

## **A Study on Performance of Banks – A Statistical Analysis**

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### **Abstract**

The existing market is full of uncertainties and there exist a huge competition among the public and private sectors. With globalization and liberalization many foreign players are also entering the market to give equal competitions to the public and private sectors. The entry of fresh players creates opportunities and also enhances the efficiency and effectiveness in the existing situation. In this highly competitive scenario, the current research paper will demonstrate the efficiency and effectiveness of public, private and foreign banks in our country. It will thoroughly analyze the present situation of banks in the competitive market. The study will focus from time period of 2009-2013. The data supported for this paper is secondary data and the research design is descriptive research. To understand the performance of banks several parameters were considered for analysis such as no of branches, deposits, investments, income, other income, no of employees, business per employee and profit per employee. Statistical test is undergone to test the hypothesis framed for validating the performance of banks. Through this research work the researcher made a sincere attempt to understand the performance as well as relation of employee productivity on performance.

**Keywords** – Banks (Public, Private & Foreign Sector)

### **Introduction**

The present situation has brought a lot of challenges as well as opportunities with it in diverse areas of economic activities including a very significant area called banking. The banking industry has grown radically. It is passing through phases of incredible transformation with number of forces that are operating in both national and international market. The banking sector in India has undergone several changes in the area of prudential, regulatory, disclosure and supervisory norms. India's banking sector is constantly growing. Since the turn of the century, there has been a visible increase in electronic dealings and transactions through ATMs, internet and mobile banking. Government in 2012 amended the Banking Law Bill which set as a key background of the banking industry from where the change began. The bill authorizes RBI to take necessary actions and steps regarding issuing of new licences to banks across country. These guidelines have lead to expansion of banking sector hugely which will create immense job opportunities as well as increased financial services in rural areas. The total banking assets in India as estimated has touched US\$ 1.8 trillion in FY13. There is tremendous increase in bank deposits with compound annual growth rate (CAGR) of 21.2 per cent over FY06–13. Total deposits in FY13 were US\$ 1,274.3 billion. In FY14, private sector lenders witnessed discernable growth in credit cards and personal loan businesses. HDFC Bank Ltd has emerged as the No. 1 brand with a worth of US\$ 9.4 billion in the list of India's 50 most valuable brands, which was commissioned by WPP Plc, the world's top communications services group followed by the State Bank of India (SBI). Microfinance companies have committed to setting up minimum of 30 million bank accounts through alliance with banks, within a year which is again a part of the government's financial inclusion plan.

SBI is planning to launch a contact-less or tap-and-go card facility to make payments in India. Contact-less payment is a technology that has been adopted in several developed countries like Australia, Canada and the UK, where customers can simply tap or wave their card over a reader at a point-of-sale terminal, which reads the card and allows transactions. SBI and its five associate banks also plan to empower account holders at the bottom of the social pyramid with a customer call facility. This future facility will help customers get up to date information on existing balance, also requests for cheque book can be given through mobile. In current situation, Indian banks are also turning their

focus in enhancing new and modern technology to improve the infrastructure of banks and also provide customer with better experience through use of updated technology. This is how the banking sector in current time has emerged from traditional way to a technological way.

**Objective**

To find out the performance of public sector, private sector and foreign banks operating in India considering a time frame of 2009-2013.

**Methodology**

This study will focus on the detailed analysis of public, private and foreign banks in the country and there functioning over a time period of five years i.e. from 2009-2013. This research will focus on various reports of RBI for that specific time period and will help to gain a clear insight on the various the same. The research design chosen for the study is descriptive. It will consider the performance of all the public sector, private sector and foreign banks operating in the country and will update the current status with regard to the performance from 2009-13.

**Hypothesis**

**Part – I**

**H0:** There is no significant difference in performance of public sector banks as compared to that of private sector and foreign banks.

**H1:** There is significant difference in performance of public sector banks as compared to that of private sector and foreign banks.

**Part – II**

**H0:** Employee productivity has significant effect on performance of banks.

**H1:** Employee productivity has no significant effect on performance of banks.

**Empirical analysis and Interpretation**

The data used for analysis is secondary data collected from 2009-2014. The data is collated from various reports generated by Reserve Bank of India. The data for the analysis considers the no of bank branches, deposits, investments, income and other income to analyse the performance of banks. The employee productivity is also another factor that affects the performance of banks. So for further analysing these parameters no of employees in banks, business per employee and profit per employee is considered. The entire data is run in SPSS for t- test at certain level of significance. Also mean and standard deviation is calculated.

**Table 1: Descriptive Statistics**

| Items           | Test Value = 0 |    |                 |                 |                                           |             |
|-----------------|----------------|----|-----------------|-----------------|-------------------------------------------|-------------|
|                 | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |             |
|                 |                |    |                 |                 | Lower                                     | Upper       |
| Branches        | 21.104         | 4  | .000            | 66521.40000     | 57770.0170                                | 75272.7830  |
| Deposits        | 9.423          | 4  | .001            | 4.38499E7       | 3.0929E7                                  | 5.6770E7    |
| Investments     | 10.753         | 4  | .000            | 1.36614E7       | 1.0134E7                                  | 1.7189E7    |
| Interest Income | 7.422          | 4  | .002            | 3.96963E6       | 2.4846E6                                  | 5.4546E6    |
| Other Income    | 21.433         | 4  | .000            | 4.93010E5       | 429144.1691                               | 556876.6309 |

**Table 2: One-Sample Test – Public Sector banks**

| Items           | Public Sector Banks |          | Private Banks  |          | Foreign banks  |          |                |
|-----------------|---------------------|----------|----------------|----------|----------------|----------|----------------|
|                 | N                   | Mean     | Std. Deviation | Mean     | Std. Deviation | Mean     | Std. Deviation |
| Branches        | 5                   | 6.6521E4 | 7048.10885     | 1.2374E4 | 2681.16734     | 3.1600E2 | 14.61164       |
| Deposits        | 5                   | 4.3850E7 | 1.04058E7      | 1.0265E7 | 2.66724E6      | 2.5036E6 | 3.10948E5      |
| Investments     | 5                   | 1.3661E7 | 2.84100E6      | 4.4696E6 | 1.29709E6      | 1.7677E6 | 3.80405E5      |
| Interest Income | 5                   | 3.9696E6 | 1.19596E6      | 1.1313E6 | 3.63396E5      | 3.2690E5 | 64268.11247    |
| Other Income    | 5                   | 4.9301E5 | 51436.00121    | 2.2799E5 | 46827.98873    | 1.1593E5 | 19078.88213    |

**Table 3: One-Sample Test – Private sector banks**

| Items           | Test Value = 0 |    |                 |                 |                                           |             |
|-----------------|----------------|----|-----------------|-----------------|-------------------------------------------|-------------|
|                 | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |             |
|                 |                |    |                 |                 | Lower                                     | Upper       |
| Branches        | 10.320         | 4  | .000            | 12374.40000     | 9045.2910                                 | 15703.5090  |
| Deposits        | 8.605          | 4  | .001            | 1.02647E7       | 6.9529E6                                  | 1.3577E7    |
| Investments     | 7.705          | 4  | .002            | 4.46959E6       | 2.8590E6                                  | 6.0801E6    |
| Interest Income | 6.961          | 4  | .002            | 1.13127E6       | 680049.3719                               | 1.5825E6    |
| Other Income    | 10.887         | 4  | .000            | 2.27995E5       | 169850.1723                               | 286139.4277 |

**Table 4: One-Sample Test – Foreign banks**

|                 | Test Value = 0 |    |                 |                 |                                           |             |
|-----------------|----------------|----|-----------------|-----------------|-------------------------------------------|-------------|
|                 | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |             |
|                 |                |    |                 |                 | Lower                                     | Upper       |
| Branches        | 48.359         | 4  | .000            | 316.00000       | 297.8573                                  | 334.1427    |
| Deposits        | 18.004         | 4  | .000            | 2.50358E6       | 2.1175E6                                  | 2.8897E6    |
| Investments     | 10.391         | 4  | .000            | 1.76772E6       | 1.2954E6                                  | 2.2401E6    |
| Interest Income | 11.374         | 4  | .000            | 3.26900E5       | 247100.5985                               | 406699.4015 |
| Other Income    | 13.587         | 4  | .000            | 1.15931E5       | 92241.8389                                | 139620.9611 |

**Table 5: `Statistical Results**

| Parameters  | Public Sector Banks |                 |          | Private Sector Banks |                 |          | Foreign Banks    |                 |          |
|-------------|---------------------|-----------------|----------|----------------------|-----------------|----------|------------------|-----------------|----------|
|             | Calculated Value    | Tabulated value | H0       | Calculated Value     | Tabulated value | H0       | Calculated Value | Tabulated value | H0       |
| Branches    | 21.104              | 2.776           | Accepted | 10.320               | 2.776           | Accepted | 48.359           | 2.776           | Accepted |
| Deposits    | 9.423               | 2.776           | Accepted | 8.605                | 2.776           | Accepted | 18.004           | 2.776           | Accepted |
| Investments | 10.753              | 2.776           | Accepted | 7.705                | 2.776           | Accepted | 10.391           | 2.776           | Accepted |

|                 |        |       |          |        |       |          |        |       |          |
|-----------------|--------|-------|----------|--------|-------|----------|--------|-------|----------|
| Interest Income | 7.422  | 2.776 | Accepted | 6.961  | 2.776 | Accepted | 11.374 | 2.776 | Accepted |
| Other Income    | 21.433 | 2.776 | Accepted | 10.887 | 2.776 | Accepted | 13.587 | 2.776 | Accepted |

**Interpretations:** The t-test results widely show that we accept the null hypothesis for each indicator that was tested. The calculated value is greater than the tabulated value at 95 percent confidence interval. So the alternative hypothesis is rejected thus accepting the null hypothesis which states that there is no such significant difference in the performance of public sector banks as compared to that of private sector and foreign banks.

**Part –II- Employee Productivity**

**Table 6: Descriptive Statistics**

| Items             | Public sector bank |          |                | Private Sector Banks |                | Foreign Bank |                |
|-------------------|--------------------|----------|----------------|----------------------|----------------|--------------|----------------|
|                   | N                  | Mean     | Std. Deviation | Mean                 | Std. Deviation | Mean         | Std. Deviation |
| Business/employee | 5                  | 1.0074E2 | 21.56239       | 81.5840              | 9.84863        | 1.6758E2     | 37.58449       |
| Profit/employee   | 5                  | .5720    | .07155         | .8020                | .18061         | 3.0360       | 1.09851        |
| No. of Employees  | 5                  | 7.6045E5 | 28235.30281    | 2.2362E5             | 35120.60473    | 2.7385E4     | 1720.37487     |

**Table 7: One-Sample Test - Public sector Bank**

| Items             | Test Value = 0 |    |                 |                 |                                           |             |
|-------------------|----------------|----|-----------------|-----------------|-------------------------------------------|-------------|
|                   | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |             |
|                   |                |    |                 |                 | Lower                                     | Upper       |
| Business/employee | 10.447         | 4  | .000            | 100.73800       | 73.9648                                   | 127.5112    |
| Profit/employee   | 17.875         | 4  | .000            | .57200          | .4832                                     | .6608       |
| No. of Employees  | 60.223         | 4  | .000            | 7.60452E5       | 725393.2410                               | 795510.7590 |

**Table 8: One-Sample Test - Private Sector Banks**

| Items             | Test Value = 0 |    |                 |                 |                                           |             |
|-------------------|----------------|----|-----------------|-----------------|-------------------------------------------|-------------|
|                   | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |             |
|                   |                |    |                 |                 | Lower                                     | Upper       |
| Business/employee | 18.523         | 4  | .000            | 81.58400        | 69.3553                                   | 93.8127     |
| Profit/employee   | 9.929          | 4  | .001            | .80200          | .5777                                     | 1.0263      |
| No. of Employees  | 14.237         | 4  | .000            | 2.23618E5       | 180009.6095                               | 267225.5905 |

**Table 9: One-Sample Test- Foreign Banks**

| Items             | t      | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |            |
|-------------------|--------|----|-----------------|-----------------|-------------------------------------------|------------|
|                   |        |    |                 |                 | Lower                                     | Upper      |
| Business/employee | 9.970  | 4  | .001            | 167.58200       | 120.9147                                  | 214.2493   |
| Profit/employee   | 6.180  | 4  | .003            | 3.03600         | 1.6720                                    | 4.4000     |
| No. of Employees  | 35.594 | 4  | .000            | 27385.20000     | 25249.0725                                | 29521.3275 |

**Table 10: `Statistical Results**

| Parameters        | Public Sector Banks |                 |          | Private Sector Banks |                 |          | Foreign Banks    |                 |          |
|-------------------|---------------------|-----------------|----------|----------------------|-----------------|----------|------------------|-----------------|----------|
|                   | Calculated Value    | Tabulated value | H0       | Calculated Value     | Tabulated value | H0       | Calculated Value | Tabulated value | H0       |
| Business/employee | 10.447              | 2.776           | Accepted | 18.523               | 2.776           | Accepted | 9.970            | 2.776           | Accepted |
| Profit/employee   | 17.875              | 2.776           | Accepted | 9.929                | 2.776           | Accepted | 6.180            | 2.776           | Accepted |
| No. of Employees  | 60.223              | 2.776           | Accepted | 14.237               | 2.776           | Accepted | 35.594           | 2.776           | Accepted |

**Interpretations:** Statistical analysis for understanding the employee productivity shows that we accept the null hypothesis which interprets that the employee productivity has significant effect on the performance of banks. Thus finally we can conclude on the fact that per employee productivity in terms of business generation as well as profit generation is important as well as have noticeable impact on the performance of bank.

**Conclusion**

A lot of challenges as well as opportunities exist in the diverse areas of economic activities including a very significant area called banking. The banking industry has grown radically. It is passing through phases of incredible transformation with number of forces that are operating in both national and international market. This effect and exposure of globalisation has a positive impact on banking sector also. It is quite evident from this research that due to high competitive scenario the performance of public sector, private sector and foreign banks are equally high. It is well proved through statistical analysis that the performances of banks are equally high and all the banks were operating currently to perform well to satisfy customer needs and expectations. Also every performance is highly affected with its employee productivity. The research also highlighted that employee productivity has noticeable impact on the bank's performance.

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