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A COMPARATIVE STUDY ON PROFITABILITY ANALYSIS OF SELECTED NATIONALIZED BANKS IN INDIA

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ABSTRACT
The purpose of this study is to investigate the complex relationship between key profitability indicators and the performance of India's top five nationalised banks according to Nifty PSU Bank Index are - State Bank of India (SBI), Bank of Baroda (BOB), Canara Bank (CB), Punjab National Bank (PNB), and Union Bank of India (UBI). The study is based on secondary data obtained from the Money Control Database of the respective banks. The study covers time duration of five years i.e., from 2018–19 to 2022–2023. Profitability ratios like Return on Equity (RoE), Return on Assets (RoA), Net Interest Margin (NIM), and Net Profit Margin (NPM) are utilized, along with statistical techniques, for analysis. The findings of the study reveal that the State Bank of India (SBI) stands out as a symbol of strength and stability with impressive returns. Union Bank of India (UBI) is still facing difficulties, therefore strengthening its deficiencies, and reducing performance variability would require concentrated effort. As Punjab National Bank (PNB) experiences financial downturns, it is imperative that corrective action be taken quickly. In this context, Bank of Baroda (BOB) exhibits a noteworthy Net Interest Margin (NIM), but Canara Bank (CB) encounters difficulties in this regard.
KEYWORDS: *Nationalized Banks, Financial Performance, Profitability Analysis.*

INTRODUCTION

The banking sector plays a pivotal role in the economic development of any nation, serving as the backbone of financial stability and progress. In 1969, the nationalization of banks took place in the Indian Market reshaping the financial landscape of the country. The post nationalization era witnessed significant changes in the banking landscape, with a surge in branch expansion, increased rural penetration, and a focus on priority sector lending. Foreign banks and private sector have emerged, although nationalised banks still hold a substantial market share (i.e., 12 nationalised banks as on December, 2023), catering to wide spectrum of customers ranging from urban areas to rural areas. Financial performance plays a vital role for any business firm as it reflects the actual position of the entity in the market. To evaluate the financial performance of a firm indicators such as profitability measures, liquidity measures, solvency measures etc are used. Profitability of a firm is a major indicator to measure the efficiency of business entity. An institution's capacity to earn revenue compared to its payments incurred over a specific amount of time is measured by a set of financial measures called profitability. State Bank of India (SBI), Bank of Baroda (BOB), Canara Bank (CB), Punjab National Bank (PNB), and Union Bank of India (UBI) are the top five nationalised banks in India as ranked by the Nifty PSU Bank Index in December 2023. In order to determine profitability four parameters are undertaken - Return on Assets, Return on Equity, Net Interest Margin and Net Profit Margin. Return on Assets (RoA) indicates profitability of company in relation to its total assets. The higher the RoA, better is the profitability. Return on Equity (RoE) assesses the return earned by bank's shareholders. The higher the ROE, the more efficient a company's management is at generating income and growth from its equity financing. Net Interest Margin (NIM) reveals a bank's net profit on interest-earning assets, such as loans or investment securities. A higher net interest margin suggests that the bank is at the profitable position and it is effectively managing interest-related income and expenses. Net Profit Margin (NPM) measures a bank's ability to generate profit from its total revenue. A higher net profit margin is generally considered favorable, as it indicates that a large portion of revenue is retained as profit. To analyse the data, statistical indicators such as One Way ANOVA has been used.

LITERATURE REVIEW

Murty and Chowdary (2018) examines the impact of interest rate changes in 19 commercial banks over a period of 30 years. A regression analysis model was developed and the findings of the study revealed that interest rates have significant effect on profitability of commercial banks. For Return on Assets (RoA) and Return on Equity (RoE), both has approximately 60% influence, and for Return on Capital Employed (RCE), the impact is around 30%.

Yesmine et. al. (2015) focuses on financial performance of 10 local private commercial banks (PCB) and all nationalized commercial banks (NCB) covering the period from 2008-2014. The study highlights that for banks, positive impacts on financial performance come from asset utilization and operating efficiency, while credit risk has a negative impact. Asset utilization is particularly crucial for PCBs. In contrast, NCBs see a negative return of 0.968% for every 1% increase in credit risk. Notably, the size and liquidity of banks show no significant relationship with financial performance.

Kumar (2014) examined the performance of nineteen nationalized banks to determine the most profitable bank in the time period of 2008 to 2012. The various ratios which were employed were Interest Spread, Cash Margin, Net Profit Margin, Return on Long Term Fund, Return on Net Worth, Return on Assets and Composite Rank. The findings of the study revealed that Punjab National Bank ranked first in the overall profitability analysis index and performed much better than other nationalized banks. The Indian Bank was the second most profitable bank whereas the United Bank of India and the Vijaya Bank were both positioned at 15th rank.

Rahman (2014) evaluates the performance of banks based on profitability, productivity, and associated risks. There are four nationalized commercial banks(NCBs) in Bangladesh, of which three banks for 2008 to 2012 period were undertaken. The results of the ratio analysis revealed that NCBs witnessed the lack of efficiency on the part of utilization of funds, net profit in absolute terms was being fluctuated and Interest income constitutes the major portion of the total income which is earned by providing loans. Loans are risky assets on the part of the banks.

Pandya H. (2014) evaluates the profitability of selected nationalized banks in India. The relationship between financial ratios of the different banks have been studied using statistical tools and techniques such as Correlation Analysis, Multiple Regression Analysis, Factor Analysis and Trend Analysis. The findings of the study reveal that the major determinants of profitability of the selected nationalized banks differ for each bank and have been identified separately for each bank. Profitability of the nationalized banks is majorly influenced by "Overall Business Productivity Factor."

Dangwal & Kapoor (2010) examines the growth index values of various parameters through overall profitability indices. The data for 19 nationalised banks for the post-Reforms period of 2002-2003 to 2006-2007 was considered for calculating the indices of spread ratios, burden ratios, and profitability ratios. The analysis revealed that four banks performed excellently, five banks performed well, four banks had a fair performance, and six banks had poor performance level.

RESEARCH METHODOLOGY

Objectives of the study

1. To analyze the financial performance and profitability of the selected nationalized banks in India.
2. To compare the profitability levels among the selected nationalized banks in India.

Sampling Design

All NSE Public Sector Banks are part of the universe of this study. The top five banks as of December 2023, according to the Nifty PSU Bank Index, are State Bank of India (SBI), Bank of Baroda (BOB), Canara Bank (CB), Punjab National Bank (PNB), Union Bank of India (UBI). Therefore, purposive sampling technique is adopted for the study.

Types of Data

As per the nature of study, only secondary data is required for the study. Financial data is collected from the Money Control Database and Nifty Indices.

Data Analysis Tools

Profitability Ratios : Return on Assets (RoA), Return on Equity (RoE), Net Interest Margin (NIM) and Net Profit Margin (NPM).
Statistical Tools and Techniques : Mean, Standard Deviation, Coefficient of Variation and One Way ANOVA.

Limitations of the Study

1. Primary limitation of the study is only selected nationalised banks are undertaken for the study.
2. The present study has limitation of the study period. Only last 5 years data i.e., from the year 2018-19 to 2022-23 is collected and analysed for the purpose of the study.
3. Quantitative data for the research is collected from the Money Control database. If there is any discrepancy in the database, then same might become the limitations of the present study.
4. Any limitations of the statistical techniques and accounting ratio may also become the limitations of the study undertaken.

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Data Analysis

1. **Return on Assets (RoA)**

Table 1 : Return on Assets (RoA) – Mean & Coefficient of Variation (C.V.)					
Year	**SBI (%)**	**BOB (%)**	**CB (%)**	**PNB (%)**	**UBI (%)**
2018-19	0.05	0.13	0.08	-1.21	-0.58
2019-20	0.47	0.07	-0.26	0.05	-0.56
2020-21	0.46	0.12	0.24	0.2	0.26
2021-22	0.65	0.58	0.48	0.28	0.44
2022-23	0.93	0.97	0.81	0.22	0.66
Mean	**0.512**	**0.374**	**0.27**	**-0.092**	**0.044**
C.V.	**62.66**	**104.77**	**149.71**	**-685.53**	**1314.02**

It is observed from Table 1 that average return on assets (RoA) of State Bank of India (SBI) is the highest (i.e., 0.512%) amongst the selected nationalized banks whereas average return on assets (RoA) of Union Bank of India (UBI) is lowest (i.e., 0.044%) while average return on assets (RoA) is negative for Punjab National Bank (PNB). When compared to other banks, Union Bank of India (UBI) exhibits the highest coefficient of variation (i.e.,1314.02%), indicating larger variations, while State Bank of India (SBI) has moderate fluctuations (i.e.,62.66%).

ANOVA – Return on Assets (RoA)

H0: There is no significant difference between RoA of selected Indian nationalized banks.
H1: There is no significant difference between RoA of selected Indian nationalized banks.

Table 2 : Return on Assets (RoA) - ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1.199	4	.300	1.301	.303
Within Groups	4.608	20	.230		
Total	5.807	24			

It is observed from table 2 that F value is less than 3.84 and p value is 0.303 which is more than standard value of 0.05, it indicates that there is no significant difference between Return on assets (RoA) of selected Indian nationalized banks and the null hypothesis is accepted at 5% significance level.

2. **Return on Equity (RoE)**

Table 3 : Return on Equity (RoE)– Mean & Coefficient of Variation (C.V.)					
Year	**SBI (%)**	**BOB (%)**	**CB (%)**	**PNB (%)**	**UBI (%)**
2018-19	0.98	2.2	1.92	-22.51	-11.92
2019-20	8.69	1.21	-5.69	0.74	-10.16
2020-21	8.89	1.87	5.34	3	4.79
2021-22	12.53	8.54	9.96	4.26	7.97
2022-23	16.8	14.18	15.94	3.54	11.72
Mean	**9.58**	**5.6**	**5.49**	**-2.19**	**0.48**
C.V.	**60.89**	**100.62**	**148.69**	**-521.11**	**2253.43**

It is observed from Table 3 that average return on equity (RoE) of State Bank of India (SBI) is the highest (i.e.,9.58%) among the selected Indian nationalized banks whereas average return on equity (RoE) of Union Bank of India (UBI) is lowest (i.e., 0.48%) while average return on equity (RoE) is negative for Punjab National Bank (PNB) . When compared to other banks, Union Bank of India (UBI) exhibits the highest coefficient of variation (i.e.,2253.43%), indicating larger variations, while State Bank of India (SBI) has moderate fluctuations (i.e.,60.89%).

ANOVA – Return on Equity (RoE)

H0: There is no significant difference between RoE of selected Indian nationalized banks.
H1: There is no significant difference between RoE of selected Indian nationalized banks.

Table 4 : Return on Equity (RoE) - ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	432.225	4	108.056	1.421	.263
Within Groups	1520.849	20	76.042		
Total	1953.074	24			

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It is observed from table 4 that F value is less than 3.84 and p value is 0.263 which is more than standard value of 0.05, it indicates that there is no significant difference between return on equity (RoE) of selected Indian nationalized banks and the null hypothesis is accepted at 5% significance level.

3. Net Interest Margin (NIM)

Table 5 : Net Interest Margin – Mean & Coefficient of Variation (C.V.)					
Year	**SBI (%)**	**BOB (%)**	**CB (%)**	**PNB (%)**	**UBI (%)**
2018-19	2.5	2.48	2.19	2.21	2.08
2019-20	2.59	2.4	1.88	2.1	2.09
2020-21	2.51	2.58	2.12	2.42	2.32
2021-22	2.49	2.57	2.19	2.19	2.34
2022-23	2.7	2.89	2.38	2.34	2.57
Mean	**2.56**	**2.584**	**2.15**	**2.25**	**2.28**
C.V.	**3.47**	**7.20**	**8.37**	**5.65**	**8.92**

It is observed from Table 5 that average net interest margin (NIM) of Bank of Baroda (BOB) is the highest (i.e.,2.584%) among the selected Indian nationalized banks whereas average net interest margin (NIM) of Canara Bank (CB) is lowest (i.e., 2.15%). When compared to other banks, Union Bank of India (UBI) exhibits the highest coefficient of variation (i.e., 8.92%), indicating larger variations, while State Bank of India (SBI) has lowest fluctuations (i.e.,3.47%).

ANOVA – Net Interest Margin (NIM)

H0: There is no significant difference between NIM of selected Indian nationalized banks.
H1: There is no significant difference between NIM of selected Indian nationalized banks.

Table 6 : Net Interest Margin (NIM) - ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.753	4	.188	7.103	.001
Within Groups	.530	20	.026		
Total	1.283	24			

It is observed from table 6 that F value is more than 3.84 and p value is 0.001 which is less than standard value of 0.05, it indicates that there is significant difference between net interest margin of selected Indian nationalized banks and at 5% significance level, the null hypothesis is rejected.

Table 7 : Net Interest Margin (NIM) – Homogenous Subset				
		Subset for alpha = 0.05		
Banks	**N**	**1**	**2**	**3**
Canara Bank (CB)	5	2.1520		
Punjab National Bank (PNB)	5	2.2520	2.2520	
Union Bank of India (UBI)	5	2.2800	2.2800	2.2800
State Bank of India (SBI)	5		2.5580	2.5580
Bank of Baroda (BOB)	5			2.5840
Sig.		.727	.052	.054
Means for groups in homogeneous subsets are displayed.				
a. Uses Harmonic Mean Sample Size = 5.000.				

Table 7 represents homogenous subsets from the Post Hoc Tukey Test for Net Interest Margin. The results show that there are 3 different subsets. The statistically similar NIM values suggest a homogeneous performance in terms of NIM ratio among the banks of subset 1 (CB, PNB, UBI); subset 2 (PNB, UBI, SBI) and subset 3 (UBI, SBI, BOB). There is minimum difference in performance of banks compared to other subsets.

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4. **Net Profit Margin (NPM)**

Table 8 : Net Profit Margin (NPM) – Mean & Coefficient of Variation (C.V.)					
Year	SBI (%)	BOB (%)	CB (%)	PNB (%)	UBI (%)
2018-19	1.21	2.05	1.14	-19.22	-8.54
2019-20	6.73	1.19	-4.06	0.66	-8.11
2020-21	8.73	1.95	3.84	2.62	4.08
2021-22	12.53	10.49	8.2	4.82	7.63
2022-23	16.12	15.6	12.58	3.53	10.38
Mean	**9.06**	**6.26**	**4.34**	**-1.52**	**1.09**
C.V.	**62.66**	**103.32**	**147.47**	**-659.49**	**816.14**

It is observed from Table 8 that average net profit margin (NPM) of State Bank of India (SBI) is the highest (i.e., 9.06%) among the selected Indian nationalized banks whereas average net profit margin (NPM) of Union Bank of India (UBI) is lowest (i.e., 1.09%) while average net profit margin (NPM) is negative for Punjab National Bank (PNB). When compared to other banks, Union Bank of India (UBI) exhibits the highest coefficient of variation (i.e., 816.14 %), indicating larger variations, while State Bank of India (SBI) has moderate fluctuations (i.e., 62.66%).

ANOVA – Net Profit Margin (NPM)

H0: There is no significant difference between NPM of selected Indian nationalized banks.
H1: There is no significant difference between NPM of selected Indian nationalized banks.

Table 9 : Net Profit Margin (NPM) - ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	348.294	4	87.073	1.480	.246
Within Groups	1176.298	20	58.815		
Total	1524.592	24			

It is observed from table 9 that F value is less than 3.84 and p value is 0.246 which is more than standard value of 0.05, it indicates that there is no significant difference between Net Profit Margin (NPM) of selected Indian nationalized banks and the null hypothesis is accepted at 5% significance level.

FINDINGS & CONCLUSION

The findings of the study reveal that the State Bank of India (SBI) demonstrates the highest average Return on Assets (RoA) and Return on Equity (RoE) indicating strong financial performance. Union Bank of India (UBI) has the largest coefficient of variation and the lowest average Return on Assets (RoA) and Return on Equity (RoE), depicting significant variations in its performance. The negative Return on Assets (RoA) and Return on Equity (RoE) values for Punjab National Bank (PNB) demonstrate periods of financial distress. Union Bank of India (UBI) and Punjab National Bank (PNB) records lowest and negative Return on Assets (RoA) respectively, thus banks should efficiently manage loans and investments, control operating expenses and also explore new sources of income whereas to improve Return on Equity (RoE), net income can be increased through fee-based services, controlling of cost and healthy interest rate spread. Efficient deployment of shareholders' equity and appropriate dividend policy also contribute towards favourable Return on equity (RoE). Canara Bank (CB) has the lowest Net Interest Margin (NIM), while Bank of Baroda (BOB) is in the lead with the highest Net Interest margin (NIM). State Bank of India (SBI) has the least volatility, whereas Union Bank of India (UBI) exhibits the most unpredictability. The statistical analysis reveals that there was a significant variation in the Net Interest Margin (NIM) of the selected banks. The Post Hoc Tukey Test determines three categories with statistically similar Net Interest Margin (NIM) values, suggesting some degree of performance homogeneity. State Bank of India (SBI) has the highest Net Profit Margin (NPM) indicates greater profitability. Union Bank of India (UBI) faces challenges because of its lowest Net Profit Margin (NPM) and significant variations. A negative Net Profit Margin (NPM) of Punjab National Bank (PNB) indicates financial losses. The moderate fluctuations in Net Profit Margin (NPM) as depicted by SBI indicate sound financial position. Canara Bank (CB) and Union Bank of India (UBI) can take corrective action by applying funds towards outstanding debt or shifting those assets towards more profitable investments to improve the situation of lower Net Interest Margin (NIM). Punjab National Bank (PNB) can boost their Net Profit Margin (NPM) by increasing sales or reducing expenses (or both). Even for many banks, to achieve economies of scale through expansion is a strategic approach to improve Net Profit Margin (NPM). Thus, policymakers, regulators, and banking executives need to work together to overcome challenges and take advantage of opportunities for innovation as the banking sector in India continues to evolve. Nationalized banks can become more profitable and competitive in the long run by implementing strategic initiatives that embrace digital transformation, improve operational efficiency, and manage risks proactively. Hence this study emphasizes the necessity for a flexible and dynamic strategy to successfully deal with the complexities of the banking sector.

Nationalized banks can more effectively carry out their vital role in promoting financial stability, economic prosperity, and the overall well-being of the country by cultivating a strong and healthy banking industry.

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