

A Study on Productivity Analysis of Select Banks in India

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Abstract: Indian Banking sector have been responsible for bringing remarkable transformation in context with facing new challenges emerged in the form of constant endeavor incase of both public & private sector banks. To cope up with these emerging challenges, the bank has to be competitive, productive and profitable. Hence an attempt has been made to analyse the productivity of selected banks in India by taking the productivity indicators during the period of study. The present study has analysed the productivity of two banks each from public & private sector group i.e., SBI & ICICI Bank during 2009-10 to 2019-20, through examining the comparative performance of Labour Productivity, Branch Productivity and capital productivity through select indicators. On implementation of t-test, the results reveal that there is no significant difference between SBI and ICICI Banks in terms of Labour, Branch & Capital Productivity. On ranking the banks with respect to the scores of mean and SD, it is evident that ICICI exhibits better performance than SBI.

Key Words: Productivity, Public & Private Sector Banks, India, Labour, Branch and Capital.

1. INTRODUCTION:

The Banking Sector in India is regarded as one of the prominent contributors to the development of an economy. This sector has witnessed a total metamorphosis throughout the years around the world. The Banking Organizations all over the world are facing rapid vibrant environment where efficiency and competitiveness have become essential factors for their survival in the challenging ambience and to strengthen the financial system of the country.

By reason of its major contributions toward the overall growth of the country's economy, it turns out to be significant to ascertain the performance of the Banking sector in relation to productivity and profitability on a regular basis. In order to be globally competitive, it is very crucial for the banks to formulate and execute high productivity policies which further results in high profitability.

1.1 . BRIEF PROFILE OF SELECTED BANKS: STATE BANK OF INDIA

The origin of State Bank of India was rooted in the first decade of the 19th century established on 2nd June, 1806. The three presidency banks namely Bank of Bengal, Bank of Madras and Bank of Bombay merged on 27th January, 1921 and the reorganized banks named as Imperial Bank of India. On 1st July 1955, the Imperial Bank of India became the State Bank of India under the provisions of the State Bank of India Act of 1955. With a glorious history of more than 200 years, SBI is the largest and premium banking and financial services company in India. As on 31st March 2020, the bank constitutes deposits of Rs. 32,41,620 crores, profits of Rs.14489crores, advances of Rs.23,25,289 crores, 22141 branches, 2,49,448 employees of and with a customer base of 44.89 crore.

INDUSTRIAL CREDIT AND INVESTMENT CORPORATION (ICICI):

Government of India and its representatives of Indian industry developed a new financial institution i.e., ICICI in the year 1955 with the objective to provide long term and medium term project financing to Indian businesses. In the year 1994 the ICICI had promoted ICICI Bank, a wholly owned subsidiary in Vadodara. ICICI Bank is the first Bank or financial institution from non Japan-Asia to be listed on New York Stock Exchange in 1994. It is the leading private sector Bank in India in terms of assets. As on 31st March 2020, the bank has total assets of Rs.10,98,365 crores, deposits of Rs. 7,70,968 crores, advances of Rs. 64,52,899 crores, 5324 branches, 99319 employees with a customer base of 1.85 crores.

2. REVIEW OF LITERATURE:

For measuring and assessing the productivity of selected banks, the previous studies were also reviewed which include the following literature:

Kavita S. vadrle & V. P. Katti (2018) in their study they have considered 10 indicators for measuring employee productivity of selected public & private sector banks during 2001 to 2015. They have observed that profit and spread per employee are significantly high in private sector banks than public. No difference is identified by the researcher in the mobilization of deposits by both the sectors and advised to reduce burden per employee by concentrating on the reduction of operating expenses.

Das & Patra (2016) analyzed productivity and efficiency of public sector banks post financial crisis 2008. Enhancement in IT and reforms in financial segment has led to drastic changes in operating climate of the banks.

Mahila Vasanthi Thanga & Thoushifa. T (2016) summarized that productivity of the banks is highly influenced by the number of branches and employees. The more the number of branches lower is the productivity and vice versa and also recommended that the banks has to improve their per branch and per employee productivity by right sizing of the banks which is the only solution to enhance the productivity and soundness of its business.

Pandey and Singh (2015) the overall study was stressed on bank productivity for a time period of 2008-13 in the era of internet technology which paved the way to improve bank productivity.

Jena Rupak Kumar (2015) an attempt has been made by the researcher to examine total productivity and profitability growth in Indian banking sector post reform period. Productivity index data analysis are being made used to measure the efficiency under four sectors such as group of SBI banks, nationalized, private and foreign banks group. The study concluded that the qualitative dimensions of profitability and productivity can be explored in future research studies by including social productivity and profitability dimensions.

Jha and Sarangi (2015) investigated the Performance of seven public and private banks with the help of operating, financial and efficiency ratios. On the whole eleven ratios were applied. The research revealed that Axis bank in the first place, succeeded by others.

Dangwal and Kapoor (2013) gauged the financial ability of nationalized banks of India and determined the growth index of distinct parameters through comprehensive profitability indices. 19 banks for a duration of 2002-03 to 2006-07 accustomed to forecast the index of burden, spread & profitability ratios. They came to know that 4 banks exhibited incredible, 5 good and 4 fair Performance, while 6 others were below average.

Singla Vivek (2013) in his research paper examined three private sector banks from 2007-08 to 2011-12 in which he used ratio analysis to compare profitability & productivity and he concluded that ICICI is better than other selected private banks.

Sharad Kumar and Sreeramulu (2010) this paper concentrated on Performance of modern banks in comparison with traditional ones with respect to labour cost and productivity ratios. The analysis arrived to a conclusion that modern banks exhibited exceptional performance than traditional ones.

3. RESEARCH METHODOLOGY:

In view of the study two major banks from public and private sector i.e., SBI and ICICI has been selected. Data collected for the study is secondary. The necessary data were collected from bank websites & published Journals. The study covers a phase of 11 years from 2009-10 to 2019-20. In this study an attempt has been made to identify the key productivity indicators of selected banks in India to know their profitability position. The chosen indicators can be examined with the help of statistical tools such as mean, SD, CAGR and t-test has been implemented to test the significance.

4. OBJECTIVE OF THE STUDY:

This research paper has been focused on attaining the following objectives:

1. To examine the Employee (Labour), Branch and Capital Productivity of the selected Banks.
2. To Rank the selected Banks in terms of Productivity

5. ANALYSIS AND INTERPRETATION

Productivity is responsible for the crucial growth and progress of Indian Banks. It gives rise to productive employment of labour, technological and materials factors. It is measure of output to input. Its implementation is found to be easy for industrial sectors rather than service sectors, including banking services.

Employee & Branch Productivity

In order to assess employee and branch productivity of the banks certain indicators have been used for the present study, such as advances, deposits, business, investment, income, expenditure, net profit, spread and burden ratios for a duration of eleven years from 2009-10 to 2019-20. With respect to aggregate mean values of SBI & ICICI with regards to labour and branch productivity. Except Net profit per employee for labour productivity of ICICI bank, all other indicators of SBI are more than ICICI.

Table - 1
Analysis of Employee and Branch Productivity of SBI & ICICI Bank

(Rs. in crores)

Banks→	STATE BANK OF INDIA						ICICI BANK					
	Labour Productivity			Branch Productivity			Labour Productivity			Branch Productivity		
Indicators ↓	Mean	SD	CAGR	Mean	SD	CAGR	Mean	SD	CAGR	Mean	SD	CAGR
Deposits	7.7	3.1	11.27	99.38	27.79	7.87	5.66	1.3	5.25	105.56	18.24	0.03
Advances	6.05	2.11	10.35	78.54	18.15	6.98	5.25	1.14	6.3	97.58	13.35	0.04
Business	13.74	5.2	10.87	177.92	45.65	7.49	10.77	2.51	6.66	200.38	32.82	0.04
Investment	2.61	1.29	10.31	33.46	12.64	6.94	2.41	0.22	1.16	45.93	8.12	-0.01
Income	0.8	0.27	9.9	10.34	2.29	6.54	0.81	0.13	3.81	15.08	1.05	0.02
Total Expenditure	0.76	0.28	10.54	9.78	2.48	7.17	0.68	0.13	4.43	13.08	1.37	0.02
Net Profit	0.04	0.03	2.19	0.56	0.36	-0.01	0.11	0.04	1.22	2	0.63	-0.01
Spread	0.25	0.08	10.86	3.27	0.73	0.07	0.25	0.06	7.67	4.57	0.81	0.05
Burden	0.08	0.06	22.38	1.04	0.66	0.18	0.14	0.07	12.67	2.58	1.23	0.1

Source: Annual Reports of selected banks.

Note: 1. Mean is presented in terms of Crores

2. CAGR is presented in terms of Percentages

In all the aspects it is noticed that the branch productivity of ICICI Bank is exceptional compared to SBI. The greatest difference was found for business per employee of both the banks. The value of the burden per employee of labour and branch productivity is more for ICICI Bank, whereas, the values of SD of SBI & ICICI with respect to labour and branch productivity. Excluding Net profit per employee of ICICI bank for labour productivity, all other indicators of SBI are more than ICICI. Spread per employee under labour productivity of SBI is more than ICICI, whereas branch productivity has registered a higher rate in ICICI bank. The highest value of SD was observed for business per employee of both. Most of the indicators of ICICI have less variation compared to SBI. Burden per employee of ICICI has recorded higher rate than SBI.

In case of compound annual growth rate of SBI & ICICI Bank, almost all indicators of labour and branch, CAGR were higher in SBI. SBI shows highest CAGR in deposits per employee (11.27) followed by business per employee (10.87). Net profit for both the indicators indicated lowest and negative growth rate. It is detected that investment per employee is negative for branch productivity of ICICI bank.

Capital Productivity

In an attempt to examine the capital productivity of the banks some indicators have been used for the current study, mainly interest income, interest expense, net profit and business ratios for a time period of eleven years from 2009-10 to 2019-20.

Table - 2
Mean, SD & CAGR Analysis of Capital Productivity of SBI & ICICI Bank

(Rs. in Crores)

Banks→ ↓Indicators	Capital Productivity Analysis with respect to Mean, SD & CAGR					
	STATE BANK OF INDIA			ICICI BANK		
	Mean	SD	CAGR	Mean	SD	CAGR
Interest Income	0.07	0.01	-0.31	0.07	0	0.54
Interest Expense	0.04	0	-0.1	0.05	0	-1.35
Business	1.4	0.04	0.3	1.22	0.1	2.75
Net Profit	0	0.1	0	0.01	0	-2.96

Source: Annual Reports of selected banks.

Note: 1. Mean is presented in terms of Crores

2. CAGR is presented in terms of Percentages

The stated results in the above table exhibit the values of mean, standard deviation and CAGR of opted banks. The value of mean is registered same rate (0.07) of interest income for one and the other. The overall mean value of SBI for business marked a high rate (1.4) followed by ICICI (1.22). The value of SD scored highest (0.1) for net profit of SBI and for business of ICICI accompanied by business (0.04) of SBI. Growth rate analysis represents incredible rate (2.75) for business of ICICI. The least and negative CAGR among two banks is pointed at net profit (-2.96) of ICICI. It is observed a noticeable fact that there is no variation for all the mentioned indicators of ICICI bank.

Ranking of Banks with respect to Mean Analysis

Ranks are given to the distinct indicators of labour and branch productivity of SBI & ICICI bank in view of mean analysis. Therefore merit rating method is employed for giving merit rating scores in the following method. Allotment of ranks is on the grounds that higher ratio of mean value is given rank 1 which means outstanding performance, subsequently for lower values scores 2,3,4.... in that way ranks are allotted to the respective banks for the indicators deposits, advances, business, investment, income and spread per employee. Thus a bank would get the lowest score which have highest values of ratio that indicates supreme performance and vice versa. On the other hand for the indicators like total expenditure and burden per employee higher value of ratio resembles poor performance and lowest mean value ratio is assigned rank 1 and next higher scores are given 2,3,4....ranks respectively. Hence the least score shows better performance. Ranks total is the summation of all ranks of all the indicators of both the productivities. The aggregate ranking scored (least scored acquire first rank and vice versa) based on ranks total.

Table - 3

Ranking Based on Mean Analysis				
Bank→ ↓ Indicators	Employee Productivity		Branch Productivity	
	SBI	ICICI	SBI	ICICI
Deposits	1	2	2	1
Advances	1	2	1	2
Business	1	2	2	1
Investment	1	2	2	1
Income	2	1	2	1
Total Expenditure	1	2	2	1
Net Profit	2	1	2	1
Spread	1	2	2	1
Burden	1	2	1	2
Ranks Total	11	16	16	11
Aggregate Ranking	1	2	2	1

SOURCE: Assignment of ranks by researcher based on Table 1 of SBI & ICICI Bank.

Table 3 outlines ranking scores of chosen banks based on mean values for each of the indicators.

Labour Productivity: SBI > ICICI

Branch Productivity: ICICI > SBI

It can be concluded that SBI exhibits supreme performance in matter of labour productivity and ICICI exhibits best performance in the context of branch productivity.

Ranking of Banks with respect to Standard Deviation Analysis

Ranks are given to the different indicators of labour and branch productivity of SBI & ICICI bank in connection with standard deviation analysis. Accordingly merit rating method is adapted for giving merit rating scores in the following method. Allotment of ranks is on the grounds that lowest deviation has given rank 1 and vice versa, which indicates that lowest deviation implies better performance with reference to variability. Higher SD value represents poor performance and scores ranks such as 2,3,4.... of the respective banks. Ranks total is the summation of all ranks of all the indicators of both the productivities. The aggregate ranking scored (least scored acquire first rank and vice versa) based on ranks total.

Table - 4

Ranking Based on Standard Deviation Analysis				
Bank→ ↓ Indicators	Employee Productivity		Branch Productivity	
	SBI	ICICI	SBI	ICICI
Deposits	1	2	1	2
Advances	1	2	1	2

Business	1	2	1	2
Investment	1	2	1	2
Income	1	2	1	2
Total Expenditure	1	2	1	2
Net Profit	2	1	2	1
Spread	1	2	2	1
Burden	1	2	1	2
Ranks Total	10	17	11	16
Aggregate Ranking	1	2	1	2

SOURCE: Assignment of ranks by researcher based on Table 1 of SBI & ICICI Bank.

Table 4 outlines ranking scores of chosen banks based on SD values for each of the indicators.

Labour Productivity: ICICI > SBI

Branch Productivity: ICICI > SBI

It can be concluded that ICIC exhibits supreme performance in matter of both labour and branch productivity.

Ranking of Banks with respect to Mean and SD Analysis for Capital Productivity

The similar procedure has been implemented for assigning ranks in terms of mean and SD for capital productivity.

Table 5 outlines ranking scores of chosen banks based on mean values for each of the indicators of Capital Productivity.

Capital Productivity: SBI > ICICI

It can be concluded that SBI exhibits supreme performance in matter of capital productivity than ICICI bank.

Table 5

Ranking Based on Mean Analysis & Standard Deviation				
Bank→ ↓ Indicators	Capital Productivity			
	Mean		SD	
	SBI	ICICI	SBI	ICICI
Interest Income	2	2	1	2
Interest Expense	2	1	2	2
Business	1	2	2	1
Net Profit	2	1	1	2
Ranks Total	7	6	6	7
Aggregate Ranking	2	1	1	2

SOURCE: Assignment of ranks by researcher based on Table 2 of SBI & ICICI Bank.

Table 5 also outlines ranking scores of chosen banks based on SD values for each of the indicators.

Capital Productivity: ICICI > SBI

It can be concluded that ICICI exhibits supreme performance in matter of capital productivity.

HYPOTHESIS TESTING

Based on the prescribed objectives the mentioned hypothesis is framed for the research.

Null Hypothesis: (H₀: μ₁ = μ₂)

H₀₁: There is no significant difference between Means of labour, branch and capital productivity of SBI & ICICI bank.

Table - 6

Testing of Hypothesis: Employee, Branch & Capital Productivity of SBI & ICICI Bank

Productivity	Two Tailed Test			Decision	Performance of Banks
	5% Level of Significance				
	t- calculated	t-table value	p value		
Employee Productivity	0.3318097	2.1199053	0.7443396	Accept H ₀	SBI = ICICI
Branch Productivity	-0.2736896	2.1788128	0.788977	Accept H ₀	SBI = ICICI
Capital Productivity	0.0887657	2.4469118	0.9321568	Accept H ₀	SBI = ICICI

SOURCE: Calculations done by researcher based on the mean values.

NOTE: Equal to (=) sign indicates average performance of selected banks is similar.

The represented results of two tailed t- test shown in the above table, it is crystal clear that there is no significant difference between the means of labour (employee), branch and capital productivity of SBI & ICICI banks at 5% level of significance.

Alternative Hypothesis (Right tailed test at 5% Los) (Ha: $\mu_1 > \mu_2$)

H_{a1}: Labour productivity, Branch productivity and Capital productivity of SBI is better than ICICI Bank.

Alternative Hypothesis (Left tailed test at 5% Los) (Ha: $\mu_1 < \mu_2$)

H_{a1}: Labour productivity, Branch productivity and Capital productivity of ICICI Bank is better than SBI.

Table - 7
Testing of Hypothesis: Employee, Branch & Capital Productivity of SBI & ICICI Bank

Productivity	One Tailed Test			Decision	Performance of Banks
	5% Level of Significance				
	t- calculated	t-table value	p value		
Employee Productivity	0.3318097	1.7458837	0.3721698	Accept H ₀	SBI = ICICI
Branch Productivity	-0.2736896	1.7822875	0.3944885	Accept H ₀	SBI = ICICI
Capital Productivity	0.0887657	1.9431803	0.4660784	Accept H ₀	SBI = ICICI

SOURCE: Calculations done by researcher based on the mean values.

NOTE: Equal to (=) sign indicates average performance of selected banks is similar.

The results of one tailed t- test shown in the above table, it is quite clear that there is no significant difference between the means of Employee (Labour), branch and capital productivity of SBI & ICICI banks at 5% level of significance.

After application of two tailed & one tailed test, it is observed that under both tests the null hypothesis is accepted which implies that in all the aspects there is no much difference between the average performance of selected banks during the course of the study.

6. FINDINGS AND RECOMMENDATIONS

It is concluded that labour productivity is better in SBI than ICICI, whereas branch and capital productivity of ICICI bank exhibits good performance comparatively. As we all are aware that SBI being largest bank in the country with enormous branches and employees, shows the lowest productivity and vice versa, It means that the bank is inefficient in controlling its expenditure per branch. Hence SBI has to take measures to control its operating expenses. The selected public sector bank must concentrate on per branch productivity.

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