

Profitability of Indian Public and Private Sector Banks: A Comparative Study

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Abstract: Profitability is the main goal of all business ventures. The financial health of any business can be measured through its profitability positions and business organizations cannot survive without profits. In view of the significance of improving profitability of the banking sector in recent years, the present study is aimed at examining the profitability of public and private sector banks of India using four ratios as return on assets, return on equity, net interest margin and operating profits. The result of the analysis carried out for the period 2005-2017 shows that private sector banks are in better profitable positions than the public sector banks. Public sector banks with increasing non-performing assets are experiencing negative return on their assets in recent years which is deteriorating their profits.

Keywords: Profitability, return on assets, non-performing assets

I. Introduction:

Banking sector had played a revolutionary change towards the growth of our economy and henceforth it is the key indicator to analyze the level of development of any country. If the banking sector does not perform well agriculture, industry, trade activities all will be affected. Efficient banking system reflects a sound intermediation process and banks contribution towards economic growth. Profitability analysis of banks is essential for evaluating banks business life. Profitability is the capacity of an organization or firm to have benefits from their business activities. Profit is usually the reward of the entrepreneur. It acts as the performance measure of a business. Increasing profits attracts investors, expands the market and also enable a business to survive for a long period of time. Profit maximization is the main goal for business ventures and they spend countless hours and efforts to find out ways of reducing cost and increasing sales (Schreibfeder, 2006). Like all business banks receives profits by earning more than their expenses. Banks profits comes mainly from the interest charged on loans and the fees charged for the services it renders. Likewise the main item of expense for banks is the interest they have to pay on liabilities. Deposits, money borrowed from other banks and financial institutions, commercial papers form the liabilities of a bank and the loans and the securities are the major assets for a bank. Profits are earned by using leverage which is measured through return on assets and return on equity. It is Important to note here that not all assets earn return for a bank. To meet cash withdrawal banks keep cash with them which earns no interest. Moreover, the loan loss reserves kept to cover losses when borrowers don't pay manage its business to earn significant amount of profits while maintaining a decent liquidity level. More profitability can absorb the shocks and avert risks that banks can face. Profitability is a prerequisite for innovation, diversification and efficiency of commercial banks (Hempell, 2002). The stability of commercial banks to a great extent depends on profitability.

II. Review of Literature:

Cheema & Agarwal (2002), analyzed the profitability of ten selected commercial banks in India. Five best performing banks were taken in class-1 and five poor performing banks were taken in class-2 categories. The study revealed that operating cost was higher in the case of class-2 banks and in these banks the profitability was affected due to low level of spread. The study prescribed that operating cost can be improve with the introduction of high level technology as well as by improving the per employee productivity

Kumari (2003), found that both public and private sector banks have shown increasing trend in terms of deposit mobilization, branch expansion, credit deployment and employment generation. Banks wise analysis revealed that private sector banks have shown higher growth as compared to public sector banks. Public sector banks by adopting innovation modern technological changes and fixing responsibility of officers for recovery can improve their productivity.

Arora and Verma (2005), evaluated performance of public sector banks on the basis of financial parameters, Operational parameters, Profitability parameters and Productivity parameters. The authors concluded that in order to remove subjectivity in banking sector major steps like prudential norms, income recognition provisioning should have

been taken. The researcher suggested that to correct the impact of directed investments on profitability reserve requirements should be reduced.

Arora and Kaur (2006), analyzed financial performance of banks on the basis of Return on assets, Capital assets risk weighted, Non- performing assets to Net advances, Business per employee, Net profitability ratio, Non performing assets level and off balance sheet operation. The researcher suggested that for enhancing financial viability of public sector banks efforts should be made to reduce the non-performing assets and upgrade the technology.

Gopal and Dev (2006), empirically analyzed the productivity and profitability of selected public and private sector banks in India. They evaluated the effect of globalization and liberalization on the productivity and profitability of Indian banks during the period 1996-97 to 2003-04. Interest spread was found to be the only strong factor influencing the profitability. A high degree of positive association between productivity and profitability during the study period was witnessed which shows efficiency of the banks in utilizing their resources.

Jha and Sarangi (2011), evaluated seven public sector and private banks for the year 2009-10 and their performance. They used various ratios like financial ratios, efficiency ratios, operating performance ratios etc. The study found that Axis Bank is the best performer followed by HDFC Bank, PNB, IDBI, BOI, SBI and ICICI bank.

In a paper entitled "A comparative study of profitability of different groups of schedule commercial banks in India", Kheechee (2011) tried to find out the causes for differences in profitability of different sectors of commercial banks. He discovered that the return on fund is very less for the private sector banks as compared to public and foreign sector banks due to inefficient management of portfolio of securities. The public sector banks are inefficient in managing their loan portfolio resulting less return on advances. Overall in managing banking business, foreign banks and private banks are more superior to the public sector banks.

Prasad and Ravinder (2011), analyzed the profitability of four major banks in India i.e. SBI, PNB, ICICI bank and HDFC bank for the period 2005-06 to 2009-2010 using statistical tools like arithmetic mean, one way ANOVA, Tukey HSD test. The profitability of these banks have been evaluated by using various parameters like operating profit margin, gross Profit margin, Net profit margin, Earning per share, Return on Equity, Return on assets, Prices earnings ratio and Dividend payout ratio. The study revealed that SBI performed better in terms of earning per share and dividend payout ratio while PNB performed in terms of operating profit margin and return on equity. The study found that HDFC bank outperformed in terms of gross profit margin, net profit margin, return on assets and price earnings ratio. The study evidenced that ICICI Bank paid highest portion of earning as dividends to shareholders. Analysis ranked HDFC Bank on the top position followed by PNB, SBI and ICICI Bank.

A comparative study of 3 major private and public sector banks in India for the period 2009 to 2012 was made by Goel and Rekhi (2013) to compare their relative profit earnings. They found profitability and efficiency both to be inter correlated. The public sector banks being less efficient are not as much profitable as the other sectors. For measuring banks performance three different measures- return on assets, return on equity and net interest margin was used. The study showed AXIS bank, one of the leading private sectors bank to have the highest return on assets.

Haque (2014), found that most of the commercial bank have faced a downward trend in their ROE from 2009 to 2013 while there is a growth of net interest margin for the same period. Despite the global financial system which is experiencing financial crunches, the performance evaluation of Indian banking industry has been stable and sound. The financial performance of different banking growth has more or less remain stable in terms of their ROA and NIM but they are not performing in the same manner in terms of their ROE.

III. Objectives of the study:

- To study the profitability position of public and private sectors banks.
- To compare the profitability of public and private sector banks using profitability ratios like return on assets, return on equity, net interest margin, operating profits.

IV. Data and Research Methodology:

The study is based on secondary data collected from statistical tables relating to banks in India as documented in the data base of Reserve Bank of India (RBI). The study period considered is from 2005 to 2017. To measure profitability four ratios viz. return on assets, return on equity, net interest margins and operating profits is examined. All the data are converted into constant prices taking 2010 as the base year. Various statistical tools like mean, standard deviation, coefficient of variation are used to examine which banking group is maintaining higher profitability with consistency. Moreover, the compound annual growth rate (CAGR) is calculated for all the ratios to see the annual growth in profitability of public and private sector banks. For comparative analysis independent t test is performed.

V. Empirical Analysis and Interpretation:

The profitability of the public and private sector bank is measured through return on assets, return on equity, net interest margin and operating profits ratios. All the indicators are converted into constant prices by taking 2010 as the base year.

Return on Assets

Return on assets (ROA) is defined as net income divided by average total assets. It shows bank's efficiency in managing its assets to generate earnings. This ratio is also known as return on investment or ROI. It tells us what earning were created from invested capital or assets.

Table 1: Return on Assets (in %)

Year	PSB	PrSB
2004-2005	0.90	0.87
2005-2006	0.79	0.89
2006-2007	0.89	0.82
2007-2008	1.02	1.00
2008-2009	1.05	0.99
2009-2010	0.99	1.27
2010-2011	1.06	1.59
2011-2012	0.77	1.83
2012-2013	0.54	2.09
2013-2014	0.20	2.138
2014-2015	0.13	2.21
2015-2016	0.09	1.75
2016-2017	0.02	1.32
Mean	0.65	1.44
SD	0.40	0.51
CV	61.37	35.75
CAGR	-0.26	0.03

Source: Own Estimation

As per the table, the private sector banks are showing a low coefficient of variation value of 35.75 than the public banks which implies that the private sector banks are getting stable return on their assets. Moreover, the annual growth rate of profit is very high of private sector banks. Public sector banks due to the increasing amount of non-performing assets are facing negative returns on assets. According to the 2016 reports, 3.5% of total assets of public sector banks constitutes NPA which means this percent of assets are not generating any returns to the bank whereas the same for private sector bank is only 0.9%. The figure below showing ROA of both banking group also shows the graphs of public and private sector banks are far away from each other. While the private sector banks are showing growth over the years but the public sector bank is not able to earn returns out of it assets.

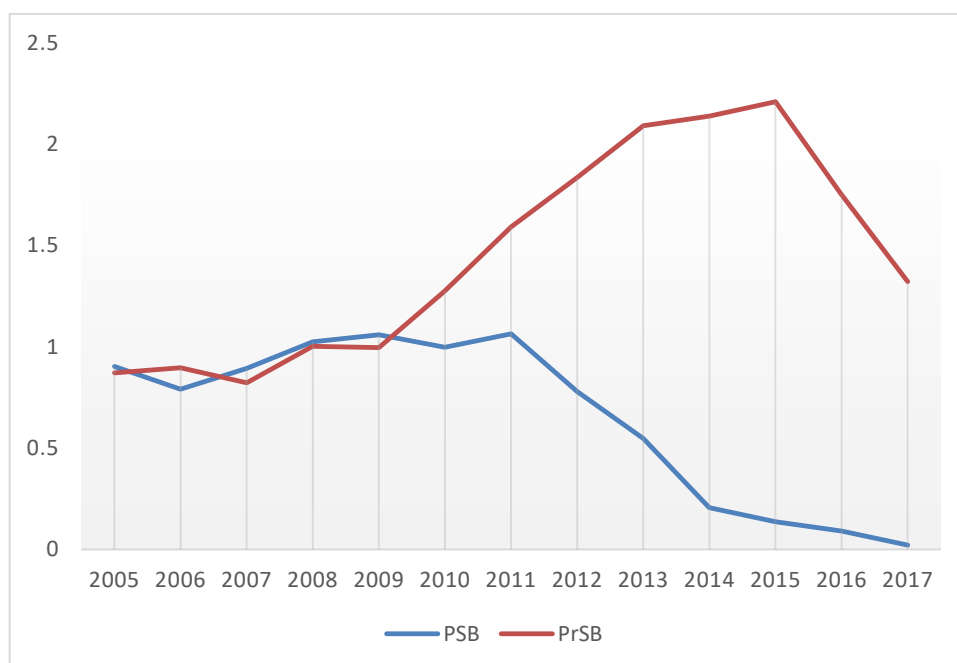


Fig 1: Trend of Return on Assets

The mean value of public sector bank is 0.65 and for private sector bank is 1.44. To test whether the difference is statistically significant or not, t test has been done and the t test results are as shown in table 2

Table 2

T test results of Return on Assets

	<i>PSB</i>	<i>PrSB</i>
Mean	0.655049	1.447045
Variance	0.206351	0.059633
Observations	13	13
Hypothesized Mean Difference	0	
Df	18	
t Stat	-4.6008	
P(T<=t) two-tail	0.000222	
t Critical two-tail	2.100922	

Source: own estimation

Since, the p value is less than the alpha value ($0.00 < 0.05$) indicate that there is significant difference between the public and private sector banks in terms of return on assets.

Return on Equity

Return on equity (ROE) is a measure of financial performance obtained by dividing net income by shareholder's equity. The price of shares largely depends on ROE in the absence of speculation. It shows bank's profitability from the viewpoint of shareholders. The banks' ability to attract capital depends on ROE.

Table 3
Return on Equity (in %)

Year	PSB	PrSB
2004-2005	14.81	14.75
2005-2006	11.72	14.91
2006-2007	13.93	15.75
2007-2008	15.96	15.09
2008-2009	17.81	10.84
2009-2010	18.29	11.93
2010-2011	18.08	15.72
2011-2012	12.3	19.49
2012-2013	8.32	22.70
2013-2014	3.30	22.04
2014-2015	2.26	20.74
2015-2016	3.95	15.98
2016-2017	0.43	11.80
Mean	10.8	16.29
SD	6.48	3.86
CV	59.61	23.7
CAGR	-0.25	-0.018

Source: own estimation

Table 3 again shows private sector banks to more efficient than the public sector banks in earning returns on their shareholders equity. The mean value for private sector banks shows that these banks are in better earning position. Public sector banks have a huge downfall in their returns which is also depicted in the figure 2

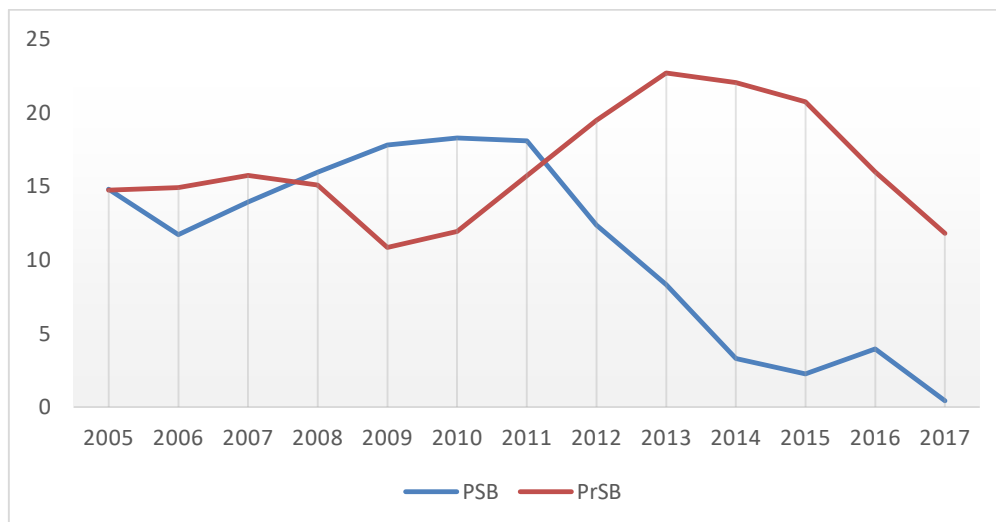


Fig 2: Trend of Return on Equity

Now to test the differences in the mean values of both banking group is statistically significant or not, t test is done.

Table 4
T test results of Return on Equity

	PSB	PrSB
Mean	10.86991	16.29098
Variance	83.98896	16.75708
Observations	13	13
Hypothesized Mean Difference	0	
Df	22	
t Stat	-1.02739	
P(T<=t) two-tail	0.315402	
t Critical two-tail	2.073873	

Source: own estimation

Since, the p value is greater than the alpha value ($0.31 > 0.05$) indicate that there is no significant difference between the public and private sector banks in terms of return on equity.

Net interest margin

Net interest margin (NIM) is a measure of the difference between the interest income generated by banks and the interest paid to their lenders relative to the amount of their assets. The NIM is helpful in measuring profitability of a banks' investing and lending activities once a specific time period. An increase in NIM increases the profitability on banks.

Table 5
Net interest margin (in %)

Year	PSB	PrSB
2004-2005	4.33	2.17
2005-2006	3.78	2.59
2006-2007	3.46	2.21
2007-2008	2.29	2.45
2008-2009	2.38	2.81
2009-2010	2.26	2.90
2010-2011	3.32	3.32
2011-2012	2.87	3.29
2012-2013	2.53	3.58
2013-2014	2.29	3.77
2014-2015	2.04	3.91
2015-2016	1.86	4.01
2016-2017	1.74	3.94
Mean	2.708	3.15
SD	0.79	0.66
CV	29.25	21.19
CAGR	-0.07	0.050

Source: own estimation

Table 5 shows public sector banks have standard deviation of .79 and high coefficient of variation of 29.25, implying that there is greater variation in profit and less uniform cash control. While the private banks with low standard

deviation and coefficient of variation shows more consistency in profits. The figure 3 shows private sector banks with increasing margins over the years while the same for public sector banks is on a declining trend.

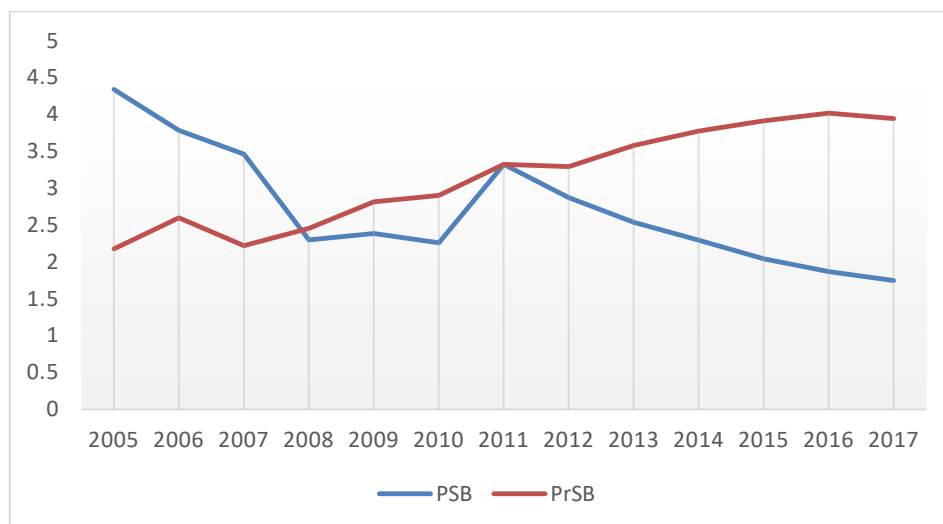


Fig 3: Net interest margin

T test is done to check the mean values of both banking groups statistically different or not. Results are as shown in table 6

Table 6
T test results of Net interest margin

	<i>PSB</i>	<i>PrSB</i>
Mean	2.708584	3.154475
Variance	0.123387	0.106121
Observations	13	13
Hypothesized Mean Difference	0	
Df	24	
t Critical one-tail	1.710882	
P(T<=t) two-tail	0.000319	
t Critical two-tail	2.063899	

Source: own estimation

Since, the p value is less than the alpha value ($0.00 < 0.05$) indicate that there is difference in profitability between the public and private sector banks as measured by net interest margin.

Operating profits

Operating profits measure a banks' profit on ongoing core business operations excluding deduction of interest and taxes. It is calculated by deducting operating expense from the net interest income. The operating expense for a bank mainly includes salaries, marketing, advertising expenses etc. This are the profits earned by a bank over its total interest income.

Table 7
Operating profits (in %)

Year	PSB	PrSB
2004-2005	2.73	1.39
2005-2006	1.82	1.42
2006-2007	1.94	1.61
2007-2008	1.72	1.94
2008-2009	1.95	2.25
2009-2010	1.88	2.67
2010-2011	2.10	2.47
2011-2012	1.95	2.35
2012-2013	1.69	2.60
2013-2014	1.44	2.905
2014-2015	1.23	3.05
2015-2016	0.927	3.19
2016-2017	1.31	3.40
Mean	1.75	2.40
SD	0.45	0.66
CV	25.86	27.45
CAGR	-0.059	0.07

Source: own estimation

The above table shows the coefficient of variation value of public sector bank to be lesser than that of private sector banks. But the private sector banks are having more growth on their operating profits than the public sector banks with a high CAGR value of 7%. Even though public sector banks have low CV value but the operating profits of private sector banks have an increasing trend over the years which means these banks are more efficiently operating their business to earn desirable profits. The figure 4 shows the increasing trend of private sector banks.

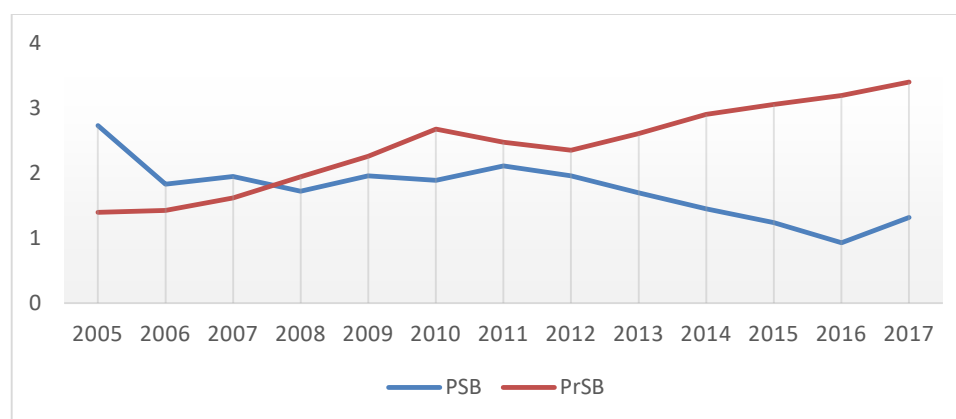


Fig 4: Trend of Operating profits

The mean operating profits is 1.75 for public sector banks and 2.4 for the private sector banks. To check whether this difference is statistically significant, t test is run.

Table 8
T test results of Operating profits

	<i>PSB</i>	<i>PrSB</i>
Mean	1.751655	2.40873
Variance	0.057215	0.130183
Observations	13	13
Hypothesized Mean Difference	0	
Df	24	
t Stat	-5.93614	
P(T<=t) two-tail	3.99006	
t Critical two-tail	2.063899	

Source: own estimation

Since, the p value is greater than the alpha value ($3.9 > 0.05$) indicate that there is no significant difference in profitability between the public and private sector banks as measured by operating profits.

The above findings clearly depicts that private sector banks are more profitable than the public sector banks with greater mean value for all the four indicators of profitability over the years. The private sector bank shows a low coefficient of variation in their return on assets, return on equity and net interest margins and even though the public sector banks are having lower variation in operating profits, the CAGR value is much higher for private sector banks which means that private sector banks are earning more profits through their operations over the years. Moreover, the CAGR value for all the four indicators confirms that private sector banks are in far better profitability positions as compare to the public sector banks.

VI. Conclusion:

The profitability of Indian public and private sector banks are clearly reflected in the aforesaid analysis. Private sector banks were in more profitable position than the public sector banks. Public sector banks with increasing non performing assets are experiencing negative return on their assets in recent years which is deteriorating their profits. Private sector banks are more efficiently managing their assets and equities. Also the business operations of private sector banks are more efficient than the public sector banks which enable them to earn more profits.

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