COMPARATIVE EVALUATION OF THE PRODUCTIVITY PERFORMANCE OF BANKS IN INDIA: A CASE STUDY ON PUBLIC, PRIVATE AND FOREIGN BANKS

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Abstract

(To accomplish an economy's financial well-being, public, private, and foreign sector banks must work together. Their existence is one of the most important factors in increasing competition and improving the country's banking system's efficiency. A study of the productivity of public, private, and international banks operating in India has been undertaken. Various statistical values were calculated using data from 2001 to 2015 linked to productivity indices. 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.)

Key Words: Productivity, credit deposit ratio, Profitability, return on assets, return on equity,

1.1 Introduction

The success of the banking industry in a country determines the economy's financial well-being. To accomplish an economy's financial well-being, public, private, and foreign sector banks must collaborate. Many social and economic duties are fulfilled by public sector banks. Banks in the private sector bring new technology, innovation, and operational and managerial efficiency to the table. Foreign banks assist in the introduction of new technologies, the channelling of foreign capital, and market efficiency. The existence of all three sectors in the banking industry, namely public, private, and foreign, promotes competition and efficiency in the financial system. A comparative assessment of the productivity of public, privatized, and foreign sector banks operating in The country has been attempted.

Review of Literature

The Luther Committee, which was established by the Reserve Bank of India and issued its report in 1976, was the first to look at the productivity, efficiency, and profitability of commercial banks. The committee suggested that banks improve their capital base and that interest on extra cash reserves beyond the statutory minimum be tied to banks' cost of funds.

Variations in commercial bank earnings and profitability, according to Verghese (1983), are mostly due to "changes in interest rates, reserve requirements, and interest tax." The Indian Bankers' Association is an organisation of Indian bankers (1997) IBA conducted a countrywide study on the 27 public sector banks' customer service on January 3, 1997, and came up with some interesting results. "The Western area of our economy performed exceptionally well, with 26 banks receiving a "A" grade (above 75 percent quality and satisfaction), followed by 22 and 21 banks in the "A" category in the southern and northern regions, respectively.. NPAs impact bank profitability, resulting in a liquidity crisis and a decrease in GDP development, according to Gupta (1997). Following the global financial crisis of 2008, Haque (2014) assessed the contemporaneous performance of a select of large Indian banks from 2009 to 2013. Return on asset, return on equity, and net interest margin were the metrics he utilised. "The study's conclusion reveals that while there are no significant differences in profitability among banking groups in terms of ROA and NIM, there is a substantial variation in terms of ROE among peer groups." Overall, the data showed that after reforms, all types of banks improved their overall efficiency and profitability. Foreign banks were found to be the most efficient in certain studies, followed by private sector banks, while private sector banks were shown to be more efficient in others.

1.2 Objectives of Study:

- i) To investigate the productivity of India's public, private, and foreign banks.
- ii) Conduct a comparative analysis of public, private, and international banks' productivity performance during the study period and provide recommendations for enhancing bank productivity.

1.3 Hypothesis of the Study:

i) During the research period, there was no significant variation in the productivity performance of public, private, and foreign banks.

1.4 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, operating expenses per branch, and profit per branch of selected banks. 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.

1.5 Productivity Indicators:

• An in-depth examination of variables including business per employee, profit per employee, business per branch, operating expenditures per branch, and profit per branch was done to evaluate the productivity of public, private, and foreign sector banks.

• Business per Employee:

Figure 1.1 shows the mean business per employee for public, private, and foreign sector banks. Foreign banks have the greatest mean business per employee, followed by public and private sector banks.

Table 1.1 shows the results of descriptive data for business per employee of public, private, and foreign sector banks. Foreign sector banks have the greatest mean business per employee, followed by public sector banks. Foreign sector banks have the greatest median business per employee, followed by public sector banks. Private sector banks have the lowest absolute variation, whereas public sector banks have the most. On the basis of the relative measure of risk, private sector banks and public sector banks have the lowest coefficient of variation.

In terms of business per employee, foreign banks fared best, followed by public sector banks, while private sector banks came in last. Private sector banks have shown the least variation, showing that they have been consistent in their performance. However, the largest variance is seen in foreign sector banks, indicating that their performance is subject to fluctuations.

Table-1.1: Business per Employee of Public, Private, and Foreign Sector Banks.

(Rs. in lakhs)

Type of Bank	Arithmetic Mean	Median	Deviation (S.D.)	Coefficient of Variation (coefficient of variation.)
Public	609.96	595.72	127.82	0.21
Private	490.94	521.85	61.96	0.13
Foreign	1570.74	1540.73	665.87	0.42

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

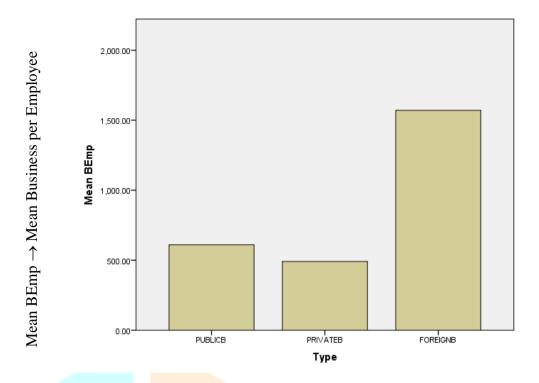


Figure-1.1: Mean Business per Employee

• Profit per Employee:

Mean Profit per employee for Public, private, and foreign sector banks are presented graphically in figure 1.2. Mean profit per employee is highest for foreign banks and lowest for private sector banks.

Results of descriptive statistics for profit per employee of public, private, and foreign sector banks are presented in table 1.2 Mean Profit per employee is highest for foreign sector banks followed by public sector banks. Similarly, median profit per employee is again highest for foreign sector banks followed by public sector banks. Absolute variation is lowest for public sector banks and private sector banks. Based on the relative measure of risk, the coefficient of variation is lowest for public sector banks followed by private sector banks.

The conclusion can be drawn that foreign banks performed very well and have been much ahead of public and private sector banks in terms of profit per employee. The coefficient of variation has been lowest for public sector banks indicating consistency whereas it has been highest for private sector banks.

Table-1.2: Profit per Employee. (Rs. in lakhs)

Type of Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation (coefficient of variation.)
Public	3.94	3.93	1.16	0.29
Private	3.66	3.88	1.79	0.49
Foreign	26.82	20.86	21.43	0.80

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

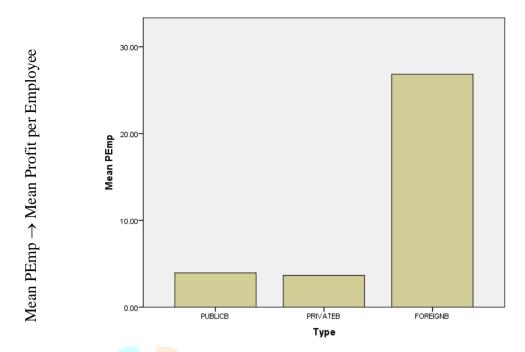


Figure-1.2: Mean Profit per Employee

• Business per Branch:

Mean business per branch for public, private, and foreign sector banks are presented graphically in figure 1.3. Mean business per branch stood highest for public sector banks followed by private sector banks and foreign banks.

Results of descriptive statistics for business per branch of public, private, and foreign sector banks are presented in table 1.3. Mean business per branch is highest for public sector banks followed by private sector banks. Median business per branch is highest for public sector banks followed by private sector banks. Absolute variation is lowest for foreign Sector banks and public sector banks. Based on a relative measure of the risk coefficient of variation lowest is for public sector banks followed by foreign sector banks. The conclusion can arrive at that performance of public sector banks has been excellent, private sector banks performed well whereas foreign banks performed poorly in terms of business per branch. The coefficient of variation indicates consistent performance in public sector banks whereas private and foreign sector banks have shown high variation in business per branch.

Table-1.3: Business per Branch.

(Rs. in lakhs)

Type of Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation (coefficient of variation.)
Public	7700.31	7787.56	1732.55	0.22
Private	4578.30	4653.56	3449.67	0.75
Foreign	1176.08	1041.16	733.26	0.62

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

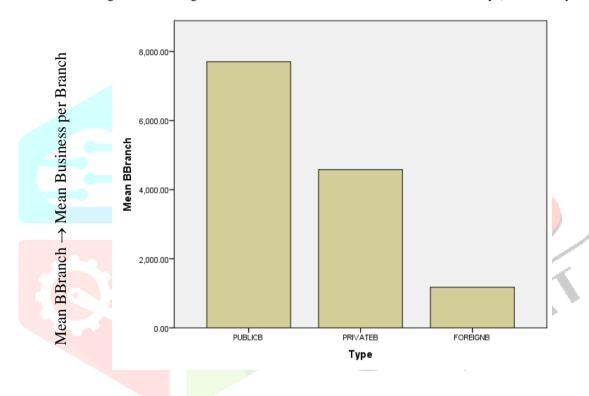


Figure-1.3: Mean Business per Branch

Operating Expenses per Branch:

Mean operating expenses per branch for public, private, and foreign sector banks are presented graphically in figure 1.4. Mean operating expenses per branch stood lowest for private sector banks and highest for foreign sector banks.

Results of descriptive statistics for operating expenses of public, private, and foreign sector banks are presented in table 1.4. Mean operating expenses per branch is lowest for private sector banks and highest for foreign sector banks. Median operating expenses per branch are again lowest for private sector banks and highest for foreign sector banks. Absolute variation is lowest for private sector banks and public sector banks. Based on a relative measure of the risk coefficient of variation lowest is for public sector banks followed by private sector banks.

It can be concluded that private sector banks performed very well and managed to keep operating expenses at the minimum level, public sector banks also performed well whereas foreign sector banks performed very poorly, as their operating expenses per branch have been very high. The low coefficient of variation shown by private and public sector banks reveals a consistency in their performance whereas variation stood very high for foreign sector banks.

Table-1.4: Operating Expenses per Branch.
(Rs. in lakhs)

Type of Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation (coefficient of variation.)
Public	92.79	85.16	30.19	.33
Private	73.35	68.93	22.64	.308
Foreign	2478.36	1872.35	2069.43	.834

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

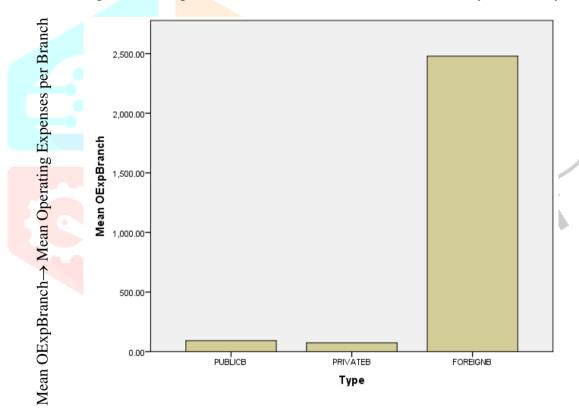


Figure-1.4: Mean Operating Expenses per Branch

• Profit per Branch:

Mean profit per branch for public, private, and foreign sector banks are presented graphically in figure 1.5. Foreign Banks show the highest mean profit per branch followed by public sector banks and private sector banks.

Results of descriptive statistics for profit per branch of public, private, and foreign sector banks are presented in table 1.5. Mean profit per branch is highest for foreign sector banks followed by public sector banks. Similarly, median profit per branch is highest for foreign sector banks followed by public sector banks.

Absolute variation is lowest for private sector banks and public sector banks. Based on a relative measure of the risk coefficient of variation lowest is for public sector banks and private sector banks.

The conclusion can be drawn that foreign sector banks performed excellently in terms of profit per branch whereas public and private sector banks performed poorly on this indicator. A low coefficient of variation reveals consistent profit per branch of public and private sector banks whereas variation is quite high in the case of foreign sector banks.

Table-1.5: Profit per Branch. (Rs. in lakhs)

Type of Bank	Arithmetic Mean	Median	Standard Deviation (S.D.)	Coefficient of Variation (coefficient of variation.)
Public	54.19	51.56	27.65	0.51
Private	42.46	42.39	23.41	0.55
Foreign	1651.85	1132.75	1561.03	0.95

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

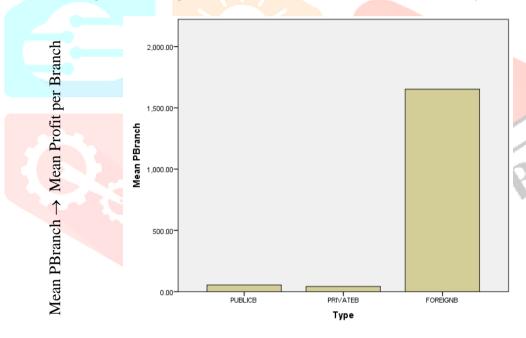


Figure-1.5: Mean Profit per Branch.

Further, to complete performance analysis of public, private, and foreign sector banks, an attempt has been made to study profitability indicators.

1.7 Kolmogorov-Smirnov and Shapiro-Wilk Test:

Kolmogorov-Smirnov and Shapiro-Wilk tests are used to check for normality of distribution for public, private and foreign sector banks and are shown in table 1.11. Business per employee, profit per employee, business per branch, profit per branch, credit deposit ratio, return on equity, return on assets, intermediation cost to total assets and return on advances seem to be normally distributed as per both

Kolmogorov-Smirnov and Shapiro-Wilk test. So null hypothesis of normality cannot be rejected because the significance value is greater than .05

In the case of operating expenses per branch mixed results have been found as per Kolmogorov-Smirnov and Shapiro-Wilk test. Thus Smirnov-Wilk, the test is applied as known to have great power to detect any deviation from normality we can say that operating expenses per branch of public sector and private sector banks do not seem to be normally distributed because significance value is less than .05 whereas operating expenses per branch of foreign sector banks seem to be normally distributed (because significance value is greater than .05)

Table-1.11: Test of Normality.

		Kolmog	gorov-Sn	nirnov ^a	Shapi	ro-Wil	k
	Type	Statistic	df	Sig.	Statistic	df	Sig.
Operating	Public Banks	.313	10	.006	.810	10	.019
expenses per	Private Banks	.200	10	.200*	.821	10	.026
branch	Foreign Banks	.278	10	.027	.861	10	.078
Business per	Public Banks	.145	10	.200*	.931	10	.453
employee	Private Banks	.242	10	.100	.858	10	.072
	Foreign Banks	.152	10	.200*	.944	10	.601
Profit per	Public Banks	.145	10	.200*	.984	10	.982
employee	Private Banks	.158	10	.200*	.946	10	.620
	Foreign Banks	.203	10	.200*	.875	10	.113
Business per	Public Banks	.139	10	.200*	.967	10	.857
branch	Private Banks	.168	10	.200*	.922	10	.371
	Foreign Banks	.181	10	.200*	.908	10	.267
Profit per branch	Public Banks	.232	10	.136	.878	10	.123
	Private Banks	.108	10	.200*	.989	10	.995
	Foreign Banks	.210	10	.200*	.917	10	.331

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

8. Levene's Test:

Levene's test is used to check the homogeneity of variance for public, private, and foreign sector banks, and the mean has been used as the basis for comparison of variance and is shown in table 1.12. The table shows that business per employee, profit per employee, business per branch, operating expenses per branch, profit per branch, credit deposit ratio, return on equity, return on asset, intermediation cost to total assets and return on advances the null hypothesis of homogeneity of variance among various banks is rejected because significance value is less than .05.

Table-1.12: Test for Homogeneity of Variance.

		Levene Statistic	df1	df2	Sig.
Operating	Based on Mean	16.288	2	27	.000
expenses per branch	Based on Median	7.400	2	27	.003
	Based on Median and with adjusted df	7.400	2	9.006	.013
	Based on trimmed mean	13.291	2	27	.000
Business per	Based on Mean	12.608	2	27	.000
employee	Based on Median	12.525	2	27	.000
	Based on Median and with adjusted df	12.525	2	9.857	.002
	Based on trimmed mean	12.564	2	27	.000
Profit per	Based on Mean	11.130	2	27	.000
employee	Based on Median	6.731	2	27	.004
	Based on Median and with adjusted df	6.731	2	9.099	.016
	Based on trimmed mean	10.080	2	27	.001
Business per	Based on Mean	9.152	2	27	.001
branch	Based on Median	9.186	2	27	.001
	Based on Median and with adjusted df	9.186	2	16.995	.002
	Based on trimmed mean	9.120	2	27	.001
Profit per branch	Based on Mean	24.143	2	27	.000
	Based on Median	14.137	2	27	.000
	Based on Median and with adjusted df	14.137	2	9.009	.002
	Based on trimmed mean	22.193	2	27	.000

Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

1.9 **Kruskal-Wallis Test:**

To test the hypothesis of the dependent samples, Kruskal-Wallis Test has been used and the hypothesis test summary is presented in table 1.13. Wherever the null hypothesis of the Kruskal-Wallis Test has been rejected, pairwise comparison to find out the exact pair of banks for which the variable is significantly different has been done.

The analysis is conducted for each possible pair for each rejected null hypothesis.

Null Hypothesis Test Decision Sig. The distribution of Operating expenses perbranch is the same across different categories of banks. Independent-Samples .000 Reject the null hypothesis. 1 The distribution of Businesses per employee is the same across different categories of banks. Reject the null hypothesis. Independent-Samples Kruskal-Wallis Test 2 .000 The distribution of Profit per employee is the same across different categories of banks. Reject the null hypothesis. Independent-Samples Kruskal-Wallis Test 3 .000 The distribution of Businesses per branch is the same across different categories of banks. Reject the null hypothesis. Independent-Samples Kruskal-Wallis Test 4 .000 The distribution of Profit per branch is the same across different categories of banks. Reject the null hypothesis. Ind<mark>ependent-</mark>Samp<mark>les</mark> Kruskal-Wallis Test 5 .002

Table-1.13: Hypothesis Test Summary.

Asymptotic significances are displayed. The significance level is .05.

Source: Source: Trends and Progress of Banking in India has been used as a source of data for this study (Published by RBI)

Pairwise Comparison of Each Possible Pair of Banks for which Operating Expenses per Branch are Significantly Different.

Sr. No.	Null Hypothesis	Test	Sig.	Decision
1	The distributions of operating expenses per branch are the same across different categories of banks.	Independent- Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Pair-wise comparison, presented in table 1.14, reveals that out of all available combinations, operating expenses per branch are significantly different only for the pairs of private-foreign banks and public-foreign banks. The operating expenses of private and public sector banks are significantly less than that of foreign sector banks. Because in these cases the adjusted significance of test statistic is less than .05, causing rejection of null hypothesis at 5% significance level. In the case of pair of private-public banks adjusted significance is greater than .05, hence the null hypothesis of equality of the variable for this pair cannot be rejected.

Table-1.14: Pair-wise Comparison for Operating Expenses.

Sample1-Sample2	Test Statistic	Adjusted Significance
Private-Public Banks	5.00	.612
Private-foreign Banks	-17.500	.000
Public foreign Banks	-12.500	.004

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. It further supports the above analysis.

Pairwise Comparison to find out the Exact Pair for which Business per Employee is Significantly Different.

Sr. No.	Null Hypothesis	Test	Sig.	Decision
2	The distribution of Businesses per employee is the same across different categories of banks.	Independent- Samples Kruskal- Wallis Test	.000	Reject the null hypothesis.

The pair-wise comparison presented in table 1.15, reveals that out of all available combinations of business per employee are significantly different only for the pairs of private-foreign banks and public-foreign banks. Business per employee of foreign sector banks is significantly more than that of private and public sector banks. Because in these cases, the adjusted significance of test statistic is less than .05, causing rejection of null hypothesis at 1% significance level. In the case of pair of private -public banks adjusted significance is greater than .05, hence the null hypothesis of equality of the variable for this pair cannot be rejected.

Table-1.15: Pair Wise Comparison for Business per Employees.

Sample1-Sample2	Test Statistic	Adjusted Significance
Private-Public Banks	5.800	.422
Private-Foreign Banks	-17.600	.000
Public-Foreign Banks	-11.800	.008

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. It further supports the above analysis.

Pairwise Comparison to find out the Exact Pair of Banks for which Business per Employee is **Significantly Different.**

Sr. No.	Null Hypothesis	Test	Sig.	Decision
3	The distribution of profit per employee is the same across different categories of banks.	Independent- Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

The pair-wise comparison presented in table 1.16 reveals that out of all available combinations of profit per employee are significantly different only for the pairs of private-foreign banks and public-foreign banks. Profit per employee of foreign sector banks is significantly more than that of public and private sector banks. Because in these cases the adjusted significance of test statistic is less than .05, causing rejection of null hypothesis at 5% significance level. In the case of pair of private -public sector banks adjusted significance is greater than .05, hence the null hypothesis of equality of the variable for this pair cannot be rejected.

Table-1.16: Pair-wise Comparison for Profit per Employee.

Sample1-Sample2	Test Statistic	Adjusted Significance
Private-Public Banks	.200	1.00
Private-Foreign Banks	-13.600	.002
Public-Foreign Banks	-13.400	.002

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. Thus it can be said that the results of the Kruskal-Wallis Test to test the hypothesis of the independent sample are valid.

Pairwise Comparison to find out the Exact Pair of Banks for which Business per Branch is Significantly Different.

Sr. No.	Null Hypothesis	Test	Sig.	Decision
4	The distribution of Business per branch is the same across different categories of banks.	Independent- Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

Pair-wise comparison is presented in table 1.17, reveals that out of all available combinations of business per branch are significantly different only for the pairs of foreign-public. Business per branch of foreign sector banks is significantly more than that of public and private sector banks. Because in these cases, the adjusted significance of test statistic is less than .05, causing rejection of null hypothesis at 5% significance level. In the case of pair of foreign-private banks and private -public banks adjusted significance is greater than .01, hence the null hypothesis of equality of the variable for this pair cannot be rejected.

Table-1.17: Pair-wise Comparison for Business per Branch.

Sample1-Sample2	Test Statistic	Adjusted Significance
Foreign-Private Banks	8.000	.126
Foreign-Public Banks	15.700	.000
Private -Public Banks	7.700	.151

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05. Thus, the test validates the above discussion.

Pairwise Comparison to find out the Exact Pair of Banks for which Profit per Branch is Significantly Different.

Sr. No.	Null Hypothesis	Test	Sig.	Decision
5	The distribution of Profit per branch is the same across different categories of banks.	Independent- Samples Kruskal- Wallis Test	.002	Reject the null hypothesis.

The pair-wise comparison presented in table 1.18, reveals that out of all available combinations of profit per branch are significantly different only for the pairs of private-foreign banks and public-foreign banks. Profit per branch of foreign sector banks is significantly more than that of public and private sector banks. Because in these cases, the adjusted significance of test statistic is less than .05, causing rejection of null hypothesis at 5% significance level. In the case of pair of private -public adjusted significance is greater than .05, hence null hypothesis of equality of the variable for this pair cannot be rejected.

Table-1.18: Pair-wise Comparison for Profit per Branch.

Sample1-Sample2	Test Statistic	Adjusted Significance
Private-Public Banks	2.000	1.000
Private-Foreign Banks	-13.000	.003
Public-Foreign Banks	-11.000	.016

Each row tests the null hypothesis that the sample 1 and sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

1.10 Conclusion

The conclusion that can be taken is that foreign sector banks have the highest mean and median business per employee. For private sector banks, the absolute deviation is the smallest. Private sector banks have the lowest coefficient of variance.

In the foreign sector banks, the mean and median per employee are at their highest. For public sector banks, the absolute variation is the lowest. Public sector banks have the lowest coefficient of variance. Public sector banks have the highest average and median branch business. For banks in the international sector, the absolute variation is the lowest. Public sector banks have the lowest coefficient of variance. When it comes to running costs per branch, private sector banks have the lowest average and median. For private sector banks, the absolute variation is likewise the lowest. Public sector banks have the lowest coefficient of variance. Foreign sector banks had the greatest mean and median profit per branch, according to a new study. For private sector banks, the absolute deviation is the smallest. Public sector banks have the lowest coefficient of variance. Using the Kolmogorov-Smirnov Test and Shapiro-Wilk Test, public, private, and foreign sector banks' distributions are checked for normalcy using these two tests. Both the Kolmogorov-Smirnov test and the Shapiro-Wilk test indicate that the null hypothesis of normality cannot be rejected since the significance value is larger than 05. Kolmogorov-Smirnov and Shapiro-Wilk tests provide conflicting findings for operating expenditures per branch, despite the fact that the Shapiro-Wilk test is recognised for its high

sensitivity in detecting deviations from normalcy. Because significance value is less than 05, operating expenditures per branch of public sector and private sector banks do not appear to be normally distributed, but operating expenses per branch of foreign sector banks appear to be regularly distributed (because significance value is greater than .05)

Banks in the public, private, and foreign sectors are tested for homogeneity of variance using the Levene's test, and the mean is used to compare variances. The null hypothesis of homogeneity of variance among banks is rejected for all indicators, including business per employee, profit per employee, business per branch, operating expenditures per branch, and profit per branch, since the significance value is less than 05.

Test the hypothesis using the non-parametric Kruskal-Wallis Test. A pair-wise comparison has been done whenever the null hypothesis of the Kruskal-Wallis test has been rejected, in order to find out which banks are substantially different. This is done for each pair of null hypotheses that has been rejected.

Banks in the foreign sector do much more business per employee than banks in the private and public sectors. A foreign bank's profit per employee exceeds that of a domestic bank by a wide margin. In comparison to public and private sector banks, foreign sector banks do substantially more business per branch than their counterparts in the United States. In contrast to foreign sector banks, private and public sector banks have substantially lower operational costs. Branches of foreign banks make a lot more money than their counterparts in the public and private sectors.

BOOKS

Bhatia, B.S., Management of Productivity of Indian Industries, Deep and Deep Publications, New Delhi, 1988.

Bilgramy, Dr. S.A.R., "Growth of PSBs-A Regional Growth Analysis" (1982), Deep & Deep Publications, New Delhi.

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.

IJCR

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

JOURNALS

"Are Indian Banks ready for CAC?" Analyst. February 1998, p.28.

"Indian Banking – competing for the future", Analyst, IFCAI, June 1997.

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