A study of financial performance: Public Sector Banks viz-a-viz Private Sector Banks

Dr. Dharmesh Raval*1 and Dr. Hitesh Shukla2

*1Professor, School of Management, RK University, Rajkot-Gujarat, (India)
2Professor, Department of Business Management, Saurashtra University, Rajkot-Gujarat (India)

INTRODUCTION TO BANKING IN INDIA

Competition gets business going. Whether its small business arena or large scale business, competitive environment bring best in all participants. Indian Banking Sector is a typical case in global banking business. Indian banks serve a huge Indian population which is regarded as very ambitious citizens specially the businessmen and women. India being one of the fastest growing countries of the world and among most populous country of the world, has well established banking system in the country. Evidence of sound Banking is found even prior to independence.

The banking system in India includes Co-operative and Commercial Banks, of which the latter accounts for around 95% of banking system assets. The commercial banking sector consists of State owned or public sector banks, Indian private banks and foreign banks operating in India. State-owned banks include nationalized banks (majority equity ownership with the Government, like Bank of Baroda, Bank of India, etc), the State Bank of India (majority equity ownership with the Reserve Bank of India) and its associate banks (majority equity ownership with State Bank of India). State-owned banks and State Governments jointly sponsor a number of Regional Rural Banks. These banks account for, on an average, over 70% of commercial banking assets in India.

All commercial banks, whether public, private or foreign, are regulated by the Reserve Bank of India (RBI) the central bank of India. Indian Banking sector has witnessed two rounds of nationalization of banks, first one in 1969 when 14 major private sector banks with deposit liability of Rs 0.50 billion or more were nationalized, and thereafter two in 1980, when six major private sector banks with deposits not less than Rs. 2 billion.

After initiation of privatization in Public Sector Banks (PSBs) from 1991, there is a sea change observed in banking industry. Both, private sector banks and public sector banks have responded to the banking demands of customers and have played a key role in the emergence of India as a global player in international trade.

There were just 89 commercial banks in India in late 60s, the number has doubled in 45 years and today there are 173 commercial banks in the country with more than one lakh bank offices across the country. There are 27 Nationalized Banks, including SBI and its 6 associate banks, 15 Old Private Sector Banks and 7 New Private Sector Banks, currently operating in India.

This research paper is focusing on the comparative analysis of two groups of Banks in India, listed on Bombay Stock Exchange (BSE) and are forming part of S&P BSE BANKEX. The current research work which covers a period of ten(10) years includes years before subprime crisis and also includes years after subprime crisis of the year 2007. Total 14 (fourteen) banks are selected, 7 (seven) each from public sector and private sector. 5 (five) different measures of performance are identified viz. Loan to Deposit Ratio, Cash to Deposit Ratio, Return on Net Worth, Interest income to total income and Dividend Payout Ratio. Above ratios are calculated for a period of 10 (ten) years and their averages are calculated which are used in analysis in this research work.

REVIEW OF LITERATURE

A significant number of researches conducted on banks and its performance. Summary of some of the research in this area over past couple of decades is as follows:

Chaudhary, K., & Sharma, M. (2011) have studied the comparative performance of public sector and private sector banks of India, typically the research is focused on Non-Performing Assets(NPA) of private and public sector banks and the measures to control them. Chaudhary G. has studied the comparative performance of public sector and private sector banks.

Goel, C., & Rekhi, C. B. (2013) in their study on public and private sector banks have analyzed six banks over a period of four years and studied their relative correlation with the help of coefficient of correlation matrix.
By using financial ratio analysis the attempt was made to assess the performance of banks by SamadAbdus (2004), Tarawneh M. (2006). Along with finding the performance of banks, a significant research work is also carried out to appraise the reasons of good or bad performance by analyzing cost and profit efficiencies by Berger & Humphrey (1997). When performance of banks were compared with their stock returns, interesting evidences were identified supporting importance of profit efficiencies over cost efficiencies. Chu, S. F., & Lim, G. H. (1998). Data Envelopment Analysis is used to find the efficiency and profitability of banks by Oberholzer and Van der Westhuizen (2004), Cronje(2007) and Mlambo, K., &Neube, M. (2011). A lot of investigatory research work are carried out to establish relationship of performance of banks with other factors Demirgü-Kunt, A., & Huizenga, H. (1999), Spathis, C., Kosmidou, K., &Doumpos, M. (2002) and Alkhathib, A., &Harshes, M. (2012). CAMEL model to evaluate the performance of banks is a popular way to assess the performance, used as base by Dash, M., & Das, A. (2009), ManojPK (2010), and Hays F H., De Lurgio and Gilbert (2009) in different perspectives. Even the model developed by Hays F H. et al.,(2009) can be extremely helpful for further research in the area of performance appraisal of banks.


Berger & Humphrey (1997) emphasized that the reason of measuring bank performance is to separate banks that are performing from those which are not. There are interesting observation in their research work that the Banks that show the highest inefficiencies and incur the highest cost might be able to generate greater profits than more cost efficient banks.


Average profit efficiency (83%) was found to be significantly lower than average cost efficiency (95%). The mean profit efficiency is, however, higher than the averages of banks in the US (64%) and Spain (72%). By Regression study they found that percentage changes in the prices of the bank shares reflect percentage changes in profit rather than cost efficiencies.

Das, A. (2002) examined the interrelationships among capital, non-performing loans and productivity of Indian Banks by analyzing public sector banks for a period of five years. He found that capital, risk and productivity change to be interconnected. It was observed that inadequately capitalized banks have lower productivity and are subject to a higher degree of regulatory pressure than adequately capitalized ones. It was also observed that lowering government ownership tends to improve productivity.

Spathis, C., Kosmidou, K., &Doumpos, M. (2002) investigated the difference of profitability and efficiency between small and large Greek Banks, as well as the factors of profitability and operation related with the size of banks, using a multi criteria methodology. Effectiveness of small and large banks were measured with the help of Return on Equity, Return on Assets and Net Interest Margin ratios. Researchers investigated the effectiveness of Greek banks based on their assets size. A study of multi criteria methodology was used to classify Greek banks according to the return and operation factors.

Dash, M., & Das, A. (2009) analyzed fifty-eight banks operating in India, including twenty-nine public sector banks, and twenty-nine private sector/foreign banks. It was found that private/foreign banks had higher Capital Adequacy Ratio than public sector banks; private/foreign banks had higher Sales per Employee than public sector banks. It was found that public sector banks had higher Return on Net Worth than private/foreign banks and private/foreign banks had higher Operating Profit to Average Working Fund Ratio and Profit after Tax to Total Assets Ratio than public sector banks. Based on overall CAMEL rating Barclays Bank was the best performing bank for 3 years, while Bank of America was the best performing bank for 2 years in the total study period of the research work.

RESEARCH METHODOLOGY

In this paper descriptive financial ratio analysis is used to measure, describe and analyze the performance of 14 (fourteen) S&P BSE Bankex banks in India for a period of 10 (ten) years from 2004-05 to 2013-14. The basic data are collected from Capitaline database and those drawn data are analyzed by researcher, calculated ratios and applied statistical test, particularly T Test to test the hypothesis. All ratios, their averages and tests are calculated using Microsoft Excel software.

For the current research work financial ratios are used as tools of measuring financial performance of commercial banks. The ratios that are used in this study are broadly divided into three groups, viz., (A) Ratios indicating Liquidity (B) Ratios indicating Profitability and (C) Ratios indicating Dividend Policy of the Bank. The use of ratio is popular in the literature of finance and accounting practices. Spathis, C., Kosmidou, K., &Doumpos, M. (2002), SamadAbdus (2004), Tarawneh M. (2006), Dash, M., & Das, A. (2009), Kumbirai, M., & Webb, R. (2010) used ratio in measuring bank’s performance. One of the advantage for in using ratio for measuring banks’ performance is that it re-balances the imbalance and disparities created by bank size.

The most commonly used statistical significance tests applied to small data sets is the series of Student's tests. One of these tests is used for the comparison of two means, which is commonly applied in many cases.

The outcome of these tests is the acceptance or rejection of the null hypothesis ($H_0$).

All significance tests provide results within a predefined confidence level %. Confidence levels commonly used are 90%, 95% and 99%, with most popular the 95%.

In this analysis, researcher has defined confidence level of 95%, which means that: In case of rejecting $H_0$ we are 95% or
more certain that we did the right thing. In other words, we risk a probability of no more than (100-95)/100 = 0.05 for a Type I error.

**MEASURE OF FINANCIAL PERFORMANCE OF INDIAN BANKS**

Banking sector has undergone huge changes in India since independence. With rapidly changing economic and social profile of the country, banking sector has responded equally. With every new government at center and their every annual budget bringing gradual change in the economy, banking sector has molded itself so as to benefit itself from the changes happening in the macro environment.

The performance of banks can be assessed in number of ways, ratio analysis is prominent among them as it helps in identifying its performance in key area. In this research work the performance of banks are assessed in five key areas: (A) Loan to Deposit (B) Cash to Deposit (C) Return on Net worth (D) Ratio of Interest income to Total income (E) Dividend payout ratio

**Loan to Deposit Ratio [LTD]**

To study the liquidity position of banks we need to understand the amount of deposits and its proportion to loans. Loan to Deposit Ratio is an appropriate measure to study the relationship between loans and deposits. This ratio is calculated by dividing the banks total loans by its total deposits, and the result is expressed in percentage. If the ratio is high, it means that banks have less liquidity to cover any unexpected or sudden fund requirements; if the ratio is low, banks may not be earning as much as they could be by using the depositors’ money.

**Cash to Deposit Ratio [CTD]**

Another important ratio to measure the liquidity position of a bank is the ratio of its cash position compared with Deposits it has received from its customers. This ratio is calculated by dividing the banks total cash (as on balance sheet date) by its total deposits, and the result is expressed in percentage. If the ratio is high, it means that banks have enough liquidity to cover any unexpected or sudden fund requirements; if the ratio is low, banks may be earning much as they could be by using the depositors’ money, although it shows poor liquidity.

**Return on Net Worth**

It is a well-known fact that continued earning is a pre-condition for survival of any business organization, it becomes even more important for a financial institution like Banks to earn appropriately. For understanding the profit position of banks, it is important to compare their profitability rather than merely looking to their amount of profits. Hence we have calculated Return on Net worth (RNW) as a ratio to measure the proportion of profit earned compared to amount of money belonging to the Equity Share Holders. The Ratio has been calculated by comparing annual profit with the Equity Shareholders Funds.

**Ratio of Interest Income to Total Income**

Interest income comprises major source of revenue in banking business. It reflects the focus of bank on its core business, i.e. to lend money. The ratio of Interest Income to Total Income will help in understanding the share of Interest Income in the Total Income of a Bank. With more of Interest Income the Bank can be referred to having stable source of Income from its core business activity.

**Dividend Payout Ratio**

Dividend Payout Ratio (DPR) is an important measure to understand the amount of confidence shareholders have in the company. Investors are investing in equity for both capital appreciation and regular dividend income. Does that it mean that shareholders will remain invested only if they get regular dividends and/or appreciation in the value of their investments? To understand this, DPR is calculated for the selected banks. DPR is calculated by dividing Dividend per share (DPS) by Earnings per share (EPS)

DPR is also a measure of how much earnings a company is paying out to its shareholders as compared to how much it is retaining for reinvestment. Higher amount of distribution can lead to higher amount of confidence of investors in Bank and lower amount of distribution may lead to lower level of confidence among investors, but most important is where such un-distributed funds are used? If it is invested in more important or more profitable places it will ultimately lead to value maximization of shareholders.

**SELECTED BANKS FOR STUDY**

**Public Sector Banks**

1. Bank of Baroda
2. Bank of India
3. Canara Bank
4. IDBI Bank
5. Punjab National Bank
6. State Bank of India
7. Union Bank

**Private Sector Banks**

1. Axis Bank
2. Federal Bank
3. HDFC Bank
4. ICICI Bank
5. IndusInd Bank
6. Kotak Mahindra Bank
7. Yes Bank

**RESEARCH OBJECTIVES**

1. To study similarity or otherwise between average loan to deposit ratio of 7 (seven) public sector banks and 7 (seven) private sector banks.
2. To study similarity or otherwise between average cash to deposit ratio of 7 (seven) public sector banks and 7 (seven) private sector banks.
3. To study similarity or otherwise between average net worth ratio of 7 (seven) public sector banks and 7 (seven) private sector banks.
4. To study similarity or otherwise between average interest income to total income ratio of 7 (seven) public sector banks and 7 (seven) private sector banks.
5. To study similarity or otherwise between average dividend ratio of 7 (seven) public sector banks and 7 (seven) private sector banks.
The t-test gives the probability that the null hypothesis is true or false. So, a value of 0.05 or 5% or greater suggests that there is no significant difference between the means. Any actual difference is likely to be due to chance only. If the value is less than 0.05 or 5%, an alternative hypothesis needs to be made since the means appear to be significantly different since they do not overlap significantly.

**TESTING OF HYPOTHESIS**

1. Loan to Deposit Ratio

H0: “The individual Loan to Deposit ratio is same between different public sector banks and private sector banks during the period of study.”

<table>
<thead>
<tr>
<th>Loan to Deposit Ratio(10 years average)</th>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>67.83</td>
<td>67.84</td>
</tr>
<tr>
<td>Bank 2</td>
<td>73.25</td>
<td>70.27</td>
</tr>
<tr>
<td>Bank 3</td>
<td>69.12</td>
<td>71.78</td>
</tr>
<tr>
<td>Bank 4</td>
<td>147</td>
<td>93.96</td>
</tr>
<tr>
<td>Bank 5</td>
<td>70.98</td>
<td>73.28</td>
</tr>
<tr>
<td>Bank 6</td>
<td>75.23</td>
<td>93.77</td>
</tr>
<tr>
<td>Bank 7</td>
<td>72.17</td>
<td>81.14</td>
</tr>
<tr>
<td>Average</td>
<td>82.23</td>
<td>78.86</td>
</tr>
<tr>
<td>SD</td>
<td>28.67</td>
<td>11.05</td>
</tr>
<tr>
<td>T-test</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>T-Test</td>
<td>78%</td>
<td></td>
</tr>
</tbody>
</table>

The t-test gives the probability that the null hypothesis is true. Value of 5% or greater suggests that there is no significant difference between the means. Any actual difference is likely to be due to chance. In the above case of Loan to Deposit Ratio, the value is 78% which is much higher than 5%, signifies that Null Hypothesis is accepted, and the Loan to Deposit Ratio is same for public sector banks and private sector banks.

H0: “The individual Loan to Deposit ratio is same between different public sector banks and private sector banks during the period of study.”

Average ratio of both the private sector and public sector is nearly same, whereas there is a high amount of SD in case of public sector, which signifies that public sector banks are not much consistent in comparison with private sector banks.

2. Cash to Deposit Ratio

H0: “The individual Cash to Deposit ratio is same between different public sector banks and private sector banks during the period of study.”

<table>
<thead>
<tr>
<th>Cash to Deposit Ratio(10 years average)</th>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>4.90</td>
<td>7.66</td>
</tr>
<tr>
<td>Bank 2</td>
<td>5.50</td>
<td>6.05</td>
</tr>
</tbody>
</table>

The t-test gives the probability that the null hypothesis is true. Value of 5% or greater suggests that there is no significant difference between the means. Any actual difference is likely to be due to chance. In the above case of Cash to Deposit Ratio, the value is 86% which is much higher than 5%, signifies that Null Hypothesis is accepted, and the Cash to Deposit Ratio is same for public sector banks and private sector banks.

With regard to average ratio, both the public sector and private sector are having nearly similar average, and there is a minor difference in SD, which signifies that with regard to cash to deposit ratio both the sector are performing at par.

3. Return on Net Worth

H0: “The return on net worth ratio is same between different public sector banks and private sector banks during the period of study.”

<table>
<thead>
<tr>
<th>Return on Net Worth Ratio(10 years average)</th>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>16.52</td>
<td>18.98</td>
</tr>
<tr>
<td>Bank 2</td>
<td>17.23</td>
<td>14.65</td>
</tr>
<tr>
<td>Bank 3</td>
<td>19.49</td>
<td>18.35</td>
</tr>
<tr>
<td>Bank 4</td>
<td>10.62</td>
<td>12.30</td>
</tr>
<tr>
<td>Bank 5</td>
<td>20.23</td>
<td>15.38</td>
</tr>
<tr>
<td>Bank 6</td>
<td>15.43</td>
<td>12.90</td>
</tr>
<tr>
<td>Bank 7</td>
<td>20.35</td>
<td>20.21</td>
</tr>
<tr>
<td>Average</td>
<td>17.12</td>
<td>16.11</td>
</tr>
<tr>
<td>SD</td>
<td>3.45</td>
<td>3.10</td>
</tr>
<tr>
<td>T Test</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>T Test</td>
<td>57%</td>
<td></td>
</tr>
</tbody>
</table>

The t-test gives the probability that the null hypothesis is true. Value of 5% or greater suggests that there is no significant difference between the means. Any actual difference is likely to be due to chance. In the above case of Return on Net Worth Ratio, the value is 57% which is much higher than 5%, signifies that Null Hypothesis is accepted, and the Return on Net Worth Ratio is same for public sector banks and private sector banks.
H0: “The return on net worth ratio is same between different public sector banks and private sector banks during the period of study.”

In above case it is very interesting to note that the averages of both groups as well as SD are very close to each other. Hence with regard to profitability both groups of banks are similar in their performance.

4. Ratio of Interest Income to Total Income

H0: “The ratio of interest income to total income is same between different public sector banks and private sector banks during the period of study.”

<table>
<thead>
<tr>
<th>Interest Income to Total Income Ratio(10 years average)</th>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank 1</td>
<td>87</td>
<td>79</td>
</tr>
<tr>
<td>Bank 2</td>
<td>87</td>
<td>88</td>
</tr>
<tr>
<td>Bank 3</td>
<td>88</td>
<td>82</td>
</tr>
<tr>
<td>Bank 4</td>
<td>86</td>
<td>78</td>
</tr>
<tr>
<td>Bank 5</td>
<td>88</td>
<td>83</td>
</tr>
<tr>
<td>Bank 6</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>Bank 7</td>
<td>88</td>
<td>79</td>
</tr>
<tr>
<td>Average</td>
<td>87</td>
<td>82</td>
</tr>
<tr>
<td>SD</td>
<td>1.15</td>
<td>3.41</td>
</tr>
<tr>
<td>T Test</td>
<td>0.002</td>
<td>3.41</td>
</tr>
</tbody>
</table>

The t-test gives the probability that the null hypothesis is not true. Value of 4.9% or lesser suggests that there is a significant difference between the means. Any actual difference is likely to be due to chance. In the above case of Dividend Payout Ratio, the value is 71% which is much higher than 5%, signifies that Null Hypothesis is accepted, and the Dividend Payout Ratio is same for public sector banks and private sector banks.

H0: “The dividend payout ratio is same between different public sector banks and private sector banks during the period of study.”

The standard deviation suggests that public sector banks are much more consistent than private sector banks with regard to dividend payout.

CONCLUSION

Comparing two groups of banks from the same sector is always an interesting exercise. It is very important that we do not jump to conclusions from the few results of statistical analysis. Different performance measures and their average when compared over a period of 10 years will be a good sample to study the entire banking sector.

Apart from one measure of Interest income to total income ratio, where there are dissimilarity between the two groups, for rest of the measures of performance the researcher has observed similarity. This brings to us some startling conclusions that public sector and private sector banks are performing at par and giving stiff competition to each other. Public sector banks are possessing a strong reputation and goodwill with them which is a big asset in banking business, whereas private sector bring with them a lot of promise in the area of electronic banking, competitive business banking and big brand names.

REFERENCES


[5] Chaudhary, G. Performance Comparison of Private Sector Banks with the Public Sector Banks in India.


