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A Study on Efficiency in Some Selected Public Sector Banks in India: An Accounting Measure

KEYWORDS: BOB, BOI, PNB, SBI, NIM, ROA, ROE, Efficiency

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ABSTRACT *The term profitability, productivity and efficiency have given a prime importance in the banking industry. The profitability and efficiency are interrelated. The concept of efficiency means how effectively and efficiently bank mobilizes its resources in an effective manner. The efficiency in the banking sectors has given importance because of change in the banking sector reforms. The present study focused on banking sector in terms of efficiency. The five years period from 2009-10 to 2013-14 has been selected for the evaluation of financial performance. The researcher has tried to attempt efficiency ratios in the banks using financial ratios like Cost-Income Ratio, Interest Expense Ratio, Net Interest Margin, Operating cost to Assets Ratio, Return on Assets and Return on Equity in seven selected Indian Public Sector Banks viz. Andhra Bank, Bank of Baroda (BOB), Bank of India (BOI), Corporation Bank, Dena Bank, Punjab National Bank (PNB) and State Bank of India (SBI).*

Introduction:

The term efficiency and profitability are interrelated that means higher the efficiency; greater is the earning capacity of the banks and vice-versa. The high efficiency in banks reflects soundness and safety and more likely to survive. The efficiency in the banking sector has given prime importance due to change in banking sector reforms as well as due to increase competition, greater use of technology, greater customer demands and varieties of financial products and services. The bank today has to improve their efficiency because improved efficiency results into improved profitability and productivity. The bank can improve its efficiency by reducing its operating expenditure and cost of intermediation.

Conceptual Framework:

The term efficiency means how effectively and efficiently a bank utilizes its resources. It measures the financial performance of the banks in a normative sense by comparing it with the industry leader within or across the borders. It can check the growth of any organization. The greater efficiency results in improved profitability, greater and more appropriate innovations as well as greater safety and soundness.

The efficiency of the banks can be judged by using some of the selected financial ratios by RBI. The following ratios are used by researcher for the analysis of efficiency of the banks.

- Cost-Income Ratio (CI)
- Interest Expense Ratio
- Net Interest Margin (NIM)
- Operating Cost to Assets Ratio
- Return on Assets (ROA)
- Return on Equity (ROE)

Review of Literature:

Rashed Al Karim, Tamima Alam (2013) carried a study on an evaluation of financial performance of private commercial banks in Bangladesh listed on Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE). The object of this study is to evaluate the financial performance of the selected five private sector banks in Bangladesh through three indicators namely Internal-based performance measured by ROA, Market-based performance measured by Tobin's Q Model and Economic-base performance measured by EVA from 2008-12. For the purpose of analysis and interpretation, statistical tools like Regression Analysis, F-test, Correlation and T-test have been used. It is revealed that the hypothesis is claiming that bank size, credit risk, operational efficiency and asset management have significant impact on financial performance of Bangladeshi Commercial Banks.

Nutan N. Thoke and Parkshit K. Pachorkar (2012) analysed the correlation study of financial performance indicators in Indian public sector banks and private sector banks. The study used financial variable like Return on Assets, Interest Income to Bank Size, Asset Management measured by Assets Utilization Ratio, Operational Efficiency measured by the operating ratios. The Financial Ratio and Correlation Analysis used. It is concluded that there is positive correlation between independent variables Total Assets, Assets Utilization Ratio and Operating Efficiency Ratio where as except for Assets Utilization Ratio where it has a negative but strong correlation for the other two variables and it positively correlated for Operating Efficiency Ratio and Total Assets for private sector banks. Further, there is strong through negative correlation between average Return on Assets and the independent variables Total Assets, Asset Utilization Ratio and Operating Efficiency Ratio where as for private sector banks there is comparatively week correlation.

Sakshi Jhumb and Bibhu Prasad (2012) conducted a study on profitability and efficiency of banks of India. This paper emphasized on ten key parameters of profitability and productivity for evaluation of HDFC bank and OBC bank i.e. Credit Deposit Ratio, Investment-Deposit Ratio, Ratio of Net Interest Margin to total assets, Return on Assets, Cost of deposits, Cost of Funds, Burden to Assets Ratio, Return on Advances, Business per Employees, Ratio of Net NPA and Net Advances. For the analysis purpose, ratio analysis and Spearman's Rank Correlation Test have been used for the evaluation of performance and it is concluded that there is positive correlation for seven out of ten parameters and three parameters like Return on

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Assets, Business per Employees and Ratio of Net Interest Margin is showing negative. The reason behind it due to different short term strategies followed by new private and public sector banks.

Virender Koundal (2012) presented a study on performance of Indian banks in Indian financial system. the object of this study was to analyze the comparative performance of all commercial banks working in India and apart to this to study the challenges and opportunities particularly faced by the public sector banks. The various indicators like labour productivity, branch productivity and profitability ratios used for measuring the performance of banking sectors. For the analysis of the study, ratio analysis is used. The study revealed that the foreign banks are better than public and private sector banks. Similarly the performance of new private sector banks is better than public sector banks and it is suggested that the banks should improve the performance so that they can meet the requirement of new and open competitive environment.

The present research paper is only focused on efficiency of some selected Indian public sector banks.

Objectives of the study:
To measure efficiency with the help efficiency ratios i.e. Cost-Income Ratio, Income Ratio, Net Interest Margin, Operating cost to Assets Ratio, Return on Assets and Return on Equity in some selected Indian public sector banks.

To compare efficiency in some selected Indian Public Sector Banks.

Period of the Study:
The period of the study has been covering the last 5 financial years beginning from 2009-10 to 2013-14.

Data Collection:
The present study is mainly based on the secondary data, collected from the published annual reports of the selected Indian public sector banks, journals, articles, various books relating to subjects and Reserve Bank of India websites.

Sample Size:
The sample size of the present study is seven Indian Public Sector banks from Indian Banking Industry. Out of all the banks working in India only Public sector banks have been selected for the purpose of the study. The researcher has randomly selected seven Indian Public Sector banks i.e. Andhra Bank, Bank of Baroda (BOB), Bank of India (BOI), Corporation Bank, Dena Bank, Punjab National Bank (PNB), State Bank of India (SBI).

Tools and Techniques of Analysis:
(A) Accounting Tools: Ratio Analysis is taken for the purpose of analysis and evaluation.

(B) Statistical Tools and Techniques: Computed efficiency ratios analyzed with the help of F-test One Way ANOVA table to test the hypothesis at 5% level of significance.

Hypothesis of the Study:
Ho: There is no significant difference in Cost-Income Ratio of selected units.

Ho: There is no significant difference in Interest Expenses Ratio of selected units.

Ho: There is no significant difference in Net Interest Margin Ratio of selected units.

Ho: There is no significant difference in Operating Cost to Asset Ratio of selected units.

Ho: there is no significant difference in Return on Assets Ratio of selected units.

Ho: there is no significant difference in Return on Equity of selected units.

Limitations of the Study:
The present study is only considering Efficiency Ratios of banks used by RBI.

The present study is based on secondary data which have their own limitation.

The economic condition differs at different point of time which will affect the findings of the study.

Table-1Cost-Income Ratio
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	42.72	41.40	39.06	42.40	45.56
BOB	43.57	39.87	37.55	39.79	43.44
BOI	43.81	48.49	42.47	41.69	44.30
Corporation Bank	37.09	38.50	38.44	39.67	44.04
Dena Bank	50.22	46.73	43.04	42.77	48.16
PNB	39.39	41.27	39.75	42.81	45.06
SBI	52.59	47.60	45.23	48.51	52.67
Mean	44.19857	43.40857	40.79143	42.52	46.17571
Variance	30.51001	16.60738	7.948848	8.717567	10.55013
Standard Deviation	2.088	1.541	1.066	1.116	1.228

Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in**)**

Table-2
A Table Showing Analysis of Variance (ANOVA) of Cost-Income Ratio

Sources of Variation	SS	dof	MS	F cal	F crit
Between Groups	111.4375	4	27.85938	1.873934	2.689628
Within Groups	446.0036	30	14.86679		
Total	557.4412	34			

Table-3 Interest Expense Ratio
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	56.94	55.18	62.13	65.58	67.56
BOB	55.16	52.98	58.49	61.51	62.15
BOI	59.15	57.15	63.41	64.15	64.17
Corporation Bank	59.95	59.62	68.03	70.29	72.30
Dena Bank	63.28	58.74	63.62	68.20	68.59
PNB	55.40	49.61	56.64	58.64	56.65
SBI	55.05	50.27	52.31	55.51	56.21
Mean	57.84714	54.79286	60.66143	63.41143	63.94714
Variance	9.581924	15.86532	27.23228	27.38465	36.79502
Standard Deviation	3.095	3.984	5.218	5.233	6.066

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Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in)

Table-4 A Table Showing Analysis of Variance (ANOVA) of Interest Expense Ratio

Sources of Variation	SS	dof	MS	F-Ratio	F crit
Between Groups	415.221	4	103.8052	4.441466	2.689628
Within Groups	701.1552	30	23.37184		
Total	1116.376	34			

Table-5 Net Interest Margin (NIM)
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	3.21	3.80	3.67	3.21	2.76
BOB	2.74	3.12	2.97	2.66	2.36
BOI	2.51	2.92	2.52	2.38	2.34
Corpora-tion Bank	2.41	2.52	2.48	2.29	2.10
Dena Bank	2.61	3.17	3.17	2.80	2.52
PNB	3.57	3.96	3.84	3.52	3.44
SBI	2.66	3.32	3.85	3.34	3.17
Mean	2.815714	3.258571	3.214286	2.885174	2.67
Variance	0.175795	0.246014	0.347695	0.230462	0.2339
Standard Deviation	0.424	0.500	0.592	0.480	0.480

Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in)

Table-6
A Table Showing Analysis of Variance (ANOVA) of Net Interest Margin

Sources of Variation	SS	dof	MS	F cal	F crit
Between Groups	1.846954	4	0.461739	1.871104	2.689628
Within Groups	7.4032	30	0.246773		
Total	9.250154	34			

Table-7 Operating Cost to Asset Ratio
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	1.49	1.56	1.44	1.39	1.38
BOB	1.37	1.29	1.15	1.08	1.08
BOI	1.33	1.44	1.28	1.18	1.17
Corporation Bank	1.13	1.14	1.09	1.03	1.08
Dena Bank	1.46	1.51	1.32	1.15	1.32
PNB	1.60	1.62	1.53	1.70	1.70
SBI	1.92	1.88	1.95	1.87	1.99
Mean	1.471429	1.491429	1.394286	1.342857	1.388571
Variance	0.060848	0.056548	0.083362	0.10639	0.116948
Standard Deviation	0.245	0.245	0.283	0.332	0.346

Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in)

Table-8
A Table Showing Analysis of Variance (ANOVA) of Operating Cost to Asset Ratio

Sources of Variation	SS	dof	MS	F cal	F crit
Between Groups	0.107246	4	0.026811	0.316102	2.689628
Within Groups	2.544571	30	0.084819		
Total	2.651817	34			

Table-9
Return on Assets (ROA)
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	1.39	1.36	1.19	0.99	0.29
BOB	1.10	1.18	1.12	0.82	0.69
BOI	1.49	0.82	0.72	0.65	0.51
Corpora-tion Bank	1.28	1.21	1.06	0.88	0.29
Dena Bank	1.01	1.00	1.08	0.86	0.51
PNB	1.44	1.34	1.19	1.00	0.64
SBI	0.88	0.71	0.88	0.97	0.65
Mean	1.227143	1.088571	1.034286	0.881429	0.511429
Variance	0.05459	0.063881	0.030195	0.015248	0.027614
Standard Deviation	0.224	0.245	0.173	0.141	0.173

Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in)

Table-10
A Table Showing Analysis of Variance (ANOVA) of Return on Assets

Sources of Variation	SS	dof	MS	F-Ratio	F crit
Between Groups	2.101057	4	0.525264	13.71234	2.689628
Within Groups	1.149171	30	0.038306		
Total	3.250229	34			

Table-11 Return on Equity (ROE)
(Figures in %)

Bank	2009-10	2010-11	2011-12	2012-13	2013-14
Andhra Bank	23.71	19.51	17.97	15.27	4.98
BOB	20.24	20.15	18.22	14.01	12.61
BOI	13.60	15.58	13.57	11.49	9.12
Corpora-tion Bank	20.26	19.79	18.19	14.99	5.56
Dena Bank	21.36	17.68	18.71	14.05	7.72
PNB	24.06	20.61	17.55	14.52	9.31
SBI	13.89	11.34	13.94	14.26	9.20
Mean	19.58857	17.80857	16.87857	11.08429	8.357143
Variance	18.22161	11.16278	4.682881	1.530662	6.65369
Standard Deviation	4.268	3.341	2.163	1.237	2.579

Sources: Complied from Annual Reports of Banks and RBI (www.rbi.org.in)

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Table-12
A Table Showing Analysis of Variance (ANOVA) of Return on Equity

Sources of Variation	SS	dof	MS	F cal	F crit
Between Groups	537.9392	4	134.4848	15.9148	2.689628
Within Groups	253.5098	30	8.450326		
Total	791.4490	34			

Finding of the Study:
The above table reflects the Financial Ratios and One-way Analysis (F-test). The following are the finding of the study.

Efficiency Ratios	F cal and F tab Value	Conclusion	Findings
Cost-Income Ratio	F cal 1.87 F tab 2.69	H0: Accepted H1: Rejected	It is concluded that there is no significant difference in cost-income ratio among the banks.
Interest Expense Ratio	F cal 4.44 F tab 2.69	H0: Rejected H1: Accepted	It is concluded that there is significant difference in interest expense ratio among the banks.
Net Interest Margin	F cal 1.87 F tab 2.69	H0: Accepted H1: Rejected	It is concluded that there is no significant difference in net interest margin among the banks.
Operating Cost to Asset Ratio	F cal 0.32 F tab 2.69	H0: Accepted H1: Rejected	It is concluded that there is no significant difference in operating cost to asset ratio among the banks.
Return on Assets	F cal 13.71 F tab 2.69	H0: Rejected H1: Accepted	It is concluded that there is significant difference in return on assets among the banks.
Return on Equity	F cal 15.92 F tab 2.69	H0: Rejected H1: Accepted	It is concluded that there is significant difference in return on equity among the banks.

REFERENCE

1) Gupta M.S. and Singh J.B. (2013) "Indian Banking Developments (Growth, Reforms and Challenges)", Serials Publications, New Delhi. | 2) Agrawal M.R. (2002) "Management Accounting" RBSA Publishers, Jaipur. | 3) Kothari C. R. (2004) "Research Methodology: Methods & techniques", New Age International Publishers, New Delhi. | 4) Rashed Al Karim, Tamima Alam (2013), " An Evaluation of Financial Performance of Private Commercial Banks in Bangladesh: Ratio Analysis", Journal of Business Studies Quartely, Vol. 5, No. 2, pp. 65-77 | 5) Nutan N. Thoke and Parkshit K. Pachorkar (2012), "Correlation Study of Financial Performance Indicator's in Indian Public Sector Banks & Private sector Banks", Innovation in Banking and Finance, Vol. 1, March 2012, pp. 7-79 | 6) Sakshi Jhumb and Bibhu Prasad (2012), "Prfitability and Efficiency of Banks of India: a Comparative Case Study of OBC and HDFC Bank", International Journal on Arts, Management and Humanities, Vol.1(1), pp. 7-13 | 7) Dr. Virender Koundal (2012), "Performance of Indian Banks in Indian Financial System", International Journal of Social Science &Interdiciplinary Research, Vol. 1, Issue-9, September 2012, pp. 204-212 | | Websites: | 1) www.google.com | 2) www.rbi.org.in | 3) www.moneycontrol.com |