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Analysis of Productivity of Indian Banks: A Comparative Study of Selected Private Banks

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Abstract:

The present article discusses the productivity and the reasons thereof with respect to the two largest public and private sector banks of India. It takes into account deposits and advances of the three banks as the measure of productivity. Considering the differences in individual performances and the environmental differences, the study proposes to base its conclusion on employee and branch based averages. The methodology involves calculation of three per employee and three per branch ratios so as to reflect the inherent operational differences of the three selected private banks. The study analyses the published five-year data from 2007-08 to 2011-12 for the three private sector banks, i.e., ICICI Bank, HDFC Bank and AXIS Bank. This Study concludes that though the per employee productivity of ICICI bank is far better than

other selected private sector bank, but per branch productivity of ICICI Bank is less than the other selected banks.

Banking System is the backbone of every country's economy. It is generally agreed that a strong and healthy banking system is a prerequisite for sustainable economic growth. Banks play a substantial role in capital accumulation, firm's growth and economic prosperity. A sound and profitable banking system is better able to face the negative shocks and contribute to the stability of the financial system. Banks are in a business to receive deposits or liabilities and to issue debt securities on the one hand and create or invest in assets on the other hand. A bank collects the savings and disburses in various productive sectors. In this process, the performance of financial institutions in efficient allocation of capital to the productive sectors of the economy is conditioned on its own financial performance. Therefore, it is quite imperative and obvious to study the productivity of the banking sector. This study compares the productivity of Indian Banks.

Productivity is measured by the quantity of output produced per unit of input. For the comparison based on quantities, it is necessary to be clear about what we should regard as outputs and inputs in Banks. In bank's productivity we consider establishment expenses and operating expenses as input, business per branch, business per employee and operating profit per employee are taken as output. The indicators commonly used for assessing productivity of banks are Business per employee/ Branch, advances per employee/Branch, number of accounts per employee/branch etc. But there is no consensus on what best measures these in the case of banks. In the production approach, banks produce loans and deposit account services, using labour and capital as inputs. (Berger and Humphrey (1992) refer to this as the 'value-added approach'). The number of accounts measures outputs and production costs include only operating costs. In the intermediation approach, banks collect funds and using labour and capital, transform these into loans and other assets.

Some researchers by adopting the intermediation approach use as outputs the following: consumer loans, real estate loan, investments, total non-interest income. As inputs they use the following: transaction deposits, non-transaction deposits, equity, labour and capital (measured by non - labour, non-interest expense). In the Indian context, we need to be clear about which approach is most appropriate. Using deposits and loans as outputs would have been appropriate in the nationalized era when maximizing these was indeed the objective of bank but they are, perhaps, less appropriate in the reforms era. Banks are not simply maximizing deposits and loans; they are in the business of maximizing profit. Maximizing loans and deposits may not necessarily be consistent with profit maximization because the quality of bank loans, not just quantity, is crucial to profit. To conclude output includes loan income, investment income and non-interest income. And input include interest cost and operating cost.

Sample

Sample is a part of the total population which represents the whole population. In this study we choose the following sample of banks to analysis the productivity and profitability of Indian Banks.

(1) ICICI Bank

(2) HDFC Bank

(3) Axis Bank

<u>Objectives of the study</u> :

The broader objectives of the study are as under:

1) To study and analysis the broad behaviour of the productivity of Private Sector Banks working in India.
2) To make a comparison of productivity among selected Private Sector Banks working in India.

Data Collection

This study is based on Secondary data collected from the various volumes of banking statistics published by Reserve Bank of India (RBI) and Indian Banking Association (IBA). The variable studied are interest paid, interest earned, total deposits and advances, non operating income and expenses, number of employees, number of branches, establishment expenses etc. The data on total staff and number of branches was collected from IBA Bulletin.

Data Analysis Tools

This study uses Ratio analysis to compare Productivity and Profitability of the Indian Banks. In financial analysis ratios are generally used as benchmarks for evaluating a firm's position or performance. The absolute values do not provide us meaningful values until and unless they are related to some other relevant information. The common denominator used for developing the various Profitability ratios is business volumes (advance+ deposits). The banks generally use to calculate spread ratio as % of total assets. The total assets are accounting (Balance Sheet) figures, which are based on historical costs and hence are not very suitable to evaluate the current performance of the banks. In order to have a suitable indicator for evaluating current bank performance we have used the volume of business (advance+ deposits) in the denominator. Productivity has been measured in terms of the outputs (like Business, deposits, advances) per input (employee/branch).

The ratios used for measuring Productivity are:

1. **Deposits per Employee =** $\dfrac{\textbf{Total Deposits}}{\textbf{No.of Employees}}$

2. **Advances Per Employee =** $\dfrac{\textbf{Total Advances}}{\textbf{No.of Employees}}$

3. **Business Volume per Employee =** $\dfrac{\textbf{Total Business Volume}}{\textbf{No.of Employees}}$

4. **Deposits per Branch =** $\frac{\textbf{Total Deposits}}{\textbf{No.of Branches}}$
5. **Advance per Branch =** $\frac{\textbf{Total Advances}}{\textbf{No.of Branches}}$
6. **Business volume per Branch =** $\frac{\textbf{Total Business}}{\textbf{No.of Branches}}$

Compounded Annual Growth Rate(CAGR)

Compounded Annual Growth rate (CAGR) is a business and investing specific term for the smoothed annualized gain of an investment over a given time period. CAGR is not an accounting term, but remains widely used, particularly in growth industries or to compare the growth rates of two investments because CAGR dampens the effect of volatility of periodic returns that can render arithmetic means irrelevant. CAGR is often used to describe the growth over a period of time of some element of the business, for example revenue, units delivered, registered users, etc. In the present study CAGR is used to find the yearly growth in productivity and profitability of the public and private sector banks. Following formula has been used to calculate the CAGR.

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\left(\frac{1}{\text{\# of years}}\right)} - 1$$

LIMITATIONS OF STUDY

1. The data, which is used for this study, is based on annual report of the bank and secondary data collected from RBI & IBA Bulletin published from time to time. Therefore the quality of this research depends on quality and reliability of data published in annual reports.

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2. This study is related with three private sector banks. Any generalisation for universal application cannot be applied here.
3. The operation at various branch level and micro level has not been covered in this study.
4. There are different methods to measure the productivity of the banks. In this connection view of expert differed from one another.

Productivity Analysis

Productivity is a vital indicator of economic performance of an economic system. Productivity is not an end in itself. In fact, it is a mechanism for improving the material quality of life. Productivity is fundamental to progress throughout the world. It is at the heart of economic growth and development, improvements in standards of living and quality of life.

Definition

Productivity is defined as the goods and services produced per unit of labour, capital or both. The ratio of output to labour and capital is a total productivity measure. In simple words, productivity is the output per unit of input employed. The basic definition of productivity is:

$$\textbf{Productivity} = \frac{\textbf{Total Output}}{\textbf{Input}}$$

Major Indicators of Productivity

Employee Productivity

Human resource is the most important asset of an organization and banking business is no exception to it. But Indian PSBs are known for their excessive staff strength, it affects their productivity. In the present study, employee productivity of PSBs has been

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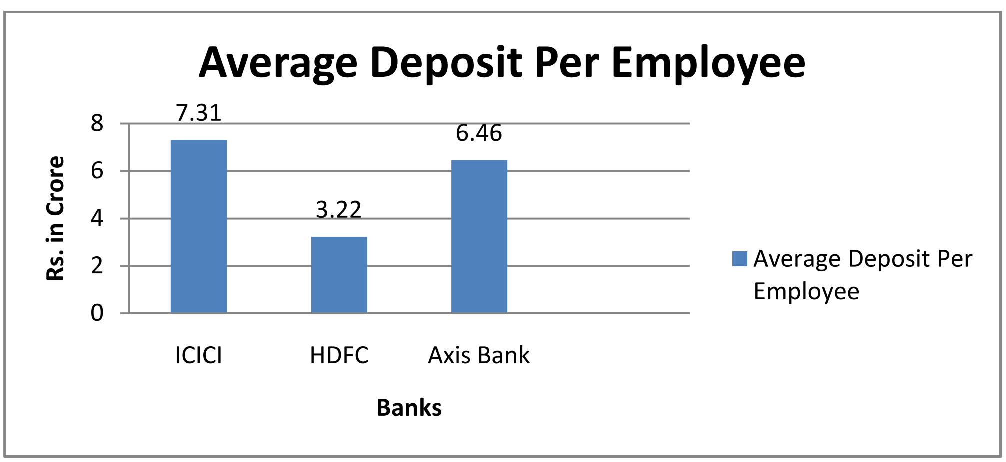
evaluated by taking eight ratios in consideration. A brief summary of all these ratios are as under:

1. **Deposit per Employee:** This ratio reveals the deposit-collection capacity of an employee. Higher the deposit per employee ratio, higher the productivity per employee.

Table & Graph No.: 1 Deposit per Employee (Rs. in Crore)

Year's	ICICI	HDFC	Axis Bank
2007-08	6.00	2.70	5.94
2008-09	6.31	2.71	5.70
2009-10	5.73	3.23	6.53
2010-11	8.38	3.74	7.18
2011-12	10.11	3.73	6.94
Average	7.31	3.22	6.46
CAGR	**11%**	**7%**	**3%**



(Source: Compiled Personally from Annual Report)

Interpretation:

Above table and graph shows that in ICICI Bank average deposits per employee was Rs. 7.31 crores during the period of the study. In HDFC Bank Ltd. average Deposits per employee was Rs. 3.22 crores. In AXIS Bank average deposits per employee was Rs. 6.46 crores during the period of the study. However, the CAGR of Deposits per employee in ICICI bank is 11%, this is higher from all other banks. Hence we can conclude that the productivity of ICICI bank is better than other bank in terms of deposits per employee.

2. **Advances Per Employee:** This ratio reveals the contacts and convincing skills of the employee to disburse and invest the amount deposited. This only ultimately results in the interest earning capacity of a particular bank. The deposits cannot be maintained unless they are advanced for productive use by the people. As this entails involvement of employee time, this also is considered a ratio to measure the productivity. Again higher the ratio, higher the productivity. This ratio has been calculated with the help of the following formula.

Table & Graph No. : 2 Advances Per Employee (Rs. in Crore)

Year's	ICICI	HDFC	Axis Bank
2007-08	5.55	1.70	4.05
2008-09	6.31	1.88	3.95
2009-10	5.14	2.43	4.82

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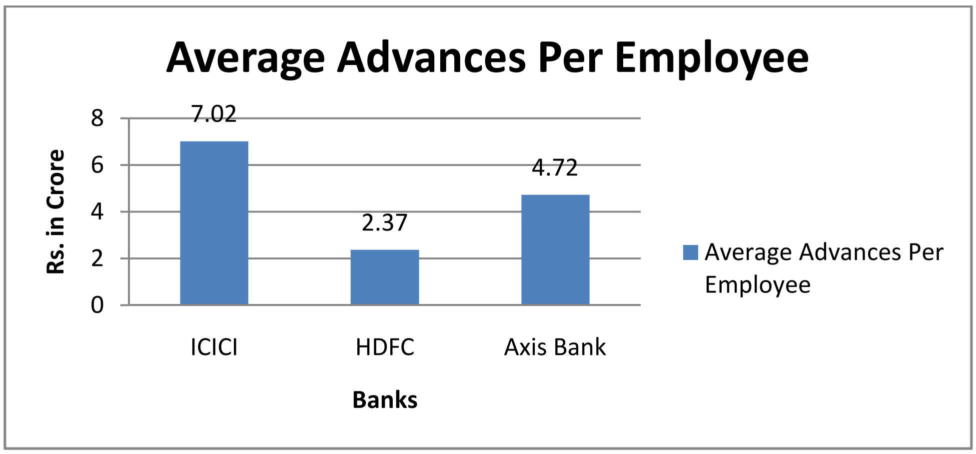
2010-11	8.03	2.87	5.41
2011-12	10.05	2.96	5.35
Average	7.02	2.37	4.72
CAGR	**13%**	**12%**	**6%**



(Source: Compiled Personally from Annual Report)

Interpretation:

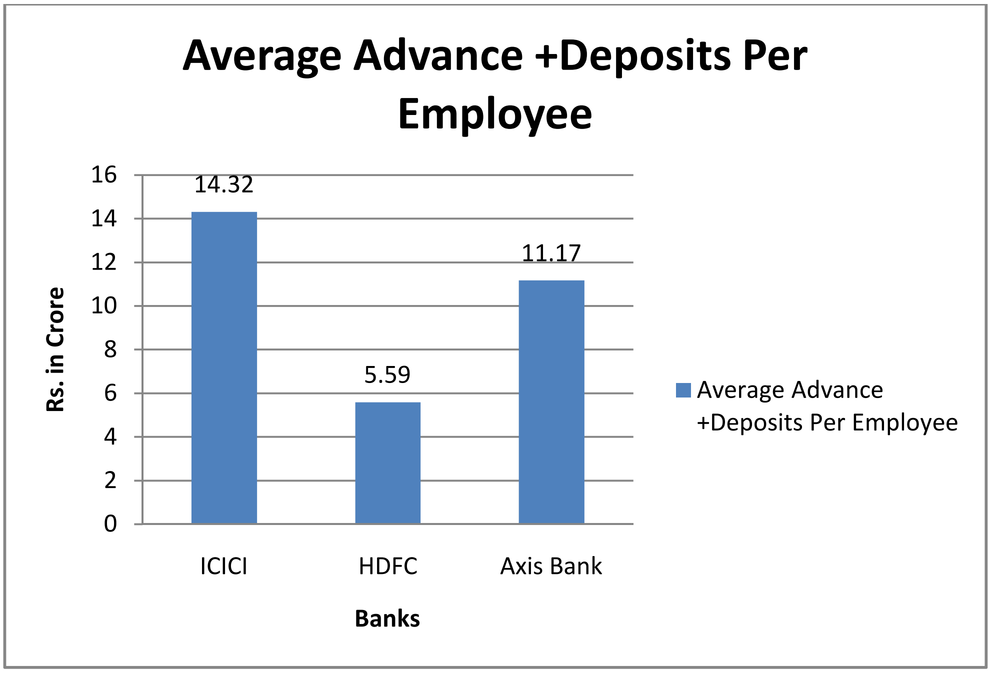
It is clear from the above table and graph that in ICICI Bank average advances per employee was Rs. 7.02 crores during the period of the study. In HDFC Bank average advances per employee was Rs. 2.37 crores. In AXIS Bank average advances per employee was Rs. 4.72 crores during the period of the study. The CAGR of Advances per employee in ICICI bank is 13%, this is higher from all other banks. Hence we can conclude that the productivity of ICICI bank is better than other bank in terms of advances per employee.

3. **Advance +Deposits Per Employee :** Deposit collection and the advance disbursement are the two basic activities of any given bank. The productivity of any bank in fact relates

to the creation and delivery of capital. Here creation means deposits and delivery means advances. Both together are the net measure of productivity. If this ratio is higher, the employee of the bank is better and the productivity of the bank is more.

Table & Graph No. : 3 Advance +Deposits Per Employee (Rs. in Crore)

Year's	ICICI	HDFC	Axis Bank
2007-08	11.55	4.4	9.99
2008-09	12.62	4.59	9.65
2009-10	10.87	5.66	11.35
2010-11	16.41	6.61	12.59
2011-12	20.16	6.69	12.29
Average	**14.32**	**5.59**	**11.17**
CAGR	**12%**	**9%**	**4%**



(Source: Compiled Personally from Annual Report)

Interpretation:

Above table and graph depicts that in ICICI Bank average Advance +Deposits Per Employee was Rs. 14.32 crores during the period of the study. In HDFC Bank Ltd. average Advance +Deposits Per Employee was Rs. 5.59 crores. In AXIS Bank average Advance +Deposits Per Employee was Rs. 11.17 crores during the period of the study. The CAGR of Advance +Deposits Per Employee in ICICI bank is 12%, this is higher from all other banks. Hence we can conclude that the productivity of ICICI bank is better than other bank in terms of Advance +Deposits Per Employee .

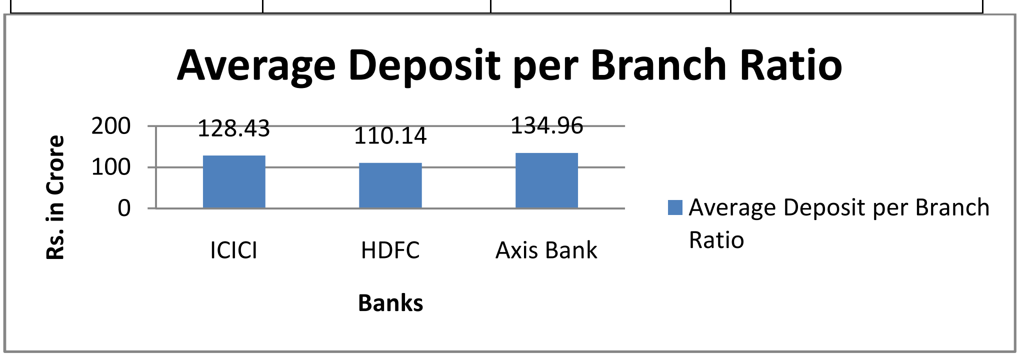
Branch Productivity

While evaluating the results in terms of infrastructural facilities utilized by the banks at various locations, places, again eight indicators have been used. A brief summary of these ratios are as under:

1. **Deposit per Branch Ratio:** A Branch is the initial organizational unit in any bank with similar environment and clientele. This also follows the similar policies, methodologies and structure in a particular bank. In order to smoothen out the individual differences, this seems to be a better unit for measuring productivity. It reflects the organizational effectiveness of the bank. Higher the deposit per branch, better the system of collection and vice-versa.

Table & Graph No. : 4 Deposit per Branch Ratio (Rs. in Crore)

Year's	**ICICI**	**HDFC**	**Axis Bank**
2007-08	192.31	135.26	134.6
2008-09	152.48	100.43	141.24
2009-10	117.52	96.82	136.52
2010-11	87.95	105.35	129.62
2011-12	91.91	112.86	132.83
Average	128.43	110.14	134.96
CAGR	**14%**	**4%**	**00%**



(Source: Compiled Personally from Annual Report)

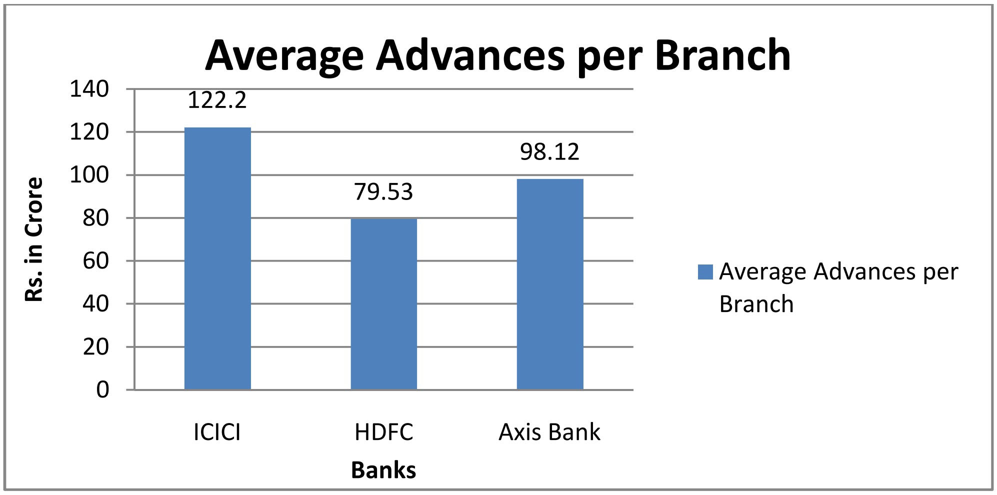
Interpretation:

Above table and graph shows that in ICICI Bank average Deposit per Branch Ratio was Rs. 128.43 crores during the period of the study. In HDFC Bank Ltd. average Deposit per Branch Ratio was Rs. 110.14 crores. In AXIS Bank average Deposit per Branch Ratio was Rs. 134.96 crores during the period of the study. However, the CAGR of Deposit per Branch Ratio in ICICI bank is -14%, this is lowest from all other banks. Hence we can conclude that the productivity of ICICI bank is worst than other bank in terms of Deposit per Branch Ratio.

2. **Advances per Branch:** In addition to employee skills, the loan policies as well as interest rates etc of a particular bank also affect advances. This ratio reflects this aspect of the bank. Higher the advances per branch, better the advance policies and hence the productivity.

Table & Graph No. : 5 Advances per Branch (Rs. in Crore)

Year's	**ICICI**	**HDFC**	**Axis Bank**
2007-08	177.51	85.14	91.65
2008-09	152.45	69.54	98.14
2009-10	105.41	72.78	100.81
2010-11	84.35	80.8	97.54
2011-12	91.27	89.4	102.45
Average	**122.20**	**79.53**	**98.12**
CAGR	**-0.12**	**0.01**	**0.02**



(Source: Compiled Personally from Annual Report)

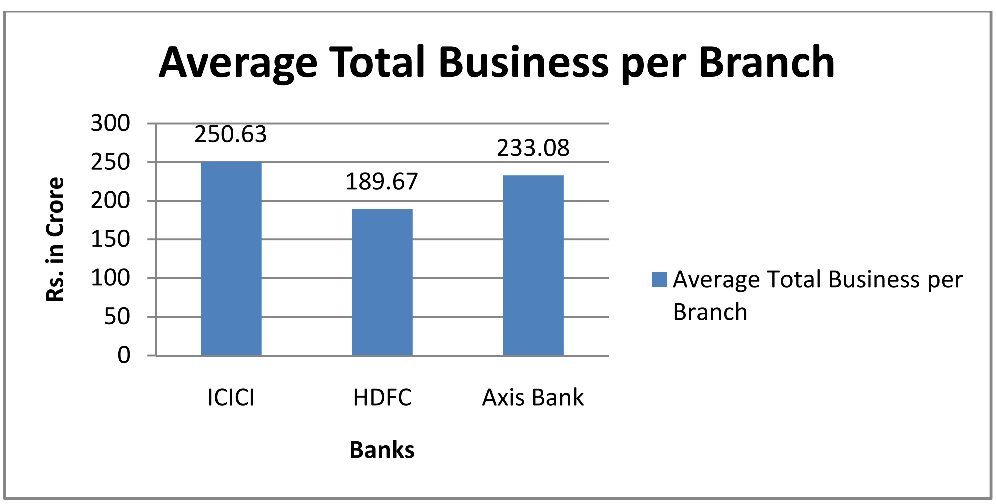
Interpretation:

Above table and graph shows that in ICICI Bank average Advances per Branch was Rs. 122.20 crores during the period of the study. In HDFC Bank Ltd. average Advances per Branch was Rs. 79.53 crores. In AXIS Bank average Advances per Branch was Rs. 98.12 crores during the period of the study. However, the CAGR of Advances per Branch in ICICI bank is -12%, this is lowest from all other banks. Hence we can conclude that the productivity of ICICI bank is worst than other bank in terms of Advances per Branch.

3. **Total Business per Branch:** Advances and deposits of a branch together reflect the overall banking system and its productivity. It is this ratio which in fact compares the productive efficiency of two banks. Higher the ratio, better and more productive the bank.

Table & Graph No. : 6 Total Business per Branch (Rs. in Crore)

Year's	ICICI	HDFC	Axis Bank
2007-08	369.82	220.4	226.24
2008-09	304.93	169.97	239.4
2009-10	222.93	169.6	237.33
2010-11	172.31	186.15	227.15
2011-12	183.18	202.25	235.28
Average	250.63	189.67	233.08
CAGR	**-0.13**	**-0.02**	**0.01**



(Source: Compiled Personally from Annual Report)

Interpretation:

Above table and graph shows that in ICICI Bank average Total Business per Branch was Rs. 250.63 crores during the period of the study. In HDFC Bank Ltd. average Total Business per Branch was Rs. 189.67 crores. In AXIS Bank average Total Business per Branch was Rs. 233.08 crores during the period of the study. However, the CAGR of Total Business per Branch in ICICI bank is -13%, this is lowest from all other banks. Hence we can conclude that the productivity of ICICI bank is lowest than other bank in terms of Total Business per Branch.

Conclusion

Since the process of liberalization and reform of the financial in the financial sector were introduced in 1991, banking sector has undergone major transformation. The underlying objectives of the reform were to make the banking system more competitive, productive and profitable. As per the IBA report "Banking Industry Vision 2010" there would be greater presence of international players in the Indian Financial system and some of the Indian banks would become international players in the coming years.

The key to success in the competitive environment is increased productivity. This research has analysed the productivity of selected private sector banks in India during 2007-08 to 2011-12.

This Study concludes that though the per employee productivity of ICICI bank is far better than other selected private sector bank, but per branch productivity of ICICI Bank is less than the other selected banks.

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