0.0092 (0.92)</td>
</tr>
<tr>
<td>S.B.M.</td>
<td>0.0242 (2.42)</td>
<td>0.0185 (1.85)</td>
<td>0.0189 (1.89)</td>
<td>0.0159 (1.59)</td>
<td>0.01495 (1.49)</td>
<td>0.0140 (1.40)</td>
<td>0.0120 (1.20)</td>
<td>0.0091 (0.91)</td>
<td>0.0085 (0.85)</td>
<td>0.0115 (1.15)</td>
</tr>
<tr>
<td>S.B.P.</td>
<td>0.0241 (2.41)</td>
<td>0.0187 (1.87)</td>
<td>0.0163 (1.63)</td>
<td>0.0110 (1.10)</td>
<td>0.01165 (1.16)</td>
<td>0.0123 (1.23)</td>
<td>0.0109 (1.09)</td>
<td>0.0056 (0.56)</td>
<td>0.0057 (0.57)</td>
<td>0.0070 (0.70)</td>
</tr>
<tr>
<td>S.B.S.</td>
<td>0.0231 (2.31)</td>
<td>0.0169 (1.69)</td>
<td>0.0165 (1.65)</td>
<td>0.0142 (1.42)</td>
<td>0.0165 (1.65)</td>
<td>0.0188 (1.88)</td>
<td>0.0138 (1.38)</td>
<td>0.0109 (1.09)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B.T.</td>
<td>0.0165 (1.65)</td>
<td>0.0115 (1.15)</td>
<td>0.0140 (1.40)</td>
<td>0.0142 (1.42)</td>
<td>0.01485 (1.48)</td>
<td>0.0155 (1.55)</td>
<td>0.0144 (1.44)</td>
<td>0.0089 (0.89)</td>
<td>0.0090 (0.90)</td>
<td>0.0080 (0.80)</td>
</tr>
<tr>
<td>Total</td>
<td>0.0193 (1.93)</td>
<td>0.0169 (1.69)</td>
<td>0.0158 (1.58)</td>
<td>0.0152 (1.52)</td>
<td>0.01595 (1.59)</td>
<td>0.0167 (1.67)</td>
<td>0.0143 (1.43)</td>
<td>0.0106 (1.06)</td>
<td>0.0096 (0.96)</td>
<td>0.0092 (0.92)</td>
</tr>
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Performance Highlights of Public Sector Banks 2000-2010 I B A .
The Figures in brackets are in percentage

\[
N I E B R = \frac{N.I.E.B.}{V.B.}
\]
The I.I.S.R. and N.I.E.B.R. of banks were 0.0232 and 0.0167 in 2005-2006 respectively. As a consequence, the PR of banks declined to 0.0065 in 2005-2006. In 2006-2007, the I.I.S.R. and N.I.E.B.R. of banks were 0.0201 and 0.0142 respectively. As a result the PR of banks further declined to 0.0059 in 2006-2007.

The I.I.S.R. and N.I.E.B.R. of banks were 0.0175 and 0.0106 respectively. So the PR increased to 0.0069 in 2007-2008. Again in 2008-2009, the I.I.S.R. and N.I.E.B.R. were 0.0168 and 0.0095 respectively. As a result the PR of banks further increased to 0.0073 in 2008-2009. But the I.I.S.R. and N.I.E.B.R. of banks were 0.0161 and 0.0092 respectively. As a consequence the PR of banks declined to 0.0069 in 2009-2010.

**Analysis of Non-Interest Expense Burden Ratio (N.I.E.B.R.) of Banks**

The N.I.E.B.R. of banks is a critical factor determining the profitability of banks. The N.I.E.B.R. of banks is determined by

(i) Non-Interest Expense Ratio (N.I.E.R) and
(ii) Non-Interest Income Ratio (N.I.I.R.)

The N.I.E.R. is obtained by NIEs divided by volume of business i.e.

\[
\text{N.I.E.} \quad \frac{\text{N.I.E.}}{\text{V.B.}}
\]
The N.I.I.R. is calculated by N.I.I. divided by volume of business i.e.,

\[
\text{N.I.I.} \quad \frac{\text{----------------}}{\text{V.B.}}
\]


During 2005-2006 and 2006-2007, the N.I.E.R. of banks remained high i.e. 0.0271 and 0.0212 but the N.I.I.R. of banks declined from 0.0104 in 2005-2006 to 0.0069 in 2006-2007. As a consequence the N.I.E.B.R. of banks remained at 0.0143 in 2005-2006 and 0.0106 in 2006-2007. The N.I.E.R. of banks was 0.0194 in 2008-2009 and 0.0188 in 2009-2010 and N.I.I.R. of banks 0.0098 and 0.0096. So, the N.I.B.R. of banks also remained at 0.0096 in 2008-2009 and 0.0092 in 2009-2010.
Table : III : 4
Non-Interest Expense Ratio of banks
(N I E R)

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</tr>
</thead>
<tbody>
<tr>
<td>S.B.I.</td>
<td>0.0299 (2.99)</td>
<td>0.0276 (2.76)</td>
<td>0.0290 (2.90)</td>
<td>0.0317 (3.17)</td>
<td>0.03035 (3.03)</td>
<td>0.0290 (2.90)</td>
<td>0.0233 (2.33)</td>
<td>0.0216 (2.16)</td>
<td>0.0323 (3.23)</td>
<td>0.0205 (2.05)</td>
</tr>
<tr>
<td>S.B.J.</td>
<td>0.0380 (3.80)</td>
<td>0.0356 (3.56)</td>
<td>0.0343 (3.43)</td>
<td>0.0373 (3.73)</td>
<td>0.0332 (3.32)</td>
<td>0.0291 (2.91)</td>
<td>0.0229 (2.29)</td>
<td>0.0185 (1.85)</td>
<td>0.0184 (1.84)</td>
<td>0.0164 (1.64)</td>
</tr>
<tr>
<td>S.B.H.</td>
<td>0.0341 (3.41)</td>
<td>0.0305 (3.05)</td>
<td>0.0300 (3.00)</td>
<td>0.0323 (3.23)</td>
<td>0.00264 (2.64)</td>
<td>0.0205 (2.05)</td>
<td>0.0187 (1.87)</td>
<td>0.0143 (1.43)</td>
<td>0.0152 (1.52)</td>
<td>0.0149 (1.49)</td>
</tr>
<tr>
<td>S.B.IN.</td>
<td>0.0328 (3.28)</td>
<td>0.0361 (3.61)</td>
<td>0.0325 (3.25)</td>
<td>0.0349 (3.49)</td>
<td>0.02875 (2.87)</td>
<td>0.0226 (2.26)</td>
<td>0.0172 (1.72)</td>
<td>0.0151 (1.51)</td>
<td>0.0161 (1.61)</td>
<td>0.0160 (1.60)</td>
</tr>
<tr>
<td>S.B.M.</td>
<td>0.0385 (3.85)</td>
<td>0.0359 (3.59)</td>
<td>0.0395 (3.95)</td>
<td>0.0355 (3.55)</td>
<td>0.0307 (3.07)</td>
<td>0.0259 (2.59)</td>
<td>0.0203 (2.03)</td>
<td>0.0178 (1.78)</td>
<td>0.0167 (1.67)</td>
<td>0.0177 (1.77)</td>
</tr>
<tr>
<td>S.B.P.</td>
<td>0.0333 (3.33)</td>
<td>0.0304 (3.04)</td>
<td>0.0283 (2.83)</td>
<td>0.0287 (2.87)</td>
<td>0.0236 (2.36)</td>
<td>0.0185 (1.85)</td>
<td>0.0159 (1.59)</td>
<td>0.0126 (1.26)</td>
<td>0.0118 (1.18)</td>
<td>0.0149 (1.49)</td>
</tr>
<tr>
<td>S.B.S.</td>
<td>0.0341 (3.41)</td>
<td>0.0317 (3.17)</td>
<td>0.0322 (3.22)</td>
<td>0.0343 (3.43)</td>
<td>0.0289 (2.89)</td>
<td>0.0235 (2.35)</td>
<td>0.0181 (1.81)</td>
<td>0.0182 (1.82)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B.T.</td>
<td>0.0273 (2.73)</td>
<td>0.0225 (2.25)</td>
<td>0.0259 (2.59)</td>
<td>0.0294 (2.94)</td>
<td>0.02635 (2.63)</td>
<td>0.0233 (2.33)</td>
<td>0.0184 (1.84)</td>
<td>0.0159 (1.59)</td>
<td>0.0166 (1.66)</td>
<td>0.0139 (1.39)</td>
</tr>
<tr>
<td>Total</td>
<td>0.0308 (3.08)</td>
<td>0.0286 (2.86)</td>
<td>0.0295 (2.95)</td>
<td>0.0319 (3.19)</td>
<td>0.0295 (2.95)</td>
<td>0.0271 (2.71)</td>
<td>0.0212 (2.12)</td>
<td>0.0197 (1.97)</td>
<td>0.0194 (1.94)</td>
<td>0.0188 (1.88)</td>
</tr>
</tbody>
</table>

Performance Highlights of Public Sector Banks 2000-2010 I B A.
The Figures in brackets are in percentage

\[
\text{N I E R} = \frac{\text{N.I.E.}}{\text{V.B.}}
\]
### Table: III : 5

**Non-Interest Income Ratio of banks (N I I R)**

<table>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S.B.I</td>
<td>0.0112 (1.12)</td>
<td>0.0232 (2.32)</td>
<td>0.0132 (1.32)</td>
<td>0.0159 (1.59)</td>
<td>0.01585 (1.58)</td>
<td>0.0158 (1.58)</td>
<td>0.0074 (0.74)</td>
<td>0.0099 (0.99)</td>
<td>0.0167 (1.67)</td>
<td>0.0104 (1.04)</td>
</tr>
<tr>
<td>S.B.J</td>
<td>0.0154 (1.54)</td>
<td>0.0278 (2.78)</td>
<td>0.0169 (1.69)</td>
<td>0.0202 (2.02)</td>
<td>0.01335 (1.33)</td>
<td>0.0065 (0.65)</td>
<td>0.0074 (0.74)</td>
<td>0.0087 (0.87)</td>
<td>0.0082 (0.82)</td>
<td>0.0062 (0.62)</td>
</tr>
<tr>
<td>S.B.H</td>
<td>0.0031 (1.31)</td>
<td>0.0251 (2.51)</td>
<td>0.0152 (1.52)</td>
<td>0.0196 (1.96)</td>
<td>0.01395 (1.39)</td>
<td>0.0083 (0.83)</td>
<td>0.0065 (0.65)</td>
<td>0.0079 (0.79)</td>
<td>0.0083 (0.83)</td>
<td>0.0071 (0.71)</td>
</tr>
<tr>
<td>S.B.I N</td>
<td>0.0160 (1.60)</td>
<td>0.0239 (2.39)</td>
<td>0.0209 (2.09)</td>
<td>0.0214 (2.14)</td>
<td>0.1495 (1.49)</td>
<td>0.0085 (0.85)</td>
<td>0.0060 (0.60)</td>
<td>0.0072 (0.72)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B. M</td>
<td>0.0143 (1.43)</td>
<td>0.0234 (2.34)</td>
<td>0.0205 (2.05)</td>
<td>0.0195 (1.95)</td>
<td>0.0157 (1.57)</td>
<td>0.0119 (1.19)</td>
<td>0.0083 (0.83)</td>
<td>0.0070 (0.70)</td>
<td>0.0060 (0.60)</td>
<td>0.0078 (0.78)</td>
</tr>
<tr>
<td>S.B.P</td>
<td>0.0092 (0.92)</td>
<td>0.0290 (2.90)</td>
<td>0.0120 (1.20)</td>
<td>0.0177 (1.77)</td>
<td>0.01195 (1.19)</td>
<td>0.0062 (0.62)</td>
<td>0.0049 (0.49)</td>
<td>0.0078 (0.78)</td>
<td>0.0072 (0.72)</td>
<td>0.0066 (0.66)</td>
</tr>
<tr>
<td>S.B.S</td>
<td>0.0109 (1.09)</td>
<td>0.0239 (2.39)</td>
<td>0.0156 (1.56)</td>
<td>0.0201 (2.01)</td>
<td>0.0124 (1.24)</td>
<td>0.0047 (0.47)</td>
<td>0.0042 (0.42)</td>
<td>0.0069 (0.69)</td>
<td>0.0076 (0.76)</td>
<td>0.0059 (0.59)</td>
</tr>
<tr>
<td>S.B.T</td>
<td>0.0108 (1.08)</td>
<td>0.0203 (2.03)</td>
<td>0.0119 (1.19)</td>
<td>0.0152 (1.52)</td>
<td>0.0115 (1.15)</td>
<td>0.0078 (0.78)</td>
<td>0.0039 (0.39)</td>
<td>0.0070 (0.70)</td>
<td>0.0070 (0.70)</td>
<td>0.0068 (0.68)</td>
</tr>
<tr>
<td>Total</td>
<td>0.0115 (1.15)</td>
<td>0.0116 (1.16)</td>
<td>0.0137 (1.37)</td>
<td>0.0167 (1.67)</td>
<td>0.01355 (1.35)</td>
<td>0.0104 (1.04)</td>
<td>0.0069 (0.69)</td>
<td>0.0091 (0.91)</td>
<td>0.0098 (0.98)</td>
<td>0.0096 (0.96)</td>
</tr>
</tbody>
</table>


Performance Highlights of Public Sector Banks 2000-2010 IB A.

The Figures in brackets are in percentage

\[
\text{N I I R} = \frac{\text{N.I.I.}}{\text{V.B.}}
\]
Return on Own Funds ( ROF)

The productivity of SBI and its Associate Banks have been measured with the help of bench mark Output Input Method of Management (OIMM) i.e.

\[
\frac{O}{I}
\]

By applying this bench mark equation of productivity, we have calculated the productivity with the help of following equations.

\[
\frac{V.B.}{E}
\]

\[
\frac{V.B.}{BR}
\]

Equation one gives productivity in terms of volume of business per employee and equation two gives the productivity in terms of volume of business per branch. Our analysis has revealed that the productivity of human resources and branch productivity (Plant Productivity) have increased consistently during the period under study.

\[
\frac{N.P.}{V.B.}
\]

\[
O = Output,
I = Input,
\]
P = Productivity,
E = Employees,
BR = Branch,
HRP = Human Resource Productivity,
BRP = Branch Productivity

The productivity Ratio (PR) of S.B.I. and its Associate Banks in terms of Return on volume of business (ROVB) consistently increased from 0.0048 in 2000-2001 to 0.0085 in 2003-2004. But during 2005-2006 to 2009-2010, the profitability ratio (PR) remained fluctuating between 0.0059 and 0.0073.

We have analysed the impact of increase in productivity in terms volume of business per employee and per branch on profitability. Further an attempt is made to examine the impact of increase in productivity in terms of return on own funds employed in business (ROF) i.e.

\[
\text{N.P.} \quad \text{ROF} = \frac{\text{------}}{\text{O.F.}}
\]

The ROF will help us to ascertain the following.

(i) To confirm the trend behaviour of profitability i.e. (ROVB) with the help of ROF.
ROVB = Return on volume of Business
N.P.= Net Profit .
V.B.= Volume of Business.

Table 3.6 reveals the R.O.F. of S.B.I. and its Associate Banks for the period under study. The R.O.F. of S.B.I. and its Associate Banks taken together increased from 12.77 per cent in 2000-2001 to 20.24 per cent in 2003-2004. But during 2005-2006 and 2009-2010 the R.O.F. remained fluctuating between 14.59 per cent and 16.42 per cent. So, it confirms the trend behaviour of R.O.V.B. for the period of study. It also shows that the S.B.I. and its Associate Banks taken together, performed above the bench mark performance of above 18 per cent.


The R.O.F. of S.B.T. recorded consistent increase from 10.47 per cent in 2000-2001 to 6.43 per cent in 2003-2004. Again it declined to 19.42 per cent in 2005-2006. Then it increased from
20.40 per cent in 2006-2007, 22.47 per cent in 2007-2008 and 27.01 per cent in 2008-2009. But in 2009-2010, ROF dipped down to 24.08 per cent. However, the performance of S.B.T. remained above the benchmark performance in terms of ROF during the period under study.


Finally, the trend behaviour of R.O.V.B. and R.O.F. of banks remained the same at an aggregate as well as at an individual bank level for the period under study.
## Table: III :6
Return on Own Funds of Banks  
( R O F )

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</tr>
</thead>
<tbody>
<tr>
<td>S.B.I.</td>
<td>0.1191 (11.91)</td>
<td>0.1597 (15.97)</td>
<td>0.1848 (18.48)</td>
<td>0.1819 (18.19)</td>
<td>0.17065 (17.06)</td>
<td>0.1594 (15.94)</td>
<td>0.1450 (14.50)</td>
<td>0.1372 (13.72)</td>
<td>0.1574 (15.74)</td>
<td>0.1389 (13.89)</td>
</tr>
<tr>
<td>S.B.J</td>
<td>0.2069 (20.69)</td>
<td>0.2187 (21.87)</td>
<td>0.2250 (22.50)</td>
<td>0.2625 (26.25)</td>
<td>0.1828 (18.28)</td>
<td>0.1031 (10.31)</td>
<td>0.1849 (18.49)</td>
<td>0.1838 (18.38)</td>
<td>0.1971 (19.71)</td>
<td>0.1882 (18.82)</td>
</tr>
<tr>
<td>S.B.H.</td>
<td>0.1972 (19.72)</td>
<td>0.2268 (22.68)</td>
<td>0.2409 (24.09)</td>
<td>0.2422 (24.22)</td>
<td>0.22205 (22.20)</td>
<td>0.2019 (20.19)</td>
<td>0.1989 (19.89)</td>
<td>0.2067 (20.67)</td>
<td>0.1919 (19.19)</td>
<td>0.1929 (19.29)</td>
</tr>
<tr>
<td>S.B.IN.</td>
<td>0.2057 (20.57)</td>
<td>0.3031 (30.31)</td>
<td>0.3432 (34.32)</td>
<td>0.2863 (28.63)</td>
<td>0.21145 (21.14)</td>
<td>0.1366 (13.66)</td>
<td>0.1613 (16.13)</td>
<td>0.1777 (17.77)</td>
<td>0.1782 (17.82)</td>
<td>0.1671 (16.71)</td>
</tr>
<tr>
<td>S.B.M.</td>
<td>0.0881 (8.81)</td>
<td>0.1851 (18.51)</td>
<td>0.2689 (26.89)</td>
<td>0.3030 (30.30)</td>
<td>0.26735 (26.73)</td>
<td>0.2317 (23.17)</td>
<td>0.2183 (21.83)</td>
<td>0.2314 (23.14)</td>
<td>0.1483 (14.83)</td>
<td>0.1672 (16.72)</td>
</tr>
<tr>
<td>S.B.P.</td>
<td>0.3130 (31.30)</td>
<td>0.2039 (20.39)</td>
<td>0.2280 (22.80)</td>
<td>0.2486 (24.86)</td>
<td>0.1921 (19.21)</td>
<td>0.1356 (13.56)</td>
<td>0.1473 (14.73)</td>
<td>0.1527 (15.27)</td>
<td>0.1696 (16.96)</td>
<td>0.1470 (14.70)</td>
</tr>
<tr>
<td>S.B.S.</td>
<td>0.0266 (2.66)</td>
<td>0.1444 (14.44)</td>
<td>0.1479 (14.79)</td>
<td>0.2311 (23.11)</td>
<td>0.1463 (14.63)</td>
<td>0.0615 (6.15)</td>
<td>0.0838 (8.38)</td>
<td>0.0453 (4.53)</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>S.B.T.</td>
<td>0.1047 (10.47)</td>
<td>0.1982 (19.82)</td>
<td>0.2366 (23.66)</td>
<td>0.2643 (26.43)</td>
<td>0.2292 (22.92)</td>
<td>0.1942 (19.42)</td>
<td>0.2040 (20.40)</td>
<td>0.2247 (22.47)</td>
<td>0.2701 (27.01)</td>
<td>0.2408 (24.08)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0.1277 (12.77)</strong></td>
<td><strong>0.1813 (18.13)</strong></td>
<td><strong>0.1950 (19.50)</strong></td>
<td><strong>0.2024 (20.24)</strong></td>
<td><strong>0.18025 (18.02)</strong></td>
<td><strong>0.1581 (15.81)</strong></td>
<td><strong>0.1530 (15.30)</strong></td>
<td><strong>0.1459 (14.59)</strong></td>
<td><strong>0.1642 (16.42)</strong></td>
<td><strong>0.1484 (14.84)</strong></td>
</tr>
</tbody>
</table>

**Source:** Statistical Tables Relating to Banks in India by R B I, Mumbai, 2000-2001 to 2009-2010.  
Performance Highlights of Public Sector Banks 2000-2010 I B A .  
The Figures in brackets are in percentage.

\[
ROF = \frac{N.P.}{O.F.}
\]
The R.O.F. of S.B.J., S.B.H. and S.B.T. have remained above the bench mark performance for the period under study.


**Conclusion:**

An impact of increase in productivity of banks has shown that the profitability in terms of return on volume of business during 2000-2001 to 2003-2004 recorded increase but during 2005-2006 to 2009-2010 remained fluctuating and relatively low.

The profitability behaviour of banks is also examined with the help of Return on Own Funds (ROF) during the period under study has revealed the same trend behaviour which has been observed for R.O.V.B.. The profitability in terms of R.O.F. of banks consistently increased during 2000-2001 to 2003-2004 but it remained fluctuating and relatively low during 2005-2006 to 2009-2010.

We have examined the impact of productivity on profitability with the help of two parameters viz R.O.V.B. and R.O.F.. Now an attempt will be made in the subsequent research study to find out what operational factors affect the profitability of banks.

The Profitability behaviour of banks is influenced by two strong financial variables viz., ‘Revenue and Cost’. Therefore, the following major and strong operational factors are identified to examine their impact on revenue and cost, which directly influence the profitability of banks.

(i) Assets Management Efficiency of Banks (AME).
(ii) Liability Management of Banks.
(iii) Profit Margin of Banks.

The AME deals with the revenue earning of banks. The L.M. will show the carrying cost of funds. The AME will reveal the major earning on assets which determines the total revenue/income of banks. The L.M. shows the carrying cost of funds. This carrying cost of funds determines the cost structure/total cost of banks. The P.M. will combine Revenue and Expenses analysis to identify the sensitive financial variables influencing the profitability of banks.