

# Fundamental Analysis of the Banking Sector in India

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## Abstract

The last 5-6 years have been very volatile for not only the Indian economy, but also for the entire world economy. Lots of investors have lost their money as the stock prices have fallen flat all over the world during this period. The banking sector has always been one of the important sectors for investment. In the time of uncertainty, when some are arguing that the economies are in the process of recovery, and while others are opining that the world is set for another recession soon, the present article attempted to study the fundamentals of the banking sector in India. The article considered the variables like net operating margin (OPM), net profit margin (NPM), return on equity (RoE), earnings per share (EPS), price earnings ratio (PER), dividends per share (DPS), and dividend payout ratio (DPR) for a period of 6 years from 2006-07 to 2011-12 for three major banks in India - SBI, ICICI Bank, and HDFC Bank. The paper also compared the fundamentals of SBI, ICICI Bank, and HDFC Bank.

**Keywords:** net operating margin (OPM), net profit margin (NPM), return on equity (RoE), earnings per share (EPS), price earnings ratio (PER), dividends per share (DPS), dividend payout ratio (DPR), banking sector, fundamentals

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The period between 2006 and 2012 can be said to be a crucial time period for the whole world economy when lots of ups and downs occurred. The world economy was doing very well, and suddenly, there was a financial crisis throughout the world post the collapse of the Lehman Brothers. Now, the world economy is going through the recovery process. Without a sound financial system, economic development is not possible. Furthermore, a sound economic system needs a well developed economy. The financial sector plays an important role in the economy of any nation. A well-regulated and well-developed financial sector is vital to achieving the most basic need of efficient allocation of scarce resources. Without a sound and effective banking system, India cannot have a healthy economy. The banking system of India should not only be hassle free, but it should be able to meet new challenges posed by technology and any other external and internal factors. For the past three decades, India's banking system has several outstanding achievements to its credit. The most striking is its extensive reach. It is no longer confined to only metropolitans or cosmopolitans in India. In fact, the Indian banking system has reached even the remote corners of the country. This is one of the main reasons of India's growth process (Jadhav, 2011).

Despite the challenges due to both domestic and international developments, the performance of Indian banks has remained robust during the past few years. The resilience of the banking sector can be ascertained from the improvement in the capital base, asset quality, and profitability. The profitability of the scheduled commercial

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banks (SCBs) has shown improvement both in terms of return on assets (RoA) and return on equity (RoE). Simultaneously, both gross and net NPA ratios declined in comparison in the past few years.

Fundamental analysis is the process of looking at a business at the basic or fundamental financial level. This type of analysis examines key ratios of a business to determine its financial health and gives an idea regarding the worth of the stock. To make successful investments in stocks, one needs to understand the direction and velocity of the company carefully. Velocity means the speed and distance a company achieves over time, this may be earnings, profit, sales or margin. On the other hand, direction indicates the way the company is going, up or down. In this paper, an effort is made to carry out a fundamental analysis of the banking sector in India by taking three banking companies which are listed on the Sensex. This will give us an idea as to the direction and velocity of the banking sector in India in general (Reserve Bank of India, 2012).

## Literature Review

The literature on the subject throws ample light on the importance of strong fundamentals of banks.

Bisky (1982) reported on the operations methods of banks for success and profit in business in the U.S.; he ascertained the impact of good relations with customers and employees on the banking business. The bank's success was also attributed to diligent asset/liability management and tight control of non-interest expenses as well as simplicity of the fundamentals of banks. Bauman (1996) outlined the development of a fundamental valuation model, and he identified three major issues associated with practical implementation of the model: The prediction of future profitability, the length of appropriate forecast horizon, and the determination of an appropriate discount rate.

Mishra, Sarma, and Avadhanam (2011) found that banks and financial institutions in India have experienced a phenomenal change in the levels of competition after the advent of liberalization in the 90s and the entry of private players. However, Mandal and Sahoo (2011), in their study of the performance of the Indian banking sector during the post transition period (1997-2005), suggested that the nationalized banks are yet to exercise their cost minimizing principles as compared to other banks. Similarly, Cheema and Aggarwal (2002) found that commercial banks operating in India were operating below the average level of efficiency. Again, Sathye (2001) observed that the mean efficiency score of Indian banks compares well with the world mean efficiency score. He also observed that the efficiency of private sector banks as a group is paradoxically lower than that of public sector banks in India. Moreover, Calomiris and Mason (2003) assembled bank-level and other data for Fed member banks to model determinants of bank failure.

Fundamentals explain bank failure risk well. The first two Friedman-Schwartz crises are not associated with positive unexplained residual failure risk, or increased importance of bank illiquidity for forecasting failure. The third Friedman-Schwartz crisis is more ambiguous, but increased residual failure risk is small in the aggregate. The final crisis (early 1933) saw a large unexplained increase in bank failure risk. Local contagion and illiquidity may have played a role in pre-1933 bank failures, even though those effects were not large in their aggregate impact. Chambers (2007) made an assessment whether investment banks can maintain their good fundamentals based on the views of several investment bank executives. Banks continued to ride high in 2006 on good fundamentals and the added boost of strong hedge fund and private equity activity, proprietary trading, and continuing globalization.

Ramudu and Rao (2006) analyzed the profitability of the three major banks in India: SBI, ICICI, and HDFC for the period from 2000-2005 and brought out the comparative efficiency of SBI, ICICI, and HDFC. Morgan Stanley recommended raising exposure to Indian bank credit despite deteriorating fundamentals in the sector. According to Morgan Stanley, attractive technicals, low capital deficits, and fair sector valuations make Indian bank credit attractive. Morgan Stanley credit analyst Desmond Lee admitted that Indian banks had been the biggest underperformers in the region for the past 18 months leading to June 2012, but he claimed that opportunities existed within the sector ("Morgan Stanley increases exposure to India credit as fundamentals deteriorate," 2012).

## Objectives of the Study

Investment decision making is continuous in nature. Hence, it should be attempted systematically. There are two important approaches, such as fundamental analysis and technical analysis. In fundamental analysis, the investor attempts to look at the fundamental factors that affect risk and return characteristics of the security. Economic and industry analysis are part of the fundamental analysis. The main objective of the present study is to analyze the profitability position of the banking sector by taking few sample banking companies. The secondary objective is to make a comparative analysis among the fundamentals of the sample banking companies.

## Hypotheses

- **H0:** There is no significant difference between the selected variables of the sample companies.
- **H1:** There is a significant difference between the selected variables of the sample companies.

## Methodology

➤ **Sample:** The present study is descriptive and analytical in nature. The sample consists of three banking companies chosen from the BSE Sensex. The banking companies which are a part of the BSE sensex are the State Bank of India (SBI), the Industrial Credit and Investment Corporation of India (ICICI), and the Housing Development Finance Corporation Ltd. (HDFC).

➤ **Key Variables :** The variables which have been considered in the study are operating profit margin (OPM), net profit margin (NPM), return on equity (RoE), earnings per share (EPS), price - earnings ratio (PER), dividends per share (DPS), and dividend payout ratio (DPR).

➤ **Time Period:** The period of the study is from 2006-07 to 2011-12.

➤ **Source of Data:** The data on key variables was compiled from the annual reports of the respective banks.

➤ **Statistical Tools:** The statistical tools that have been used in this study include arithmetic mean, standard deviation, compound annual growth rate (CAGR), and one-way analysis of variance (ANOVA).

## Data Analysis and Interpretation

➤ **Operating Profit Margin (OPM) :** The operating profit margin is a ratio of operating profit to total revenue. It

**Table 1. Operating Profit Margin (OPM)**

Year	SBI	ICICI	HDFC
2006-07	22.09	15.68	31.4
2007-08	22.74	24.65	30.37
2008-09	23.42	29.43	26.39
2009-10	21.31	29.33	31.9
2010-11	26.06	27.74	31.84
2011-12	28.06	21.37	27.19
Average	23.95	24.70	29.85
SD	2.59	5.39	2.44

Source: Authors' compilation from Report on Operations and Performance of Commercial Banks, <http://rbidocs.rbi.org.in>

**Table 2. One - Way ANOVA for OPM**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	68.72025	2	34.36013	3.955279	0.047928	3.885294
Within Groups	104.2459	12	8.687157			
Total	172.9661	14				

**Table 3. Net Profit Margin**

Year	SBI	ICICI	HDFC
2006-07	10.03	10.75	13.98
2007-08	11.67	9.71	12.83
2008-09	11.93	10.5	11.44
2009-10	10.66	12.13	14.63
2010-11	8.5	15.79	16.18
2011-12	9.73	16.14	15.93
Average	10.42	12.50	14.17
SD	1.28	2.79	1.82

Source: Authors' compilation from Report on Operations and Performance of Commercial Banks, <http://rbidocs.rbi.org.in>

indicates the effectiveness with which a company controls the cost and expenses associated with their normal business operations. The Table 1 shows the operating profit margin of the selected companies for the last 6 years. From the Table 1, we can clearly see that the average OPM of SBI is the highest among all the three banks, followed by HDFC Bank, and ICICI Bank. So, SBI has been the most successful in controlling the cost and expenses of operation. Standard deviation measures the degree of variability. It indicates that the OPM of ICICI Bank has the highest degree of variability, whereas HDFC Bank has the lowest degree of variability. The operating profit margin of the sample companies was also compared and tested by using the following hypothesis :

→ **H01:** There is no significant difference between the operating profit margin of SBI, ICICI Bank, and HDFC Bank.

As the calculated value (3.955279) is greater than the critical value (3.885294) at the 5% level of significance in the Table 2, the null hypothesis (H01) is rejected, and hence, it can be concluded that there is a significant difference between the operating profit margin of SBI, ICICI Bank, and HDFC Bank.

⇒ **Net Profit Margin (NPM) :** Net profit margin is the ratio of net profit to total revenue earned by a company. This indicates how much a company is able to earn after meeting all direct and indirect expenses for every rupee of revenue. The net profit margin of the selected banks is depicted in the Table 3. From the Table 3, it is clear that HDFC Bank earned ₹ 14.17 for every ₹ 100 of total revenue followed by ICICI Bank and SBI. So, it is HDFC Bank which scores over the other two banks as far as the net profit margin is concerned. The net profit margin of the sample companies was also compared and tested using the following hypothesis as stated below:

→ **H02:** There is no significant difference between the net profit margin of SBI, ICICI Bank, and HDFC Bank.

As the calculated value (3.514981) is lower than the critical value (3.885294) at the 5% level of significance in Table 4, the null hypothesis (H02) is accepted, and hence, it can be concluded that there is no significant difference between the net profit margin of SBI, ICICI Bank, and HDFC Bank.

⇒ **Return on Equity (RoE) :** RoE is a ratio of earnings after taxes and preferred dividend to owner's equity. It

**Table 4. One-way ANOVA for NPM**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	35.14576	2	17.57288	3.514981	0.062872	3.885294
Within Groups	59.99308	12	4.999423			
Total	95.13884	14				

**Table 5. Return on Equity**

Year	SBI	ICICI	HDFC
2006-07	14.24	13.17	19.4
2007-08	17.82	8.94	16.05
2008-09	15.07	7.58	16.12
2009-10	14.04	7.79	16.8
2010-11	12.84	9.35	16.52
2011-12	15.72	11.20	18.69
Average	14.96	9.67	17.26
S.D	1.71	2.15	1.42

Source: Compiled from www.iba.org.in and www.rbi.org.in

**Table 6. One-way ANOVA for RoE**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	170.6517	2	85.32585	37.74578	6.66E-06	3.885294
Within Groups	27.12648	12	2.26054			
Total	197.7782	14				

indicates how much profit is generated using the owner's capital. The return on equity of the selected banking companies for the last 6 years is depicted in the Table 5. From the Table 5, it is clear that among all the banks, it is HDFC Bank which has the highest average RoE at 17.26% followed by SBI and ICICI Bank at 14.96% and 9.67% respectively. As far as the variability is concerned, ICICI Bank has the highest standard deviation of 2.15. The degree of variability is least in case of HDFC Bank. The return on equity of the sample banks was also compared and tested using the following hypothesis :

→ **H03:** There is no significant difference between the return on equity of SBI, ICICI Bank, and HDFC Bank.

As the calculated value (37.74578) is higher than the critical value (3.885294) at the 5% level of significance (Table 6), the null hypothesis (H03) is rejected and hence, it can be concluded that there is a significant difference between the return on equity of SBI, ICICI Bank, and HDFC Bank.

➤ **Earnings per Share (EPS) :** EPS indicates how much earning is being generated for each share. It is the ratio of earning available to an equity shareholder to the total number of outstanding equity shares. Higher the EPS, the greater is the profitability of the company. The earnings per share of the selected three banking companies is shown in the Table 7. From the Table 7, we can see that average EPS of SBI is very high as compared to HDFC Bank and ICICI Bank. For almost all the companies, the EPS has grown over the last 6 years. The degree of variability is least in case of ICICI Bank, whereas, it is the highest in case of SBI. The earnings per share position of the sample companies was also compared and tested using the following hypothesis as stated below:

→ **H04:** There is no significant difference between the EPS of SBI, ICICI Bank, and HDFC Bank.

**Table 7. Earnings per Share**

Year	SBI	ICICI	HDFC
2006-07	86.1	34.59	36.3
2007-08	126.62	37.37	46.2
2008-09	143.77	33.76	52.9
2009-10	144.37	36.14	67.6
2010-11	130.16	45.27	85
2011-12	173.13	56.09	22.01
Average	134.03	40.54	51.67
SD	28.63	8.66	22.41

Source: Compiled from www.iba.org.in and www.rbi.org.in

**Table 8. One-way ANOVA for EPS**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	30745.48	2	15372.74	47.26761	2.04234E-06	3.885294
Within Groups	3902.733	12	325.2278			
Total	34648.21	14				

**Table 9. Price Earning Ratio**

Year	SBI	ICICI	HDFC
2006-07	11.51	26	26.29
2007-08	12.63	21.4	28.8
2008-09	7.42	10.3	18.42
2009-10	14.4	27.5	28.62
2010-11	16.54	25.9	27.59
2011-12	12.32	15.82	24.39
Average	12.47	21.15	25.69
SD	3.06	6.82	3.92

Source: Compiled from www.iba.org.in and www.rbi.org.in

As the calculated value (47.26761) is higher than the critical value (3.885294) at the 5% level of significance (Table 8), the null hypothesis (H04) is rejected, and hence, it can be concluded that there is a significant difference between the earnings per share of SBI, ICICI Bank, and HDFC Bank.

➤ **Price Earnings Ratio (PER)** : The price-earnings ratio is the ratio of the market price per share to earnings per share. It indicates the responsiveness between earning capacity and share price in the market. The P/E ratio position of the sample banking companies is depicted in the Table 9. From the Table 9, we observe that the average P/E ratio of HDFC Bank is higher as compared to ICICI Bank and SBI. It indicates that there is higher degree of responsiveness between the earning capacity and market share price in case of HDFC Bank as compared to SBI and ICICI Bank. However, the degree of variability is highest in case of ICICI Bank followed by HDFC Bank and SBI. The price - earnings ratio position of the sample companies was also compared and tested using the following hypothesis as stated below:

➔ **H05**: There is no significant difference between the PER of SBI, ICICI Bank, and HDFC Bank.

**Table 10 . One-way ANOVA for PER**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	419.9775	2	209.9887	7.720181	0.006994	3.885294
Within Groups	326.3997	12	27.19998			
Total	746.3772	14				

**Table 11. Dividend per Share**

Year	SBI	ICICI	HDFC
2006-07	14	10	7
2007-08	21.5	11	8.5
2008-09	29	11	10
2009-10	30	12	12
2010-11	30	14	16.5
2011-12	35.00	16.50	4.30
Average	26.58	12.42	9.72
SD	7.54	2.42	4.23

Source: Compiled from [www.iba.org.in](http://www.iba.org.in) and [www.rbi.org.in](http://www.rbi.org.in)

As the calculated value (7.720181) is higher than the critical value (3.885294) at the 5% level of significance (Table 10), the null hypothesis (H05) is rejected, and hence, it can be concluded that there is a significant difference between the price - earnings ratio of SBI, ICICI Bank, and HDFC Bank.

➔ **Dividend per Share (DPS)** : The dividend per share is the ratio of dividend paid and the total number of outstanding shares. The higher the DPS, the higher are the earnings for the shareholders. The DPS position of the sample banking companies is depicted in the Table 11. From the Table 11, we can see that average DPS of SBI is highest among all the three banks, followed by the DPS for ICICI Bank and HDFC Bank. As far as the variability is concerned, the DPS of ICICI Bank shows the least variability, followed by HDFC Bank, and SBI. The DPS position of the sample companies was compared and tested using the following hypothesis as stated below:

➔ **H06:** There is no significant difference between the DPS of SBI, ICICI Bank, and HDFC Bank.

As the calculated value (31.68479) is higher than the critical value (3.885294) at the 5% level of significance (Table 12), the null hypothesis (H06) is rejected and hence, it can be concluded that there is a significant difference between the DPS of SBI, ICICI Bank, and HDFC Bank.

➔ **Dividend Payout Ratio (DPR)** : The dividend payout ratio expresses the relationship between dividends per share and earnings per share. It indicates as to what percentage of earnings are being distributed to the shareholders. The dividend payout ratio position of the sample companies is depicted in the Table 13. From the Table 13, it can be inferred that the DPR of ICICI Bank is the highest at 31.31% followed by SBI and HDFC Bank (during the time period of the last 6 years). The standard deviation is lowest in case of HDFC Bank, indicating that there is greater stability as far as dividend payout ratio is concerned. The DPR position of the sample companies was also compared and tested using the following hypothesis as stated below:

➔ **H07:** There is no significant difference between the DPS of SBI, ICICI Bank, and HDFC Bank.

As the calculated value (67.44479) is greater than the critical value (3.885294) at the 5% level of significance, (Table 14), the null hypothesis (H07) is rejected, and hence, it can be concluded that there is a significant difference between the DPR of SBI, ICICI Bank, and HDFC Bank.

**Table 12. One-way ANOVA for DPS**

Source of Variation	SS	df	MS	F	p-value	F crit
Between Groups	1040.592	2	520.296	31.68479	1.63E-05	3.885294
Within Groups	197.052	12	16.421			
Total	1237.644	14				

**Table 13. Dividend Payout Ratio**

Year	SBI	ICICI	HDFC
2006-07	16.22	28.91	19.28
2007-08	20.18	29.435	18.40
2008-09	20.19	32.58	18.90
2009-10	20.78	33.2	17.75
2010-11	23.05	30.93	19.41
2011-12	20.06	32.82	20.54
Average	20.08	31.31	19.05
SD	2.20	1.84	0.95

Source: Compiled from www.iba.org.in and www.rbi.org.in

**Table 14. One-way ANOVA for DPR**

Source of Variation	SS	df	MS	F	P - value	F crit
Between Groups	452.5288	2	226.2644	67.44479	2.97E-07	3.885294
Within Groups	40.25771	12	3.354809			
Total	492.7865	14				

**Table 15. Compounded Annual Growth Rate**

	SBI	ICICI	HDFC
OPM	4.07%	5.30%	-2.37%
NPM	-0.50%	7.01%	2.20%
ROE	1.66%	-2.66%	-0.62%
EPS	12.35%	8.39%	-8.00%
PER	1.14%	-7.95%	-1.24%
DPS	16.50%	8.70%	-7.80%
DPR	3.60%	2.14%	1.06%

➔ **Compound Annual Growth Rate (CAGR)** : The compound annual growth rate is the year-over-year growth rate over a specified period of time. It is calculated using the following formulae:

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

CAGR is the best formula for evaluating how different parameters have performed over time. Investors can compare the CAGR in various parameters in order to evaluate how well one company has performed against others in a peer group. The compound annual growth rates of various parameters considered in the study are depicted in the Table 15.



➤ **CAGR Analysis** : From the Table 15, we see that the CAGR in OPM is highest for ICICI Bank, followed by SBI and HDFC Bank. CAGR in NPM is negative for SBI. Another important point to note is that CAGR in ROE is negative for ICICI Bank and HDFC bank. SBI has the highest CAGR in EPS and DPS as compared to other two banks. CAGR in price - earnings ratio is negative for both HDFC Bank and ICICI Bank.

## Research Implications

A retail investor may not have a huge investable surplus. Hence, he cannot invest his money in different sectors. His ability to diversify investment is very much limited. A rational investor should try to identify few sectors first and then should go for an in-depth study of the sector. He should examine carefully the fundamentals of the sector before taking a final investment decision. This paper helps us to understand fundamentals of the banking sector in India by taking a random sample of three leading banks, namely, SBI, ICICI Bank, and HDFC Bank for a period of 6 years.

## Conclusion

From the point of view of investment decisions, fundamental analysis is quite significant. It provides an insight into the economic performance of a business enterprise. The main finding of the study are as follows :

- (1) SBI performed better than other banks on the parameters like EPS and DPS.
- (2) ICICI Bank paid the highest proportion of its earnings as dividend to shareholders.
- (3) HDFC Bank scored over the other two banks on the parameters like OPM, NPM, ROE, and PE ratio.
- (4) There was a significant difference between OPM, RoE, EPS, DPR, DPS, and PER of the three banks.
- (5) CAGR in ROE was negative for ICICI and HDFC Banks.
- (6) For HDFC Bank, CAGR is negative for all parameters except NPM and PER.
- (7) For ICICI Bank, the highest CAGR was in DPS and NPM.
- (8) For SBI, the highest CAGR was in DPS and EPS.

## Limitations of the Study and Scope for Further Research

The following are some of the limitations of the study : The study takes into account only three banks such as SBI, ICICI Bank, and HDFC Bank. The study is also limited to financial data for a period of 6 years from 2005-2006 to 2011-12.

The study can be extended to more number of banks over a larger period of time. Researchers can also analyze the fundamentals of the banking sector after categorizing it into different classes such as public sector banks, private sector banks, foreign banks, and so forth. Qualitative aspects can also be included for the purpose of further study.

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