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**Innovative Banking**



**Agricultural Extension Services :**  
Challenges and transmission of  
technical know-how

**Performance of bank  
branches in Tamil Nadu**



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**5** Innovative banking in customer service is indeed a welcome and long-awaited development. Satisfied customers are the best guarantee of stability and growth. As in other service sectors, bank customers deserve the very best.

**8** The last decade has seen many positive developments in the Indian banking sector. The policy makers, which comprise the Reserve Bank of India (RBI), Ministry of Finance and related government and financial sector regulatory entities, have made several notable efforts to improve regulation in the sector.

**14** Dr. A. P. J. Abdul Kalam's vision of Indian Banks is that, "All banks should be a common man's bank: to offer all financial products and services to all its customers under one roof, at affordable cost in a fair and transparent manner." Banks are the heart of the financial system. Commercial banks act as financial intermediaries - intermediaries of savings and investments.

**18** In the twenty-first century, it will be increasingly necessary; to take a whole-systems approach to organized, positive change in rural places says George H. Axinn. For extension, it means helping farming people toward sustainable increasing productivity - particularly in small-scale mixed-farming systems in rain fed areas, upland areas, and in other neglected areas.

# A comparative study on financial performance of Indian Banks during post deregulation period



**Kalpesh P. Prajapati**  
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## Abstract

The last decade has seen many positive developments in the Indian banking sector. The policy makers, which comprise the Reserve Bank of India (RBI), Ministry of Finance and related government and financial sector regulatory entities, have made several notable efforts to improve regulation in this sector.

A few banks have established an outstanding track record of innovation, growth and value creation; this is reflected in their market valuation. The changes include strengthening prudential norms, enhancing the payments system and integrating regulations; therefore India's banking sector is growing at a fast pace and it has become one of the most preferred banking destinations in the world. Nowadays the definition has changed and become "food, cloth, shelter, mobile and banking and banks have become a one stop shop selling."

The modern banking activity is marked by literary into un-chartered horizons mingled with risks and heavy competition. In this paper, the author has tried to identify the impact of financial sector reforms on profitability and productivity of Public Sector Banks vis-à-vis Private Sector Banks. The scope of the paper is to know the profitability, liquidity, capital adequacy, management efficiency and asset quality of selected Indian banks."

## Introduction

The last decade has seen many positive developments in the Indian banking sector. The policy makers, which comprise the Reserve Bank of India (RBI), Ministry of Finance and related government and financial sector regulatory entities, have made several notable efforts to improve regulation in the sector.

A few banks have established an outstanding track record of innovation, growth and value creation. This is reflected in their market valuation and financial performance. Policy makers have made some notable changes in policy and regulation to help strengthen the sector.

These changes include strengthening prudential norms, enhancing the payments system and integrating regulations; therefore India's banking sector is growing at a fast pace and it has become one of the most preferred

banking destinations in the world. Nowadays the definition has changed and become "food, cloth, shelter, mobile and banking and banks have become a one stop shop selling. The modern banking activity is marked by itinerancy into un-chartered horizons mingled with risks and heavy competition.

### Objective of the study

A comparative study on financial performance of Indian Banks during post deregulation period from 1999-00 to 2008-09.

### Sub Objectives:

1. To calculate and analyze the profitability parameter.
2. To calculate and analyze the financial strength of the Indian Banks on the basis of key financial ratios.
3. To know comparative financial position of private & public sector banks.

### Hypothesis formulated for the study

$H_0$  :- There is no significant difference between the key financial ratios of selected Public sector banks and Private sector Banks.

### Methodology of the study

To compare the key financial ratios of selected banks, the exploratory and analytical research design is used for the calculation of ratios with the help of balance sheet and profit and loss account during April 1999 to March 2009. The following ratios are used for this research:

1. EPS
2. Liquid assets to total deposits
3. Net Interest Margin (NIM)
4. Investment to Deposits
5. Total advances to total assets
6. Return on Assets (ROA%)
7. Borrowing to Deposits
8. Total advances to Deposits
9. Debt to Equity (D/E)
10. Yield on advances
11. Capital Adequacy ratio (CAR %)
12. Net NPA to Net Advances (%)

(i) *Sources of data:* The basic data for this current study has been collected from the Internet, Books, Journals and Electronic database AceEquity provided by Accord Fintech Pvt. Ltd. an ISO 9001:2000 certified company.

(ii) *Selection of Sample:* For the present study, Out of top ten public & private sector banks, six public sector

banks and six private sector banks have been selected whose last ten years data is available. The list is as follows:

#### Public sector banks:

1. State bank of India
2. Punjab National bank
3. Bank of Baroda
4. Bank of India
5. Union bank of India
6. Indian overseas bank

#### Private sector banks:

1. ICICI bank
2. HDFC bank
3. Axis bank
4. Jammu & Kashmir bank
5. Industrial bank
6. City Union bank

The parameter taken for selection of sample banks under the study is given below:

1. Public Sector Banks having a minimum PAT of more than 900 crore and private sector banks having a minimum PAT of more than 100 crore as on March, 31 2009.
2. Banks having continuous financial data for the last 10 years starting from 1999-00 to 2008-09.

#### (iii) Statistical tools and techniques

Analysis through SPSS and Excel software Statistical tools like Average, Correlation, Standard deviation, Variance, Skewness, ANOVA used in the study.

#### (iv) Data analysis tool

Ratio analysis is used to check the profitability and financial performance of selected banks.

1.0 Analysis and interpretation of financial statements using financial ratio and basic descriptive statistics. Information found in published financial statements is often not enough to form conclusive judgments about bank's performance, financial statements do provide important clues about what needs to be examined in greater detail. Analysis of financial statements is of interest to lenders, investors, security analysts, managers, regulators and others.

Financial statement analysis may be done through various techniques like horizontal analysis, vertical analysis etc. but ratio analysis is a widely used tool for analysis. It

enables the stakeholders to mark trends in a business and to compare its performance with competitors. This research uses a ratio analysis to examine a bank's financial strength and weakness and to provide the essential foundation for financial decision making and planning.

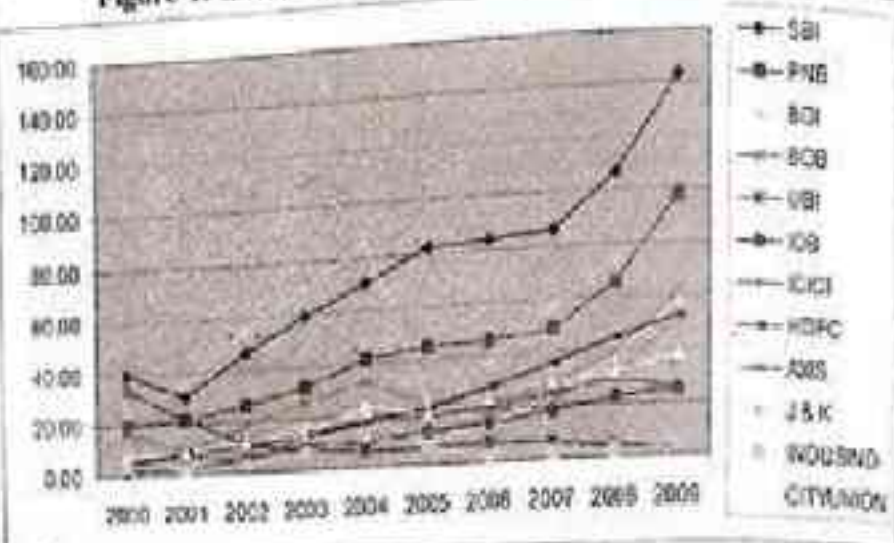
#### (i) EPS

The EPS is one of the important measures of economic performance of a bank. A higher EPS means better capital productivity. The flow of capital to the banks under the present imperfect capital market conditions would be made on the evaluation of EPS. It is inferred from table 1.1 that among public sector banks SBI has highest average EPS followed by FNB and in private sector banks J & K bank has highest average EPS followed by HDFC bank. In last ten years, EPS of public sector banks as well as private sector banks are rising because of increasing trend in net profit.

This analysis shows that earning power of all banks has increased in last ten years signifying a boost in the overall profitability. The Standard deviation of EPS of SBI, PNB, BOB, HDFC and J & K (33.91, 23.45, 16.92, 16.14 and 23.45 respectively) produces very high during the holding period while other banks show comparatively minimum variation.

It is inferred that the sign of Karl Pearson's coefficient of all banks except BOI (-0.248) between net profit and

Figure 1: EPS of selected Public & Private sector Banks



share capital has positive association with each other. Further EPS of SBI, PNB, UBI, IOB, ICICI, HDFC, Axis and City Union are having statistically significant relationship with EPS at 1% and 5% level of significance. The distribution of EPS ratio of all banks except ICICI and J & K is positively skewed.

#### (ii) Liquid assets to total deposits

This ratio measures the liquidity available to the depositors of a bank. Liquid assets include cash in hand, balance with RBI & other banks and money at call and short notice. All banks have maintained average ratio in between 10 to 20. ICICI has highest average (0.19) while City Union has lowest average ratio. The standard deviation of all banks is near about same so there is less deviation in this ratio for all selected banks.

The table 1.2 inferred that All banks distribution of Liquid assets to total assets have positive skewness except

Table 1.1 EPS of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean  | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|-------|----------------|----------|----------|--------------|-------|
|            |         |         |       |                |          |          | Pearson      | Sig.  |
| SBI        | 30.48   | 143.67  | 34.66 | 33.912         | 1150.050 | 0.730    | 0.806**      | 0.001 |
| PNB        | 19.23   | 98.03   | 44.31 | 23.454         | 550.880  | 1.387    | 0.805*       | 0.003 |
| BOI        | 2.71    | 57.18   | 19.49 | 16.923         | 286.400  | 1.399    | -0.248       | 0.489 |
| BOB        | 9.33    | 60.93   | 27.79 | 14.332         | 205.410  | 1.390    | 0.699*       | 0.034 |
| UBI        | 2.93    | 33.39   | 10.71 | 9.355          | 91.200   | 1.890    | 0.798**      | 0.006 |
| IOB        | 1.21    | 24.34   | 11.99 | 7.933          | 62.940   | 0.255    | 0.790**      | 0.006 |
| ICICI      | 4.53    | 28.43   | 16.53 | 8.626          | 74.400   | -0.152   | 0.942**      | 0.000 |
| HDFC       | 4.93    | 52.77   | 23.84 | 16.141         | 260.550  | 0.706    | 0.976**      | 0.000 |
| Axis       | 3.86    | 50.57   | 17.13 | 14.289         | 204.450  | 1.627    | 0.850**      | 0.002 |
| JK         | 23.73   | 84.52   | 54.31 | 23.448         | 549.800  | -0.016   | 0.253        | 0.481 |
| Indus      | 1.22    | 11.92   | 4.59  | 3.317          | 11.000   | 1.388    | 0.230        | 0.523 |
| City union | 6.38    | 38.17   | 20.80 | 10.136         | 102.740  | 0.320    | 0.892**      | 0.001 |

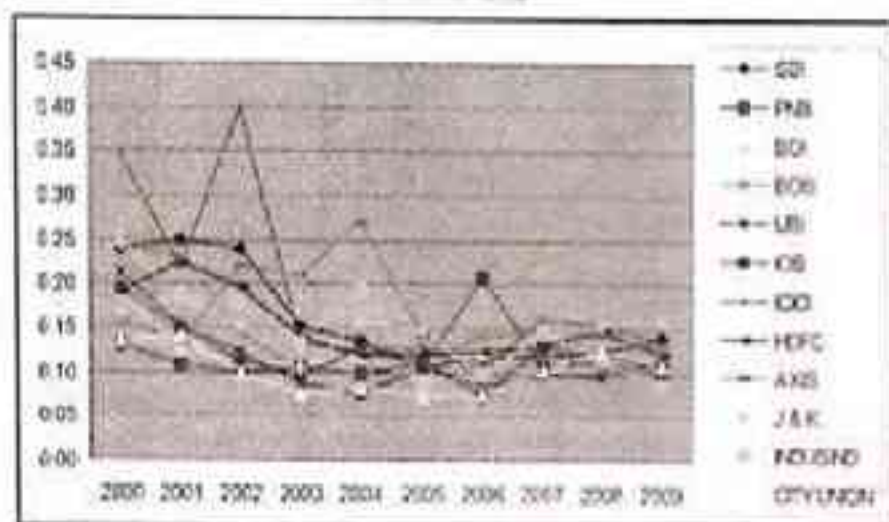
Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed test), \* Correlation is significant at the 0.05 level (2 tailed test)

Table 1.2 Liquid assets to total deposits of selected Public & Private sector Banks

|           | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|-----------|---------|---------|------|----------------|----------|----------|--------------|-------|
|           |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI       | 0.11    | 0.25    | 0.16 | 0.057          | 0.003    | 0.856    | 0.751*       | 0.012 |
| PNB       | 0.10    | 0.21    | 0.12 | 0.032          | 0.001    | 2.749    | 0.835**      | 0.001 |
| BOI       | 0.10    | 0.19    | 0.13 | 0.025          | 0.001    | 1.856    | 0.957**      | 0.000 |
| BOB       | 0.10    | 0.24    | 0.15 | 0.019          | 0.002    | 1.220    | 0.891**      | 0.001 |
| UBI       | 0.08    | 0.21    | 0.12 | 0.048          | 0.002    | 1.749    | 0.910**      | 0.000 |
| IOB       | 0.07    | 0.19    | 0.12 | 0.032          | 0.001    | 0.955    | 0.927**      | 0.000 |
| ICICI     | 0.10    | 0.40    | 0.19 | 0.101          | 0.010    | 1.488    | 0.956**      | 0.000 |
| HDFC      | 0.12    | 0.32    | 0.15 | 0.038          | 0.001    | 1.046    | 0.990**      | 0.000 |
| Axis      | 0.09    | 0.27    | 0.16 | 0.055          | 0.003    | 0.936    | 0.966**      | 0.000 |
| JK        | 0.10    | 0.24    | 0.15 | 0.041          | 0.002    | 0.877    | 0.878**      | 0.001 |
| Indus     | 0.09    | 0.19    | 0.14 | 0.041          | 0.002    | -0.034   | 0.666*       | 0.035 |
| Cityunion | 0.07    | 0.14    | 0.10 | 0.026          | 0.001    | 0.396    | 0.962**      | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

Figure 2: Liquid assets to total deposits of selected Public & Private sector Banks



Indus. Moreover all banks have positive correlations and having statistically significant relationship with Liquid assets to total assets at 1% and 5% level of significance.

### (iii) Net Interest Margin

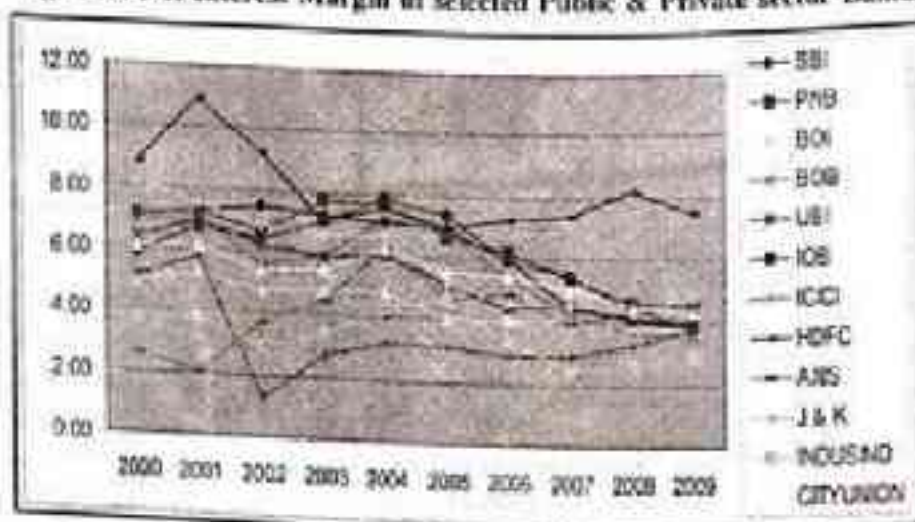
It is an important measure of a bank's core income (Income from lending operations). Net interest margin is the difference between interest income and interest expenses, divided by average earning assets. Earning assets are those, which bring income for a bank.

Table 1.3 Net Interest Margin of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|------|----------------|----------|----------|--------------|-------|
|            |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI        | 3.85    | 7.52    | 6.14 | 1.453          | 2.110    | -0.825   | 0.954**      | 0.000 |
| PNB        | 4.34    | 7.77    | 6.40 | 1.181          | 1.394    | -0.608   | 0.972**      | 0.000 |
| BOI        | 3.73    | 5.20    | 4.41 | 0.528          | 0.279    | 0.089    | 0.996**      | 0.000 |
| BOB        | 3.56    | 7.22    | 5.64 | 1.405          | 1.974    | -0.444   | 0.965**      | 0.001 |
| UBI        | 3.95    | 6.96    | 5.36 | 1.064          | 1.132    | 0.016    | 0.995**      | 0.000 |
| IOB        | 3.83    | 7.88    | 6.09 | 1.269          | 1.610    | -0.505   | 0.940**      | 0.000 |
| ICICI      | 1.26    | 5.75    | 3.39 | 1.264          | 1.398    | 0.547    | 0.980**      | 0.000 |
| HDFC       | 6.95    | 10.91   | 8.09 | 1.246          | 1.552    | 1.460    | 0.997**      | 0.000 |
| Axis       | 2.04    | 6.16    | 4.13 | 1.166          | 1.360    | -0.354   | 0.996**      | 0.000 |
| JK         | 4.29    | 8.14    | 5.90 | 1.396          | 1.949    | 0.290    | 0.973**      | 0.000 |
| Indus      | 2.45    | 4.62    | 3.42 | 0.708          | 0.501    | 0.372    | 0.858**      | 0.002 |
| City union | 4.30    | 6.22    | 5.41 | 0.649          | 0.421    | -0.498   | 0.992**      | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

Figure 3: Net Interest Margin of selected Public & Private sector Banks



They are interest bearing accounts, bonds, and securities available for sale. Mainly expressed as a percentage, the ratio is a guide to the profitability of a bank's investments. Or more simply, it indicates the average interest margin that the bank is receiving by borrowing and lending funds.

Table 1.3 shows that average NIM is highest in PNB (6.40) followed by SBI (6.14) among public banks while it is highest in HDFC (8.09) followed by J & K (5.90). Overall Average NIM of all banks is showing upward trend during the holding period. Thus banks manage their interest rates risk on deposits and advances very effectively.

SBI, PNB, BOB, IOB, Axis and City Union support negative skewness

whereas BOI, UBI, ICICI, HDFC, J & K and IndusInd expose a positive skewness. Karl Pearson's correlation gives a picture of interest earned minus interest expended and advances of all banks, which have influenced each other at 1% level of significance.

#### (iv) Investment to deposits

Table 1.4 inferred that average investment to deposits ratio of SBI is (0.47) which is highest among public sector banks followed by PNB and IOB (0.41). It is highest in the year 2003-04

and lowest in the year 2006-07 with SBI while it is highest and lowest in the year 2004-05 and 2008-09 respectively for PNB bank.

Among private sector banks, ICICI has highest ratio (0.57)

Figure 4: Investment to deposits of selected Public & Private sector Banks

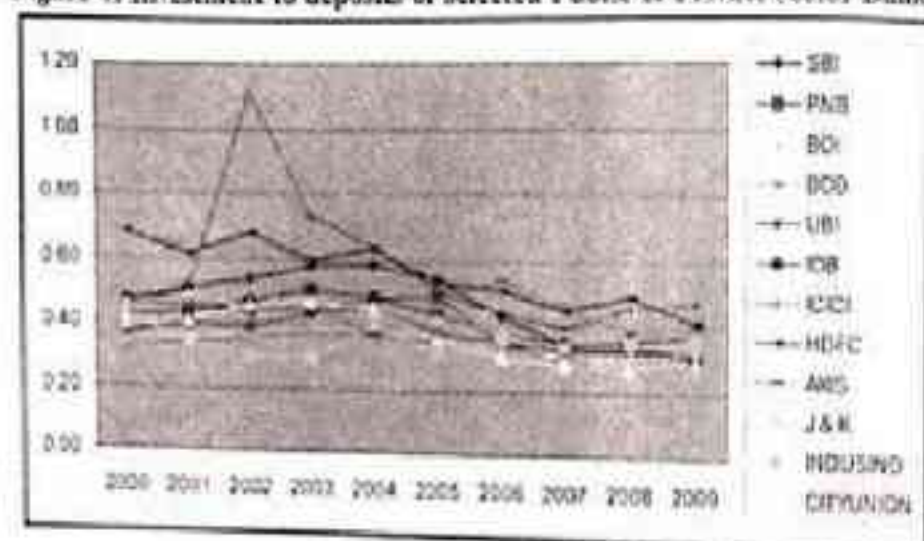


Table 1.4 Investment to deposits of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|------|----------------|----------|----------|--------------|-------|
|            |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI        | 0.34    | 0.58    | 0.47 | 0.092          | 0.009    | -0.240   | 0.867**      | 0.001 |
| PNB        | 0.30    | 0.49    | 0.41 | 0.074          | 0.005    | -0.394   | 0.931**      | 0.000 |
| BOI        | 0.28    | 0.38    | 0.34 | 0.040          | 0.002    | -0.696   | 0.988**      | 0.000 |
| BOB        | 0.27    | 0.37    | 0.33 | 0.038          | 0.001    | -0.539   | 0.986**      | 0.000 |
| UBI        | 0.31    | 0.45    | 0.37 | 0.046          | 0.002    | 0.511    | 0.984**      | 0.000 |
| IOB        | 0.31    | 0.51    | 0.41 | 0.067          | 0.004    | -0.193   | 0.964**      | 0.000 |
| ICICI      | 0.40    | 1.12    | 0.57 | 0.218          | 0.048    | 2.096    | 0.976**      | 0.000 |
| HDFC       | 0.41    | 0.68    | 0.56 | 0.095          | 0.009    | -0.134   | 0.991**      | 0.000 |
| Axis       | 0.36    | 0.54    | 0.44 | 0.056          | 0.003    | 0.154    | 0.990**      | 0.000 |
| JK         | 0.29    | 0.49    | 0.40 | 0.070          | 0.005    | -0.600   | 0.905**      | 0.000 |
| Indus      | 0.29    | 0.42    | 0.35 | 0.041          | 0.002    | 0.331    | 0.980**      | 0.000 |
| City union | 0.27    | 0.47    | 0.37 | 0.088          | 0.006    | 0.042    | 0.958**      | 0.000 |

Source: Secondary - Computed data. \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

followed by HDFC bank (0.56). ICICI and HDFC has highest ratio 1.12 and 0.68 in the year 2001-02. All banks have fluctuating trend for this ratio during the holding period.

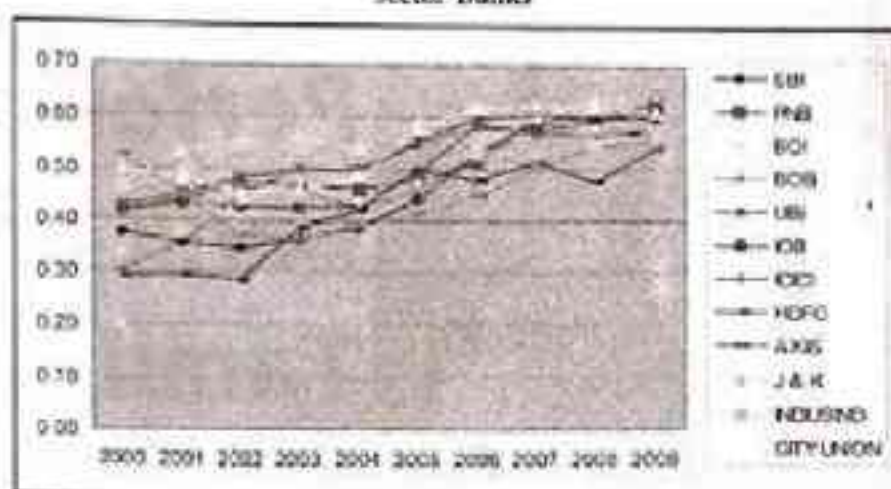
The distribution of all public sector banks except UBI has negative skewness while among private sector banks ICICI, Axis, IndusInd and City Union has positive skewness. Correlation coefficient is positive in all banks so strong relationship exists between investment and deposits. R value for all banks are greater than 0.80 hence they have a significance relationship at 1% level of significance.

#### (v) Total advances to total assets

This ratio reflects the aggressiveness of a bank in lending funds. Higher ratio means there are more advances as a proportion of the total assets. The higher the ratio, the more aggressive is the bank. It is interesting to note that almost all the banks have average advances to assets ratio of more than 50%.

BOI has highest average (0.57) followed by UBI (0.53) among public banks while City Union has highest (0.54) followed by IndusInd (0.53) among private banks. BOI with figure of 0.57 top the list on this parameter among all selected banks. Standard deviation of all banks is near about 0.1 so there is no significance deviation for this

Figure 5: Total advances to total assets of selected Public & Private sector Banks



ratio among selected banks. Table 1.5 inferred that all banks have positive correlation between total advances and total deposits; hence it shows significance relationship at 1% level of significance.



Table 1.5 Total advances to total assets of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|------|----------------|----------|----------|--------------|-------|
|            |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI        | 0.35    | 0.60    | 0.45 | 0.101          | 0.010    | 0.369    | 0.986**      | 0.000 |
| PNB        | 0.42    | 0.63    | 0.51 | 0.074          | 0.005    | 0.670    | 0.995**      | 0.000 |
| BOI        | 0.47    | 0.63    | 0.57 | 0.049          | 0.002    | -0.439   | 0.999**      | 0.000 |
| BOB        | 0.42    | 0.63    | 0.50 | 0.079          | 0.006    | 0.612    | 0.997**      | 0.000 |
| UBI        | 0.43    | 0.61    | 0.53 | 0.058          | 0.003    | -0.199   | 0.999**      | 0.000 |
| IOB        | 0.42    | 0.62    | 0.50 | 0.053          | 0.002    | 0.362    | 0.997**      | 0.000 |
| ICICI      | 0.30    | 0.59    | 0.50 | 0.097          | 0.009    | -1.169   | 0.991**      | 0.000 |
| HDFC       | 0.29    | 0.54    | 0.42 | 0.097          | 0.009    | -0.387   | 0.997**      | 0.000 |
| Axis       | 0.37    | 0.55    | 0.46 | 0.071          | 0.005    | 0.111    | 0.998**      | 0.000 |
| JK         | 0.33    | 0.60    | 0.48 | 0.088          | 0.008    | -0.294   | 0.990**      | 0.000 |
| Indus      | 0.46    | 0.58    | 0.53 | 0.038          | 0.001    | -0.567   | 0.994**      | 0.000 |
| City union | 0.45    | 0.62    | 0.54 | 0.072          | 0.005    | -0.010   | 0.991**      | 0.000 |

Source: Secondary - Computed data. \*\* Correlation is significant at the 0.01 level (2 tailed tests). \* Correlation is significant at the 0.05 level (2 tailed tests)

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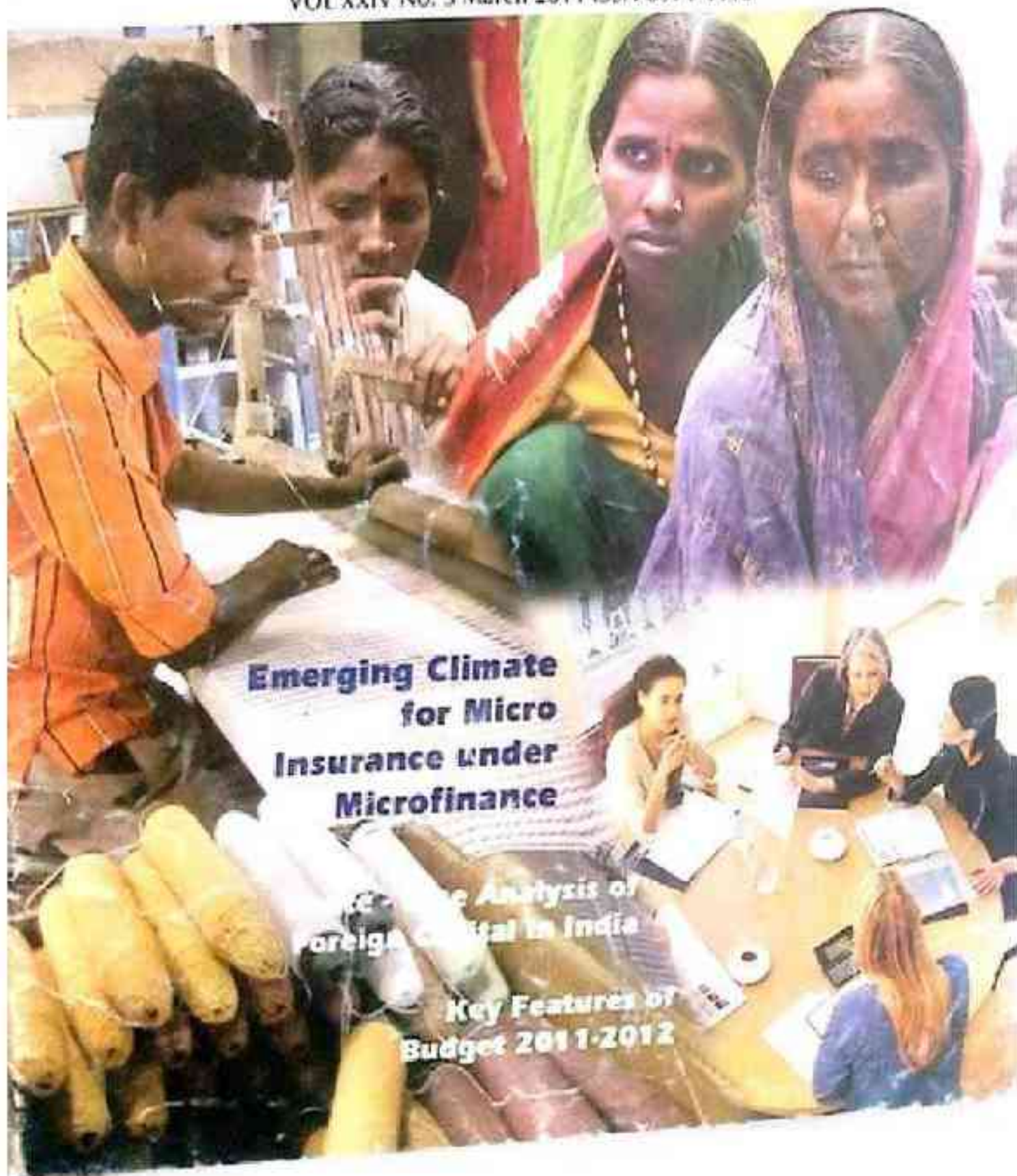
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# A comparative study on financial performance of Indian Banks during post deregulation period



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## (vi) ROA

This ratio measures return on assets employed or the efficiency in utilization of the assets. Table 1.6 reveals that all banks having average ROA about 1%. It is very low so all banks should try to utilize their assets very well. Karl Pearson's correlation coefficient is positive with all banks and they have significance relationship with 1% level of significance except J & K and IndusInd bank.

## (vii) Borrowing to Deposits

Table 1.7 reveals that all selected banks have very less ratio. So it is good sign for all banks. As compared to deposits borrowings are less so banks are attracting depositors very aggressively. ICICI has highest (0.42) ratio followed by HDFC (0.08). The distribution of all selected banks has positive skewness except BOI.

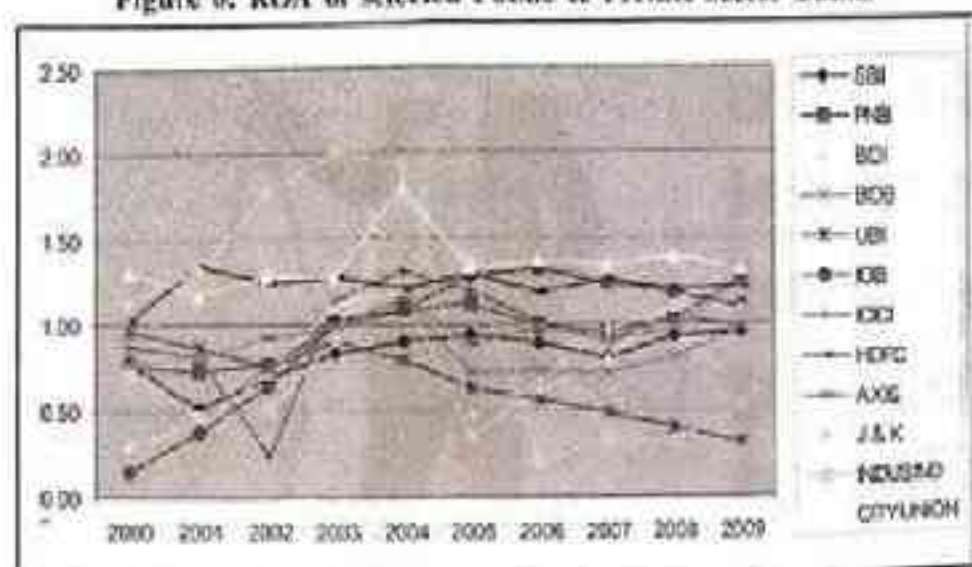
It is inferred that the sign of Karl Pearson's coefficient of

Table 1.6 ROA of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|------|----------------|----------|----------|--------------|-------|
|            |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI        | 0.51    | 0.95    | 0.82 | 0.136          | 0.019    | -1.511   | 0.986**      | 0.000 |
| PNB        | 0.73    | 1.25    | 0.97 | 0.171          | 0.029    | -0.023   | 0.985**      | 0.000 |
| BOI        | 0.31    | 1.33    | 0.80 | 0.373          | 0.139    | 0.036    | 0.943**      | 0.000 |
| BOB        | 0.43    | 1.14    | 0.82 | 0.196          | 0.038    | -0.236   | 0.948**      | 0.000 |
| UBI        | 0.29    | 1.22    | 0.85 | 0.313          | 0.098    | -0.751   | 0.952**      | 0.000 |
| IOB        | 0.15    | 1.32    | 0.94 | 0.405          | 0.164    | -1.147   | 0.968**      | 0.000 |
| ICICI      | 0.25    | 1.31    | 0.95 | 0.289          | 0.084    | -1.633   | 0.974**      | 0.000 |
| HDFC       | 1.02    | 1.35    | 1.23 | 0.086          | 0.007    | -1.303   | 0.999**      | 0.000 |
| Axis       | 0.76    | 1.23    | 0.96 | 0.143          | 0.020    | 0.686    | 0.987**      | 0.000 |
| JK         | 0.47    | 2.01    | 1.24 | 0.515          | 0.265    | 0.223    | 0.514        | 0.128 |
| Indus      | 0.21    | 1.74    | 0.71 | 0.492          | 0.242    | 1.290    | 0.230        | 0.522 |
| City union | 1.17    | 1.79    | 1.35 | 0.163          | 0.027    | 2.357    | 0.989**      | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

Figure 6: ROA of selected Public & Private sector Banks



all selected banks except City Union (-0.414) between borrowings and deposits has positive association with each other. There is a statistically significance correlation between borrowing and deposits of all selected public sector banks and ICICI, Axis and J & K banks among private sector banks.

#### (viii) Total advances to Deposits

This ratio measures the efficiency of the management in converting the deposits available with the bank in to advances. Table 1.8 reveals that average ratio of BOI is highest (0.67) among public banks followed by UBI

(0.62) while ICICI has highest (0.89) followed by Indusind (0.64) among private banks. Moreover, nearly all banks show increasing trend in this ratio during last ten years.

SBI has highest ratio in the year 2007-08 (0.775) followed by BOI (0.756) in same year while ICICI bank has highest (1.466) in the year 2001-02 with overall good position in this ratio since last 10 years followed by CityUnion (0.725) in the year 2005-06. The distribution of total advances to deposits is positively skewed over a period of time for SBI, PNB, BOB, IOB, Axis and City Union while it is negative to other banks.

Since Karl Pearson's coefficients of all banks are close to 1 and all R values positive, then there is a strong positive association between total advances and total deposits. All banks have significance relationship with 1% level of significance.

#### (ix) Debt to Equity (D/E)

This ratio indicates the degree of leverage of the bank or how much of the business is financed through debt and how much through equity. Higher ratio indicates less protection for the creditors and depositors. Table 1.9 inferred that, among public sector banks, it is the BOB (14.97) that filch the march over other peers with the lowest ratio. Among Private sector banks, ICICI and HDFC top the list.

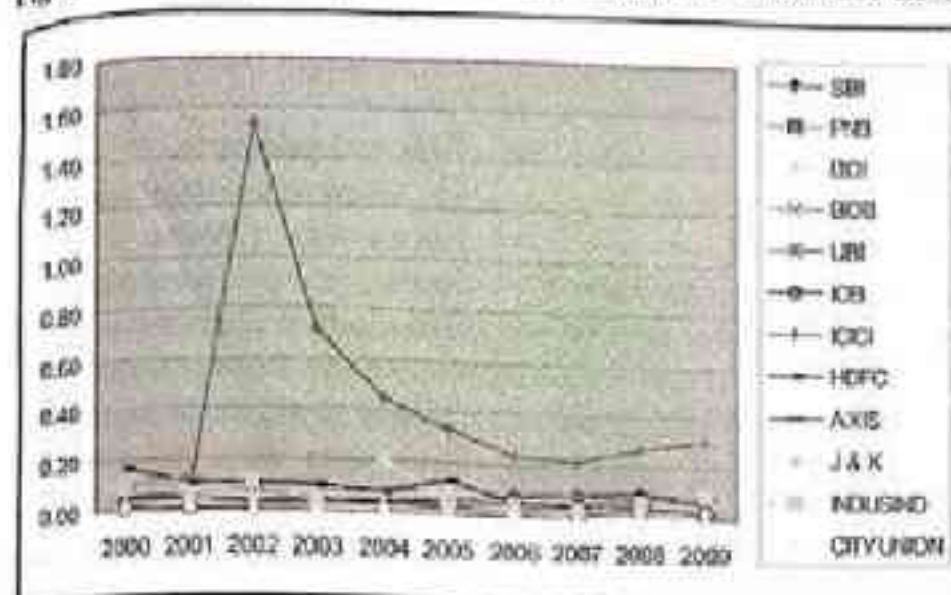
Overall all selected banks have higher D/E ratio because they are aggressive to meet the increased business requirements. All selected banks have positive correlation coefficient between debt and equity, therefore strong relationship exist between debt and equity and the relationship is significant at 1% level of significance.

Table 1.7 Borrowing to Deposits of selected Public & Private sector Banks

|           | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlation |       |
|-----------|---------|---------|------|----------------|----------|----------|-------------|-------|
|           |         |         |      |                |          |          | Pearson     | Sig.  |
| SBI       | 0.03    | 0.10    | 0.06 | 0.024          | 0.001    | 0.497    | 0.924**     | 0.000 |
| PNB       | 0.01    | 0.06    | 0.02 | 0.015          | 0.000    | 1.722    | 0.728*      | 0.007 |
| BOI       | 0.03    | 0.08    | 0.05 | 0.012          | 0.000    | -0.011   | 0.938**     | 0.000 |
| BOB       | 0.01    | 0.05    | 0.02 | 0.013          | 0.000    | 1.662    | 0.803**     | 0.000 |
| UBI       | 0.00    | 0.05    | 0.03 | 0.019          | 0.000    | 0.309    | 0.860**     | 0.000 |
| IOB       | 0.00    | 0.08    | 0.03 | 0.026          | 0.001    | 1.271    | 0.956**     | 0.000 |
| ICICI     | 0.05    | 1.53    | 0.42 | 0.436          | 0.190    | 2.188    | 0.802**     | 0.000 |
| HDFC      | 0.02    | 0.17    | 0.08 | 0.046          | 0.002    | 0.459    | 0.485       | 0.170 |
| Axis      | 0.03    | 0.13    | 0.07 | 0.028          | 0.001    | 0.170    | 0.973**     | 0.000 |
| JK        | 0.00    | 0.03    | 0.02 | 0.008          | 0.000    | 0.011    | 0.926**     | 0.000 |
| Indus     | 0.03    | 0.21    | 0.07 | 0.053          | 0.003    | 1.993    | 0.407       | 0.243 |
| Cityunion | 0.00    | 0.03    | 0.01 | 0.009          | 0.000    | 0.940    | -0.414      | 0.114 |

Source: Secondary - Computed data. \*\* Correlation is significant at the 0.01 level (2 tailed tests). \* Correlation is significant at the 0.05 level (2 tailed tests)

Figure 7: Borrowing to Deposits of selected Public & Private sector Banks



#### (x) Yield on advances

This ratio represents how efficiently the banks earn interest. All banks are getting good return on advances since last ten years and it is more than 12% for all. Among public sector banks, SBI is in the top position with 17.63% followed by PNB (16.11%) while among private sector banks; HDFC is on top position with 17.49% followed by J & K bank. SBI has highest ratio 24.58 in the year 2001-02 and lowest 11.04 in the year 2006-07. ICICI and HDFC have highest ratios in the year 1999-00 and 2001-02 respectively. The standard deviation shows significance deviation in yield on advances among selected banks.

Figure 8: Total advances to Deposits of selected Public & Private sector Banks

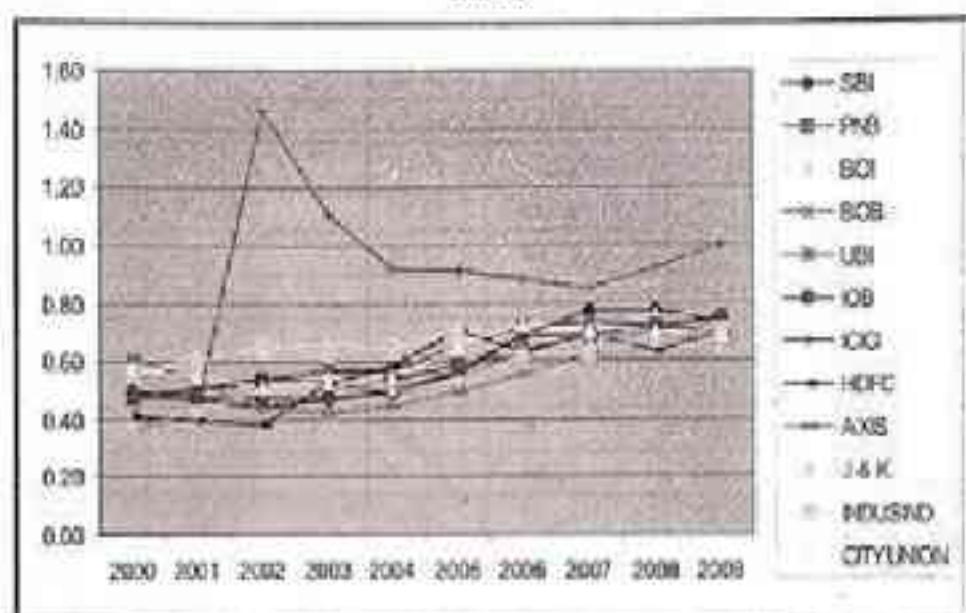


Table 1.8 Total advances to Deposits of selected Public & Private sector Banks

|           | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | Correlations |       |
|-----------|---------|---------|------|----------------|----------|----------|--------------|-------|
|           |         |         |      |                |          |          | Pearson      | Sig.  |
| SBI       | 0.45    | 0.78    | 0.59 | 0.137          | 0.019    | 0.453    | 0.981**      | 0.000 |
| PNB       | 0.48    | 0.74    | 0.59 | 0.094          | 0.009    | 0.463    | 0.997**      | 0.000 |
| BOI       | 0.55    | 0.76    | 0.67 | 0.064          | 0.004    | -0.488   | 0.999**      | 0.000 |
| BOB       | 0.48    | 0.75    | 0.58 | 0.097          | 0.009    | 0.594    | 0.997**      | 0.000 |
| UBI       | 0.48    | 0.73    | 0.62 | 0.096          | 0.009    | -0.111   | 0.996**      | 0.000 |
| IOB       | 0.48    | 0.75    | 0.58 | 0.116          | 0.013    | 0.396    | 0.996**      | 0.000 |
| ICICI     | 0.37    | 1.47    | 0.89 | 0.312          | 0.097    | -0.120   | 0.992**      | 0.000 |
| HDFC      | 0.39    | 0.70    | 0.56 | 0.127          | 0.016    | -0.467   | 0.997**      | 0.000 |
| Axis      | 0.42    | 0.69    | 0.55 | 0.100          | 0.010    | 0.155    | 0.997**      | 0.000 |
| JK        | 0.37    | 0.68    | 0.55 | 0.101          | 0.010    | -0.309   | 0.990**      | 0.000 |
| Indus     | 0.56    | 0.71    | 0.64 | 0.046          | 0.002    | -0.195   | 0.993**      | 0.000 |
| Cityunion | 0.51    | 0.72    | 0.62 | 0.086          | 0.007    | 0.043    | 0.995**      | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

Indian banks are going to implement Basel II norms, so there is a growing emphasis on the improvement of banks' performance on this front. Table 1.11 inferred that Indian banks have successfully improved their CAR during last ten years. All selected banks have average CAR of more than 11%, which is well above the 9% mark as mandated by Basel II accord.

Table reveals that SBI grabs the top spot among PSBs with a CAR of 12.78%. Among the private sector

banks, J & K leads the rankings with a CAR of 15.19%. A further analysis suggests that, all selected Public as well as private banks have its minimum CAR of 10% during the year 1999-00 to 2008-09.

#### (xii) Net NPA to Net Advances

Assets quality signifies the degree of financial strength and risks in a bank's assets, mainly loans and investments. The maintenance of sound asset quality is a fundamental feature of banking. The most standard measure of asset quality is the NNPA as a

percentage of Net advances. The lower the ratio, the better is the performance of the bank.

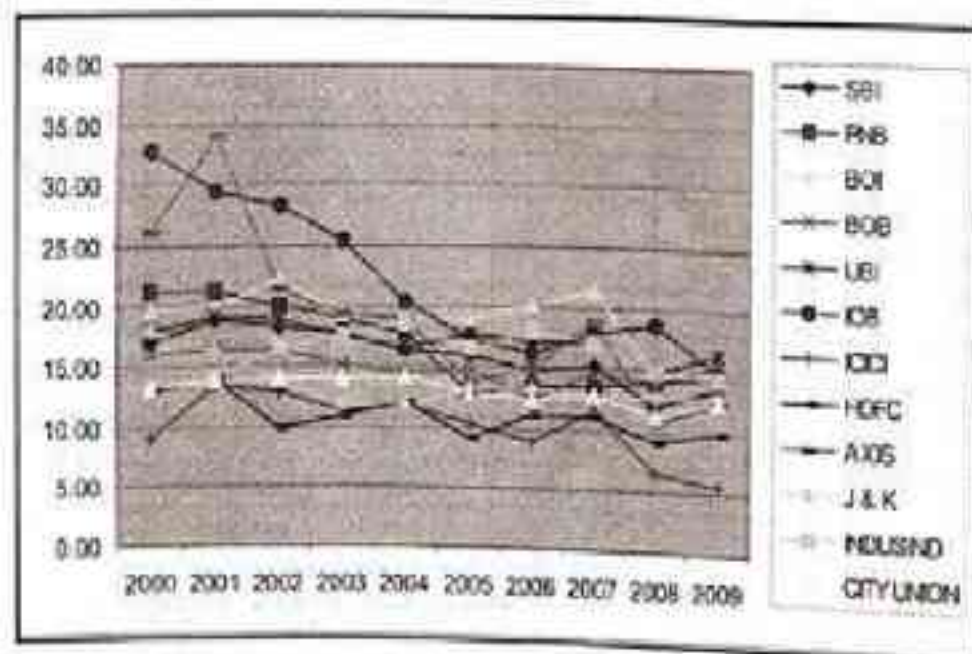
Table 1.12 inferred that HDFC bank has lowest ratio (0.48) among all selected banks followed by J & K bank (1.65). Public sector banks have higher ratio as compared to private sector banks. BOI has highest (3.74) followed by SBI (3.57) among public sector banks while City Union bank (4.67) followed by IndusInd (3.94). Private sector banks look more efficient on this parameter. Public

Table 1.9 Debt to Equity (D/E) of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean  | Std. Deviation | Variance | Skewness | Correlation |       |
|------------|---------|---------|-------|----------------|----------|----------|-------------|-------|
|            |         |         |       |                |          |          | Pearson     | Sig.  |
| SBI        | 12.02   | 18.84   | 16.02 | 2.132          | 4.544    | -0.524   | 0.986**     | 0.000 |
| PNB        | 12.97   | 21.28   | 16.79 | 3.408          | 11.614   | 0.225    | 0.987**     | 0.000 |
| BOI        | 14.76   | 22.16   | 19.01 | 2.447          | 5.989    | -0.953   | 0.980**     | 0.000 |
| BOB        | 12.55   | 16.36   | 14.97 | 1.164          | 1.354    | -0.779   | 0.988**     | 0.000 |
| UBI        | 14.78   | 19.04   | 17.34 | 1.250          | 1.563    | -0.624   | 0.994**     | 0.000 |
| IOB        | 14.92   | 32.83   | 22.13 | 6.326          | 40.021   | 0.587    | 0.985**     | 0.000 |
| ICICI      | 5.73    | 13.51   | 10.19 | 2.591          | 6.711    | -0.549   | 0.931**     | 0.000 |
| HDFC       | 9.10    | 14.12   | 11.06 | 1.653          | 2.732    | 0.661    | 0.995**     | 0.000 |
| Axis       | 10.63   | 33.96   | 19.05 | 6.959          | 48.424   | 1.068    | 0.981**     | 0.000 |
| JK         | 11.90   | 17.88   | 13.70 | 1.901          | 3.615    | 1.536    | 0.991**     | 0.000 |
| Indus      | 13.31   | 18.51   | 16.10 | 1.818          | 3.306    | -0.284   | 0.970**     | 0.000 |
| City union | 11.34   | 14.18   | 13.16 | 0.908          | .825     | -0.702   | 0.996**     | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

Figure 9: Table 1.9 Debt to Equity (D/E) of selected Public & Private sector Banks



sector banks show decreasing trend in this ratio during last ten years and is the good sign of these banks.

#### 2.0 Analysis through testing the hypothesis using one way ANOVA:

- Test on financial ratios of selected Public sector banks and Private sector banks.

#### Inference:

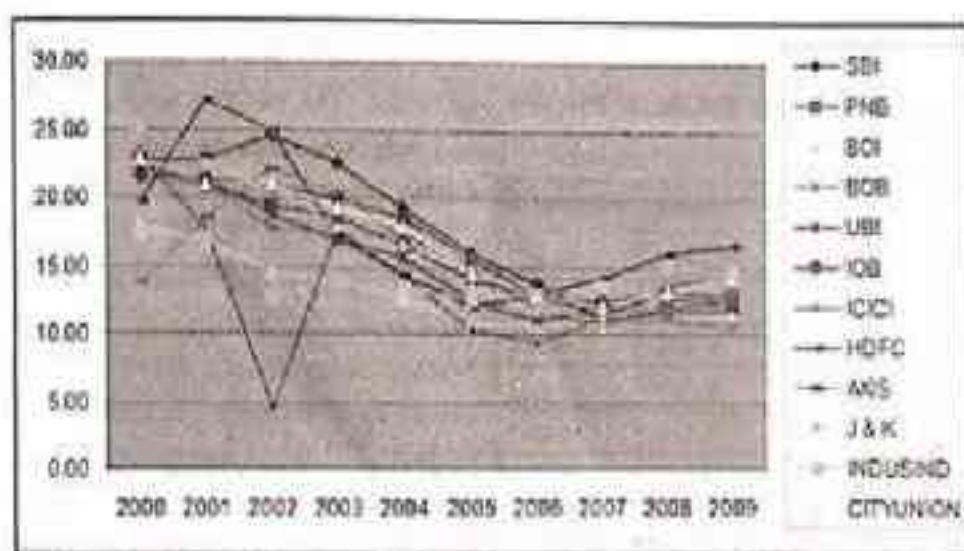
Calculated value of F ratio (0.083) is less than the Tabulated value (2.30). Therefore the Null Hypothesis is true which means there is no significant difference between the selected Public & Private sector banks on the basis of key financial ratios.

**Table 1.10 Debt to Equity (D/E) of selected Public & Private sector Banks**

|            | Minimum | Maximum | Mean  | Std. Deviation | Variance | Skewness | Correlations |       |
|------------|---------|---------|-------|----------------|----------|----------|--------------|-------|
|            |         |         |       |                |          |          | Pearson      | Sig.  |
| SBI        | 11.04   | 24.68   | 17.63 | 5.377          | 28.907   | -0.011   | 0.966**      | 0.000 |
| PNB        | 11.63   | 22.84   | 16.11 | 4.093          | 16.750   | 0.428    | 0.988**      | 0.000 |
| BOI        | 10.77   | 18.00   | 13.06 | 2.664          | 7.097    | 0.918    | 0.984**      | 0.000 |
| BOB        | 10.48   | 21.23   | 13.34 | 4.146          | 17.192   | 0.157    | 0.990**      | 0.000 |
| UBI        | 10.98   | 22.09   | 15.49 | 4.102          | 16.830   | 0.603    | 0.981**      | 0.000 |
| IOB        | 12.39   | 21.64   | 16.92 | 3.942          | 15.541   | -0.002   | 0.990**      | 0.000 |
| ICICI      | 4.58    | 23.32   | 13.64 | 5.199          | 27.025   | 0.164    | 0.968**      | 0.000 |
| HDFC       | 12.10   | 27.16   | 17.49 | 5.057          | 25.569   | 1.081    | 0.991**      | 0.000 |
| Axis       | 11.74   | 22.02   | 15.41 | 3.768          | 14.194   | 0.781    | 0.994**      | 0.000 |
| JK         | 11.12   | 25.14   | 16.65 | 4.863          | 23.652   | 0.635    | 0.944**      | 0.000 |
| Indus      | 12.00   | 17.33   | 14.32 | 1.741          | 3.032    | 0.988    | 0.983**      | 0.000 |
| City union | 12.02   | 22.86   | 16.88 | 3.989          | 15.909   | 0.239    | 0.983**      | 0.000 |

Source: Secondary - Computed data, \*\* Correlation is significant at the 0.01 level (2 tailed tests), \* Correlation is significant at the 0.05 level (2 tailed tests)

**Figure 10: Debt to Equity (D/E) of selected Public & Private sector Banks**



**Table 1.11 Capital Adequacy Ratio of selected Public & Private sector Banks**

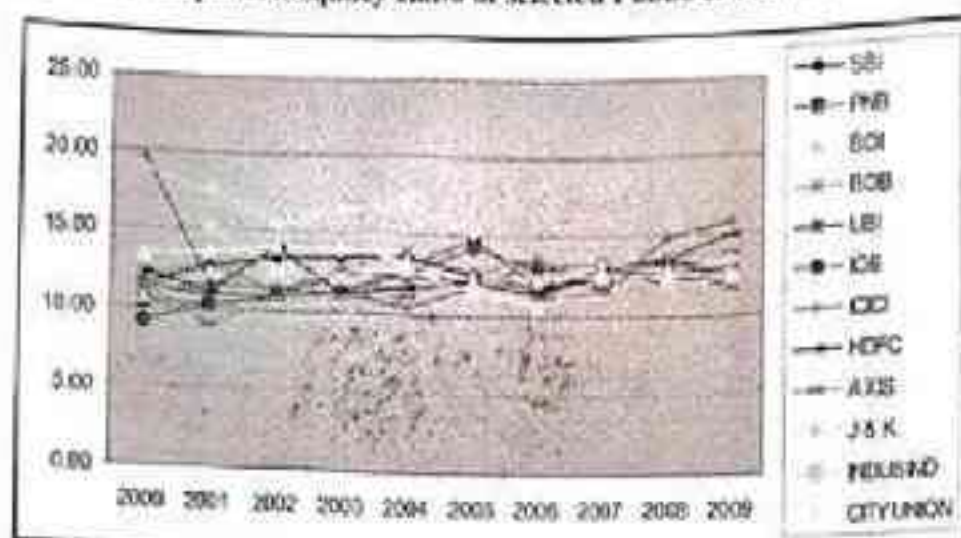
|            | Minimum | Maximum | Mean  | Std. Deviation | Variance | Skewness |
|------------|---------|---------|-------|----------------|----------|----------|
| SBI        | 11.49   | 13.53   | 12.78 | 0.722          | 0.522    | -0.604   |
| PNB        | 10.24   | 14.78   | 12.09 | 1.408          | 1.983    | 0.319    |
| BOI        | 10.57   | 13.21   | 11.85 | 0.999          | 0.998    | 0.046    |
| BOB        | 11.32   | 13.91   | 12.66 | 0.783          | 0.614    | -0.091   |
| UBI        | 10.86   | 12.80   | 11.89 | 0.699          | 0.434    | -0.309   |
| IOB        | 9.15    | 14.21   | 11.92 | 1.540          | 2.372    | -0.415   |
| ICICI      | 10.36   | 19.64   | 13.18 | 2.875          | 8.264    | 1.457    |
| HDFC       | 11.09   | 15.09   | 12.53 | 1.345          | 1.810    | 0.732    |
| Axis       | 9.00    | 13.91   | 11.61 | 1.477          | 2.181    | 0.161    |
| JK         | 12.14   | 18.82   | 15.19 | 2.227          | 4.960    | 0.151    |
| Indus      | 10.54   | 15.00   | 12.46 | 1.153          | 1.330    | 0.825    |
| City union | 12.18   | 13.97   | 13.03 | 0.687          | 0.472    | 0.225    |

Source: Secondary - Computed data

### Major Findings

- The Earning per share ratio of public sector banks is fairly greater than private sector banks
- The liquid assets to total deposits ratio is more or less same with public & private sector banks.
- The Net Interest Margin is quite good and almost identical with public & private sector banks.
- The investment to deposits ratio of public sector banks is a bit less than private sector banks.
- The total advances to total assets ratio of private & public sector banks is close to same.
- The return on assets (ROA %) ratio of private & public sector banks is quite comparative, but for all banks, it is very low.
- The Borrowing to Deposits ratio of private sector banks is better than the public sector banks
- The Total advances to Deposits ratio is quit same for both types of banks.
- The Debt to Equity (D/E) ratio of private sector banks is less than the public sector banks.
- The Yield on advances ratio of

Figure 11: Capital Adequacy Ratio of selected Public & Private sector Banks



Private as well as public sector bank is good and nearly same.

- CAR of private and public sector banks is excellent and it is greater than 12% as it is 9% as per Basel

II norms.

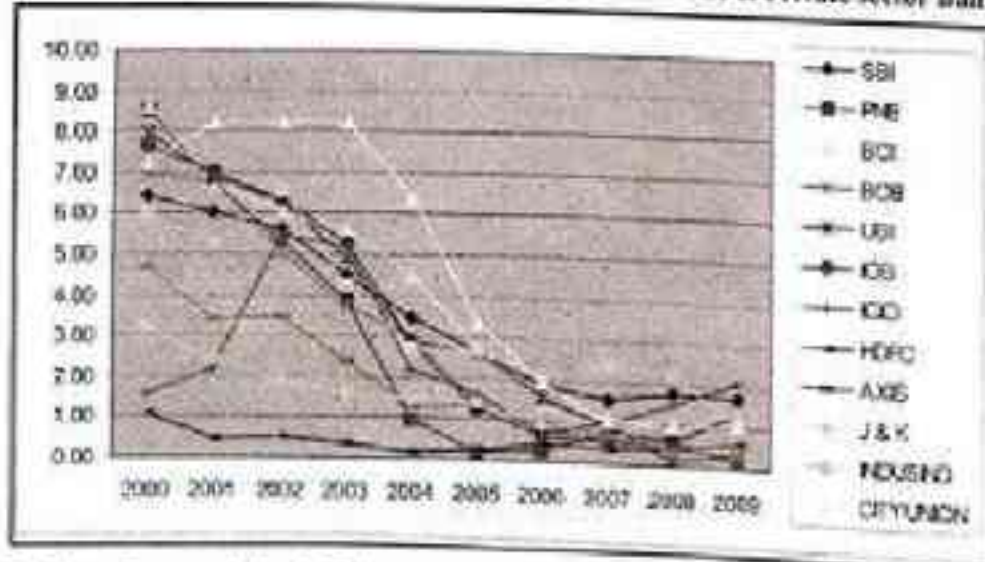
- NNPA to Net advances ratio of public sector banks is slightly greater than private sector banks.

Table L.12 Net NPA to Net Advances Ratio of selected Public & Private sector Banks

|            | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness |
|------------|---------|---------|------|----------------|----------|----------|
| SBI        | 1.56    | 6.41    | 3.57 | 1.929          | 3.721    | 0.429    |
| PNB        | 0.17    | 8.52    | 2.75 | 3.123          | 9.756    | 0.925    |
| BOI        | 0.44    | 8.61    | 3.74 | 2.945          | 8.673    | 0.283    |
| BOB        | 0.31    | 6.95    | 2.92 | 2.600          | 6.761    | 0.602    |
| UBI        | 0.17    | 7.97    | 3.46 | 2.855          | 8.150    | 0.407    |
| IOB        | 0.55    | 7.65    | 3.35 | 2.898          | 8.399    | 0.471    |
| ICICI      | 0.72    | 5.48    | 2.37 | 1.644          | 2.702    | 1.403    |
| HDFC       | 0.16    | 1.09    | 0.48 | 0.252          | 0.064    | 1.609    |
| Axis       | 0.40    | 4.71    | 1.92 | 1.499          | 2.246    | 0.789    |
| JK         | 0.92    | 3.22    | 1.65 | 0.705          | 0.496    | 1.436    |
| Indus      | 1.14    | 6.59    | 3.55 | 1.846          | 3.407    | 0.582    |
| City union | 0.98    | 8.22    | 4.67 | 3.259          | 10.622   | -0.041   |

Source: Secondary - Computed data

Figure 12: Net NPA to Net Advances Ratio of selected Public & Private sector Banks



## Conclusion

The reform measures have had a major impact on the efficiency and stability of the banking system in India. Current the banking sector is fully complies with transparency and disclosure norms comparable with the best international practices.

The present capital adequacy of Indian banks is comparable to those at international level. There has been a marked improvement in the asset quality with the percentage of Net non-performing assets (NNPAs) to net advances for the banking system.

The reform measures have also resulted in an improvement in the profitability of banks. The Yield on advances, EBT and Net interest margin has improved during last ten years.

The liquidity position has also improved for public as well as private sector banks. But the banks must continuously evaluate and update their operations and optimize the business process to remain competitive and to be ready for Basel II norms.



**Table 2.1: Combined mean ratio chart of selected Public & Private sector Banks**

| Ratio                           | Public sector Banks | Private sector Banks |
|---------------------------------|---------------------|----------------------|
| EPS                             | 31.41               | 22.88                |
| Liquid assets to total deposits | 0.13                | 0.15                 |
| Net Interest Margin (NIM)       | 5.67                | 5.06                 |
| Investment to Deposits          | 0.39                | 0.45                 |
| Total advances to total assets  | 0.51                | 0.49                 |
| Return on Assets (ROA%)         | 0.83                | 1.07                 |
| Borrowing to Deposits           | 0.03                | 0.11                 |
| Total advances to Deposits      | 0.61                | 0.63                 |
| Debt to Equity (D/E)            | 17.71               | 13.88                |
| Yield on advances               | 15.76               | 15.73                |
| CAR %                           | 12.20               | 13.00                |
| NNPA to Net Advances (%)        | 3.30                | 2.44                 |

Source: Secondary - Computed data

#### Testing of the following Hypothesis:

- H<sub>0</sub> :- There is no significant difference between the key financial ratios of selected Public sector banks and Private sector Banks
- H<sub>1</sub> :- There is significant difference between the key financial ratios of selected Public sector banks and Private sector Banks

**Table 2.2: ANOVA ratio of selected Public sector banks and Private sector Banks**

|                | SUM OF SQUARES | DF SQUARE | MEAN   | F RATIO | SIG.   |
|----------------|----------------|-----------|--------|---------|--------|
| Between Groups | 6.578          | 1         | 6.678  | 0.083   | 0.0193 |
| Within Groups  | 1774.771       | 22        | 80.671 |         |        |
| Total          | 1781.449       | 23        |        |         |        |

Tabulated Value: 4.30 at 1, 22 degree of freedom.

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