ANALYSIS OF FINANCIAL HEALTH OF BANKING INDUSTRY THROUGH DuPont MODEL

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ABSTRACT

This paper is concerned with the Analysis of Financial Health of Banking Industry through DuPont model. It is secondary data based study covering period of 5 years from 2006-07 to 2010-11. In this paper an attempt has been made to analysis the financial performance through different ratios of DuPont model. ANOVA test has also been used to test the significance relationship among different ratios of selected banks. From analysis though DuPont model it is concluded that The PBIDT/Sales (%) ratio is highest of SBI, Sales/ net asset ratio is highest of Corporation banks, PBDIT/Net asset ratio is highest in SBI,Dena Bank, and Corporation Bank. PAT/PBDIT % ratio is highest in Dena bank, Net asset/ Net worth ratio is highest in Bank of Baroda and ROE is highest in SBI.

Keywords: Financial performance, DuPont Model, ANOVA test, Bank Industry.

I. INTRODUCTION

One of the more useful measures of the financial performance of a company is the DuPont Equation. This model allows the stock analyst, as well as the investor, to examine the profitability of a company using information from both the income statement as well as the balance sheet. The advantage of this model is that it uses information from both the balance sheet and income statement. This gives the stock analyst a thorough view of a company's financial health and operating efficiency. The disadvantage of the DuPont model is that it relies on accounting data, which can be manipulated by companies to hide weaknesses in the short term. There are two forms of the DuPont Equation; the first examines return on assets, while the second examines return on equity. The model relies on expanding, or extending, a well-known financial ratio using simple mathematical techniques. Please refer Chart I.

Profile of Banking Industry

Indian merchants in Calcutta established the Union Bank in 1839, but it failed in 1848 as a consequence of the economic crisis of 1848-49. The Allahabad Bank, established in 1865 and still functioning today, is the oldest Joint Stock bank in

India. (Joint Stock Bank: A company that issues stock and requires shareholders to be held liable for the company's debt) It was not the first though. That honor belongs to the Bank of Upper India, which was established in 1863, and which survived until 1913, when it failed, with some of its assets and liabilities being transferred to the Alliance Bank of Simla. Foreign banks too started to arrive, particularly in Calcutta, in the 1860s. The Comptoired'Escompte de Paris opened a branch in Calcutta in 1860, and another in Bombay in 1862; branches in Madras and Pondicherry, then a French colony, followed. HSBC established itself in Bengal in 1869. Calcutta was the most active trading port in India, mainly due to the trade of the British Empire, and so became a banking center.

The first entirely Indian joint stock bank was the Oudh Commercial Bank, established in 1881 in Faizabad. It failed in 1958. The next was the Punjab National Bank, established in Lahore in 1895, which has survived to the present and is now one of the largest banks in India. Around the turn of the 20th Century; the Indian economy was passing through a relative period of stability. Around five decades had elapsed since the Indian Mutiny, and the social, industrial and other infrastructure had improved. Indians had established small banks, most of which served particular ethnic and religious communities. The financial crisis of 2007-2008 was triggered by an insolvent United States banking system resulting in the collapse of large financial institutions, the bailout of banks by national governments and downturns in stock markets around the world.

The destabilization of the banking sector in the U.S. had a domino effect on the global financial industry, with effects felt in Europe, the Middle East and the Asia Pacific. 24 months later, the global financial industry still hasn't regained its lost glory, and even countries with deep pockets such as the U.A.E. and Singapore have exhibited limited sectoral growth. There are a range of retail jobs to suit most skill sets, including banking officer, probationary officer, loan agent, assessor, mortgage loan underwriter, loan processing officer, accountant, product marketing and sales executive, and customer service executive among others. However, job security is not very high in retail banking as many players suffer from shrinking margins and poor customer retention due to increasing competition and limited market differentiation, leading to lay-offs. Improving information flow to customers. Hence, there is a growing emphasis on in-house research and market intelligence. In the upcoming 12 months, hiring is likely to remain robust. Many banks are investing in training programs to upgrade worker skills to enhance their competitive edge in anticipation of the segment

once more regaining its rightful place as the harbinger of development and progress.

II. REVIEW OF LITERATURE

In order to more effectively evaluate operational managers, Nissim & Penman (2001) suggest using a modified version of the traditional DuPont model in order to eliminate the effects of financial leverage and other factors not under the control of those managers. Using operating income to sales and asset turnover based on operating assets limits the performance measure of management to those factors over which management has the most control. The modified DuPont model has become widely recognized in the financial analysis literature. See, for example, Pratt & Hirst (2008), Palepu & Healy (2008), and Soliman (2008). In addition, Soliman (2004) found that industry-specific DuPont multiplicative components provide more useful valuation than do economy-wide components, suggesting that industry-specific ratios have increased validity.

In carrying out bank performance analysis, it is important to emphasize that banks differ in their corporate governance from firms in other, less regulated industries. These differences, in turn, present their own challenges for bank managers, regulators, depositors, investors, and other stakeholders. "Bank managers live in a more complex environment than their peers in industry due to bank regulations. In addition to the demands placed on them by shareholders, regulators have strong incentives to influence managerial action, and this may be in conflict with shareholder demands" Harm (2002). Governance is a set of mechanisms with which the providers of capital and other stakeholders are defending their interests against the firm. The firm is run by managers, and this a point where conflicts of interests starts. An excellent survey of recent literature (both theoretical and empirical) is also presented by Harm (2002).

Macey and O'Hara (2003) argue that bank officers and directors should be held to broader (if not higher) set of standards than their counterparts in less regulated non- financial firms, and banks pose special corporate governance problems. Kose and Qian (2003) consider another important theme in the corporate governance of banks – the effect of the incentive features built into the compensation schemes of bank mangers. Adams and Mehran (2003) focus also on the differences between the corporate governance of banks and manufacturing firms and support the theory that governance structures are industry-specific. In general, the components of firm's governance structure are

determined by various different factors, which all will influence also performance analysis aims and techniques: the nature and structure of firm's assets and liabilities (leverage, share of financial assets, business risk, cash- flow patterns), firm size, industry, regulations, etc.

Various measures of rates of return are used mainly for that purpose. We fully agree with the opinion that "Relaying too heavily on just a few indicators of bank profitability can be misleading. While ROA, ROE, and interest margin (and non interest expenses) to gross income remain the key measures, they should ideally be supplemented by the analysis of other operating ratios" Sundararajan, et al (2002).

Brigham and Houston, (2001) the modified model was a powerful tool to illustrate the interconnectedness of a firm's income statement and its balance sheet and to develop straight-forward strategies for improving the firm's ROE.

Hawawini and Viallet (1999) offered yet another modification to the DuPont model. This modification resulted in five different ratios that combine to form ROE. In their modification they acknowledge that the financial statements firms prepare for their annual reports (which are of most importance to creditors and tax collectors) are not always useful to managers making operating and financial decisions.

III. OBJECTIVES OF THE STUDY

1. To study financial performance of selected banks through DuPont model
2. To analyze the consistency, stability & overall trends, management efficiency, solvency, profitability of the banks by the different ratios used in DuPont model.
3. To offer suggestions if any required for increasing financial performance of selected banks.

IV. METHODOLOGY OF THE STUDY

A. Source of the data: "Analysis of Financial Health of Banking Industry through DuPont model" has been made by using data from financial statements of all five (5) years of selected banks. The period of the study was ten years from 2006-07 to 2010-11. Convenient sampling technique has been used by the researcher and type of research is analytical. The data was collected from cpitaline database and from the annual reports of the respective companies. Analysis and interpretation of data have been carried using the

statistical techniques such as percentages, correlation and ANOVA using SPSS package.

Table no-1 indicates that higher ratio, higher the profitability. It tells us how efficiently a company operates. From this we can see that Canara bank's profit ratio is highest in 2007 to 2011 year. So its financial health is best and it is followed by Corporation Bank which is on the second position. Bank of Baroda and Dena bank has moderate level of profitability and state bank of India has lowest profitability. This ratio of State bank of India is highest in March 2009 i.e. 68.04 and lowest in March 2011 i.e.58.77. In Bank of Baroda, the ratio is highest in March 2010 i.e. 70.84 and lowest in March 2007 i.e.61.82. In Dena bank, the ratio is highest in March 2010 i.e. 74.4 and lowest in March 2007 i.e.56.67. In Corporation bank, the ratio is highest in March 2010 i.e. 73.75 and lowest in March 2007 i.e.64.78. In Canara bank, the ratio is highest in March 2011 i.e. 74.77 and lowest in March 2007 i.e. 68.2.In the year of 2011 the highest ratio is of Canara bank i.e 74.77 and lowest is of State bank of India i.e. 58.77. In the year of 2010 the highest ratio is of Canara bank i.e. 74.47 and lowest is of State bank of India i.e. 65.71. In the year of 2009 the highest ratio is of Canara bank i.e. 74.05 and lowest is of State bank if India i.e. 68.04. In the year of 2008 the highest ratio is of Canara bank i.e. 74.07 and lowest is of State bank if India i.e. 66.25. In the year of 2007 the highest ratio is of Canara bank i.e. 68.2 and lowest is of Dena bank i.e. 56.67.

B. Hypothesis:-

1. Ho= There is no stastically significant difference between PBIDT and sales in public sector banks.
2. Ha= There is a stastically significant difference between PBIDT and sales ratio in public sector banks.

The table -2 shows that the calculated value of F is 3.89 which is less than the table value of 2.87 at 5% level. As the observed value of f (i.e. 3.89.) is not in acceptance region, we reject Ho at 5% level. The alternative hypothesis is accepted and null hypothesis is rejected and conclude that there is significance difference in the financial health of public sector banks.

Table-3 indicates sales to net asset ratio which tells us how efficiently assets are used by a company. The asset turnover ratio tends to be inversely related to the net profit margin; i.e., the higher the net profit margin, the lower the asset turnover. When this ratio rises across the time, it is a good sign signaling

superior asset management of the concerned bank. From the above chart we can see that bank of Baroda have highest ratio i.e. 0.31. so we can say that BOB has used their asset more efficiently than other banks. Then the second highest is Canara bank, State bank of India and Dena bank have same ratio. Corporation Bank has lowest ratio so their asset are not used efficiently. This ratio of State bank of India is highest in March 2011 i.e. 0.32 and lowest in March 2009 i.e.0.27. In Bank of Baroda, the ratio is highest in March 2011 i.e. 0.34 and lowest in March 2007 i.e.0.29. In Dena bank, the ratio is highest in March 2009 i.e. 0.31and lowest in March 2007 i.e.0.27. In Corporation bank, the ratio is highest in March 2008 i.e. 0.3 and lowest in March 2010 & 2011 i.e.0.24. In Canara bank, the ratio is highest in March 2009 i.e. 0.32 and lowest in March 2007 i.e. 0.27.In the year of 2011 the highest ratio is of Bank of Baroda i.e. 0.34 and lowest is of corporation bank i.e. 0.24. In the year of 2010 the highest ratio is of Bank of Baroda i.e. 0.31 and lowest is of Corporation Bank i.e. 0.24. In the year of 2009 the highest ratio is of Bank of Baroda i.e. 0.33 and lowest is of State bank if India i.e. 0.27. In the year of 2008 the highest ratio is of Canara bank i.e. 0.31 and lowest is of all other banks i.e. 0.3. In the year of 2007 the highest ratio is of Bank of Baroda and SBI i.e. 0.29 and lowest is of all other three banks i.e. 0.27.

C. Hypothesis:-

1. Ho= There is no stastically significant difference between sales and net asset ratio of the public sector banks.
2. Ha= There is a stastically significant difference between sales and net asset ratio of the public sector banks.

The table-4 shows that the calculated value of F is 0.972973 which is less than the table value of 2.866081 at 5% level. As the observed value of f (i.e. 0.972973) is in acceptance region, we accept Ho at 5% level. The null hypothesis is accepted and alternative hypothesis is rejected and conclude that there is no significance difference in the financial health of public sector banks.

Table-5 explains PBIDIT to Net assets ratio.ROA measures the profitability of asset used by the bank. Like most profit measures, this ratio should be positive and growing over the time. Canara bank has highest ratio i.e. 0.22 so we can say that the profitability of asset is higher than other banks. Second highest ratio is of BOB. SBI, Dena bank and Corporation bank have same ratio i.e. 0.19. They have low profitability of asset. This ratio of State bank of India is highest in March 2008 i.e. 0.2 and lowest in March 2007 i.e.0.18. In Bank of Baroda, the ratio is highest in March 2011 i.e. 0.24 and lowest in March 2007 i.e.0.18. In

Dena bank, the ratio is highest in March 2009 i.e. 0.22 and lowest in March 2007 i.e.0.15. In Corporation bank, the ratio is highest in March 2008 i.e. 0.22 and lowest in March 2011 i.e.0.17. In Canara bank, the ratio is highest in March 2009 i.e. 0.24 and lowest in March 2007 i.e. 0.18.In the year of 2011 the highest ratio is of BOB i.e 74.77 and lowest is of Corporation bank i.e. 58.77. In the year of 2010 the highest ratio is of BOB i.e. 74.47 and lowest is of Corporation bank i.e. 65.71. In the year of 2009 the highest ratio is of Canara bank i.e. 74.05 and lowest is of State bank if India i.e. 68.04. In the year of 2008 the highest ratio is of Canara bank i.e. 74.07 and lowest is of State bank if India, BOB and Dena bank i.e. 66.25. In the year of 2007 the highest ratio is of except Dena bank i.e. 68.2 and lowest is of Dena bank i.e. 56.67.

D. Hypothesis:-

1. Ho= There is no stastically significant difference between PBDIT and net asset ratio of the public sector banks.
2. Ha= There is a stastically significant difference between PBDIT and net asset ratio of the public sector banks.

The table No-6 shows that the calculated value of F is 3.711864 which is more than the table value of 2.866081 at 5% level. As the observed value of f (i.e3.711864.) is not in acceptance region, we reject Ho at 5% level. The alternative hypothesis is accepted and Null hypothesis is rejected and conclude that there is significance difference in the financial health of public sector banks.

Table-7 shows PAT to PBIDT ratio. The Higher the ratio, higher is the profitability of the banks. From the above chart we can see that Bank of Baroda has highest ratio i. e 19.43. So its performance is excellent then other banks and it is followed by Corporation bank, Canara bank, SBI and Dena bank. This ratio of State bank of India is highest in March 2009 i.e. 17.53 and lowest in March 2011 i.e.14.47. In Bank of Baroda, the ratio is highest in March 2011 i.e. 24.48 and lowest in March 2008 i.e.1537. In Dena bank, the ratio is highest in March 2008 i.e. 16.53 and lowest in March 2007 i.e.13.56. In Corporation bank, the ratio is highest in March 2007 i.e. 20.71 and lowest in March 2009 i.e.16.94. In Canara bank, the ratio is highest in March 2011 i.e. 20.9 and lowest in March 2008 i.e. 12.8.In the year of 2011 the highest ratio is of BOB i.e. 24.48 and lowest is of State bank of India i.e. 14.47. In the year of 2010 the highest ratio is of BOB i.e. 22.13 and lowest is of Dena bank i.e. 14.94. In the year of 2009 the highest ratio is of BOB i.e. 18.26 and lowest is of Canara bank i.e. 14.32. In the year of 2008 the highest ratio is of Corporation bank i.e. 19.3 and lowest is of Canara

bank i.e. 12.8. In the year of 2007 the highest ratio is of Corporation bank i.e. 20.71 and lowest is of Dena bank i.e. 13.76.

E. Hypothesis:-

1. Ho= There is no stastically significant difference between PAT and PBIDT ratio of public sector banks.
2. Ha= There is a stastically significant difference between PAT and PBIDT ratio of public sector banks.

The table No.8 shows that the calculated value of F is 0.842178 which is less than the table value of 2.866081 at 5% level. As the observed value of f (i.e. 0.842178) is in acceptance region, we accept Ho at 5% level. The null hypothesis is accepted and alternative hypothesis is rejected and conclude that there is no significance difference in the financial health of public sector banks.

Table-No.9 Indicates Net assets to Net worth ratio. Higher the value of this ratio more will be the efficiency of the bank. From the above chart we can see that Dena bank has highest ratio i.e. 6.69 and it has highest efficiency in generating profit than other banks and it is followed by Canara bank, Corporation bank, SBI and BOB. This ratio of State bank of India is highest in March 2007 i.e. 4.86 and lowest in March 2008 i.e.3.93. In Bank of Baroda, the ratio is highest in March 2009 i.e. 4.25 and lowest in March 2011 i.e.3.5. In Dena bank, the ratio is highest in March 2007 i.e. 7.8 and lowest in March 2011 i.e.5.54. In Corporation bank, the ratio is highest in March 2011 i.e. 6.13 and lowest in March 2007 i.e.3.9. In Canara bank, the ratio is highest in March 2008 i.e. 6.36 and lowest in March 2011 i.e. 4.82.In the year of 2011 the highest ratio is of Corporation bank i.e 6.13 and lowest is of BOB i.e. 3.5. In the year of 2010 the highest ratio is of Dena bank i.e. 6.73 and lowest is of BOB i.e. 4.2. In the year of 2009 the highest ratio is of Dena bank i.e. 6.61 and lowest is of BOB i.e. 4.25. In the year of 2008 the highest ratio is of Dena bank i.e. 6.83 and lowest is of State bank if India i.e. 3.93. In the year of 2007 the highest ratio is of Dena bank i.e. 7.8 and lowest is of Corporation i.e. 3.9.

F. Hypothesis:-

1. Ho= There is no stastically significant difference between Net asset and Net worth ratio of public sector banks.

2. Ha= There is a stastically significant difference between Net asset and Net worth ratio of public sector banks.

The table -10 shows that the calculated value of F is 0.165911 which is less than the table value of 2.866081 at 5% level. As the observed value of f (i.e. 0.165911) is in acceptance region, we accept Ho at 5% level. The Null hypothesis is accepted and Alternative hypothesis is rejected and conclude that there is no significance difference in the financial health of public sector banks.

Table no-11 shows that Return on equity (ROE) is one of the most important indicators of a firm's profitability and potential growth. A low or declining ROROE is a signal that there may be a weakness. Return on Equity ratio of State bank of India is highest in March 2009 i.e. 17.05 and lowest in March 2011 i.e.12.60. ROE of Bank of Baroda highest in march 2011 i.e. 23.5 and lowest in March 2007 i.e.12.45. ROE of Dena bank highest in march 2008 i.e. 25.64 and lowest in March 2007 i.e.17.48. ROE of Corporation bank highest in march 2010 i.e. 21.93 and lowest in March 2007 i.e.15.02. ROE of Canara bank is highest in March 2010 i.e. 26.76 and lowest in March 2007 i.e. 18.78.

In the year of 2011 the highest ratio is of Canara bank i.e. 24.42 and lowest is of State bank of India i.e. 12.62. In the year of 2010 the highest ratio is of Canara bank i.e. 26.76 and lowest is of State bank of India i.e. 14.8. In the year of 2009 the highest ratio is of Dena bank i.e. 24.05 and lowest is of State bank if India i.e. 17.05. In the year of 2008 the highest ratio is of Dena bank i.e. 25.64 and lowest is of BOB i.e. 14.58. In the year of 2007 the highest ratio is of Canara bank i.e. 18.78 and lowest is of BOB i.e. 12.45.Return on equity represents the profitability of the fund invested by the owner of the firm. All firms should attempt to make ROE as high as possible over the long period of time. From the above graph it is clear that average ROE of Canara bank is high that is 22.46 and it is followed by Dena bank , Corporation bank, Bank of Baroda and average ROE of State bank of India is low that is 15.19. Thus, we can say that Canara bank's operating management and asset management is best while Dena bank's performance is good. The performance of Corporation bank and Bank of Baroda is moderate while lowest ROE is of State bank of India whose performance is poor.

G. Hypothesis:-

Ho= There is no statistically significant difference in Return on equity of the public sector banks.

Ha= There is a stastically significant difference in Return on equity of the public sector banks.

The Table-12 shows that the calculated value of F is 1.82 which is less than the table value of 2.87 at 5% level. As the observed value of f (i.e. 1.82) is in acceptance region, we accept Ho at 5% level. The Null hypothesis is accepted and Alternative hypothesis is rejected and conclude that there is no significance difference in the financial health of public sector banks.

Table-13 I have given ranks to all 5 banks as per their priority. I have given 1st rank to the bank having highest ratio and accordingly. In PBIDT to sales ratio, canara bank has highest ratio and SBI has lowest ratio. In sales to net asset ratio, BOB has highest ratio and Corporation bank has lowest ratio. In PBDIT to net asset ratio, Canara bank has highest ratio and SBI, Dena bank and Corporation bank have same ratio. In PAT to PBDIT ratio, BOB has highest ratio and Dena bank has lowest ratio. Net asset to net worth ratio Dena bank has highest and BOB has lowest ratio. Canara bank has highest return on equity so its profitability is high than others and SBI has lowest rate of return.

V. FINDINGS

1. From the data analysis, I found that the banking industry is growing day by day over the year.
2. From DuPont analysis ratio, PBIDT to sales i.e. gross profit ratio, I found that Canara bank's profitability is highest and it is followed by Corporation bank, Dena bank, BOB and SBI.
3. From Sales to Net asset ratio i.e. asset turnover ratio, I found that BOB has used their asset most efficiently than other banks and it is followed by Canara bank, SBI, Dena bank and corporation bank.
4. PBDIT to Net asset ratio i.e. return on asset ratio shows that Canara bank's profitability used by asset is highest than others and it is followed by BOB. SBI, Dena bank and Corporation bank have generated same level of profit using asset.
5. BOB has highest PAT to PBIDT ratio than other banks and it is followed by SBI, Canara bank, Corporation bank and Dena bank.
6. Net asset to net worth ratio shows that Dena bank has highest ratio i.e. 6.69 and it has highest efficiency in generating profit than other banks and it is followed by Canara bank, Corporation bank, SBI and BOB.

7. Return on Equity ratio shows Canara bank's operating management and asset management is best while Dena bank's performance is good. The performance of Corporation bank and Bank of Baroda is moderate while lowest ROE is of State bank of India whose performance is poor.

From ANOVA test we can see that there is no significant difference between sales and net asset and between PBDIT and Net asset of SBI, BOB, Dena bank, Corporation bank and Canara bank. But there is significant difference between sales and net asset, between PAT and PBIDT, between Net asset and net worth, and return on equity of SBI, BOB, Dena bank, Corporation bank and Canara bank.

VI. RECOMMENDATION

Based on the study conducted, there are some of the suggestions about the improvement of the banking sector in India. Banking sector is improving by leaps but still it needs to be improved. From my point of view, I found some things, which really needed to be taken in to consideration in banks.

1. To increase the profit SBI and BOB and Dena bank should more concentrate on high sales by doing good marketing and improving quality, creating value added services. They can also increase their profit by controlling cost and by introducing new schemes at time-to time so that more people can be attracted. Even some gifts and prizes may be offered to the customers for their retention.
2. To increase asset turnover ratio SBI, BOB and corporation bank should concentrate on modern asset and technology to increase the sales.
3. The bank should take necessary steps to fully utilize the available capacity. The bank should only purchase the fixed asset only when they are able to use the fixed asset efficiently.
4. Return on asset can be increase by giving value added services to the customers for their comfort so it increases the profit on asset.
5. To increase the Net asset to Net worth ratio, bank should decrease the long term debt for generating asset like long term loan etc.
6. BOB and SBI bank should more concentrate on leverage. They should concentrate on high return and sufficient earnings to stock holders.

VII. CONCLUSION

It is concluded that financial health and profitability of the banks in India has risen significantly over the years. Economic development of any country is mainly influenced by the growth of the banking industry in that country. The current study has been conducted to examine the financial health of all public sector banks in India using DuPont model during the period 2007-2011. This project presents a model for the financial analysis of a bank based on the DuPont system of financial analysis. The bank return on equity is decomposed into net profit margin, total asset turnover and the equity multiplier. This model is applied to State bank of India, Bank of Baroda, Dena bank, Corporation bank and Canara bank. The Du Pont method allows one to examine how a firm generates its return to its owners, i.e. its ROE. Each operating and financial decision can be made within a framework of how that decision will impact ROE. The DuPont analysis is an excellent method to determine the strengths and weaknesses of a farm. A low or declining ROROE is a signal that there may be a weakness. However, using the DuPont analysis can better determine the source of weakness. Asset management, expense control, production efficiency or marketing could be potential sources of weakness within the farm. Expressing the individual components rather than interpreting ROROE itself may identify these weaknesses more readily. From this study, we can find that the Canara banks financial condition is the best among all five banks. Then comes Dena bank and Corporation bank and SBI and BOB has low level of profitability.

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TABLES AND CHARTS:

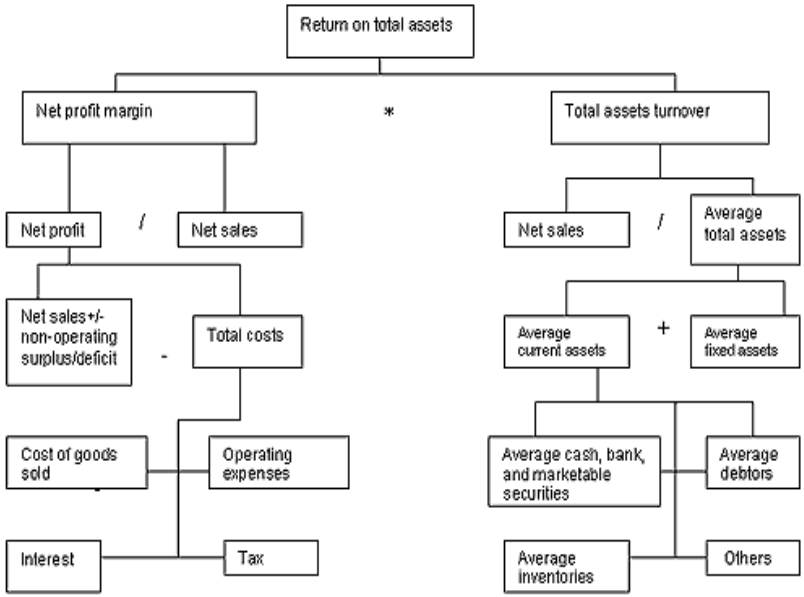

Chart I

Table-1-PBIDT to sales ratio (%):-

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	High	Low	Mean	S.D	C.V
State Bank of India	58.77	65.71	68.04	66.25	59.86	68.04	58.77	63.63	4.14	6.5
Bank of Baroda	70.16	70.84	68.22	67.21	61.82	70.84	61.82	67.27	3.57	5.31
Dena bank	69.72	74.4	70.26	68.84	56.67	74.4	56.67	67.28	6.67	9.92
Corporation Bank	72.74	73.75	73.43	72.82	64.78	73.75	64.78	70.86	3.78	5.34
Canara Bank	74.77	74.47	74.05	74.07	68.2	74.77	68.2	72.65	2.76	3.8
high	74.77	74.47	74.05	74.07	68.2	-	-	-	-	-
low	58.77	65.71	68.04	66.25	56.67	-	-	-	-	-

Sources: Compiled from Annual reports

Table-2

ANOVA of PBIDT to sales ratio					
Source of Variation	SS	df	MS	F	F crit
Between Groups	285.811	4	71.45	3.89	2.87
Within Groups	367.68	20	18.38		

Table-3 Sales to net asset ratio:-

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	high	low	Mean	S.D	C.V
State Bank of India	0.32	0.29	0.27	0.3	0.29	0.32	0.27	0.29	0.02	6.17
Bank of Baroda	0.34	0.31	0.33	0.3	0.29	0.34	0.29	0.31	0.02	6.6
Dena bank	0.29	0.29	0.31	0.3	0.27	0.31	0.27	0.29	0.01	5.09
Corporation Bank	0.24	0.24	0.28	0.3	0.27	0.3	0.24	0.27	0.03	9.76
Canara Bank	0.3	0.3	0.32	0.31	0.27	0.32	0.27	0.3	0.02	6.27
high	0.34	0.31	0.33	0.31	0.29	-	-	-	-	-
low	0.24	0.24	0.27	0.3	0.27	-	-	-	-	-

Sources: Compiled from Annual reports

Table-4

ANOVA of Sales to net asset ratio					
Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*
Between Groups	0.002304	4	0.000576	0.97	2.87
Within Groups	0.01184	20	0.000592		

Table-5: PBDIT to net asset ratio:-

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	high	low	Mean	S.D	C.V
State Bank of India	0.19	0.19	0.19	0.2	0.18	0.2	0.18	0.19	0.01	3.72
Bank of Baroda	0.24	0.22	0.22	0.2	0.18	0.24	0.18	0.21	0.02	10.79
Dena bank	0.2	0.21	0.22	0.2	0.15	0.22	0.15	0.19	0.03	14.01
Corporation Bank	0.17	0.18	0.21	0.22	0.18	0.22	0.17	0.19	0.02	11.24
Canara Bank	0.22	0.22	0.24	0.23	0.18	0.24	0.18	0.22	0.02	10.57
high	0.24	0.22	0.24	0.23	0.18	-	-	-	-	-
low	0.17	0.18	0.19	0.2	0.15	-	-	-	-	-

Compiled from annual reports

Table-6

ANOVA of PBDIT to net asset ratio					
Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*
Between Groups	0.005256	4	0.001314	3.71	2.87
Within Groups	0.00708	20	0.000354		

Table-7: PAT to PBIDT ratio (%):-

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	high	low	Mean	S.D	C.V
State Bank of India	14.47	16.23	17.53	17.41	16.99	17.53	14.47	16.38	1.26	7.68
Bank of Baroda	24.48	22.13	18.26	15.37	15.91	24.48	15.37	19.43	3.96	20.4
Dena bank	15.76	14.94	15.06	16.53	13.76	16.53	13.76	15.19	1.03	6.78
Corporation Bank	18.57	18.71	16.94	19.3	20.71	20.71	16.94	18.84	1.36	7.22
Canara Bank	20.9	18.77	14.32	12.8	16.22	20.9	12.8	16.67	3.28	19.66
high	24.48	22.13	18.26	19.3	20.71	-	-	-	-	-
low	14.47	14.94	14.32	12.8	13.76	-	-	-	-	

Table-8

ANOVA of PAT to PBIDT ratio					
Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*
Between Groups	26.18242	4	6.54	0.84	2.87
Within Groups	155.4447	20	7.77		

Table-9: Net asset to Net Worth ratio:-

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	high	low	Mean	S.D	C.V
State Bank of India	4.62	4.55	4.83	3.93	4.86	4.86	3.93	4.51	0.38	8.23
Bank of Baroda	3.5	4.2	4.25	4.19	4.17	4.25	3.5	4.01	0.32	7.77
Dena bank	5.54	6.73	6.61	6.83	7.8	7.8	5.54	6.69	0.8	11.99
Corporation Bank	6.13	6.03	5.15	4.16	3.9	6.13	3.9	5.06	1.03	20.31
Canara Bank	4.82	5.78	6.05	6.36	5.93	6.36	4.82	5.67	0.58	10.05
high	6.13	6.73	6.61	6.83	7.8	-	-	-	-	-
low	3.5	4.2	4.25	3.93	3.9	-	-	-	-	-

Table-10

ANOVA of Net asset to Net Worth ratio					
Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*
Between Groups	0.987104	4	0.25	0.17	2.87
Within Groups	29.74804	20	1.49		

Table-11: Return on Equity

Banks/ Years	11-Mar	10-Mar	9-Mar	8-Mar	7-Mar	high	low	Mean	S.D	C.V
State Bank of India	12.62	14.8	17.05	16.75	15.41	17.05	12.62	15.19	1.78	11.69
Bank of Baroda	23.5	21.86	18.62	14.58	12.45	23.5	12.45	18.14	4.69	25.84
Dena bank	20.9	23.55	24.05	25.64	17.48	25.64	17.48	22.11	3.2	14.48
Corporation Bank	21.89	21.93	19.57	18.39	15.02	21.93	15.02	19.11	2.86	14.99
Canara Bank	24.42	26.76	22.61	19.08	18.78	26.76	18.78	22.46	3.44	15.3
high	24.42	26.76	24.05	25.64	18.78	-	-	-	-	-
low	12.62	14.8	17.05	14.58	12.45	-	-	-	-	-

Table-12

ANOVA of Return on Equity					
Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*
Between Groups	105.9507	4	26.48766	1.82	2.87
Within Groups	291.0683	20	14.55341		

Table-13-Ranking of the banks according to their average of ratios:-

banks/ratio	PBIDT/Sales (%)	Sales/ net asset	PBDIT/Net asset	PAT/PBDIT (%)	Net asset/ Net worth	ROE (%)
State bank of India	5	3	3	4	4	5
Bank of Baroda	4	1	2	1	5	4
Dena bank	3	3	3	5	1	2
Corporation Bank	2	5	3	2	3	3
Canara bank	1	2	1	3	2	1

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