

Performance of Public and Private Sector Banks in India: An Analysis with Productivity Indices

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Abstract

Banks serve as a backbone to the financial sector which facilitates the proper utilization of financial resources of a country. The banking sector is increasingly growing and it has witnessed a huge flow of investments in the recent past. In the era of competitive world, in addition to simply being involved in the financial intermediation activities, banks need to provide contemporary services and products to satisfy and retain the customers. Therefore, banks need to be financially sound with good profitability; productivity and liquidity. In this backdrop, analysis of the performance of the banks assumes importance; and the study is undertaken with an objective to analyse the performance of the banks on the basis of employee and branch productivity ratios; and to see whether there is any significant difference in the performance of the banks between the sectors. For making an analysis of the performance of all the banks, six productivity indices are calculated for the period 2010-11 through 2018-19. The paper is organised into literature review; research gap; objectives; methodology; variables of the study; results and findings. The study is based on secondary sources and the data are analyzed with the help of Productivity Indices and 't' Test.

Key Words: *Productivity; Indices; Employee Productivity Indices; and Branch Productivity Indices*

Introduction

The Indian economy has weathered the turbulent global economy and emerged as a strong and disciplined economy. It is on the brink of a major transformation with several policy initiatives being announced regularly. Enhanced spending on infrastructure and continued economic reforms has fuelled the growth of the economy suggesting that India's banking sector is also poised for robust growth as the rapidly growing business would turn to banks for their credit needs (K.P.Venugopala Rao and Farah Ibrahim, 2017). The banking sector is considered as one of the leading contributors to the growth of an economy. It is termed as the primary engine of growth of an economy. This sector has experienced a complete transformation over the years across the globe; productivity is termed as efficient use of resources to achieve the set targets. (Karam Pal Narwal&ShwetaPathneja, 2015).

Need and Importance of the Study

Banks are performing the important function of financial intermediaries between the creditors and depositors. Efficiency and productivity are the major indicators of assessing the strengths and weaknesses of the banking system. The measurement of productivity in banking sector is crucial for the overall development of the economy (Kavita S. Vadrade and Dr. (Mrs.) V.P.Katti, 2018).

Banks serve as a backbone to the financial sector which facilitates the proper utilization of financial resources of a country. The banking sector is increasingly growing and it has witnessed a huge flow of investments in the recent past. In the era of competitive world, in addition to simply being involved in the financial intermediation activities, banks need to provide contemporary services and products to satisfy and retain the customers. Therefore, banks need to be financially sound with good profitability; productivity and liquidity. In this backdrop, assessment and analysis of the performance of the banks assumes importance. A comparative analysis of the performance of all the banks is made with the help of six productivity indices for the period 2010-11 through 2018-19. The paper is organised into literature review; research gap; objectives; methodology; variables of the study; results and findings.

Literature Review

Manoj Kumar Das and Subhamitra Patra (2016) studied the change in the productivity and efficiency of Public Sector Banks in India after the financial crisis of 2008. Data Envelopment Analysis approach is used for the study, wherein 26 Public Sector Banks were selected. The findings of the study were that there is a wide variation between the banks on the aspects of productivity and efficiency and few of the banks experienced a decline in the efficiency warranting for a special attention from the policy makers. D. Mahila Vasanthi Thangam and Thoushifa (2016) analysed the productivity on the basis of employee and branch productivity ratios of nine banks, drawing three banks each with largest deposits and advances from public sector; private sector and foreign banks group. Sandeepa Kaur and P .K.Gupta (2015) analyzed the performance of the Indian banking sector on the basis of productive efficiency employing Data Envelopment Analysis approach. The study concluded that, SBI and its group exhibited a good and consistent performance. Geetu Gupta, Amandeep Kaur (2013) analyzed the performance of public sector banks in India on the basis of Employee and Branch Productivity ratios. The study was carried out for the period 1991-2010; the productivity performance is analysed and rated as, excellent; good; fair and poor and suggestions were made for the improvement of public sector banks productivity. Cheenu Goel and Chitwan Bhutani Rekhi (2013) made an attempt to measure the relative performance of the public and private sector banks in India; and concluded that the public sector banks are not profitable when compared with the banks in the private sector. Omprakash K. Gupta, Yogesh Doshit, and Aneesh Chinubhai (2008) studied the performance of the Indian banking sector using Data Envelopment Analysis approach. As per the study, SBI and its group exhibited highest efficiency, followed by private banks, and the other nationalized banks. T. T. Ram Mohan and Subhash C Ray (2003) compared the public sector banks with private sector banks on the basis of productivity and efficiency. Tornquist

total factor productivity growth, Malmquist efficiency and revenue maximisation efficiency were employed by them to draw the comparison between the banks and concluded that, the efficiency and productivity of the public sector banks is not low always when compared with their peers in the private sector.

Research Gap

The paper focuses on the productivity indices of the banks. Many researchers have focused on the financial / operational performance of the banks; and applied non parametric tests; however, a comprehensive analysis relating to employee and branch productivity indices (Geetu Gupta, Amandeep Kaur (2013) of all the Public and Private Sector Banks has not been done from 2010-11 through 2018-19; hence selected for the study.

Objectives of the Study

The study is undertaken with an objective to analyse the performance of the banks on the basis of employee and branch productivity ratios; and to analyse as to whether there is any significant difference in the performance of the banks between the sectors.

Methodology

The study is based on the Secondary data collected from Brochures; Annual Reports of the banks; Profile of Banks; RBI Records and other material available on the relevant websites.

Sample Selection and Period of Study

The Indian banking sector, which is the edifice of the Indian financial sector, though weathered the worst consequences of the global financial turmoil (2008) to a large extent, had to traverse through a challenging macroeconomic environment during the post crisis period. The Indian banking sector performed better in 2010-11 over the previous year despite the challenging operational environment. The banking business of Scheduled Commercial Banks (SCBs) recorded higher growth in 2010-11 as compared with their performance during the last few years (<https://www.rbi.org.in/scripts/PublicationsView.aspx?id=13938>); hence the present study is carried out from the year 2010-11 through 2018-19 to analyze the performance of the banks both in the Public and Private Sectors. All the 18 Public Sector Banks and 21 Indian Private Sector Banks are considered for achieving the objectives of the study.

Hypothesis

The Public Sector Banks are mainly owned by the Government and Private Sector Bank's ownership is mainly in the hands of the private institutions. Due to differentiation in the ownership structure, it is imperative to study the difference between the productivity of these two types of banks (Sharad Kumar and M. Sreeramulu, 2007). The following hypothesis is framed to see whether there is any difference in the performance of banks on the basis of productivity indices between the sectors.

H₀: There is no significant difference in the productivity indices of the banks between the Public and Private Sectors

H₁: There is a significant difference in the productivity indices of the banks between the Public and Private Sectors

Variables of the study

Productivity refers to organisation’s effectiveness in using the resources, financial as well as physical to arrive at the best possible results. Productivity is generally linked to profitability because, higher the productivity lower will be the establishment costs; lower productivity increases the relative operational cost and often becomes cause of losses as intermediary returns are directly related to the quantum of productivity. Human resource is the most important asset of an organization and banking business is no exception to it. Funds are to be mobilised for the purpose of creating revenue generating assets and it is the employees who are responsible for mobilisation of the funds. Branches of the bank are spread across the country for easy access to the customers; all the branches might not be deployed with the same number of employees. Branch Productivity shows the productivity per bank; it is used as a tool to measure the branch level efficiency in generating business for the bank. Productivity analysis is very helpful parameter to measure the financial performance of any bank. The absolute figures do not provide meaningful values until and unless they are related to some other relevant information, therefore, the employee productivity and branch productivity ratios are calculated. The study employed the following ratios:

Table 1
Productivity Ratios

Productivity Ratio	Calculation Basis
Deposits per Employee	Total Deposits / Total Number of Employees. Higher the ratio better the employee productivity
Advances per Employee	Total Advances / Total Number of Employees. Higher the ratio better the employee productivity
Profits per Employee	Net Profits / Total Number of Employees. Higher the ratio better the employee productivity
Deposits per Branch	Total Deposits/ Total Number of Branches. Higher the ratio better the branch productivity
Advances per Branch	Total Advances / Total Number of Branches. Higher the ratio better the branch productivity
Profits per Branch	Net Profits / Total Number of Branches. Higher the ratio better the branch productivity

Source: Compiled by the authors

Productivity Indices: Index = Average Ratio of the concerned bank / Average ratio of the aggregate of all banks. With regard to these productivity indices; the performance of the banks has been assessed at four levels, i.e. excellent, good, fair and poor. For excellent performance level, the banks included are those, where productivity index value is greater than mean of industry indices + 0.6745 σ. The banks having productivity indices value

between mean of industry indices to mean + 0.6745σ fall under the Good performance. Fair performance category includes banks whose productivity index value lies between mean of industry indices to mean - 0.6745 σ. Poor performance category includes banks whose productivity index value is lower than the mean of industry indices - 0.6745 σ. The calculated ranges of employee and branch productivity indices for performance analysis are given below:

Table 2
Employee and Branch Productivity Indices: Calculated Ranges

Rating	D/E	A/E	P/E	D/B	A/B	P/B
Excellent	1.24 and >	1.26 and >	2.03 and >	1.23 and >	1.71 and >	2.03 and >
Good	1 to 1.24	1 to 1.26	1 to 1.26	1 to 1.23	1 to 1.71	1 to 2.03
Fair	.76 to 1	.74 to 1	- 0.03 to 1	.76 to 1	.28 to 1	1 to -0.031
Poor	< than .76	< than .74	< than - 38	< than .76	< than .28	< than -0.03

Source: Calculated by the authors

Results and Findings

The employee and branch productivity ratios are ascertained and indices are calculated for 18 banks in the public sector and 21 banks in the private sector and accordingly rated as per the tables above. Bandhan Bank was established on 23rd December 2014 and IDFC First Bank started operations on 1st October 2015; hence, the data for these banks are collected and analysed from 2015 onwards. The study observed differences in the performance of the banks between the sectors therefore, ‘t’ test is run to see whether the difference in the performance of the banks is statistically significant or not between the sectors. The results and findings are discussed below:

Table 4
Employee and Branch Productivity Ratios & Indices of all Banks

Banks	D/E	Indices	A/E	Indices	P/E	Indices	D/B	Indices	A/B	Indices	P/B	Indices
Private Sector Banks												
AXIS Bank	6.14	0.82 F	5.14	0.89 F	0.20	4.88 E	124.68	1.46 E	103.81	1.41 G	4.02	5.53 E
Bandhan Bank	1.02	0.14 P	0.90	0.16 P	0.04	1.00 G	32.24	0.38 P	28.69	0.39 F	1.29	1.77 G
Catholic S Bank	12.70	1.70 E	8.78	1.52 E	0.00	0.07 F	24.10	0.28 P	15.06	0.20 P	-0.12	-0.17 P
City UBL	5.68	0.76 F	4.42	0.77 F	0.10	2.27 E	53.78	0.63 P	41.62	0.56 F	0.90	1.24 G
DCB	3.79	0.51 P	3.11	0.54 P	0.04	1.04 G	78.41	0.92 F	64.16	0.87 F	0.88	1.21 G
Dhanalakshmi B	4.85	0.65 P	3.05	0.53 P	-0.04	-0.88 F	44.29	0.52 P	28.45	0.39 F	-0.33	-0.45 P
Federal Bank	7.12	0.96 F	5.47	0.95 F	0.08	1.86 G	67.38	0.79 F	51.80	0.70 F	0.73	1.01 G
HDFC Bank	6.14	0.82 F	5.14	0.89 F	0.20	4.88 E	124.68	1.46 E	103.81	1.41 G	4.02	5.53 E
ICICI Bank	5.47	0.73 P	5.34	0.93 F	0.11	2.70 E	99.90	1.17 G	97.39	1.32 G	2.08	2.86 E
IDFC First Bank	3.08	0.93 F	11.92	2.07 E	0.11	2.66 E	320.59	3.75 E	518.76	7.04 E	0.61	0.83 F
Indus Ind Bank	4.88	0.65 P	4.36	0.76 F	0.10	2.44 E	105.06	1.23 E	93.23	1.27 G	2.21	3.04 E
J & K Bank	7.03	0.94 F	4.74	0.82 F	0.04	1.06 G	86.92	1.02 G	58.21	0.79 F	0.61	0.83 F
Karnataka Bank	6.34	0.85 F	4.44	0.77 F	0.05	1.18 G	69.52	0.81 F	48.59	0.66 F	0.54	0.75 F
Karur Bank	6.50	0.87 F	5.04	0.87 F	0.07	1.64 G	72.71	0.85 F	56.24	0.76 F	0.79	1.09 G

Kotak MB	3.86	0.52 P	3.52	0.61 P	0.09	2.14 E	114.66	1.34 E	104.95	1.42 G	2.69	3.69 E
Lakshmi Bank	6.02	0.81 F	4.46	0.77 F	-0.01	-0.13 F	53.38	0.62 P	39.54	0.54 F	-0.02	-0.03 F
Nainital bank	6.37	0.85 F	3.27	0.57 P	0.06	1.50 G	42.13	0.49 P	21.77	0.30 F	0.43	0.59 F
RBL Bank	5.66	0.76 P	4.96	0.86 F	0.07	1.70 G	100.68	1.18 G	88.34	1.20 G	1.28	1.77 G
South India	7.35	0.98 F	5.42	0.94 F	0.05	1.26 G	66.79	0.78 F	49.30	0.67 F	0.47	0.65 F
Tamilnadu MB	6.92	0.93 F	5.22	0.91 F	0.09	2.20 E	60.23	0.70 P	45.56	0.62 F	0.82	1.12 G
YES Bank	7.42	0.99 F	8.04	1.40 E	0.18	4.23 E	124.34	1.45 E	138.11	1.87 E	2.99	4.11 E
Private Sector Banks												
Allahabad Bank	7.81	1.05 G	5.65	0.98 F	-0.04	-0.90 P	63.35	0.74 P	45.80	0.62 F	-0.22	-0.30 P
Andhra Bank	8.56	1.15 G	6.45	1.12 G	0.01	0.14 F	65.62	0.77 F	49.58	0.67 F	0.09	0.13 F
Bank of India	11.69	1.57 E	8.48	1.47 E	0.00	-0.08 P	97.56	1.14 G	70.00	0.95 F	-0.09	-0.13 P
Bank of Baroda	10.83	1.45 E	7.60	1.32 E	0.04	1.02 F	107.27	1.25 E	75.44	1.02 G	0.44	0.61 F
Bank of Maha	8.45	1.13 G	6.00	1.04 G	-0.04	-1.04 P	63.60	0.74 P	45.35	0.62 F	-0.28	-0.39 P
Canara Bank	8.58	1.15 G	6.03	1.05 G	0.03	0.64 F	88.49	1.03 G	62.29	0.85 F	0.33	0.45 F
Central Bank	6.75	0.90 F	4.29	0.75 F	-0.04	-0.87 P	55.91	0.90 F	35.90	0.49 F	-0.28	-0.38 P
Corporation Bank	9.99	1.34 E	6.94	1.20 G	-0.02	-0.49 P	86.07	1.01 G	60.04	0.81 F	-0.10	-0.13 P
IDBI Bank	16.44	2.20 E	12.77	2.22 E	-0.02	-0.57 P	167.27	1.95 E	134.40	1.82 E	0.69	0.94 F
Indian Bank	8.49	1.14 G	6.26	1.09 G	0.06	1.48 F	69.35	0.81 F	51.10	0.69 F	0.54	0.74 F
IOB	7.23	0.97 F	5.11	0.89 F	-0.05	-1.24 P	67.59	0.79 F	48.21	0.65 F	-0.42	-0.57 P
OBC	9.58	1.28 E	6.75	1.17 G	0.00	0.03 F	89.86	1.05 G	63.36	0.86 F	0.03	0.04 F
PNB	7.37	0.99 F	5.40	0.94 F	0.00	-0.04 P	78.13	0.91 F	57.26	0.78 F	-0.01	-0.01 F
Punjab & SB	9.25	1.24 E	6.48	1.13 G	0.01	0.33 F	65.41	0.76 F	45.92	0.62 F	0.10	0.14 F
SBI	7.51	1.01 G	5.99	1.04 E	0.04	0.90 F	97.90	1.14 G	78.44	1.06 G	0.53	0.73 F
Syndicate Bank	7.25	0.97 F	5.70	0.99 F	0.01	0.12 F	61.88	0.72 P	48.61	0.66 F	0.06	0.08 F
UCO Bank	7.71	1.03 G	5.02	0.87 F	-0.04	-0.91 P	65.72	0.77 F	43.23	0.59 F	-0.26	-0.36 P
Union Bank	9.17	1.23 G	6.97	1.21 G	0.03	0.78 F	80.93	0.95 F	61.52	0.83 F	0.30	0.41 F

Source: Calculated by the authors

Table5
Rating of Overall Employee Productivity Indices of Banks

Advances per Branch Indices: Rating of Banks					
Private Sector Banks	2	6	12	1	21
Public Sector Banks	1	2	15	-	18
Total	3	8	27	1	39
Profits per Branch Indices: Rating of Banks					
Private Sector Banks	6	7	6	2	21
Public Sector Banks	-	-	11	7	18
Total	6	7	17	9	39

Source: Compiled by the authors from table4

- ✓ From the above table, it is seen that ratings based on Deposits per Employee Indices, only 7 out of 39 banks are rated excellent; and out of which 6 banks are from Public Sector which indicates that these banks are the leaders in the market with regard to generation of deposits and the rate of increase in the deposits is greater than the rate of increase in the employees. The IDBI Bank from the public sector and Catholic Syrian Bank from the private Sector have the excellent rating with high indices score. Seven banks in the private sector are rated poor indicating that the rate of growth of employees is greater than the rate of growth in the deposits.
- ✓ Ratings based on Advances per Employees Indices indicate that, the public sector banks are doing better than their counterparts in the private sector; it is interesting to note that, not a single bank in the public sector is rated poor in terms of Deposit and Advances per Employee indices, which only indicate that, they are able to sustain their customers, might be because of the sentiments of the customers that the monies with the public sector banks would be safe. The top rated banks are IDBI Bank and IDFC First Bank from public and private sectors respectively.
- ✓ A very interesting point to note here is that ratings based on Profits per Employee Indices, not a single bank in the private sector is rated poor and 18 of the 21 banks are performing well implying that the profits for these banks (difference between spread and burden) earned and interest expended) is good indicating operational efficiency of the banks.
- ✓ Nine public sector banks covered in the study have been rated poor; a poor performance in terms of profits per employee, which indicates that the operating cost responsiveness of the banks, is high. These banks in the public sector may focus on

	Excellent	Good	Fair	Poor	Total
Deposits per Employee Indices: Rating of Banks					
Private Sector Banks	1	-	13	7	21
Public Sector Banks	6	8	4	-	18
Total	7	8	17	7	39
Advances per Employee Indices: Rating of Banks					
Private Sector Banks	3	-	13	5	21
Public Sector Banks	4	8	6	-	18
Total	7	8	19	5	39
Profits per Employee Indices: Rating of Banks					
Private Sector Banks	9	9	3	-	21
Public Sector Banks	-	-	9	9	18
Total	9	9	12	9	39
Deposits per Branch Indices: Rating of Banks					
Private Sector Banks	6	3	5	7	21
Public Sector Banks	2	5	8	3	18
Total	8	8	13	10	39

reducing their operating costs and have a proper plan for the disbursement of loans and advances. 9 private sector banks are rated excellent with HDFC Bank and Axis Bank in the first place with same indices score.

- ✓ From the above table, it is seen that, ratings based on Deposits per Branch Indices, 16 out of 39 banks are doing well, indicating a good productivity. IDBI Bank and IDFC are the top banks in public and private sectors respectively with high scores. 7 banks in the private sector and three from public sector are rated poor only indicating that the increase in the Deposits did not match with the percentage increase in Branches
- ✓ The ratings of Advances per Branch Indices again indicate that, all most 27 banks in both the sectors have exhibited a fair performance and only one from private sector is rated poor. IDBI Bank and IDFC have the maximum indices scores in public and private sectors respectively.
- ✓ Ratings based on Profits per Branch Indices indicate that, not a single bank in the public sector is rated excellent and good; on the other hand 6 and 7 private sector banks are rated excellent and good respectively. HDFC Bank and Axis Bank have the maximum indices scores private sector; 7 public sector banks and 2 private sector banks covered in the study have been rated poor indicating poor branch productivity.

The performance of Public Sector Banks is worth mentioning here; as they are the largest banks in India catering to the diversified needs of customers spread over the country. the ratings have been not very pleasing, might be due to the reason that they have on their payroll highest number of employees and also have a wide network of branches established all across the country; higher the number of employees and branches, lesser the productivity ratios on one hand and on the other hand, it could as well be understood as untapped man power to the optimum extent possible thus indicating a possible growth in the ratios in the future with a proper plan of action. ‘t’ test results of the productivity indices is given below:

Table 6
Productivity Indices: ‘t’ test results

Productivity Ratios	Public Sector Banks Mean	Private Sector Banks Mean	P(T<=t) two-tail	Result
D/E	1.21	0.82	0	p<.05, Reject Ho
A/E	1.14	0.88	0.03	p<.05, Reject Ho
P/E	-0.04	1.89	0	p<.05, Reject Ho
D/B	0.969	1.038	0.689	p>.05, Accept Ho
A/B	0.811	1.161	0.282	p>.05, Accept Ho
P/B	0.111	1.761	0	p<.05, Reject Ho

Source: Calculated by the authors

From the table above, it is evident that, p value as per the ‘t’ test at 5% significance level in case of all the Employee Productivity Indices is less than.05, indicating that there is a significant difference in the performance of the banks between the sectors, thus, rejecting the null hypothesis. From the table above, it is evident that, p value as per the ‘t’ test at 5% significance level in case of the Deposits and Advances per Branch Productivity Indices is more than.05, indicating that there is no significant difference in the performance of the

banks between the sectors, thus, accepting the null hypothesis. The p value as per the 't' test at 5% significance level in case Profits per Branch Productivity Indices is less than 0.05, indicating that there is a significant difference in the performance of the banks between the sectors, thus, rejecting the null hypothesis. On the basis of the mean scores it can be said that, Public Sector Banks are performing better than the Private Sector Banks in terms of Deposits and Advances per Employee Indices, whereas, Private Sector Banks are performing better than their counterparts in terms of Profits per Employee and Branch Indices.

Conclusion

The performance of the public and private sector banks is analysed on the basis of employee and branch productivity ratios. The findings of the study revealed that, majority of the public sector banks are doing good in terms of deposits and advances per employee ratio indices indicating a good performance but they have exhibited a poor performance in terms of profits per employee ratio indices indicating that these banks are not able to fully take advantage of the huge volume of funds at their disposal; or might be due to high operating expenses. On the other hand banks in private sector are able to exhibit a stupendous performance in terms of profits per employee, despite the fact that, they are not the favourites of the customers in terms of deposit mobilisation.

The results on the performance of these banks in terms of deposits and advances per branch productivity ratio indices is indicating that more or less a similar kind of performance is seen from banks from both the sectors; the private sector banks are performing better than the public sector banks with regard to profits per branch ratios indices indicating a good management efficiency. Increasing competition from other banks, expansion into new markets is putting strong pressure on banks to improve their earnings and to control costs. Efficiency is clearly a critical factor in remaining competitive.

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