A bank is a financial intermediary that accepts deposits and channels those deposits into lending activities. The essential role of a bank is to connect those who have capital such as investors or depositors, with those who seek capital such as individuals wanting a loan or businesses wanting to grow. Banks are the fundamental component of the financial system and also active players in financial markets and do many financial services.

The term "Financial Analysis," known as analysis and interpretation of financial statements, refers to the process of determining financial strength and weakness of the firm by establishing strategic relationship between the items of the balance sheet, income statement and other operative data. According to Metcalf and Titard, “Analyzing financial statements is the process of evaluating the relationship between the component parts of the financial statements to obtain a better understanding of a firm’s position and performance”.¹ In the words of Myers, “Financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by a single set of statements and a study of the trend of these factors as shown in a series of statements”.²

Analysis of financial statements reveals important facts concerning managerial performance and the efficiency of the firm. Broadly speaking, the objectives of the analysis are to apprehend the information contained in financial statements with a view to know the weaknesses and strengths of the firm and to make a forecast about the future prospects of the firm, thereby, enabling the analysts to take decisions regarding the operation of, and further investment in, the firm.
Thus the financial analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationships between the various items of the balance sheet and the profit and loss account. Financial analysis can be undertaken by management of the firm or by parties outside the firm, viz. owners, trade creditors, lenders, investors, labour unions, analysts and others. The nature of analysis will differ depending on the purpose of the analyst.

From analysing the financial statements, solvency, operational efficiency, productivity, profitability, etc., of the concern can be depicted. This can be done by using “tools of financial analysis”. One of such tools is ratio. Financial ratios are useful indicators of a firm's performance and financial situation. This is so because accounting numbers do not explain any phenomenon on their own. However, when a relationship is established between two numbers figuring in the three financial statements, i.e., balance sheet, income statement and cash flow statement, one can make an assessment regarding the phenomenon. Ratio analysis involves calculation and interpretation of financial numbers by relating them in a logical manner in order to assess the strengths and weaknesses underlying the performance of an enterprise. In order to comment on the quality of a ratio, one has to make a comparison with some standard or benchmark.

The analysis of financial performance of select banks concentrates on the following four types financial ratios: (a) Solvency ratios; (b) Operational ratios; (c) Productivity ratios; and (d) Profitability ratios.

**SOLVENCY RATIOS**

The short term creditors like suppliers of material are concerned with the firm’s current debt-paying ability. On the other hand, long-term creditors like debenture holders, financial institutions, etc., are more concerned with the firm’s
Table - 6.1
SOLVENCY RATIOS
(In times)

<table>
<thead>
<tr>
<th>Year</th>
<th>SBI</th>
<th>SBT</th>
<th>SBBJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>0.12</td>
<td>0.34</td>
<td>0.77</td>
</tr>
<tr>
<td>2007-08</td>
<td>0.13</td>
<td>0.35</td>
<td>0.78</td>
</tr>
<tr>
<td>2008-09</td>
<td>0.14</td>
<td>0.37</td>
<td>0.73</td>
</tr>
<tr>
<td>2009-10</td>
<td>0.12</td>
<td>0.36</td>
<td>0.79</td>
</tr>
<tr>
<td>2010-11</td>
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<td>0.32</td>
<td>0.81</td>
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<tr>
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<td>0.09</td>
<td>0.30</td>
<td>0.83</td>
</tr>
<tr>
<td>2012-13</td>
<td>0.10</td>
<td>0.29</td>
<td>0.87</td>
</tr>
<tr>
<td>2013-14</td>
<td>0.10</td>
<td>0.29</td>
<td>0.87</td>
</tr>
<tr>
<td>2014-15</td>
<td>0.11</td>
<td>0.31</td>
<td>0.82</td>
</tr>
<tr>
<td>2015-16</td>
<td>0.10</td>
<td>0.28</td>
<td>0.85</td>
</tr>
<tr>
<td>Average</td>
<td>0.11</td>
<td>0.32</td>
<td>0.81</td>
</tr>
<tr>
<td>CV</td>
<td>14.44</td>
<td>10.01</td>
<td>5.59</td>
</tr>
<tr>
<td>ACGR</td>
<td>-2.01</td>
<td>-2.13</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Source: Compiled from the annual reports of selected banks.
*CS-Cash, D- Deposits, I-Investment, C-Credit, S-Spread, TA-Total Assets, NW-Net Worth, FA-Fixed Assets.
long-term solvency. Financial strength is a prerequisite for any bank in order to run its operation successfully and smoothly and also to ensure its long-term existence.

Following five solvency ratios have been calculated for the selected banks under study: 1. Cash deposit ratio, 2. Investment deposit ratio, 3. Credit deposit ratio, 4. Net interest margin and 5. Fixed assets to net worth. These ratios are exhibited in the Table 6.1.

**Cash Deposit ratio**

Cash Deposit ratio is the ratio of how much a bank keeps cash and bank balance out of the deposits it has mobilised. It indicates how much of a banks funds are being held as most liquid assets. This ratio is arrived at as total of cash in hand and bank balances divided by total deposits. A part of working funds has been kept as cash to meet day-to-day demand. Deposits are the major source of funds and here include all type of deposits mobilised by the bank.

The ratio of cash to deposits for SBI has been varying between 0.09 and 0.14 and the average ratio for the study period is 0.11. Cash, being an idle asset, must be kept at a minimum level, i.e., a little more than the statutory requirement under Cash Reserve Ratio (CRR- which is normally around 5 percent of demand and time liabilities of the bank). The Cash to deposit ratio for SBI is around 11 percent and therefore SBI must take steps to hold judicious level of cash, so as to minimise idle assets.

In case of SBT, the ratio of cash to deposits for the decade has been around the average 0.08 throughout the decade and it varied between 0.06 and 0.10. In case of SBBJ, the ratio of cash to deposits has been more than the average, 0.10, in the first half of the decade of study and has come down in the second half. The ratio has varied between 0.07 and 0.15.
The average ratio of cash to deposits is less in SBT (0.08) and is more in SBBJ (0.10) and SBI (0.11). In all the three sample banks, the ratio remained high in the first half of the decade. However, all the three banks have contained the ratio in the second half. Higher cash holdings reduce the revenue earning assets like loans and investments. SBBJ and SBI must take steps to reduce the ratio.

**Investment Deposit ratio**

Investments are made by banks essentially to meet certain statutory requirements, like Statutory Liquidity Ratio, as prescribed by RBI. SLR is prescribed by RBI as certain percentage of the Demand and Time Liabilities of the banks. The demand and time liabilities of the bank consists mainly deposits mobilized both under demand and time deposit schemes of the bank. The present SLR is 25 percent. Investments deposit ratio exhibits how much amount of deposits has been deployed towards investments. Investments are revenue earning assets for a bank next to loans and advances.

The ratio of investments to deposits for SBI has shown fluctuations little higher in the first five years than in the second five years of the decade of study. It is evident from the fact that the ratios of first half are more than the average (0.32) and they are less in the second half of the decade. The table shows that an average of 32 per cent of deposits have been deployed in investments by SBI. In general, the banks choose investments to comply with the requirements under Statutory Liquidity Ratio.

The average deployment of funds towards investments by SBT amounts to 32 per cent of its deposits and it is little more than the SLR requirements. Further there was a hike in the ratio to 0.36 in 2015-16. The average ratio for the study period is the same for both SBT and SBI.
In case of SBBJ, the ratio of investment to deposits is comparatively less than that of SBI and SBT in all the years of the decade and it varied between 0.25 and 0.31. Hence the average, 0.28, is also less than that of SBI and SBT.

In case of deployment of funds under investment portfolio, all the three sample banks have taken almost similar decisions. Therefore their average ratios for the decade are closely more than the SLR requirements. Further the ratio is greater than the required level which may reduce the earnings. So the select banks shall reduce investments and enhance loans and advances.

**Credit deposit ratio**

Credit to deposits ratio is a vital ratio that measures the bank’s stability and profitability. Credit portfolio is very important as well as sensitive for a bank where the larger part of the working funds has been deployed in order to earn more interest income and deposits are the major source of funds for the banking operations.

Credit–deposit ratio, popularly CD ratio, is the ratio of how much a bank lends out of the deposits it has mobilized. RBI does not stipulate a minimum or maximum level for the ratio. But a very low ratio indicates that the banks are not making full use of their resources. Alternatively, a high ratio indicates that the banks rely mostly on deposits for lending. Since credit has an inbuilt risk, a very higher ratio may affect the liquidity of the bank.

The credit deposits ratio of SBI has improved in the second half of the decade when compared to its performance in the first half. This is evidenced by the fact that the ratios are less than the average, 0.81, during the first five years and they are above the average in the second five years of the decade of study. The average ratio 0.81 indicates clearly that around 81 percent of the deposits has been deployed towards loans and advances by SBI.
In case of SBT, the credit deposits ratio has shown more fluctuations between 0.80 to 0.78 during the decade of study from 2006-07 to 2013-14, leaving the last two years, 2014-15 and 2015-16. The ratio has come down sharply below the level of the average, 0.77, in the last two years of the study period.

The CD ratio during the years of first half are less than the average 0.78, and the ratios are more than the average during the four years of the second half of the decade of study. Further the ratio declined to 0.78 in 2015-16.

Among the three sample banks, the average CD ratio of SBI (0.81) indicates that a comfortable portion of deposits has been deployed in loans and advances. The average CD ratio of SBT (0.77) and that of SBBJ (0.78) indicate that these two banks can improve their CD ratio by deploying more funds in loans and advances thereby the interest income can be increased. The performance of SBT in 2014-15 and 2015-16 is dismal as it has reduced its loans and advances and thereby the CD ratio has come down to 0.65 in 2015-16. SBT must improve its CD ratio.

**Spread to total assets ratio**

The spread is the difference between the interest income generated by banks from investments and loans portfolio and the amount of interest paid by them for the deposits and borrowings. The spread, which is the surplus of income through interest over the interest expenditure, plays an important role in the profitability of the bank. Higher the spread ensures a comfortable position for the bank to make profit and vice versa. Thus the ratio of spread to total assets is considered to be an important ratio for the analysis of the performance of the bank towards profitability, which in turn spells out the long term solvency of the bank. Spread must be positive always.
The ratio of spread to total assets for SBI is almost constant around the average ratio of 0.03 for the study period. Similarly, the ratio of SBBJ also is constant around 0.03, its average ratio for the decade. In case of SBT also, the ratio of spread to total assets is almost constant at 0.02, its average ratio for the decade.

The ratios of spread to total assets of SBI and SBBJ show that the spread of these two banks is only around 3 per cent of their total assets respectively. The performance of SBT is still less as its spread is 2 per cent of its total assets. Spread level has to be improved in all the three sample banks to ensure profits.

Net worth to fixed assets

Net worth is a part of working funds and it consists of share capital, reserves and surplus, Higher net worth helps the bank to have better solvency status. Low net worth would exhibit the banks weakness. In case of fixed assets, the funds are locked and are not easily convertible into liquid funds. A higher net worth and low level of fixed assets would help for sound financial position. Thus a higher ratio ensures better solvency position.

The ratio of net worth to fixed assets for SBI has shown fluctuations throughout the decade of study. The ratios varied between 11.10 and 15.10, whereas the average is 14.12. In six out of ten years, the ratios have been less than the average. The reduction in the ratio during the last two years, 2014-15 and 2015-16, causes concern as the net worth of SBI has come down with reference to its fixed assets.

Similar to that of SBI, the ratio of SBT also has shown fluctuations throughout the decade between 9.97 in 2006-07 and 13.54 in 2015-16. However, the ratios are less than the average, 13.57 in five out of ten years. Here also, the ratios of the last two years, 2014-15 and 2015-16 are less than the average, which
denotes that the net worth of SBT is deteriorating with reference to its fixed assets in 2014-15 and 2015-16.

In case of SBBJ, the ratio of net worth to fixed assets has improved in the second half, i.e., from 2011-12. The ratios of first five years are less than the average 15.37. Here also, in 2014-15 and 2015-16, the ratios have come down when compared to the preceding three years. This denotes that the net worth of SBBJ is declining with reference to its fixed assets in the end years of the decade of study.

The ratios of net worth to fixed assets of the sample banks are almost the same as they are around 14 or 15. This indicates that select banks have net worth equal to 14 to 15 times of their respective fixed assets. Further, the reduction in ratio during 2014-15 and 2015-16 causes concern.

**Conclusion**

The performance of SBI with reference to the solvency ratios is satisfactory. SBI has comfortable solvency position as its ratios, investment to deposits and credit deposit, are around 32 and 81 as respective averages for the decade. The ratio of net worth to fixed assets is also comfortable as SBI has an average of 14.12 times of its fixed assets as its net worth. But, the ratio of cash to deposit is more, as it is around the average of 11 and it has to be reduced to minimise the idle assets. The ratio of spread to total assets is only around the average of 0.03, which means, SBI could have only 3 per cent of its total assets as spread. The low level of spread will affect profit. The solvency ratios of SBT indicate that SBT has comfortable solvency with reference to four out of five ratios leaving the ratio of spread to total assets. The performance of SBT in this ratio is not satisfactory as it could have only 2 per cent of its total assets as spread. Similar to SBI, SBBJ exhibits comfortable solvency through the results of the ratios.
of I/D, C/D and NW/FA. In case of the ratios CS/D and S/TA, the performance of SBBJ is not satisfactory. The average ratio of CS/D is 0.10, which is to be reduced and the average ratio of S/TA is 0.03, which has to be improved.

OPERATIONAL RATIOS

An analysis of the operational ratios might bring to light the operational efficiency of the bank in its various activities, namely, mobilization of funds, use of funds, cost of funds, earning capacity, etc. The funds of shareholders, creditors and deposit holders are invested in various kinds of assets and lent as advances to generate revenue and profit. Better management of funds results into larger amount of revenue. Operational ratios are employed to evaluate the efficiency with which the bank manages and utilizes its funds. To evaluate the operational efficiency of the sample banks, the following five ratios are calculated: 1. Ratio of Interest earned to total income, 2. Ratio of interest paid to total income, 3. Ratio of total income to working funds, 4. Ratio of total expenditure to total income, and 5. Ratio of establishment expenditure to total expenditure. The five operational ratios of the selected banks have been exhibited in Table 6.2.

**Ratio of interest earned to total income**

The total income includes interest earned from investments and loans as well as non-interest income earned by way of fees, commission, exchange, brokerage, profit on assets, rent on locker, etc. The main function of a bank is lending loans and advances as well as making investments. Income through interest, generally, is the major source of income for the bank. The ratio of interest earned to total income is obtained by dividing the interest income by the total income. Non-interest income or other income is one area where the bank can realize income instantaneously as and when the service is provided. But, in general, the banks do concentrate on interest income, the realization of which is
Table - 6.2
OPERATIONAL RATIOS*
(In times)

<table>
<thead>
<tr>
<th>Year</th>
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<th></th>
<th></th>
<th></th>
<th>SBT</th>
<th></th>
<th></th>
<th></th>
<th>SBBJ</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IE/TI</td>
<td>IP/TI</td>
<td>TI/WF</td>
<td>TE/TI</td>
<td>EE/TE</td>
<td>IE/TI</td>
<td>IP/TI</td>
<td>TI/WF</td>
<td>TE/TI</td>
<td>EE/TE</td>
<td>IE/TI</td>
<td>IP/TI</td>
</tr>
<tr>
<td>2006-07</td>
<td>0.84</td>
<td>0.50</td>
<td>0.08</td>
<td>0.90</td>
<td>0.31</td>
<td>0.89</td>
<td>0.53</td>
<td>0.08</td>
<td>0.90</td>
<td>0.25</td>
<td>0.84</td>
<td>0.48</td>
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<tr>
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<td>0.84</td>
<td>0.55</td>
<td>0.08</td>
<td>0.88</td>
<td>0.28</td>
<td>0.89</td>
<td>0.64</td>
<td>0.09</td>
<td>0.90</td>
<td>0.23</td>
<td>0.87</td>
<td>0.60</td>
</tr>
<tr>
<td>2008-09</td>
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<td>0.56</td>
<td>0.08</td>
<td>0.88</td>
<td>0.27</td>
<td>0.88</td>
<td>0.60</td>
<td>0.09</td>
<td>0.87</td>
<td>0.21</td>
<td>0.87</td>
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<td>2009-10</td>
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<td>0.08</td>
<td>0.89</td>
<td>0.32</td>
<td>0.89</td>
<td>0.61</td>
<td>0.08</td>
<td>0.86</td>
<td>0.23</td>
<td>0.87</td>
<td>0.61</td>
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<tr>
<td>2010-11</td>
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<td>0.51</td>
<td>0.08</td>
<td>0.92</td>
<td>0.26</td>
<td>0.90</td>
<td>0.61</td>
<td>0.08</td>
<td>0.87</td>
<td>0.22</td>
<td>0.88</td>
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<tr>
<td>2011-12</td>
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<td>0.09</td>
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<td>0.18</td>
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<td>0.59</td>
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<tr>
<td>2012-13</td>
<td>0.88</td>
<td>0.56</td>
<td>0.09</td>
<td>0.90</td>
<td>0.24</td>
<td>0.93</td>
<td>0.70</td>
<td>0.09</td>
<td>0.93</td>
<td>0.16</td>
<td>0.91</td>
<td>0.60</td>
</tr>
<tr>
<td>2013-14</td>
<td>0.88</td>
<td>0.56</td>
<td>0.09</td>
<td>0.93</td>
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<td>0.92</td>
<td>0.69</td>
<td>0.10</td>
<td>0.97</td>
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<tr>
<td>2014-15</td>
<td>0.87</td>
<td>0.56</td>
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<td>0.93</td>
<td>0.24</td>
<td>0.90</td>
<td>0.69</td>
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<td>0.97</td>
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<td>0.91</td>
<td>0.61</td>
</tr>
<tr>
<td>2015-16</td>
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<td>0.56</td>
<td>0.08</td>
<td>0.95</td>
<td>0.23</td>
<td>0.89</td>
<td>0.66</td>
<td>0.09</td>
<td>0.97</td>
<td>0.18</td>
<td>0.90</td>
<td>0.59</td>
</tr>
<tr>
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<td>0.54</td>
<td>0.08</td>
<td>0.91</td>
<td>0.26</td>
<td>0.90</td>
<td>0.64</td>
<td>0.09</td>
<td>0.92</td>
<td>0.20</td>
<td>0.89</td>
<td>0.59</td>
</tr>
<tr>
<td>CV</td>
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<td>2.59</td>
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<td>1.74</td>
<td>8.30</td>
<td>8.29</td>
<td>4.74</td>
<td>14.32</td>
<td>2.67</td>
<td>6.9</td>
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<tr>
<td>ACGR</td>
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<td>0.00</td>
<td>0.60</td>
<td>-3.26</td>
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<td>2.47</td>
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<td>0.84</td>
<td>-3.58</td>
<td>0.77</td>
<td>2.32</td>
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</table>

Source: Compiled from the annual reports of selected banks.
not certain or regular. The commercial banks have started giving more importance to other income providing an array of ancillary services each at a nominal charge.

The ratio of interest earned to total income represents the share of interest income in total income. For SBI, the ratio of interest earned to total income has been almost constant around the average, 0.85, for the decade. The variations among the ratios are not wide as they vary between 0.83 and 0.88, whereas the mean being 0.85, for the period of study. The co-efficient of variation arrived at for the decade is 0.02. As the ratios have shown consistency with low variation, the ACGR for the decade is zero.

The ratios for SBT are almost constant around the mean ratio, 0.90. The variations among the annual ratios are very less as they varied between 0.88 and 0.93, while the mean is 0.90.

The performance of SBBJ is similar to that of SBT with slightly wider variations in its ratios for the years of the decade. The average ratio of SBBJ is 0.89. However, the variations in the ratios of SBBJ, which are between 0.84 and 0.91 are little wider than that existed in SBI and SBT.

In all the three sample banks, the ratio of interest earned to total income is more than 0.85. It shows clearly that the interest income of SBI is 85 per cent of its total income and similarly the interest income of SBT and SBBJ are 90 per cent and 89 per cent of their respective total income. This shows that non-interest income of SBI is more than that of SBT and SBBJ.

**Ratio of interest paid to total income**

The expenditure for a bank can be grouped under interest expenditure, establishment expenditure and other operational expenditure. The interest expenditure is always the major expenditure for a bank. This ratio is calculated in order to find out the quantum of bank’s total income that is drained out to meet the
commitment of the bank to pay interest on both borrowings and deposits. There
won’t be any second opinion on the fact that the total income of the bank must be
increased every year and at the same time the interest expenditure must be
controlled so as to have a comfortable spread for profit. Interest paid on
borrowings can be controlled by choosing low cost borrowings like refinance and
long term soft loans from NABARD and other financial institutions. In case of
interest paid on deposits the bank management can concentrate on the
mobilization of low cost deposits, namely, savings bank deposits and current
account deposits, where the interest rate offered is very less as compared to term
deposits. A good customer service provided with varieties of ancillary services
could help the bank to increase the clientele and thereby the saving and current
account customers may be increased. Thus, the ratio of interest paid to total
income will help the bank management to realize the cost consciousness besides
capability to control the interest expenditure up to an optimum level.

The ratio of interest paid to total income for SBI, has remained static at
0.56 during the last four years of the decade of study. The variations among the
ratios are very small as they are between 0.50 and 0.56 during the first six years.
While the average for the decade is 0.54. The calculated co-efficient of variation
for the decade is 0.04. Due to the consistency in the ratios and due to low
variations, the ACGR has been arrived at as 0.01.

The ratio of interest paid to total income for SBT, has shown fluctuations
throughout the study period. The ratios varied between 0.53 and 0.70. Thus, the
variations of the ratios during the study period for SBT are wider than that of SBI.
The average of the ratios is 0.64 and the co-efficient of variations arrived at is
0.08. Due to wider variations, the ACGR for SBT has been arrived at as 0.02
which is more than that of SBI.
In case of SBBJ, the ratios of interest paid to total income have shown more fluctuations during the decade and they varied between 0.48 and 0.61. This range of variation is much wider than that of SBI. It shows that the bank could not adopt an uniform policy. The average ratio is 0.59, the co-efficient of variations is 0.07 and the ACGR for SBBJ is 0.02.

The average of the ratio of interest paid to total income for the sample banks indicate clearly that about 54 per cent of total income has been paid as interest on deposits and borrowings in SBI, 59 per cent in SBBJ and 64 per cent in SBT. Thus the cost of interest paid is in the order of increase with SBI, SBBJ and SBT as their ratios of interest paid to total income have been 0.54, 0.59 and 0.64 respectively. SBT and SBBJ have to reduce their interest expenditure by mobilising more low cost deposits.

**Ratio of total income to working funds**

The ratio of total income to working funds serves as an indicator to measure the income earning capacity of a bank. Banks have to earn reasonable income by employing the working funds effectively. Working funds of banks have been revolved frequently in the business operation of a bank and the total income include both interest and non-interest income. This ratio helps to understand the volume of business done with the available working funds and the income generated from such business operations.

The ratio of total income to working funds for SBI is almost constant at its average level, 0.08 for the study period. As the variations are negligible, the ACGR is zero. In case of SBT, the variations in the ratios of total income to working funds for the study period are very less and they are between 0.08 and 0.10, while the mean ratio is 0.09. Similar to SBI and SBT, the ratios of total income to working
funds have low variations between 0.08 and 0.10 during the years of the decade. The average ratio for the decade is 0.09.

In all the three sample banks, the ratio of total income to working funds remain almost constant around their respective average ratio for the decade of study. This ratio clearly indicates that the income on working funds for SBI is at 8 per cent while; the same is 9 per cent for SBT and SBBJ. Thus, the sample banks earn interest at 8 per cent to 9 per cent on their working funds during the decade of study.

**Ratio of total expenditure to total income**

The ratio of total expenditure to total income may be identified as a corollary to the spread ratio. Spread ratio deals with interest income and interest expenditure and here, the ratio deals with total income and total expenses. This ratio evaluates whether the overall operations of the bank really yield any surplus or not. Any organization or bank cannot run with its operational results below the level of break even. It must earn surplus to exist and to go ahead with future plans of expansion. Therefore, this ratio of total expenses to total income measures the percentage of expenditure incurred out of the total income earned by the bank.

The increase of this ratio over a period affect the profit for the bank. This ratio may increase at the time of expansion process or when the bank takes up any diversified activities in connection with modernization or otherwise. But a continuous increasing trend may hurt the avenues of making higher profit.

The ratio of total expenditure to total income for SBI has shown fluctuations with small variations between 0.88 and 0.95, while the average ratio is 0.91. Similarly in case of SBT, the ratio varies during the study period with little wider variations than that of SBI and the variations are between 0.87 and 0.97. The average ratio for the study period for SBT is 0.92. In case of SBBJ, the ratio of
total expenditure to total income is almost constant throughout the decade as the variations among the yearly ratios are only between 0.90 and 0.92, while the average ratio is 0.91.

In all the three sample banks, namely, SBI, SBT and SBBJ, the average of the ratios of total expenditure to total income for the period of 10 years are 0.91, 0.92 and 0.91. Thus the yearly variations among the ratios for the three sample banks are mostly around 0.91 and 0.92. This indicates clearly that the sample banks incur around 91 percent to 92 per cent of their respective total income towards their total expenditure. The total expenditure include interest paid to deposits and borrowings as well as the establishment expenditure. Further, this average ratio for the sample banks states that the excess of income over expenditure is only around 8 percent to 9 per cent. This status of excess of income over expenditure is very much marginal and it has to be improved in the years to come through proper strategies to augment income and to contain expenditure.

**Ratio of establishment expenses to total expenditure**

Maintenance of infrastructure and premises attract expenditure for the bank besides the salary and allowances payable to the employees of the bank. Such expenditure, other than the interest expenditure, has been, usually, classified as establishment expenditure. As stated earlier, the total expenditure has always been influenced highly by the interest expenditure which could be minimized by selecting the borrowing pattern and mobilizing low cost deposits. Similarly, the establishment expenses could also be controlled by proper monitoring of the expenditure incurred under various heads. Employees must be educated and trained to utilize the infrastructure facilities properly. The sense of belongingness should be instilled in the minds of the staff so that they would come forward to contribute more to the bank, which will result in increased income and controlled
expenditure. When both interest expenditure and establishment expenditure are controlled, the total expenditure would be under control providing a favourable atmosphere for the growth of profits. The ratio of establishment expenses to total expenses would help the bank to relate the expenses with the effective utilization of the infrastructure and human resources.

The ratio of establishment expenditure to total expenditure for SBI has shown fluctuations during the years of the study. The annual ratios oscillate between 0.23 and 0.32, while the mean ratio for the decade is 0.26. The ratio for SBT oscillates between the maximum of 0.25 and the minimum of 0.16 and the average ratio is 0.20. In SBBJ, the ratio of establishment expenditure to total expenditure shows variations throughout the decade. The fluctuations in the ratios for SBBJ are slightly wider than that of SBI and SBT. The maximum of the ratios for SBBJ is 0.31 and the minimum is 0.19, while the average ratio being 0.24.

In all the three sample banks, the ACGR arrived for the decade have been negative, as the ratios for 2015-16 for all the three banks are less than their respective ratio for the base year 2006-07, The coefficient of variation for SBI, SBT and SBBJ are calculated as 0.11, 0.14 and 0.15 respectively.

The average ratios of establishment expenditure to total expenditure for the three sample banks show clearly that these banks use around 20 per cent to 26 per cent of total expenditure towards establishment expenditure. This expenditure forms the major part of non-interest expenditure and to meet this, the banks have to improve their non-interest income. When the banks break-even their non-interest expenditure with non-interest income, they can improve their spread as well as their profits.
Conclusion

The performance of SBI in case of the operational ratios is satisfactory. The ratios of interest earned to total income and establishment expenditure to total expenditure give comfortable results as the interest incomes covers 85 per cent of total income and the establishment expenses covers 26 per cent of total expenditure, which are quiet normal results. But the other three ratios, namely, IP/TI, TI/WF and TE/TI have not provided comfortable results. Interest paid is 54 per cent of total income, which is more, total income on working funds is only 8 per cent, which is less and total expenditure takes 91 per cent of total income, which is more. Interest paid and total expenditure has to be reduced and the total income has to be enhanced.

The operational ratios of SBT, namely, the ratio of interest earned to total income, ratio of total income to working funds and the ratio of establishment expenditure to total expenditure have given better results than that of SBI. The other two operational ratios namely, ratio of interest paid to total income and the ratio of total expenditure to total income have not given satisfactory results as the interest paid and total expenditure have covered around 64 per cent and 92 per cent of the total income respectively. The operational ratios of SBBJ, namely, IE/TI, TI/WF and EE/TE have given better results than that of SBI. Consequently, the results of the other two ratios, namely, IP/TI and TE/TI are not satisfactory. All the three sample banks have to concentrate in the reduction of total expenditure, particularly the interest paid on deposits and borrowings.

PRODUCTIVITY RATIOS

Productivity is the output per unit of input employed. Kopleman has defined productivity as the relationship between physical output of one or more of the associated physical inputs used in production. When single input is used to
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*PED* - Per Employee Deposits, *PEA* - Per Employee Advances, *PEI* - Per Employee Income, *PEEE* - Per employee Establishment Expenses, *PES* - Per Employee Spread, *PEP* - Per Employee Profit.

Table - 6.3
PRODUCTIVITY RATIOS (Rs. in Cr.)

Source: Compiled from the annual reports of the selected banks.
measure productivity, it is called ‘factor productivity’ and when all factors are combined together for the purpose, it is known as ‘total factor productivity.

The concept and definition of productivity as applied in manufacturing industries cannot be applied as such in banking industry, because it is primarily a service industry. In the field of banking, the various products are accounts, drafts, exchange remittances, cheques, travellers’ cheques, credit cards, debit cards, services for guarantees, various kinds of loans like housing loan, education loan, car loan, etc. Identification and measurement of output in banking is very difficult exercise as it is not possible to bring various services to measure output. However, banking being an important economic activity cannot afford to lose sight of the concept of productivity. Application of the concept in the Indian banking industry becomes all the more difficult, as it gets associated with such diverse aspects like operational cost effectiveness, profitability, customer services, priority sector lending, mobilization of deposits, deployment of credit in rural and backward regions, etc. As banks are the mirror of an economy, better functioning of banking sector may lead to the overall improvement of the economy. In fact, banks act as a link between those who want to save and those who want to invest. So improvement in the productivity of the banking sector is very much needed for those who want to save and invest.

Productivity at the national level is dependent on various factors like per capita income, saving habits and banking habits. In addition to it, there are regional variations which affect the productivity of various players in the banking field. So in order to have a reliable idea of productivity, it is necessary to analyze every segment, different sizes of banks and region wise positioning of banks. As in banking industry in India, volume of business became progressively imperative to secure more resources for meeting social objectives while maintaining viability of operations, business level may be preferred as being more representative of
productivity. Productivity helps firms, industries and banks to achieve sustainable competitive advantage. It must be noted that banks which have maintained the momentum of continuous growth and profitability show better ratio of manpower effectiveness. Each element has crucial sub-components which serve as building blocks for productivity. The government policies effectively support competitiveness in the banking industry through productivity driven reform mechanism and application of technology. The following are the ratios employed in this study to analyse the productivity performance of the selected banks and they are exhibited in table 6.3.

**Deposits per Employee**

Deposits per Employee have been computed by dividing the amount of total deposits by the number of employees in the bank. Deposit mobilization is the main source of funds of the bank. Bank employees mobilize the deposits under various schemes utilizing the infrastructure provided by the bank. The courteous and prompt service rendered by the staff, the congenial atmosphere provided at the premises, proper explanations given to the queries raised by the customers, practicing customer-friendly systems and procedure, etc., are essential for the bank to improve its deposits position. The employees are in the pivotal position in the mobilization of deposits from the public. Therefore, the per employee deposits ratio exhibits the average efficiency of the employees in mobilizing the deposits. In other words, the ratio provides a parameter to evaluate the average productivity of each employee of the bank. The experience, skill and the knowledge of the employee put together adds to the productivity of the bank when a favourable environment is provided by the bank.

The number of employees of SBI varied between 1,79,205 and 2,28,296 during the period of study. Ratio of per employee deposit for SBI has registered a
continuous annual increase throughout the decade of study, from Rs.2.35 crores in 2006-07 to Rs.8.33 crores in 2015-16. The growth is around 3.5 times in 10 years. The annual increase in PED is almost even as the growth almost doubled in the first half and again doubled in the second half of the decade.

In case of SBT, the number of employees varied between 11,365 and 14,892 during the period of study. The ratio of per employee deposit has grown annually for first seven years of the study period, from Rs.2.67 crores in 2006-07 to Rs.6.96 crores in 2012-13. The decline in the ratio to Rs.6.16 crores in 2013-14 has been reversed in the following year 2014-15 and further increased to Rs.6.79 crores in 2015-16. However, SBT could not reach its highest ratio of the decade, i.e. Rs.6.96 crores of 2012-13 again in the study period itself.

In case of SBBJ, the number of employees varied between 11,946 and 13,529 during the period of study. The ratio of PED has shown consecutive annual increase throughout the decade of study except a short fall in 2013-14. The ratio has increased from Rs.2.28 crores in 2006-07 to Rs.6.95 crores in 2015-16 while the average ratio is Rs.4.58 crores for the decade. The PED ratio of SBBJ has shown a growth of around 3 times in 10 years. The growth ratio is fast in first five years and it has become slow in the second five years of the decade.

Among the sample banks, SBI has an even growth of PED during the decade. Next to SBI, SBBJ has shown almost constant growth, but the rate of growth is around 3 times in 10 years, taking 2006-07 as base year. SBT could not maintain annual increase in the ratio during the last three years and the growth is around 2.5 times in 10 years, the lowest among the three sample banks. The productivity of the employees with reference to deposits is expressed to be comfortable in all the three sample banks. SBI has to reverse the decreasing trend from 2014-15 taking appropriate steps early in the ensuring years.
Advances per employee

Advances portfolio of a bank, which generates the highest percentage of interest income, is the single major contributor to the total income of the bank. Right from the selection of borrowers, the loans and advances portfolio has varieties of functions involving the knowledge, skills and efforts of the employees till the last rupee of the loan is recovered. The processing of the loan application, scrutiny of the financial viability of the project, pre-sanction survey or enquiry, documentation, disbursement of loans, verification of assets created, post-disbursement inspection, collection and review of the operational results, quarterly review, follow up of recovery of interest and instalments, etc., are the various functions in loan management and each function needs to be attended by the employee including officials of the bank. The productivity of the employees of the bank in managing the advances portfolio is being brought to light by the ratio of per employee advances. The per employee advances is arrived at as the quotient in dividing the total advances by the number of employees.

Advances form the important category of assets of a bank where the risk of recovery is inbuilt. Further advances constitute the prime asset in generating the major revenue for the bank. The ratio of PEA for SBI has shown continuous increase from Rs.1.82 crores in 2006-07 to Rs.7.05 crores in 2015-16. The growth of the ratio of PEA for SBI is little less than four times in 10 years taking 2006-07 as base year.

Similar to the performance in the ratio of PED, in the ratio of PEA also, SBT has registered annual increase for 7 years from Rs.2.14 crores in 2006-07 to Rs.5.55 crores in 2012-13. In 2013-14, the ratio of PEA declined to Rs.4.79 crores and further reduced to Rs.4.40 crores in 2015-16, in spite of a slight increase in 2014-15. The growth of the ratio is little more than two times in 10 years.
SBBJ has registered continuous annual growth in its ratio of PEA throughout the decade of study. But, the growth is little less than 2.5 times in 10 years taking 2006-07 as base year.

Though, the ratio of PEA has shown increase in 10 years, the rate of growth is more in first half of the study period. i.e., from 2006-07 to 2010-11 in all the three sample banks. In the second half of the decade, the rate of growth in the ratio has come down in SBI and SBBJ, where as the growth is nil in SBT. The per employee advances ratio is very vital for the bank to ensure quality of loan assets and to improve interest income. SBI and SBBJ have performed better in this area as their ACGR for the decade is 0.15 and 0.14 respectively. In case of SBT, though the average ratio is more than that of SBBJ, the ACGR is only 0.08, which denotes the decline in the ratio during the end years of the decade. Therefore SBT has to reverse the declining trend in the ratio early in the following years.

Per employee income

Though productivity is being measured using different parameters, income generated leads to decide the real productivity of a bank. The perennially generated income of a bank provides a healthy and congenial atmosphere for its developmental activities thereby the productivity of the bank also will increase. The income generation is the ultimate apparatus that facilitates the bank to carry on its productive functions with confidence. The attention of those interested to know about the health of the bank will be on the operative income of the bank and then on net profit. The employees’ interest or welfare measures also depend mostly on the income generation capacity of the bank. Thus the ratio of Per Employee Income can be considered as a vital productivity ratio. The per employee income has been calculated by dividing the total income of the bank by the number of employees. Income is the lifeline for any bank and with reference to the
employees, income is very vital. The improved income provides job security and facilitates added welfare benefits to the employees.

The per employee income of SBI has shown consecutive increase throughout the study period from Rs.0.25 crores in 2006-07 to Rs.0.92 crores in 2015-16. The average ratio for the decade is Rs.0.54 crores. The ratio has shown a growth of nearly four times in ten years. The annual increase in PEI is almost even throughout the decade as the growth is 2 times in first half and again 2 times in second half of the decade. In case of SBT, the growth in PED and PEA has been slow in the second half of the decade. But the ratio of PEI for SBT has shown good increase in the second half of the decade. The ratio of PEI for SBT has grown around 2.5 times in 10 years. Regarding SBBJ, the ratio of PEI has improved annually from Rs.0.24 crores in 2006-07 to Rs.0.79 crores in 2015-16, registering more than 3 times growth in the period of 10 years.

In all the three sample banks, the ratio of PEI has shown consecutive improvement throughout the decade of study. However, the rate of growth of the ratios taking 2006-07 as base year varies, as SBI has touched four times growth, SBBJ comes next with an increase around 3 times and SBT could register a growth of around 2.5 times in the period of ten years. SBT has to improve its PEI to ensure good productivity of its employees in generating income for the bank.

**Establishment expenditure per employee**

Bank employs its employees and infrastructure to carry on the business of banking. The banking operations are performed by the staff utilizing the machine, materials and premises. The infrastructure and personnel are required to be increased according to the volume of business and the relative establishment expenditure will be increasing. The establishment expenditure includes the manpower expenditure and other expenditure. The ratio of per employee
establishment expenditure will indicate the cost of manpower for the bank. The percentage of increase in the cost of manpower will be studied along with the rate if increase in the volume of business and profits. Such an exercise will help the bank management in proper utilization of the personnel as well as infrastructure for its business progress. The ratio of per employee establishment expenditure is calculated by dividing the establishment expenditure by the number of employees of the bank.

The ratio of per employee establishment expenditure of SBI has shown increase in every consecutive year of the study period except for the year 2010-11, where decrease is noticed. The growth rate of the ratio is slow in the first half and it is fast in the second half of the decade. The major portion of establishment expenditure for any bank is towards salary and allowances to the employees of all cadre. The continuous increase in the ratio from Rs.0.07 crores in 2006-07 to Rs.0.20 crores in 2015-16 of SBI denotes that the salary and allowances have increased over the years of the decade or the number of employees has been reduced or both. The ratio has almost tripled in 10 years and the average ratio for the decade is Rs.0.13 crores. The rate of increase must be slowed down to minimize the overall expenditure.

In case of SBT, the ratio of PEEE has increased at an even rate from Rs.0.06 crores in 2006-07 to Rs.0.14 crores in 2014-15 and has declined to Rs.0.13 crores in 2015-16. The increase in the ratio denotes that the establishment expenditure per employee has gradually increased in SBT. The ratio has almost doubled in 10 years and the average is 0.10 crores.

The ratio PEEE for SBBJ has remained stable for 3 years from 2006-07 to 2008-09 at Rs.0.07 crores. Though the increase in the ratio is less in 2009-10, it increased sharply in the succeeding years and reached the maximum of Rs.0.15 crores in 2013-14 and 2015-16. The increase in the ratio is more visible in the
second half of the decade as it oscillated between Rs.0.10 crores and Rs.0.15 crores, while the average is at Rs.0.11 crores for the decade. The ratio has almost doubled in 10 years.

Though ratio of PEEE has doubled in 10 years both in SBT and SBBJ, the growth is gradual in SBT, whereas fluctuations are more in SBBJ from 2010-11. SBI, being the biggest bank, the growth in the business as well as in the number of employees would vary at frequent intervals. Therefore, its establishment expenditure has increased more when compared to that of SBT and SBBJ. This is evidenced by the three times growth of the ratio in SBI, while the same is only two times in SBT and SBBJ during the decade.

**Spread per employee**

Spread is the excess of income through interest of the bank over its interest expenditure. This is the key element that determines the amount of profit for the bank, because income through interest and interest expenditure are the major contributors to the bank’s total income and total expenditure respectively. Banks are facing more new challenges from the competitive fellow bankers in fixing of interest rates on one side and they are forced to manage various risks in lending and recovery of interest on other side. Therefore, the modern banking has been striving hard to increase non-interest income i.e., fees, commission, charges, rent, exchange, etc., to meet the entire non-interest expenditure i.e., establishment expenditure including other expenses. Once a bank could break even between non-interest income and non-interest expenditure, then, the spread will ensure the bank’s comfortable profitability.

The ratio of per employee spread for SBI has grown from Rs.0.09 crores in 2006-07 to Rs.0.27 crores in 2015-16, registering a three times growth in 10 years. The average ratio for the decade is Rs.0.17 crores. The growth rate is more in
second half than that in the first half. The consecutive annual increase in the ratio, except a small set back in 2012-13, denotes that the spread of SBI has been increasing gradually with reference to its number of employees.

In case of SBT, the ratio of PES has grown from Rs.0.10 crores in 2006-07 to Rs.0.17 crores in 2015-16 resulting in less than 2 times increase in 10 years. The gradual annual growth in the ratio from 2006-07 has seen breaks with decline in 2007-08 and in 2013-14. The average ratio for the decade is Rs.0.14 crores.

The ratio of PES for SBBJ has shown increase from Rs.0.09 crores in 2006-07 to Rs.0.24 crores in 2015-16 with a small set back in 2007-08. The growth of the ratio is less than 3 times in 10 years taking 2006-07 as the base year. The ratio has sharply jumped from Rs.0.10 crores in 2009-10 to Rs.0.15 crores in 2010-11 and thereafter the ratio has increased at a faster rate. The average ratio for the decade is Rs.0.16 crores.

The rate of increase in the ratio for SBI is three times in 10 years and thus the growth is more when compared to the growth of the ratio in SBT and SBBJ. Among SBT and SBBJ, the growth of the ratio in SBT is less than that of SBBJ. The spread being the vital indicator of profits, SBT has to improve this ratio to ensure growth in the profits.

**Profit per employee**

The prime aim of any commercial organization including bank is making profit in the course of the business. Making profit in consecutive years will exhibit the operational efficiency of the bank. Profit is the excess of income over expenditure. Therefore, earning profit is possible only when the total income of the bank is magnified. Similarly, the total expenditure has to be kept under control. Increasing income and reducing expenditure are in the hand of the employees of a bank. In other words, where the employees are very much conscious about profit
making, they will perform diligently in augmenting the income for the bank and will take care in controlling the items of expenditure. The ratio of per employee profit will help the bank management to review the efficiency and contribution of the employees towards profitability. The ratio of per employee profit is calculated by dividing the net profit by the number of employees.

The ratio of per employee profit for SBI has shown increase from Rs.0.02 crores in 2006-07 to Rs.0.05 crores in 2015-16. The ratio oscillated between Rs.0.02 crores and Rs.0.06 crores during the decade of study and the average ratio is Rs.0.05 crores. The ratio has been around the average figure in 8 out of 10 years. This shows clearly that the profit with reference to the number of employees for SBI has remained almost constant throughout the decade of study.

In case of SBT, the ratio of PEP has increased from Rs.0.03 crores in 2006-07 to Rs.0.06 crores in 2010-11 and in the subsequent years the ratio has fell sharply to Rs.0.02 crores in 2013-14 and remained in the same position up to 2015-16. The average ratio for SBT is Rs.0.04 crores and only in 5 out of 10 years (2008-09 to 2012-13) the ratios remained close to the average. The dismal show of this ratio in the last three years of the decade causes concern as it indicates that SBT is losing its profit with reference to its number of employees.

The ratio of PEP for SBBJ has shown three times increase in 10 years as the increase is from Rs.0.02 crores in 2006-07 to Rs.0.06 crores in 2015-16. The average ratio for the decade is arrived at as Rs.0.05 crores. The ratios of 7 out of 10 years (2009-10 to 2015-16), are close to the average during the period of study. This performance of SBBJ shows that it maintains a constant level of profits from 2009-10 with reference to its member of employees.

Among the sample banks, namely, SBI, SBT and SBBJ, SBI and SBBJ maintain their profits with reference to their respective number of employees almost at a constant level in the second half of the decade. In case of SBT, a
reverse trend is seen in the second half of the decade. The profit of SBT with reference to its number of employees has come down below the average (Rs.0.04 crores) in the last 3 years of the decade. SBT must improve its profits reversing the decreasing trend, in the years to come.

**Conclusion**

Regarding the productivity ratios, the performance of SBI is satisfactory, as the ratios, other than the ratio of per employee establishment expenditure, have registered annual growth in the second half of the decade of study. However, the ratio of per employee profit has remained almost stagnant in the second half. The ratio of per employee establishment expenditure has increased at a fast rate from 2011-12, the growth rate of which has to be contained or slowed down in future years. The reduction in the establishment expenses will contribute for the growth of the ratio of per employee profit and thereby the overall productivity of SBI will become comfortable in the years to come. The performance of SBT, with reference to its productivity ratios, is not satisfactory as all the six productivity ratios have not shown comfortable results in the second half of the decade of study. Among the ratios, the ratio of per employee income has shown improvement up to 2012-13. But, thereafter it has remained stagnant and even reduced in the last year of the decade. The other ratio, the ratio of per employee profit has shown dismal results in the last three years of the decade.

Though the performance of SBBJ with reference to its productivity ratios are similar to that of SBI, the growth rate in the ratios other than the ratio of per employee profit has been less than that of SBI, particularly in the second half of the decade of study. In case of the ratio of per employee profit, the results are almost same for SBI and SBBJ from 2011-12 to 2015-16, i.e., in the second half of the decade of study. The ratio of per employee income for SBBJ needs a faster
growth in the years to come, so that it's per employee profit will grow breaking the present stagnant status. For all the three sample banks, the total income has to be improved and at the same time the establishment expenditure has to be contained or its growth must be slowed down. These two acts of the banks will help them to improve their overall productivity.

PROFITABILITY RATIOS

Appraisal of the financial position of the banks is incomplete without measuring its overall profitability. Profits are the primary motivating force for business activities. “Profits are the report card of the past, the inventive gold star for the future. If an enterprise fails to make profit, capital invested is eroded and if this situation prolongs the enterprise ultimately ceases to exist”. It is the milestone of the operational performance and the touchstone of financial stability.

B.B. Howard and M.Upton observe that the word profitability may be defined as “the ability of a given investment to earn a return on its use”. It is observed by J.F. Weston and E.F.Bringham that “Profitability is the net surplus of a large number of policies and decisions”. Thus profitability is the ability of an organization to earn profits.

As a public sector organisation, In spite of the several social objectives to be fulfilled by the SBI and associates, it is necessary for them to earn surplus for their survival, making at least a minimum rate of return on the capital invested. The profit earned by the banks gives margin of safety to the deposit holders and creditors; it is a source of fringe benefits to the employees. Facilities to customers can be improved. Thus the importance of profit and profitability for the SBI and associate banks are significant. Therefore, the analysis of profitability of the select banks in relation to the total income, total deposits, spread, total assets and
Table - 6.4
PROFITABILITY RATIOS
(In Percent)

<table>
<thead>
<tr>
<th>Year</th>
<th>SBI</th>
<th>SBT</th>
<th>SBBJ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NP to TI</td>
<td>NP to TD</td>
<td>NP to Spread</td>
</tr>
<tr>
<td>2006-07</td>
<td>9.68</td>
<td>1.04</td>
<td>28.29</td>
</tr>
<tr>
<td>2007-08</td>
<td>11.53</td>
<td>1.25</td>
<td>39.53</td>
</tr>
<tr>
<td>2008-09</td>
<td>11.93</td>
<td>1.23</td>
<td>43.70</td>
</tr>
<tr>
<td>2009-10</td>
<td>10.66</td>
<td>1.14</td>
<td>38.72</td>
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<tr>
<td>2010-11</td>
<td>7.65</td>
<td>0.79</td>
<td>22.66</td>
</tr>
<tr>
<td>2011-12</td>
<td>9.69</td>
<td>1.12</td>
<td>27.04</td>
</tr>
<tr>
<td>2012-13</td>
<td>10.39</td>
<td>1.17</td>
<td>31.82</td>
</tr>
<tr>
<td>2013-14</td>
<td>7.03</td>
<td>0.78</td>
<td>22.10</td>
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<tr>
<td>2014-15</td>
<td>7.49</td>
<td>0.83</td>
<td>23.81</td>
</tr>
<tr>
<td>2015-16</td>
<td>5.19</td>
<td>0.57</td>
<td>17.49</td>
</tr>
<tr>
<td>Average</td>
<td>9.12</td>
<td>0.99</td>
<td>29.52</td>
</tr>
<tr>
<td>CV</td>
<td>23.94</td>
<td>23.41</td>
<td>29.41</td>
</tr>
</tbody>
</table>

Source: Compiled from the annual reports of selected banks.
*NP-Net Profit, TI-Total Income, TD-Total Deposits, Spread=Interest Earned-Interest Expenses, TA-Total Assets, NW-Net Worth.
Net worth is made here with the help of the following ratios. Profitability ratios of the selected banks for the period under study are shown in table 6.4.

**Net profit margin ratio**

This ratio measures the relationship between profit after taxes and total income. The profit margin is the overall measure of the firm's ability to turn each rupees of revenue into net profit. Further, “this ratio is an indicative of the management's ability to operate the business with sufficient success not only to recover from the revenue of the period, the cost of merchandise or service, the expenses of operating the business and the cost of the borrowed funds, but also to leave a margin of reasonable compensation to the owners for providing their capital at risk. The ratio essentially expresses the cost/price effectiveness of the operations”.

\[
\text{Ratio of Net profit margin} = \frac{\text{Net profit}}{\text{Total income}} \times 100
\]

Net profit arrived from the operational profit after making adjustments including provision for NPA, etc. The operational profit is the excess of total income over total expenditure. The ratio of net profit to total income will bring to light the necessity to improve the total income. The low ratio exhibits the marginal net profit for the bank. The marginal edge of the profit could not provide a confident atmosphere for the bank to plan for any development. The bank must increase income and reduce the provisions so as to make comfortable net profit margin ratio.

The annual ratios of net profit to total income for SBI have not presented a homogeneous picture for the study period, as the ratios have shown disorderly ups and downs almost in every alternative year. The ratio of the end year of the decade is 5.19 (2015-16) which is much less than the beginning year of the
decade, 9.68 per cent (2006-07). Therefore, the ACGR for SBI has become negative. The ratios of the period of study have wide variations between the low ratio of 5.19 per cent and the high ratio of 11.93 per cent, and the coefficient of variation calculated for the ratios of SBI is 23.94 per cent.

Similar to the performance of SBI in the ratio of NP to TI, the ratios fluctuated very widely for SBT also. The ratio oscillated between the low ratio of 2.88 per cent and the high ratio of 13.95 per cent, while the mean ratio is 8.22 per cent. The wild variation caused the coefficient of variation to become 52.07. As in the case of SBI, in SBT also the ratio of the end year, 2015-16 (3.14) is less than that of 2006-07 and hence the ACGR has become negative.

The ratio of NP to TI of SBBJ has shown variations throughout the study period, as they have not registered any trend of increase or decrease. When compared to SBI and SBT, the ratios of SBBJ have oscillated with low swing between 7.82 and 10.20. Therefore the coefficient of variation for SBBJ is 9.82 which is less than that of SBI and SBT.

Among the three sample banks, SBT has the widest swing among the annual ratios of 10 years, i.e., between 2.88 and 13.95, SBI has its ratios with wider swing than that of SBBJ, i.e., between 5.19 and 11.93, and the ratios of SBBJ varied between 7.82 and 10.20. Thus, SBI and SBT have to take strategic steps to register even growth of their net profit with reference to their respective total income in the ensuring years.

**Net profit to total deposits ratio**

Net profit could be achieved by a bank only when it could earn more and spend less. Earning more is possible when both interest income and non-interest income increases. In case of commercial banks, the interest income plays the pivotal role in deciding the profit as non-interest income is less. For commercial
banks, deposits from the public occupy the major share of the working funds. The interest on deposits is the vital as well as essential expenditure. Though the operating expenses form part of total expenditure, interest expenditure on deposits, being the major expenditure, decides the profitability for the banks. The deposits for a bank, thus, plays the very base role of providing funds for the business of banking and the cost of mobilizing the same deposits would decide the profitability of the bank. Therefore an attempt to relate the net profit and total deposits is made to analyse the functional efficiency of the bank.

The ratio of net profit to total deposits of SBI has shown variations with ups and downs throughout the study period between 0.57 and 1.25, while the average ratio is 0.99 and the coefficient of variation for the decade is 23.41. The ACGR has become negative as there is no net increase in 10 years taking 2006-07 as base year. i.e., the ratio of 2015-16 (0.57) is less than that of 2006-07 (1.04). The ratio of NP to TD of the end year is almost half of the beginning year of the decade of study.

Almost similar to SBI, the ratio of NP to TD for SBT also has fluctuations with ups and downs between 0.33 and 1.45, while the average is 0.87. As the ratio of 2015-16 is less than the ratio of the base year 2006-07, the ACGR for SBT has become negative. The wide swing of the variations between 0.33 and 1.45 resulted in the hike of coefficient of variations for SBT. The ratio of 2006-07 (1.05) has reduced drastically almost to one third of it in 2015-16 (0.33), i.e., in 10 years.

The performance of SBBJ in case of the ratio of NP to TD is different from that of SBI and SBT, as the swing of the variations among the annual ratios is less than that of SBI and SBT, i.e., the ratios of SBBJ varied between 0.90 and 1.07, while the average is 0.99. Though, the ratio of SBBJ varied with less difference, the ratio of 2015-16 has become less than that of 2006-07 and so the ACGR for
SBBJ has been negative. As the swing of the variations is less, the coefficient of variations is also less at 6.03 than that of SBI and SBT.

In all the three sample banks, the ratio of NP to TD could not register a trend of increase or decrease during the study period. The net profit of the banks with reference to their respective total deposits has failed to register consecutive increase during the decade. SBBJ has better consistent level of the ratio of NP to TD than SBI and SBT.

**Net profit to spread ratio**

The spread for a bank is the excess of income through interest over the interest expenditure. The spread is gaining importance in banking as it directly contributes to the profitability of the bank. In other words, the present day bankers aim at meeting the entire non-interest expenditure with the non-interest income leaving the spread to contribute directly to the profit of the bank. Meeting non-interest expenditure with the non-interest income is not easy for banks where the non-interest income is less, while the non-interest expenditure (salary, rent on premises, etc.), is more and is necessarily to be met by the banks. Therefore in commercial banks, the non-interest expenditure is met by non-interest income plus a sizeable share of interest income and as a result the profit is affected. The ratio of net profit to spread will help the commercial banks to understand the necessity to improve net profit by enhancing non-interest income besides containing the whole expenditure, particularly the non-interest expenses.

Spread, which is arrived as the excess of interest income over the interest expenditure lays the foundation for profit and thereby for net profit. So, when the spread is more, mostly the net profit also will be more. The ratio of NP to spread for SBI has come down from 28.29 in 2006-07 to 17.49 in 2015-16 and therefore the ACGR has become negative. Fluctuations with ups and downs is seen in the
ratios in almost every alternate years. The ratios thus varied between 17.49 and 43.70, while the average is 29.52.

In case of SBT, though it started with the ratio of 28.78, which is almost equal to that of SBI in 2006-07, the ratio has become less than that of SBI in 2015-16. The swing of variations among the annual ratios of SBT is between 12.77 and 48.87 and this is wider than that of SBI and therefore the coefficient of variation of SBT, 45.58 is more than that of SBI, 29.41.

The performance of SBBJ in the ratio of NP to spread is more consistent with less variation than that of SBI and SBT. The swing of the variations among the annual ratios of SBBJ is between 25.74 and 37.57 and so the coefficient of variation for SBBJ is 14.15 which is less than that of SBI and SBT. However, like SBI and SBT, in SBBJ also, the ratio of 2015-16 is less than that of 2006-07 and so the ACGR has become negative.

In all the three sample banks, the ratio of NP to spread has not shown any net positive increase at the end of the decade taking 2006-07 as base year. Therefore the ACGR has become negative for all the three banks. The conclusive difference of the variations of the ratios has been less in SBBJ than that in SBI and SBT. Therefore SBI and SBT have to take strategic steps to maintain consistency in net profit with reference to their respective spread.

**Return on Assets**

The ratio of net profit to total assets is used to find out the profit making capacity of assets. The bank can have an analytical view on the revenue yielding assets and their contribution to the net profit.

\[
\text{Ratio of Return on Assets} = \frac{\text{Net profit}}{\text{Total Assets}} \times 100
\]
The ratio of net profit to total assets for SBI has failed to register any trend of increase or decrease throughout the decade of study. The ratios varied between 0.44 and 0.95, while the average is 0.76. The ratio of 2015-16, 0.44 is less than that of 2006-07, 0.80, the base year of the decade. Thus SBI failed to make positive net increase in the ratio for the decade taking 2006-07 as base year and hence ACGR has become negative.

In case of SBT, the annual ratios varied between 0.29 and 1.23 during the years of the decade. The swing of the variations among the ratios of SBT is more than that of SBI and so the coefficient of variation of SBT, 49.19 is more than that of SBI, 23.05.

SBBJ could perform well in this ratio, as the ratios exhibit more consistency with less variation than that of SBI and SBT. The ratios of NP to TA for SBBJ varied between 0.76 and 0.90, while the average is 0.83. The coefficient of variation, 6.37 of SBBJ is less than that of SBI and SBT. However, the ACGR of SBBJ is negative as in the case of SBI and SBT, because the ratio of 2015-16 is less than that of 2006-07.

In all the three sample banks, the ACGR is negative as the banks failed to register net increase in the ratio for the decade, in spite of variations during mid years, taking 2006-07 as base year. The swing of variations among the annual ratios is very low in SBBJ when compared to that of SBI and SBT. The swing of the variations among the ratios has been the widest in SBT. SBI and SBT have to improve consistency in their performance with reference to this ratio of NP to TA.

**Return on Equity**

Net worth of a bank consists mainly the share capital and the reserves built by the accumulation of profit. The net worth provides a part of working funds for the business of banking. Further net worth is essential for the bank to maintain the
capital adequacy ratio as stipulated by RBI. Net worth is the owned funds of the bank. The contributors to the net worth, i.e., the shareholders would look at the performance of the bank. They are mainly interested to know about the profit of the bank. The net profit is the residual net income available to the shareholders and hence a comparison between net profit and net worth is made. The ratio of net profit to net worth will help the management to identify the level of contribution made by net profit towards the net worth. If the ratio goes up, it would indicate the healthy financial position of the bank.

The ratio of net profit to net worth for SBI has touched its lowest figure (6.90) in 2015-16, the end year of the decade registering a drastic fall from 14.51, the ratio of 2006-07, the beginning year of the decade of study. The variations among the annual ratios of SBI have ranged between 6.90 and 15.74, while the average ratio is 12.37. As SBI failed to make any positive net improvement in the ratio in 2015-16 taking 2006-07 as base year, the ACGR for SBI has become negative. The ratio of NP to NW for SBI has shrunk in 2015-16 as almost half of the ratio of 2006-07, the first year of the decade.

The ratio of NP to NW for SBT shows variations at a wider range than that of SBI, as the swing of its annual ratios is between 5.61 and 27.02, while the average is 15.99. SBT also failed to register positive net increase in the ratio at the end and so the ACGR is negative.

In case of SBBJ, the ratio of NP to NW has shown variations in consecutive years and the variations fall between 12.61 and 19.71. Though the variations among the annual ratios are less wide than that of SBI and SBT, SBBJ also failed to make a positive increase in the end year with reference to the base year of the decade. Hence the ACGR for SBBJ has also become negative.

In all the three sample banks, the ACGR is negative, as the banks have failed to register net increase in the ratio of NP to NW in 2015-16 taking 2006-07.
as base year. The variations among the annual ratios are widest in SBT, wider in SBI and less wide in SBBJ. Thus SBBJ could exhibit almost consistency in its performance with reference to the ratio of NP to NW. SBI and SBT have to take strategic steps to bring in consistency in their annual ratios of NP to NW.

**Multiple Regression Analysis**

Net profit is the most important indicator of operational financial performances. It is the outcome of solvency, operational performance and productivity. In the following paragraphs, the multiple regression analysis of select banks has been carried out to assess the impact of solvency, operational performance and productivity on profitability of the select banks.

An attempt has been made to analyse the impact of Cash to Deposit ratio (C/D), Interest Earned to Total Income (IE/TI), Per Employee Deposits (PED) and Per Employee Advances (PEA) on the Net Profit to Total Income (NP/TI) of SBI with the help of linear multiple regression model.

In order to determine the significant factors for the dependent variable net profit to total income (NP/TI), the following independent variables are considered: C/D, IE/TI, PED and PEA.

**SBI**

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), C/D, IE/TI, PED, PEA.
R is the correlation, its value is 0.896 and R square is degree of determination, its value is 0.803. The degree of determination shows the extent to which C/D, IE/TI, PED and PEA influences on the NP/TI. Here, the NP/TI is determined to an extent of 89.6 per cent by C/D, IE/TI, PED and PEA.

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
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<td>.052b</td>
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<tr>
<td>Residual</td>
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<td>5</td>
<td>1.692</td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td>42.958</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent variable: NP/TI
b. Predictors: (Constant), C/D, IE/TI, PED, PEA.

ANOVA table shows that the significant value is equal to 0.05, which means dependent variable i.e., NP/TI is significantly predicted by independent variables namely C/D, IE/TI, PED and PEA at 95 per cent of confidence level.

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-22.131</td>
<td>23.474</td>
<td>-0.943</td>
<td>0.389</td>
</tr>
<tr>
<td>C/D</td>
<td>-5.221</td>
<td>22.619</td>
<td>-0.109</td>
<td>0.231</td>
</tr>
<tr>
<td>IE/TI</td>
<td>47.004</td>
<td>35.124</td>
<td>0.456</td>
<td>1.338</td>
</tr>
<tr>
<td>PED</td>
<td>3.094</td>
<td>2.194</td>
<td>2.782</td>
<td>1.411</td>
</tr>
<tr>
<td>PEA</td>
<td>-4.86</td>
<td>2.779</td>
<td>-3.756</td>
<td>-1.749</td>
</tr>
</tbody>
</table>

a. Dependent Variable: NP/TI
From the above coefficient table the multiple regression equation is

\[ y = -22.131 - 5.221x_1 + 47.004x_2 + 3.094x_3 - 4.860x_4. \]

All the independent variables have a positive effect on the net profit to total income except cash to deposit ratio and per employee advances.

SBT

### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.934</td>
<td>0.873</td>
<td>0.772</td>
<td>2.0455751</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), C/D, IE/TI, PED, PEA.

R is the correlation, its value is 0.934 and R square is degree of determination, its value is 0.873. The degree of determination shows the extent to which C/D, IE/TI, PED and PEA influences on the NP/TI. Here, the NP/TI is determined to an extent of 93.4 per cent by C/D, IE/TI, PED and PEA.

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
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<tr>
<td>Residual</td>
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<td></td>
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</tr>
<tr>
<td>Total</td>
<td>165.026</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent variable: NP/TI  
b. Predictors: (Constant), C/D, IE/TI, PED, PEA.

ANOVA table shows that the significant value is less than 0.05, which means dependent variable that is NP/TI is significantly predicted by independent variables namely C/D, IE/TI, PED and PEA at 99 per cent of confidence level.
### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>150.821</td>
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<td></td>
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</tr>
<tr>
<td>C/D</td>
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<td>48.259</td>
<td>0.161</td>
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<tr>
<td>IE/TI</td>
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<td>71.411</td>
<td>-0.896</td>
<td>-2.535</td>
</tr>
<tr>
<td>PED</td>
<td>-4.175</td>
<td>5.06</td>
<td>-1.501</td>
<td>-0.825</td>
</tr>
<tr>
<td>PEA</td>
<td>5.584</td>
<td>5.581</td>
<td>1.531</td>
<td>1.001</td>
</tr>
</tbody>
</table>

a. Dependent Variable: NP/TI

From the above coefficient table, the multiple regression equation is \( y = 150.821 + 15.379x_1 - 181.01x_2 - 4.175x_3 + 5.581x_4 \). All the independent variables have a positive effect on the net profit to total income except interest earned to total income ratio and per employee deposits.

### SBBJ

### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.771(^a)</td>
<td>0.594</td>
<td>0.27</td>
<td>0.7611114</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), C/D, IE/TI, PED, PEA.

R is the correlation, its value is 0.771 and R square is degree of determination, its value is 0.594. The degree if determination shows the extent to which C/D, IE/TI, PED and PEA influences on the NP/TI. Here, the net profit to total income is determined to an extent of 77.1 per cent by C/D, IE/TI, PED and PEA.
ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4.243</td>
<td>4</td>
<td>1.061</td>
<td>1.831</td>
<td>0.261</td>
</tr>
<tr>
<td>Residual</td>
<td>2.896</td>
<td>5</td>
<td>0.579</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7.140</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent variable: NP/TI
b. Predictors: (Constant), C/D, IE/TI, PED, PEA.

ANOVA table shows that the significant value is greater than 0.05, which means dependent variable that is NP/TI is not significantly predicted by independent variables namely PEA, IE/TI, C/D, and PED at 99 per cent of confidence level.

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>11.033</td>
<td>19.997</td>
<td>0.552</td>
<td>0.605</td>
</tr>
<tr>
<td>C/D</td>
<td>-6.226</td>
<td>13.855</td>
<td>-0.307</td>
<td>-0.449</td>
</tr>
<tr>
<td>IE/TI</td>
<td>5.097</td>
<td>29.841</td>
<td>0.135</td>
<td>0.171</td>
</tr>
<tr>
<td>PED</td>
<td>-0.233</td>
<td>1.327</td>
<td>-0.421</td>
<td>-0.176</td>
</tr>
<tr>
<td>PEA</td>
<td>-0.149</td>
<td>1.629</td>
<td>-0.215</td>
<td>0.931</td>
</tr>
</tbody>
</table>

a. Dependent Variable: NP/TI

From the above coefficient table the multiple regression equation is

\[ y = 11.033 + (-6.226)x_1 + 5.097x_2 - 0.233x_3 - 0.149x_4. \]

All the independent variables have a negative effect on the net profit to total income except interest earned to total income ratio.
Conclusion

The five profitability ratios, calculated for SBI have shown decreased figures during the last three years of the decade of study, i.e., from 2013-14 to 2015-16. During these three years all the five ratios are less than the average of the decade. These dismal ratio values denote clearly the poor performance of SBI in making net profits. Thus, the profitability of SBI is not satisfactory. In case of SBT also, its performance with respect to the five profitability ratio is very much gloomy during last three years of the decade, i.e., from 2013-14. The values of the ratios are miserable when compared to that of SBI. Thus, the profitability of SBT is very much uncomfortable. Similar to the performance of SBI and SBT, in SBBJ also, the five profitability ratios have lost their values during the last three years of the decade, i.e., from 2013-14 to 2015-16. Among the five ratios, the ratio of net profit to total deposits has lost its value below the average for the last two years only. However, the low ratios of SBBJ depict its uncomfortable profitability. The overall picture of the profitability ratios of all the three sample banks denotes the deteriorated level of their net profit. They have to improve their operational performance for enhancing the profitability. Further the multiple regression analysis shows that the NP/TI of SBI and SBT is determined to an extent of 89.6 per cent and 93.4 per cent respectively by C/D, IE/TI, PED and PEA which is significant of 95 per cent and 99 per cent level. Whereas the NP/TI of SBBJ is determined only to extent of 77.1 per cent of C/D, IE/TI, PED and PEA, which is not significant one.
References


2. Ibid


