

Performance Evaluation of Public and Private Sector Banks: A Multivariate Analysis

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Abstract

Profit is the key indicator for any business organization. The survival growth and development of business depends on profit. The profitability is the ratio which helps to measure the actual performance of the business and indicates how far it has been successful. The present study attempts to analyze the profitability of the five major banks in India—SBI, PNB, Canara Bank, ICICI and HDFC. The variables taken for the study are Operating Profit Margin (OPM), Gross Profit Margin (GPM), Net Profit Margin (NPM), Earning Per Share (EPS), Dividend per share, Return on Equity (ROE), Return on Assets (ROA), Price Earnings Ratio (PER), Dividend Payout Ratio (DPR). The study brings out the comparative efficiency of SBI, PNB, canara bank, ICICI and HDFC.

Keywords: Public & Private sector banks, profitability ratios, performance analysis, Tukey HSD test.

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1. Introduction

In the words of Lord Keynes, “Profit is the engine that drives the business enterprise”. The primary objective of a business undertaking is to earn profits. Profit earning is considered essential for the survival of the business. A business needs profit not only for its existence but also for expansion and diversification. The investors want an adequate return on their investments, workers want higher wages, creditors want higher security for their interest and loan and so on. A business enterprise can discharge its obligations to various segments of society only through earning of profits. Profits are, thus, a useful measure of overall efficiency of business. How good is a company at running its business? Does its performance seem to be getting better or worse? Is it making any money? How profitable is it compared with its competitors? All of these very important questions can be answered by analyzing profitability ratios. Profitability Ratios show how successful a company is in terms of generating returns or profits on the Investment that it has made in the business. If a business is liquid and efficient it should also be Profitable.

This Ratios shows how profitable the business is, compared to previous years and to similar business. In limited company's they may be used by investors, shareholders or seeking investors. Every firm is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line. Profitability measures are important to company managers and owners

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alike. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors.

It is a financial metrics that are used to assess a business's ability to generate earnings as compared to its expenses and other relevant costs incurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or the same ratio from a previous period is indicative that the company is doing well. Profits to the management are the test of efficiency and a measurement of control; to owners, a measure of worth of their investment; to the creditors, the margin of safety; to employees, a source of fringe benefits; to Government, a measure of tax-paying capacity and the basis of legislative action; to customer, a hint to demand for better quality and price cuts; to an enterprise, less cumbersome source of finance for growth and existence and finally to the country, profits are an index of economic progress.

2. Review of Literature

Literature review is a study involving a collection of literatures in the selected area of research in which the scholar has limited experience. In the past, various studies relating to the financial performance of banks have been conducted by researchers.

In his paper, John Colnan (1994), Senior Research Analyst from SHAN stock broking's Research Department, provides some brief pointers on what information to look for and how to make sense of what is available.

A Review of Fundamental Analysis Research in accounting has been conducted by Mark P Bauman (1996), This paper has outlined the development of a fundamental valuation model and reviewed related work.

Jim Berg (1999) conducted a study "Fundamental analysis using internet". This paper examined that fundamental analysis looks at the fundamental issues that drive the value of a particular company.

Studies by Saveeta and Verma Sateesh (2001), Shravan Singh (2001), Kantawala Amita S (2004), Ketkar W Kusum et al. (2004), analyze the performance of banks from a profitability point of view, using various parameters.

Most of the studies (Ganesan P 2001; Rayapati Vijayasree, 2002; Das MR, 2002-2003; and Gupta V & Jain PK, 2003)

compared the performance of public, private and foreign banks by using measures of profitability, productivity, and financial management (Trehan Ruchi and Sonu Nitti, 2003).

Vanstone B, Finnie G and Tan C (2004) conducted a study entitled "Enhancing security selection in the Australian stock market using fundamental analysis and Neural Networks".

P Janaki Ramudu and S Durga Rao (2006) conducted a study on A Fundamental Analysis of Indian Banking Industry, by analyzing the performance of SBI, ICICI and HDFC.

Raj Mohan S and Pashupati S (2010) conducted a study to evaluate the performance of TAICO bank using profitability ratios.

Dilip Kumar Jha and Durga sankar Sarangi (2011) conducted a study on Performance of new generation banks using modern techniques to rate the banks.

K.V.N.Prasad and Dr.A.A.Chari (2011) conducted a study on factor affecting efficiency of banks by taking the top five banks in India based on net sales for the period 2006-2010.

K.V.N.Prasad and Dr.A.A.Chari (2011) conducted a study on financial performance of public and private sector banks by taking a sample of four banks SBI, PNB, ICICI and HDFC and concluded HDFC as the top rated bank.

3. Methodology of the Study

The present study adopts analytical and descriptive research design. The data of the sample banks (for a period of 2006-07 to 2010-11) have been collected from the annual reports, published by the banks, Ace Analyzer, Moneycontrol.com. A finite sample size of five banks SBI, PNB, Canara Bank, ICICI and HDFC selected for the purpose of study. The variables used in the analysis of the data are Operating Profit Margin (OPM), Gross Profit Margin (GPM), Net Profit Margin (NPM), Earning Per Share (EPS), Return on Equity (ROE), Return on Assets (ROA), Price Earnings Ratio (PER), Dividend Payout Ratio (DPR). While analyzing and interpreting the results, the statistical tools used are arithmetic mean, one-way ANOVA, Tukey HSD test for multiple comparisons using SPSS 19 and ranking method.

4. Results and Discussion

Operating Profit Margin

The operating profit margin ratio indicates how much profit a company makes after paying for variable cost of production such as wages, raw materials, etc.

The Operating Profit Margin position of sample banks is summarized in Table 1 and discussed below:

The data in Table 1 reveal that, among all sample banks, Canara Bank sustained the highest average OPM of 72.878 during the study period followed by PNB, SBI, ICICI and HDFC. The operating Profit margin position of sample banks compared and tested using the following hypothesis.

H0: The OPM position of sample banks does not differ significantly

H1: The OPM position of sample banks differs significantly.

Table 1 depicts that F-value for between the banks is 24.378 and P value is 0.000 therefore null hypothesis H0 is rejected at 5% level of significance i.e., the sample banks differs significantly in OPM position during the study period. Tukey test is being applied to make multiple comparisons as indicated in Table 2. The mean difference between SBI and HDFC is 14.006 and P-value is 0.000, the mean difference between PNB and HDFC is 17.47 with P-value 0.0000, the mean difference between Canara bank with SBI, ICICI, and HDFC is 7.5774, 9.628, 21.88 respectively with p-values 0.029, 0.004, 0.000. We conclude that these mean differences are significant. It is clear that Canara bank was highly successful in controlling the expenses and there is no significant difference between the OPM position of canara bank and PNB.

Gross Profit Margin

It measures the relationship of gross profit to net sales and is usually represented as a percentage. The gross profit margin ratio tells us the profit a business makes on its cost of sales, or cost of goods sold.

The Gross Profit Margin position of sample Banks depicted in Table 1 and discussed below.

As it could be observed in table 1, among all sample banks, HDFC sustained the highest GPM during the study period followed by PNB, ICICI, SBI and canara bank.

On an aggregate basis HDFC was highly successful in controlling the direct expenses by registering an average GPM of 30.83.

The Gross profit Margin position of sample banks is compared and tested using the following hypothesis.

H0: GPM position of SBI, PNB, canara bank, ICICI and HDFC does not differ significantly

H1: GPM position of SBI, PNB, canara bank, ICICI and HDFC differ significantly

Table 1 depicts that F value for between the banks is 8.597 and P value is 0.000 therefore null hypothesis rejected at 5% level of significance. i.e., there is a significant difference between the samples banks is case of GPM. In order to make multiple comparison Tukey test is being applied as indicated in table 2. The mean difference between HDFC and SBI, canara bank, ICICI was 7.706, 9.174, and 6.804 with p-values 0.002, 0.000, 0.007. We conclude that these mean differences are significant. i.e., HDFC outperformed SBI, canara bank and ICICI and PNB performed better than canara bank.

Net Profit Margin

The net profit margin establishes a relationship between net profit (after taxes) and sales, and it indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. This measures the overall firm's profitability.

The NPM position of sample banks depicted in table 1 and discussed below.

The data in table 1 reveal that PNB was highly successful in controlling indirect expenses with an average NPM of 13.784 followed by HDFC (13.758), ICICI (11.776), canara bank (12.178) and SBI (10.558). The NPM position of sample banks is compared and tested using the following hypothesis

H0: The NPM position of sample banks does not differ significantly

H1: The NPM position of sample banks differ significantly

The F-value for between the banks is 2.449 and P-value 0.080 therefore Null Hypothesis can not be rejected i.e., the sample banks does not differed significantly during the study period.

Earnings Per Share

Earnings Per Share is a small variation of return on equity capital and it is a good measure of profitability and when compared with EPS of similar companies, it gives a view of the comparative earnings or earnings power of a firm.

The EPS position of sample banks depicted in table 1 and discussed below.

On an aggregate basis, SBI was highly successful to generate after tax profits per share held by the investor with an average EPS of 122.2080 followed by PNB, canara bank, HDFC and ICICI. The EPS position of sample banks is compared and tested using the following hypothesis

H0: The EPS position of sample banks does not differ significantly

H1: The EPS position of sample banks differ significantly

The F-value for between the sample banks is 9.571 and P-value is 0.000. Therefore Null Hypothesis is rejected at 5% level of significance, i.e., the sample banks differ significantly in EPS during the period of study. In order to make multiple comparisons Tukey test is being applied as indicated in table 2. In table 2, the mean difference between SBI and canara bank, ICICI, HDFC is 64.62, 84.898, 65.768 with P-values 0.004, 0.000, 0.004 respectively. We conclude that EPS of SBI is better than that of canara bank, ICICI and HDFC and also it is observed that the mean difference between the EPS of PNB and ICICI also significant.

Dividend Per Share

The DPS ratio is very similar to the EPS. EPS shows what shareholders earned by way of profit for a period whereas DPS shows how much the shareholders were actually paid by way of dividends

The DPS position of sample banks depicted in table 1 and discussed below.

Table 1 ANOVA Results

Ratio	Bank	Mean	F-Value	Sig.value
OPM	SBI	65.3040	24.378	0.000
	PNB	68.7680		
	CB	72.8780		
	ICICI	63.2500		
	HDFC	51.2980		

Ratio	Bank	Mean	F-Value	Sig.value
GPM	SBI	23.1240	8.597	0.000
	PNB	26.9100		
	CB	21.6560		
	ICICI	24.0260		
	HDFC	30.8300		
NPM	SBI	10.5580	2.449	0.080
	PNB	13.7840		
	CB	12.1780		
	ICICI	11.7760		
	HDFC	13.7580		
EPS	SBI	122.208	9.571	0.000
	PNB	95.1300		
	CB	57.5880		
	ICICI	37.3100		
	HDFC	56.4400		
DPS	SBI	24.9000	10.774	0.000
	PNB	17.4000		
	CB	8.80000		
	ICICI	11.6000		
	HDFC	10.8000		
ROE	SBI	15.3260	15.252	0.000
	PNB	22.4980		
	CB	22.7300		
	ICICI	10.1140		
	HDFC	17.4860		
ROA	SBI	0.92400	8.381	0.000
	PNB	1.25400		
	CB	1.09600		
	ICICI	1.10800		
	HDFC	1.45000		
PER	SBI	13.7900	19.621	0.000
	PNB	7.71400		
	CB	5.45200		
	ICICI	21.2800		
	HDFC	26.4180		
DPR	SBI	20.0900	27.480	0.000
	PNB	18.8720		
	CB	16.5320		
	ICICI	31.0940		
	HDFC	19.1340		

Source: Secondary data processed through SPSS 19

The data in table 1 revealed that it was SBI, which was more efficient in terms of dividend payment to shareholders with an average DPS of Rs.24.9 followed by PNB,

ICICI, HDFC and canara bank. The DPS position of SBI was substantially higher than that of other sample banks during the study period. The DPS position of sample banks is compared and tested using the following hypothesis

H0: The DPS position of sample banks does not differ significantly

H1: The DPS position of sample banks differ significantly

Table 1 depicts that F-value for between the sample banks is 10.774 and P-value is 0.000 therefore Null Hypothesis is rejected at 5% level of significance i.e., the position of Dividend per share is not the same for the sample banks during the study period. In order to make multiple comparisons Tukey test is being applied as indicated in table 2. From table 5, the mean differences between SBI and canara bank, ICICI, HDFC is 16.1, 13.3 and 14.1 respectively with P-values 0.000, 0.001, 0.001 respectively. We conclude that SBI outperformed canara bank, ICICI, HDFC in DPS position. The mean difference between PNB and canara bank is 8.6 with p value 0.044, which indicates PNB excels canara bank in DPS.

Return on Equity

In real sense, ordinary shareholders are the real owners of the company. They assume the highest risk in the company. The rate of dividend for ordinary (equity) shares varies with availability of profits. Thus, ordinary shareholders are more interested in the profitability of a company and performance of a company should be judged in the basis of return of equity capital of the company.

The ROE position of sample banks depicted in table 1 and discussed below.

The data in table 1 reveal that it was canara bank which is highly successful in using the reinvested earnings to generate additional earnings with an average ROE of 22.73. The ROE position of sample banks is compared and tested using the following hypothesis

H0: The ROE position of sample banks does not differ significantly

H1: The ROE position of sample banks differ significantly

Table 1 depicts that F-value for between sample banks is 10.774 and P-value is 0.000 therefore Null Hypothesis is

rejected at 5% level of significance i.e., the sample banks differ significantly in ROE during 2007-11. In order to make multiple comparisons Tukey test is being applied as indicated in table 2. From table 2, the mean difference between PNB and SBI, ICICI is 7.172, 12.384 respectively with p value 0.001 and 0.000 and the mean difference between canara bank and SBI, ICICI is 7.404, 12.616 with p value 0.007, 0.000 respectively. We conclude that both canara bank, PNB out performed SBI and ICICI. Further it is inferred that ROE position of HDFC is better than ICICI.

Return on Assets

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. This is an important ratio for companies deciding whether or not to initiate a new project. The basis of this ratio is that if a company is going to start a project they expect to earn a return on it, ROA is the return they would receive.

The ROA position of sample banks depicted in table 1 and discussed below. The data in table 1 reveal that, HDFC which is highly successful in ROA with an average ROA of 1.45 followed by PNB (1.254), ICICI (1.108), canara bank (1.096) and SBI (0.924). The ROA position of sample banks are compared and tested using the following hypothesis

H0: The ROA position of sample banks does not differ significantly

H1: The ROA position of sample banks differ significantly

Table 1 depicts that F-value for between the sample banks is 8.381 and P-value is 0.000 therefore Null Hypothesis is rejected at 5% level of significance i.e., the sample banks differ significantly in ROA during the study period. To make multiple comparisons Tukey test is being applied as indicated in table 2. The mean difference between PNB and SBI is 0.33 with P-value 0.020, the mean difference between HDFC and SBI, canara bank and ICICI is 0.526, 0.354, 0.342 respectively with p values 0.000, 0.012 and 0.015. It can be concluded that HDFC outperformed SBI, canara bank and ICICI. PNB proved to be good when compared to SBI.

Table 2 Multiple comparisons

Ratio	(I) Bank	(J) Bank	Mean Difference(I-J)	Sig. value
OPM	SBI	HDFC	14.00600*	0.000
	PNB	HDFC	17.47000*	0.000
		SBI	7.577400*	0.029
	CB	ICICI	9.628000*	0.004
		HDFC	21.58000*	0.000
GPM	ICICI	HDFC	11.95200*	0.000
	PNB	CB	5.254000*	0.049
		SBI	7.706000*	0.002
	HDFC	CB	9.174000*	0.000
EPS		ICICI	6.804000*	0.007
		CB	64.62000*	0.004
	SBI	ICICI	84.89800*	0.000
		HDFC	65.76800*	0.004
DPS	PNB	ICICI	57.82000*	0.011
		CB	16.10000*	0.000
	SBI	ICICI	13.30000*	0.001
		HDFC	14.10000*	0.001
ROE	PNB	CB	8.600000*	0.044
		SBI	7.172000*	0.010
		ICICI	12.38400*	0.000
	CB	SBI	7.404000*	0.007
ROA		ICICI	12.61600*	0.000
	PNB	SBI	0.330000*	0.008
		SBI	0.526000*	0.020
	HDFC	CB	0.354000*	0.000
PER		ICICI	0.342000*	0.012
	ICICI	PNB	13.56600*	0.015
		CB	15.82800*	0.001
		SBI	12.62800*	0.000
	HDFC	PNB	18.70400*	0.002
DPR		CB	20.96600*	0.000
		SBI	11.00400*	0.000
	ICICI	PNB	12.22200*	0.000
		CB	14.56200*	0.000
		HDFC	11.96000*	0.000

Source: Secondary data processed through SPSS 19. *significant at 5% level of significance

Price Earnings Ratio

Price earnings ratio is the ratio between market price per equity share and earnings per share. The ratio is calculated

to make an estimate of appreciation in the value of share of a company and is used by investors to decide whether or not to buy shares in a particular company.

The P/E ratio position of sample banks depicted in table 1 and discussed below.

Among the sample banks HDFC could make the highest PER of 26.418 followed by ICICI (21.28), SBI (13.79) and PNB (7.714). It is observed that the private sector banks performed better than that of public sector banks.

The price earning ratio position of sample banks compared and tested under the following hypothesis.

H0: The P/E ratio of the sample banks is same during the study period

H1: The P/E ratio of the sample banks is not the same during the study period

Table 1 depicts that F-value for between the banks is 19.621 and P-value is 0.000 i.e., the Price earning ratio of sample banks differ significantly. In order to make multiple comparisons Tukey test is applied as indicated in table 2. From table 2, the mean difference between ICICI and PNB, canara bank is 13.566, 15.828 respectively with P-values 0.001, 0.000 respectively, the mean difference between HDFC and SBI, PNB, canara bank are 12.628, 18.704, and 20.966 with P-value 0.000. Further it is inferred that the two private sector banks proved to be good when compared to the sample public sector banks.

Dividend Payout Ratio

Dividend pay-out ratio is calculated to find the extent to which earnings per share have been retained in the business for expansion. It is an important ratio because retained earnings of profits enables a company to grow and pay more dividends in future.

The DPR position of sample banks depicted in table 1 and discussed below.

The data in table1 reveal that ICICI bank was at the top position in with an average DPR of 31.09 followed by SBI, HDFC, PNB and canara bank. ICICI paid out 31.09 percent of its earnings as the dividends to its share holders, where as canara bank paid out only 16.532 percent, the lowest. The DPR position of sample banks is compared and tested using the following hypothesis

H0: The DPR position of sample banks does not differ significantly

H1: The DPR position of sample banks differ significantly

Table 1 depicts that F-value for between the banks is 27.48 with p value 0.000 therefore Null Hypothesis rejected at 0.05 level of significance i.e., Dividend payout ratio of the sample banks differs significantly. In order to make multiple comparisons Tukey test is being applied as indicated in table 2. The mean difference between ICICI and SBI, PNB, canara bank, HDFC is 11.004, 12.222, 14.562 and 11.96 with P-values 0.000. It is clear that ICICI bank outperformed SBI, PNB and HDFC in terms of Dividend payout ratio.

As indicated in table 3, ranks are assigned to every bank on the basis of their performance in each aspect separately and then the total obtained is given individually. The bank having the least total is considered the best among all. The results of overall ranks of the sample banks indicated that PNB is the top most banks, followed by HDFC, SBI, ICICI and canara bank.

Table 3 Overall Performance Analysis: Ranking Method.

Bank	OPM	GPM	NPM	EPS	DPS	ROE	ROA	PER	DPR	Total
SBI	3	5	4	1	1	4	5	3	2	28
PNB	2	1	2	2	2	2	2	4	4	21
CB	1	3	5	3	5	1	4	5	5	32
ICICI	4	4	3	5	3	5	3	2	1	30
HDFC	5	2	1	4	4	3	1	1	3	24

5. Conclusion

The profitability analysis, which aims at developing an insight into the financial performance of the business, is of paramount importance from the view point of investment decisions. Thus, the present study has been conducted to examine the economic sustainability of 5 major banks in Indian banking sector SBI, PNB, ICICI and HDFC. The study revealed that

- SBI was highly successful to generate after tax profits per share held by the investor and more efficient in terms of dividend payment to share holders.
- ICICI paid the highest portion of earning as dividends to the shareholders despite the fact that its

earning capacity was not better than that of other than sample banks.

- PNB proved to be good in controlling indirect expenses
- Canara bank excels other sample banks in terms of OPM and ROE.
- HDFC outperformed other sample banks in front of GPM, ROA and PER.
- The study also revealed that based on the overall performance, PNB rated top followed by HDFC, SBI, ICICI and Canara bank.

References

- Dilip kumar Jha and Durga Sankar Sarangi (2011), "Performance of New Generation Banks: A comparative study", *International Journal of Research in Commerce and Management*. Vol. 2 No. 1, pp 85-89.
- Ganesan P (2001), "Determinants of Profits and Profitability of Public Sector Banks in India: A Profit Function Approach", *Journal of Financial Management and Analysis*, Vol. 14, No.1, January to July, pp.27-37
- Jim Berg (1999), *Fundamental Analysis using Internet*, past Edition of the ASX Investor.
- John Colnan (1994), *Fundamental Analysis Stock Broking Ltd.*, by ASX Investor.
- Jon Lynch, "Share Market Analysis – Fundamental Analysis V/s Technical Analysis". (www.ezinarticle.com)
- K.V.N.Prasad and Dr.A.A.Chari (2011), "Factors Affecting Efficiency of Banks: A Study on Public and Private Sector Banks", *ELK Journal of Finance & Risk Management*, vol.2, No.1, pp 368-379.
- K.V.N.Prasad and Dr.A.A.Chari (2011), "Financial Performance of Public and Private Sector Banks", *Indian Journal of Commerce and Management Studies*, vol.2, No.5, pp 64-76.
- Mark P Bauman (1996), "A Review of Fundamental Analysis Research in Accounting", *Journal of Accounting Literature*, (www.findarticles.com)
- Pandey I.M., *Essentials of Financial management*, Vikas publishing House Limited (2004)
- PJanaki Ramudu and S Durga Rao, (2006) "A Fundamental analysis of Indian Banking Industry", *The ICFAI Journal of Bank Management*.

Prasuna Chandra, *Financial Management*, Tata Mc Graw-Hill publishing company Limited (2008)

Raj Mohan S and Pashupati S (2010), "Profitability Performance of the TAICO Bank", *Journal of Financial Services and Management*, Vol.1, pp.27-32.

Saveeta and Verma Sateesh (2001), "Banking and Profitability", *Nationalization of Banks Retrospect*

and Prospects, ed., Mange G S and Singh R K, Deep Publication, New Delhi, pp. 106-116.

Vanstone B, Finnie G, and Tan C (2004), "Enhancing security selection in the Australian Stock Market using Fundamental Analysis" (Article intelligence and soft computing).

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