PERFORMANCE OF BANKS IN INDIA: AN ANALYTICAL STUDY ON PRODUCTIVITY OF PUBLIC SECTOR

Ritesh Verma

Assistant Professor, Maharaja Agrasen College, University of Delhi

Abstract

(Present study attempts to do research on the productivity of public banks in India. On the basis of productivity indicators, a variety of statistical values were computed from 2001 to 2015. To assess if a distribution is normal, the Kolmogorov-Smirnov and Shapiro-Wilk tests are employed. Levene's test is used to determine the homogeneity of variance, and the mean is used as the basis for variance comparison. In order to evaluate the dependent samples' hypotheses, the Kruskal-Wallis test was used.)

1.1 Introduction

In 1955, the State Bank of India was formed by nationalizing the Imperial Bank of India, followed by the nationalization of 14 other banks in July 1969, and then six more banks in April 1980.Due to substantial economic and social duties, such as priority sector lending, that were imposed on public sector banks, the financial health of public sector banks deteriorated over time. From time to time, weaker banks were recapitalized by the government while stronger banks were urged to go to the capital market to raise capital to 49 percent.

Govt. shareholding in paid-up capital of public sector banks as on 31/03/2015

Sl. No.	Name of the Bank	(%)
1	State Bank of India	58.6
2	Allahabad bank	60.83
3	Andhra bank	61.0183
4	Bank of Baroda	57.53
5	Bank of India	64.43
6	Bank of Maharashtra	79.8
7	Canara bank	69.91
8	The central bank of India	81.46
9	Corporation Bank	63.33
10	Dena bank	59.75
11	Indian Bank	82.1
12	Indian Overseas bank	73.8
13	IDBI	76.5
14	Oriental bank of commerce	59.13
15	Punjab & Sind bank	79.62
16	Syndicate Bank	69.24
17	UCO Bank	72.83
18	Union Bank of India	60.47
19	United bank of India	82
20	Vijaya Bank	74.06
21	Bhartiya Mahila Bank	100
22	Punjab National Bank	59.86

Source: Data published by dept. of financial services, Ministry of Finance, Government of India

The present study attempts to study the performance of public sector banks in India In terms of their productivity during the period 2000 to 2015.

1.2 Review of Literature

It wasn't until 1976 that the Reserve Bank of India's Luther Committee made its first attempt at examining the profitability of commercial banks, as well as their productivity, efficiency, and efficiency. Bank capital bases should be strengthened and interest on cash reserves over the statutory requirement of 3 percent should be tied to banks' cost-of-funds.

Dwivedi (2011)After examining the different market and regulatory efforts, attempts to establish how they affect efficiency improvements of Indian banks. When evaluating a firm's efficiency, it's compared to the efficiency of other companies in the sample. With the use of Data Envelopment Analysis (DEA), it has been possible to identify banks that are at or near the output frontier. Researchers discovered that national banks, new private institutions, and international institutions have demonstrated great efficiency over time.

With the use of the entropy function of information theory, Sanjeev C. Panandikar (2014) calculated metrics efficiency ratings for Indian commercial banks on a (0,1) scale using the TOPSIS multi-criteria approach with weights. From 2001-02 to 2012-13, banks are rated and ranked based on seven financial ratios. The equal and steady performance hypothesis is examined. He concluded that the average efficiency ratings of the public sector, private sector, and foreign banks are the same, although they vary from year to year. It is discovered that the non-performing assets and the business per employee are given the greatest weights.

According to Dr. Ansarul Haque's (2014) study, a select few major Indian banks' performances from 2009 to 2013 after the global financial crisis of 2008 were examined. A comparison of various domestic and international scheduled commercial banks' financial positions is made to assess their performance. A return on equity and net interest margin were utilized as criteria. ANOVA (Analysis of Variance) was used in his study to see if there is a significant difference in profitability between various banking groups. The conclusion of the study indicates that there is no significant means indifference of profitability among various banking groups in respect to ROA and NIM, yet a significant means of difference is seen among the peer groups in terms of ROE.

NPAs were taken into account by Vivek Rajbahadur Singh (2016), who examined non-performing assets in Indian scheduled commercial banks. For a period of 14 years from 2000 to 2014, the study examined the conceptual framework of non-performing assets (NPAs), as well as the trends, status, and impact of NPAs on scheduled commercial banks. It was determined that non-performing assets (NPAs) harmed liquidity and profitability, as well as posing a danger to the quality of assets and the existence of banks. A rigorous policy should be maintained to solve this problem, as it isn't with little borrowers but with huge borrowers. The government should also make more provisions for faster settlement of pending cases.

Data Envelopment Analysis, non-parametric Malmquist index, Pooled data model and Generalized Least Squares approach, multivariate analysis technique discriminant analyses, ratio, and trend analyses as well as the CAMEL model and analysis of variance were some of the methods used by different authors to evaluate the efficiency or profit margins in various banking institutions. After reforms, all types of banks saw an increase in efficiency and profitability.

1.3 Objectives of Study:

i) To investigate the performance with the help of productivity indicators of India's selected public sector banks.

1.4 Hypothesis of the Study:

i) During the research period, there was no significant variation in the productivity performance of different public sector banks.

1.5 Research Methodology

Data from 2001 to 2015 was used to calculate statistical values such as mean, median, Standard deviation, and coefficient of variation for productivity indicators such as business per employee, profit per employee, business per branch and profit per branch.The Kolmogorov-Smirnov and Shapiro-Wilk tests are used to determine if a distribution is normal. The homogeneity of variance is checked using Levene's test, and the mean is utilised as the foundation for variance comparison. The Kruskal-Wallis Evaluate was performed to test the hypothesis of the dependent samples.

1.6 Productivity indicators

Certain selected variables, such as business per employee, profit per employee, operating expenditures per branch, business per branch, and profit per branch, have been utilized to measure the productivity of the banks under examination in the study.

Business per employee

A visual representation of business per employee for all public sector banks is shown in Figure 1.1. All of the public sector banks studied have witnessed significant growth in business per employee. All 10 public sector banks had a ten-fold rise in revenue per employee between 2000 and 2013.

Table 1.1 shows the results of descriptive data for the number of transactions per employee of public sector banks. Corporation Bank and Oriental Bank of Commerce have the greatest average revenue per employee. SBI and BM are the two banks with the lowest. Oriental Bank of Commerce, Corporation Bank, and Bank of Maharashtra have the greatest median business per employee, while State Bank of India, Punjab National Bank, and Bank of Maharashtra have the least. SBI and Maharashtra bank has the lowest absolute variation, while corporation bank and bank of Baroda have the most. Based on relative risk measures the lowest are Oriental Bank of Commerce, Union Bank of India, and Bank of Maharashtra (see chart below). The Bank of Baroda, Bank of India, and Punjab National Bank have the highest scores in this category.

The results show that Corporation Bank and Oriental Bank of Commerce performed well, whereas Bank of Baroda, Canara Bank, Bank of India, and Union Bank of India performed poorly.

Table 1.1

Descriptive statistics for business per employee of public sector banks

(Rs. in lakhs)

Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation
Bank of Baroda	672.094	475.5	522.413	0.777
Bank of India	641.355	439.5	489.315	0.763
Bank of Maharashtra	495.13	355.56	345.958	0.699
Canara bank	629.157	495.165	454.36	0.722
Corporation Bank	814.553	582	590.25	0.725
Oriental Bank of Commerce	805.959	656.45	501.047	0.622
Punjab National Bank	506.256	342.14	381.61	0.754
Union Bank of India	562.288	472.84	360.755	0.642
Vijaya Bank	535.564	412.215	382.418	0.714
State Bank of India	437.269	328.115	301.84	0.69

Source: Data has been compiled from various issues of Trend and Progress of Banking in India (published by RBI)

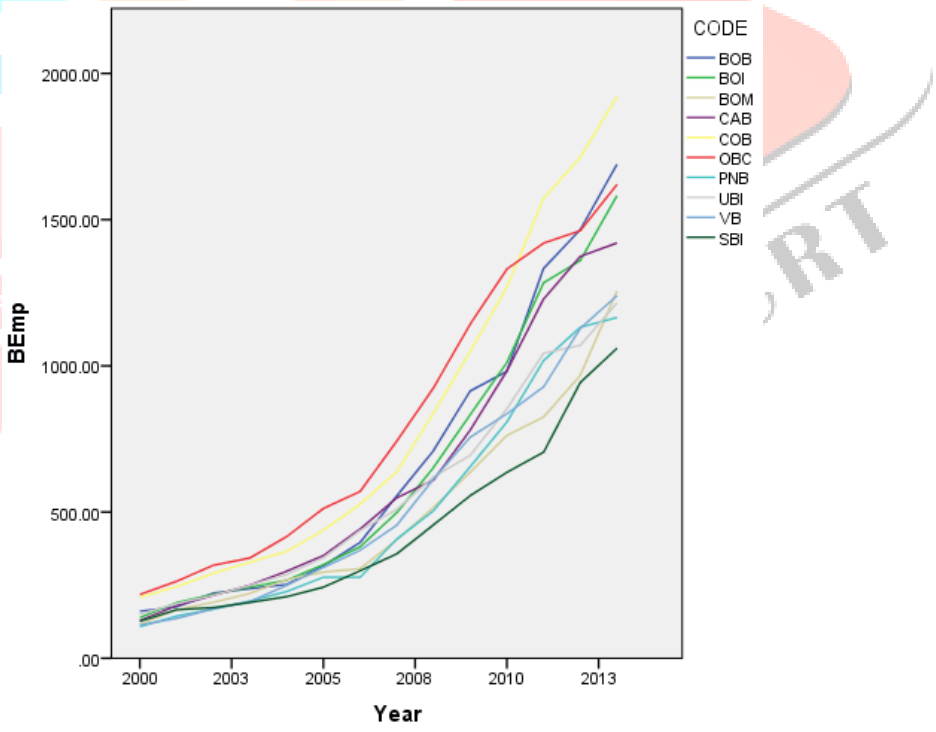

Figure 1.1: Business per employee

Further, All of the public sector banks under investigation had a high variance in the amount of business per employee, indicating that workers' performance has fluctuated greatly over time.

Profit per Employee

Figure 1.2 shows the profit per employee for all public sector banks. From 2000 to 2005, most public sector banks' profit per employee grew at a slower rate, but then accelerated until 2011 and then slowed down somewhat thereafter, as seen in the graph below.

Table 1.2 shows the results of descriptive data for Profit per employee for public sector banks. It is Corporation Bank that has the greatest average profit per employee, followed by Oriental Bank of Commerce. Bank of Maharashtra and Vijaya Bank had the lowest scores. Bank of Maharashtra has the lowest median profit per employee and State Bank of India comes next. Bank of Maharashtra and Vijaya Bank have the lowest absolute variation, while Bank of Baroda, Corporation Bank, and Punjab National Bank have the greatest. Corporation Bank and Vijaya Bank have the lowest relative measure of risk, followed by the Oriental Bank of Commerce.The Bank of Baroda, Punjab National Bank, and State Bank of India have the highest scores.Corporation Bank, Punjab National Bank, Union Bank of India, and State Bank of India did well based on profit per employee, whereas Bank of Maharashtra and Vijaya Bank performed badly.All other banks have a high coefficient of variation, suggesting that their performance is very variable. The lowest coefficient of variation belongs to Corporation Bank and Oriental Bank of Commerce.

Table 1.2

Descriptive statistics for profit per employee for public sector banks

(Rs. in lakhs)

Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation
Bank of Baroda	4.637	2.58	3.995	0.861
Bank of India	3.387	2.53	2.512	0.742
Bank of Maharashtra	2.046	2.055	1.408	0.688
Canara bank	4.109	3.13	2.904	0.707
Corporation Bank	6.052	4.885	3.128	0.517
Oriental Bank of Commerce	5.262	5.725	2.203	0.419
Punjab National Bank	3.909	2.58	3	0.767
Union Bank of India	3.956	3.03	2.575	0.651
Vijaya Bank	2.973	3.18	1.835	0.617
State Bank of India	3.155	2.27	2.232	0.708

Source: Data has been compiled from various issues of Trend and Progress of Banking in India, RBI publication.

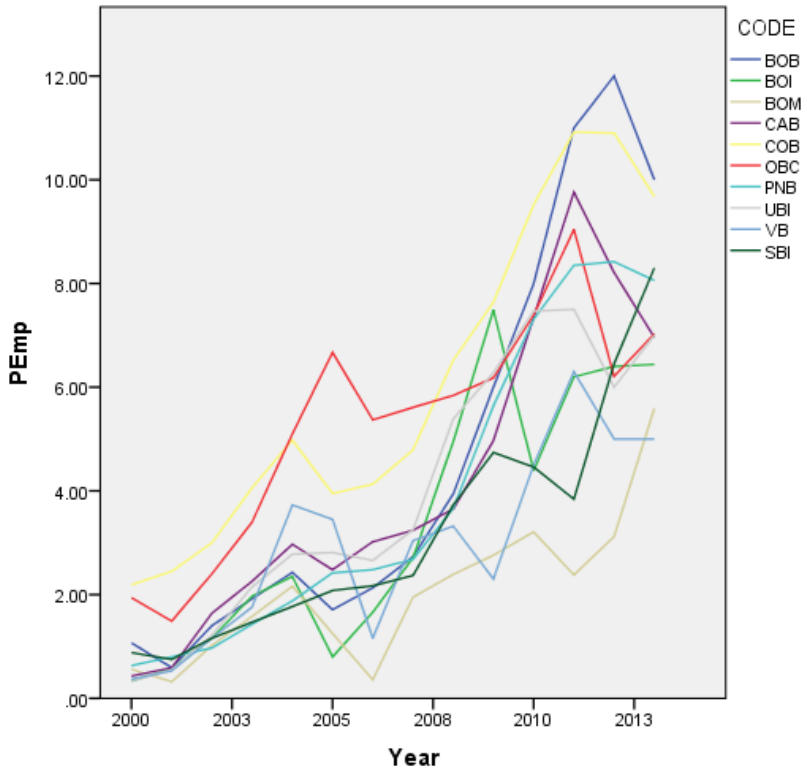

Figure 1.2: Profit per employee

Business per branch

Figure 1.3 illustrates the business per branch for all public sector banks. Business per branch of selected public sector banks grew rapidly from 2000 to 2013, except for a little decline in 2003-2004 and 2008-2009.

Table 1.3 shows the results of descriptive data for public sector banks' business per branch. Corporation Bank and Oriental Bank of Commerce have the greatest mean business per branch. Bank of Maharashtra and Vijaya Bank had the lowest scores. As a result, Canara Bank has the greatest median business per branch followed by the State Bank of India and Bank of Maharashtra, Punjab National Bank and Vijaya Bank have the lowest median business. Bank of Maharashtra and Vijaya Bank have the lowest absolute variation, while Corporation Bank, Bank of India, and Bank of Baroda have the greatest. State Bank of India, Canara Bank, and Oriental Bank of Commerce have the lowest relative risk. The Bank of India, Bank of Baroda, and Punjab National Bank have the highest scores in this category.

Corporation Bank and Oriental Bank of Commerce have fared exceptionally well, as may be deduced. Bank of Baroda, Bank of India, Canara Bank, Union Bank of India, Punjab National Bank, and Vijaya Bank all had bad results in the quarter. State Bank of India's low Coefficient of Variation also shows that the bank's performance is consistent. The Coefficient of Variation of the other banks is high, indicating that their performance is very variable.

Table 1.3

Descriptive statistics for business per branch for public sector bank

(Rupees in lakhs)

Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation
Bank of Baroda	9632.112	7727.88	6028.615	0.626
Bank of India	9854.633	7829.54	6258.227	0.635
Bank of Maharashtra	5558.011	4577.783	3002.949	0.54
Canara bank	9308.053	9567.573	4677.436	0.502
Corporation Bank	11281.377	8793.269	6859.4	0.608
Oriental Bank of Commerce	10408.293	9094.382	5542.269	0.532
Punjab National Bank	7333.042	6200.563	4510.426	0.615
Union Bank of India	7980.022	7335.748	4530.551	0.568
Vijaya Bank	7087.45	6390.937	3896.515	0.55
State Bank of India	9759.192	9114.299	4336.883	0.444

Source: Data has been compiled from various issues of Trends and Progress of Banking in India (published by RBI)

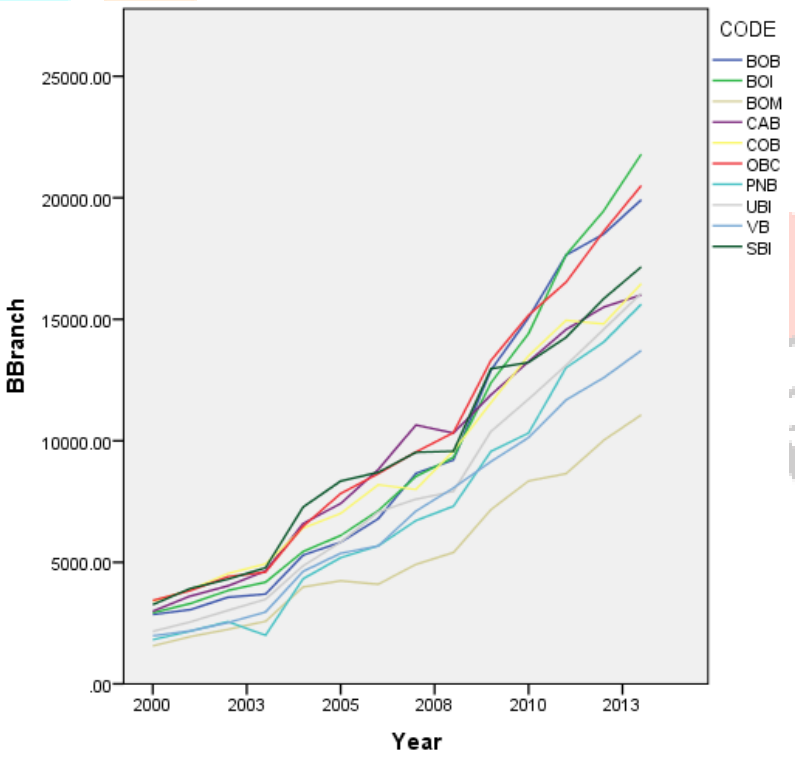

Figure 1.3: Business per branch

Operating expenses per branch

As shown in Figure 1.4, all public sector banks have similar operating expenditures per branch. Selected public sector banks' operational expenditures per branch show a little rise and decrease between 2000 and 2003, then a steady climb until 2013. Every bank studied saw an increase in costs from about Rs. 50 lakhs per branch to Rs. 150 lakhs during this time.

Table 1.4 shows the results of descriptive data for operating expenditures per branch for public sector banks in the United States. Bank of Maharashtra and Vijaya Bank have the lowest mean operating expenditures per branch, while State Bank of India and Canara Bank have the highest. The State Bank of India, Vijaya Bank, and Union Bank of India have the lowest median operating expenditures per branch, while State Bank of India and Canara Bank have the highest. Vijaya Bank and Bank of Maharashtra have the lowest absolute variation, whereas State Bank of India, Punjab National Bank, and Union Bank of India have the greatest. State Bank of India, Canara Bank, Vijaya Bank, and Corporation Bank have the lowest relative measure of risk. Bank of Maharashtra has the highest score followed by Union Bank of India, Punjab National Bank, and Bank of India.

Bank of Maharashtra and Vijaya Bank have fared better than other banks when it comes to keeping operational expenditures to a minimum. Only State Bank of India and Canara Bank did poorly when it came to managing operational expenditures.Most banks have a medium CV, except Bank of Maharashtra, Union Bank of India, and Punjab National Bank, which have higher CVs, suggesting greater variance in their performance.

Table 1.4

Descriptive statistics for operating expenses per branch for public sector banks

(Rupees in lakhs)

Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation
Bank of Baroda	91.848	88.192	32.314	0.35
Bank of India	89.749	83.868	29.366	0.33
Bank of Maharashtra	62.133	53.98	25.471	0.41
Canara bank	93.496	92.113	26.743	0.29
Corporation Bank	87.893	87.888	26.34	0.3
Oriental Bank of Commerce	82.429	76.004	28.88	0.35
Punjab National Bank	82.214	79.375	34.063	0.41
Union Bank of India	73.7	64.117	30.692	0.42
Vijaya Bank	69.936	62.82	21.328	0.3
State Bank of India	123.166	120.095	35.911	0.29

Source: Data has been compiled from various issues of Trends and Progress of Banking in India (published by RBI)

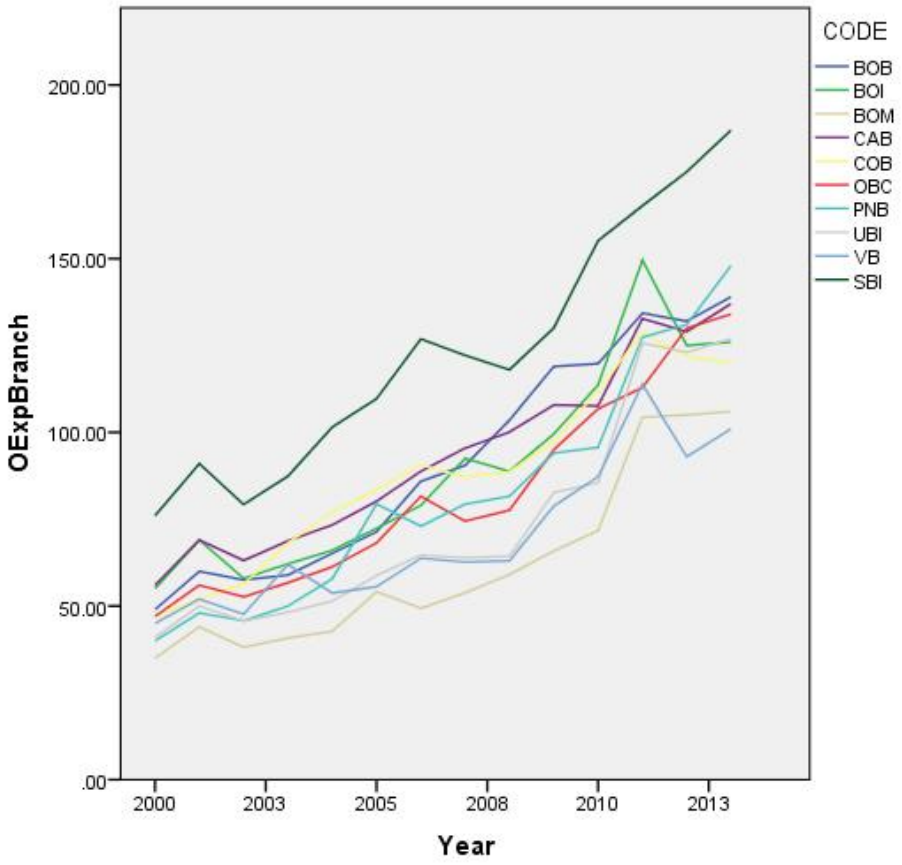

Figure 1.4: Operating expenses per branch

Profit per branch

For all public sector banks, Figure 1.5 shows the profit per branch visually. For most banks, a significant rise between 2001 and 2004 was followed by a slight decline, followed by a rapid climb until 2011. The overall trend was upward, with slight variations interspersed throughout the year.

Profit per branch for public sector banks is summarised in the following table 1.5, which includes descriptive information. Corporation Bank has the greatest mean profit per branch, followed by State Bank of India, with a close second. The Bank of Maharashtra and Vijaya Bank have the lowest scores on this metric. Like Corporation Bank, Oriental Bank of Commerce's branch profits are greatest while the lowest is seen in Vijaya and Punjab National Bank's branches. Bank of Maharashtra and Vijaya Bank have the lowest absolute variation, while Bank of Baroda, Punjab National Bank, and Bank of India have the greatest. State Bank of India, Oriental Bank of Commerce, and Corporation Bank have the lowest relative measure of risk. Those with the highest scores are Bank of Baroda, Punjab National Bank, and Bank of Maharashtra, respectively.Corporation Bank, Canara Bank, and State Bank of India performed better, while Bank of Baroda, Bank of India, Oriental Bank of Commerce, and Union Bank of India performed averagely, and Bank of Maharashtra and Vijaya Bank performed poorly.

Table 1.5

Descriptive statistics for profit per branch for public sector banks

(Rupees in lakhs)

Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation
Bank of Baroda	56.763	36.198	40.249	0.709
Bank of India	43.344	38.809	27.878	0.643
Bank of Maharashtra	18.658	20.249	12.077	0.647
Canara bank	58.077	55.281	31.133	0.536
Corporation Bank	69.477	67.395	25.419	0.366
Oriental Bank of Commerce	58.939	62.811	19.13	0.325
Punjab National Bank	46.362	35.699	30.293	0.653
Union Bank of India	40.351	36.263	22.157	0.549
Vijaya Bank	29.254	32.793	15.017	0.513
State Bank of India	58.758	61.162	18.069	0.308

Source: Data has been compiled from various issues of Trends and Progress of Banking in India (published by RBI)

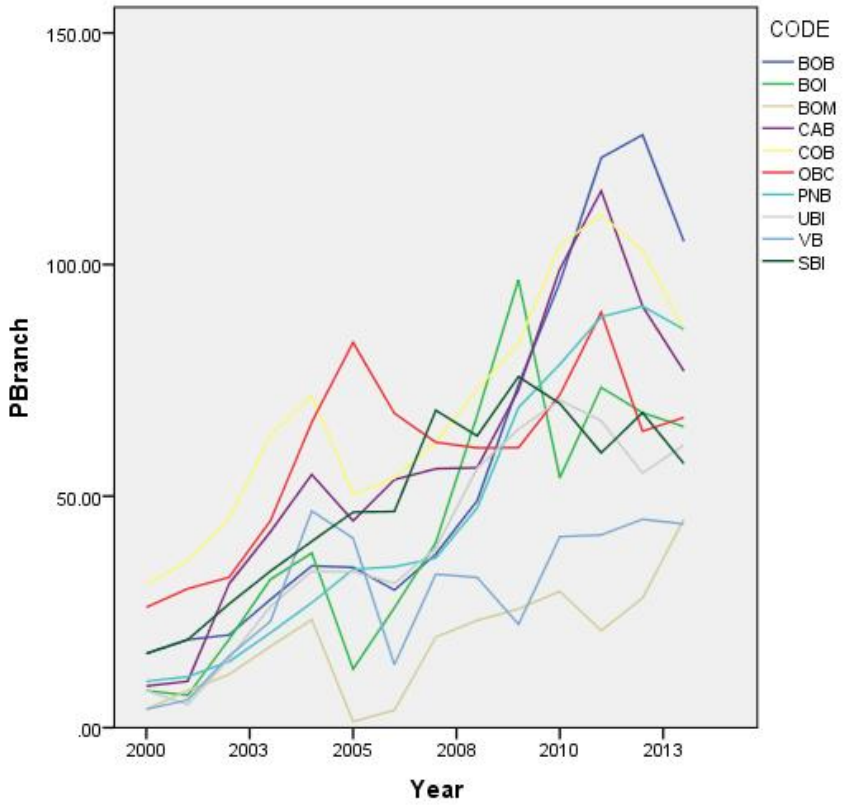

Figure 1.5: Profit per branch

1.8 Conclusion

Corporation Bank and Oriental Bank of Commerce have the greatest mean and median business per employee, based on data and discussion shown above. State Bank of India has the lowest variance in absolute terms. When it comes to Oriental Bank of Commerce, it has the lowest Coefficient of Variation (CV). As a result, Corporation Bank's mean profit per employee is the highest. It is Oriental Bank of Commerce that has the greatest profit per employee on a median basis.

Bank of Maharashtra has the lowest absolute variation. Oriental Bank of Commerce has the lowest Coefficient of Variation of any of the major banks. Business volume per branch at Corporation Bank is the highest. Canara bank has the greatest median business per branch of any other bank. Bank of Maharashtra has the lowest absolute variation. Canara Bank and Oriental Bank of Commerce have the lowest coefficients of variation, followed by the State Bank of India and Canara bank.Corporation Bank and Oriental Bank of Commerce were the most productive banks, while Bank of Maharashtra and Vijaya Bank were the least productive banks, according to productivity indices.

The Kolmogorov-Smirnov test and the Shapiro-Wilk Test are two of the most widely used statistical tests. In the public sector banks, tests are employed to verify for normalcy in the distribution of data. A normal distribution is seen for both Kolmogorov-Smirnov (KS) and Shapiro-Wilk (SW). The null hypothesis of normalcy cannot be rejected since the significance value for most banks is larger than.05.

When it comes to public sector banks, Levene's test is employed to assess for homogeneity of variance, and the mean has been used as the foundation for comparison of variance There is no evidence to reject the null hypothesis of homogeneity of variation in business per employee and per branch since significance value is larger than.05. The null hypothesis that there is no homogeneity of variance in, Profit per employee, and Profit per branch across public sector banks have been rejected because the significant value, in this case, is less than.05.

Our hypothesis is tested using the Kruskal-Wallis test. If we discovered that the Kruskal-Wallis null hypothesis was rejected, we conducted pairwise comparisons to determine which banks are substantially different. For each rejected null hypothesis, the analysis is performed for every potential pair.

Profit per Employee of Corporation Bank and Oriental Bank of Commerce is significantly more than that of Bank of Maharashtra. Profit per Branch of Corporation Bank is significantly more than that of Bank of Maharashtra and Vijaya Bank also Profit per Branch of Oriental Bank of Commerce, State Bank of India, Bank of Baroda and Canara bank are significantly more than that of Bank of Maharashtra. Corporation Bank and Oriental Bank of Commerce have substantially higher profits per employee than Bank of Maharashtra, which is by a wide margin. It's worth noting that Corporation Bank's profit per branch is much higher than those at the Bank of Maharashtra and Vijaya bank.

1.9 References:

BOOKS

Chawla, A.S., Uppal, K.K., Malhotra, Keshav, "Indian Banking towards 21st Century", *Deep & Deep Publications, New Delhi.*

Chopra Kiran, "Managing Profits, Profitability and Productivity in Public Sector Banking", ABS Publications, Jalandhar, 1987.

REPORTS

Government of India (1991), *Report of the Committee on the Financial System* (Narasimham Committee Report-I), New Delhi.

Government of India (1998), "Report of the Committee on Banking Sector Reforms".

Reserve Bank of India, Report of the Committee on the Functioning of Public Sector Banks, Bombay, 1976.

Reserve Bank of India, Report of the J.C. Luther committee on Productivity, Efficiently and Profitability in Commercial Banks, Bombay, 1976.

JOURNALS

Albert, George, "Missing the recession narrowly", *Business Standard, Banking Annual, Nov. 1998.*

AL-Saleem, J.A., "A comparison between the performance of GCC banks and western banks", *Asian Economic Review, p.291.*

Angadi, V.V. and Devraj, V.J., "Profitability and Productivity of Banks in India", *Economic and Political Weekly, Nov. 26, 1983.*

Arunachalam, Dr. P & Shankar, Narayan, Dr. K.C., "Liberalization and Inflation in India", *Yojana, Nov. 1998.*

WEBSITES

- www.rbi.org.in
- www.iba.org.in
- www.sbi.co.in
- www.reports.rbi.org.in
- www.economictimes.com
- www.valuenotes.com