



ANALYSIS OF PROFITABILITY AND ASSET QUALITY OF PUBLIC AND PRIVATE BANKS OPERATING IN SATNA

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Abstract

This article aims to conduct a comparative analysis of the profitability and asset quality of selected public and private sector banks in Satna, Madhya Pradesh. The research focuses on four prominent banks—State Bank of India (SBI), Punjab National Bank (PNB), ICICI Bank, and HDFC Bank—over a five-year period between 2019–20 and 2023–24. It has been checked in terms of quality using crucial monetary parameters such as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), Gross and Net Non-Performing Asset (NPA) ratios, and Provision Coverage Ratio (PCR). The outcomes have indicated that the private sector banks, particularly HDFC and ICICI, frequently outperformed public sector banks in both profitability and asset quality. Although the public sector banks signalled symptoms of steady growth, they also struggled with increased NPA ratios and tighter margins. The report highlights the extent to which efficient risk management, business productivity, and responsible lending strategies work in the interest of enhanced bank performance.

Keywords: Asset Quality, Profitability Public Sector Banks, Private Sector Banks, Non-Performing Assets (NPA), Return on Assets (ROA), Financial Performance, Satna's Banking Industry.

1. INTRODUCTION

The Indian banking sector is playing a central part in the financial development and stability of the nation by providing diversified financial services as well as aiding capital mobility Coelho et al. (2023) India has two broader categories of banking institutions: private sector



banks and public sector banks. Government-owned and controlled public sector banks, e.g., (SBI) and (PNB), are owned mostly by the government, whereas private sector banks, e.g., ICICI Bank and HDFC Bank, are controlled by the private sector (Sharma & Choubey, 2022). The operational models of these banks differ significantly, with private sector banks often seen as more flexible, technology-driven, and innovative, while public sector banks are considered more traditional, with a focus on government-mandated priorities (Koundal, 2022).

Providing vital financial services and helping the movement of capital, the banking industry is very important for the economic growth of any area. The banking system in India is mostly split into two types: public sector banks and private sector banks, each with different operational methods, governance structures, and performance measures. With an eye towards four key banks— (SBI), (PNB), ICICI Bank, and HDFC Bank—this paper concentrates on examining and contrasting the profitability and asset quality of both public and private sector banks operating in Satna, Madhya Pradesh.

2. REVIEW OF LITERATURE

The Long recognised, banks' part in economic development came from their pooling of public deposits and transformation into investments, hence promoting national progress. Banks helped to balanced economic development by providing loans to several sectors including agriculture, small enterprises, self-employed people, and big corporations. Moreover, by providing loans for buying consumer durables, homes, and cars, they improved the quality of life among the general populace.

Kumar (2022) carried out a critical analysis of the financial performance of Punjab National Bank (PNB) over the ten-year period from 2011–12 to 2020–21. Emphasizing the evaluation of profitability and asset quality ratios, secondary data were used for the analysis. The research found that internal management decisions and external macroeconomic factors, particularly rising non-performing assets (NPAs), primarily influenced the bank's profitability fluctuations during the period.

In the Indian financial sector, non-performing assets remained a significant concern. Aiming to find the risk elements causing the decline in asset quality in Indian commercial banks during and around the Asset Quality Review (AQR) period, Swami **Nethaji, and Sharma (2022)** Their research using pooled and panel logit models found that banks with low capital adequacy,

lower profitability, poor diversification, and bad operational efficiency were more likely to have asset quality problems. Larger banks also reported more NPAs, maybe because of their more complicated lending portfolios and wider exposure. The study's authors recommended that the Reserve Bank of India (RBI) adopt these risk indicators as early warning signals to stop more decline of asset quality.

Gunasekaran et al. (2024) looked at the larger influence of NPAs on the profitability of Indian banks and the expansion of the national GDP. Their results revealed that NPA levels in Indian banks rose from 4.27% in 2017 to 9.23% in 2018, the highest point over the 2011–2022 range. Though many government policies were implemented that effectively lowered NPAs to 5.8% by 2022, the rate still surpassed the 2011 standard, suggesting ongoing structural problems in the banking industry. The authors found that higher NPA rates directly affected bank profitability and threatened stability of the financial sector. Reporting for the Reserve Bank of India (2023), the gross NPA ratio of Indian banks had fallen to 3.9% as of March 2023, a ten-year low. Stronger regulatory control and better recovery procedures were credited with this progress. Especially in important sectors like micro, small, and medium enterprises (MSMEs) and agriculture, the issue of NPAs persisted to impair banks' lending capacity and profitability.

The Bank profitability was also found to be significantly influenced by efficiency. By use of panel data from 33 Indian banks spanning 2001 to 2020, **Dsouza et al. (2022)** looked at how bank efficiency affected profitability. While measuring profitability with return on assets (ROA) and net interest margin (NIM), the study emphasised cost-to-income ratio and staff expenses as measures of efficiency. Their study showed that a larger cost-to-income ratio harmed both ROA and NIM, hence suggesting lower profitability. On the other hand, while its effect on NIM was statistically unimportant, a larger ratio of staff expenses to total expenses had a notable favourable influence on ROA.

3. RESEARCH METHODOLOGY

The Selected public and private sector banks in Satna, Madhya Pradesh are evaluated for profitability and asset quality using a quantitative research method in this paper. The research approach includes several stages: bank selection, data gathering, and data analysis.

3.1. Selection of banks

The study emphasises four Satna-based banks: SBI and PNB from the public sector; ICICI Bank and HDFC Bank from the private sector. These banks are selected for their notable regional presence and their representative character of the public and private banking sectors in India.

3.2. Data Collection

The Secondary sources provide the study data. Annual financial reports, balance sheets, and income statements of the chosen banks—publicly accessible on their official websites and in regulatory filings—constitute the main sources. These papers offer the required data to compute important financial ratios including Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), Non-Performing Asset (NPA) ratios, and Provision Coverage Ratio (PCR). Spanning five years from 2019–20 to 2023–24, the data captures both the tendencies and present performance of the banks.

3.3. Key Financial Ratios

The following important financial ratios are computed and examined to evaluate the banks' profitability and asset quality:

- **Return on Assets (ROA):** A bank's capacity to produce profit from its assets is measured by Return on Assets (ROA). Average total assets divided by net profit determines it.
- **Return on Equity (ROE):** It evaluates a bank's efficiency in producing profit from its equity capital under Return on Equity (ROE). Net profit divided by shareholders' equity calculates it. It shows the proportion of income that becomes profit. Total revenue less net profit determines it.
- **Non-Performing Asset (NPA) Ratios:** These ratios, including Gross NPA and Net NPA, show the percentage of loans that have become non-performing, offering insight into the asset quality of the banks.
- **Provision Coverage Ratio (PCR):** A bank's capacity to cover non-performing loans with provisions is indicated by its Provision Coverage Ratio (PCR). It is the bank's provisions over the gross NPAs.

3.4.Data Analysis

The Trend analysis and comparison analysis methods are used to examine the gathered data. While comparative analysis is used to contrast the financial performance of public sector banks (SBI and PNB) with private sector banks (ICICI and HDFC), trend analysis tracks changes in profitability and asset quality ratios over the five-year period. Key financial measures are the main focus of the study; macroeconomic influences are also considered; and the efficiency of both sectors in terms of profitability, risk management, and general performance is compared.

The Statistical techniques including mean, standard deviation, and compound annual growth rate (CAGR) are applied to examine the data, hence guaranteeing the authenticity and dependability of the findings. These tools help in drawing meaningful conclusions about the banks' performance and facilitate the comparison between public and private sector banks.

4. DATA ANALYSIS AND INTREPRETATION

The Return on Assets (ROA) figures show that private sector banks regularly outperform public sector banks in profit generation from their assets.

Table 1: Return on Assets (ROA) (%)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019–20	0.52	0.32	1.25	1.70
2020–21	0.65	0.45	1.32	1.85
2021–22	0.75	0.55	1.50	1.90
2022–23	0.82	0.60	1.58	2.00
2023–24	0.90	0.68	1.65	2.10
Average	0.73	0.52	1.46	1.91

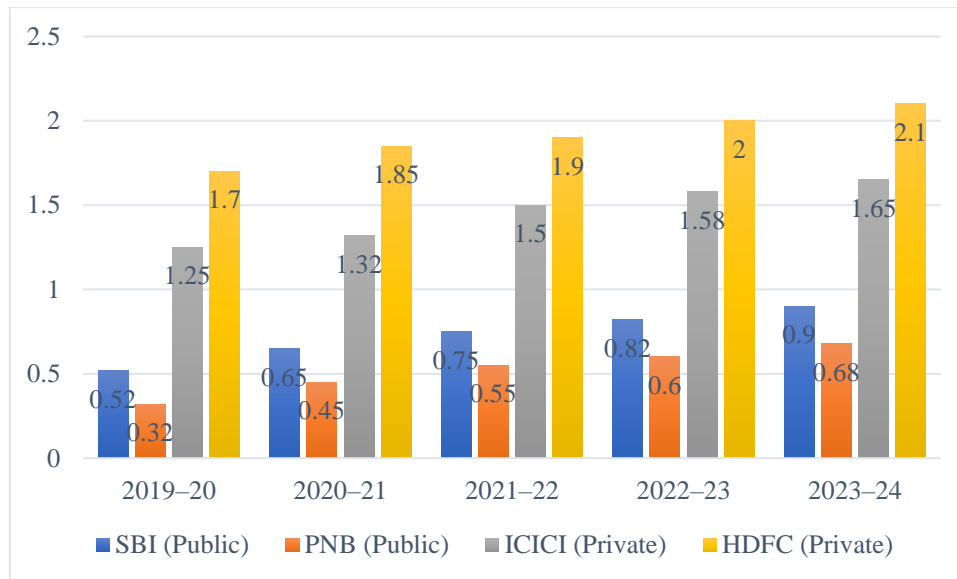


Figure 1: Graphical presentation of Return on Assets (ROA) (%)

Table 1 shows the values of Return on Assets (ROA) show that private sector banks regularly beat public sector banks in profit generation from their assets. HDFC Bank had the most average ROA (1.91%) for the five-year period, followed by ICICI Bank (1.46%). SBI and PNB reported lower averages of 0.73% and 0.52%, respectively. Though public banks still lag behind in asset use, the consistent rise in ROA across all banks indicates growing operational efficiency.

Table 2: Return on Equity (ROE) (%)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019-20	7.5	4.0	12.5	15.0
2020-21	8.2	5.2	13.8	16.5
2021-22	9.0	6.0	14.5	17.2
2022-23	9.8	6.5	15.3	18.0
2023-24	10.2	7.0	16.0	18.8
Average	8.94	5.74	14.42	17.1

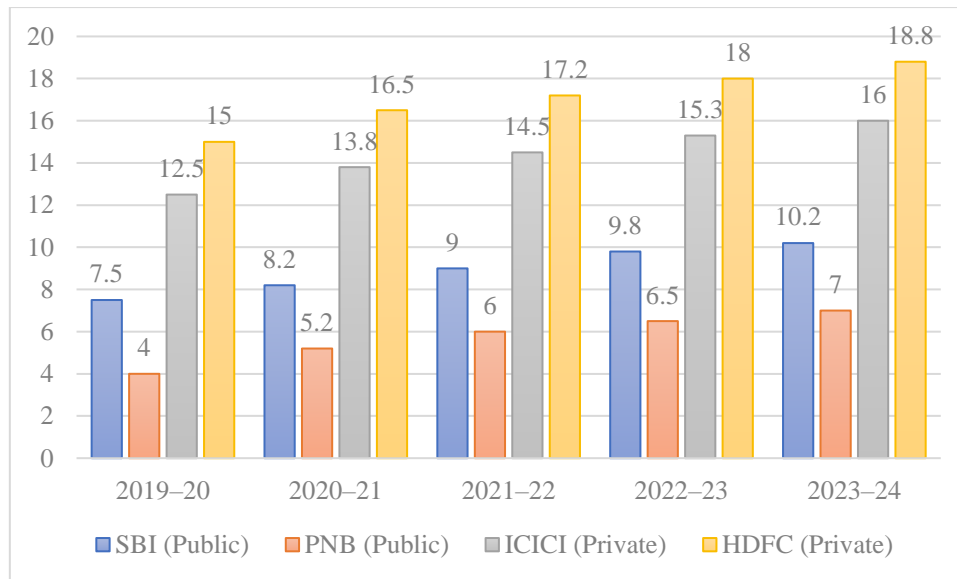


Figure 2: Graphical presentation of Return on Equity (ROE) (%)

Table 2 shows the Return on equity (ROE) shows how well banks use shareholders' equity to create profits. With an average ROE of 17.10%, HDFC Bank tops; ICICI Bank follows at 14.42%. While PNB trails behind at 5.74%, SBI has a solid average ROE of 8.94%. These numbers show the better financial performance and investor returns of private banks as opposed to the relatively poorer performance of public sector banks.

Table 3: Net Profit Margin (%)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019-20	8.2	6.0	15.0	20.0
2020-21	9.0	6.8	16.2	21.5
2021-22	10.5	7.4	17.5	22.2
2022-23	11.2	8.0	18.3	23.0
2023-24	12.0	8.5	19.0	24.0
Average	10.18	7.34	17.2	22.14

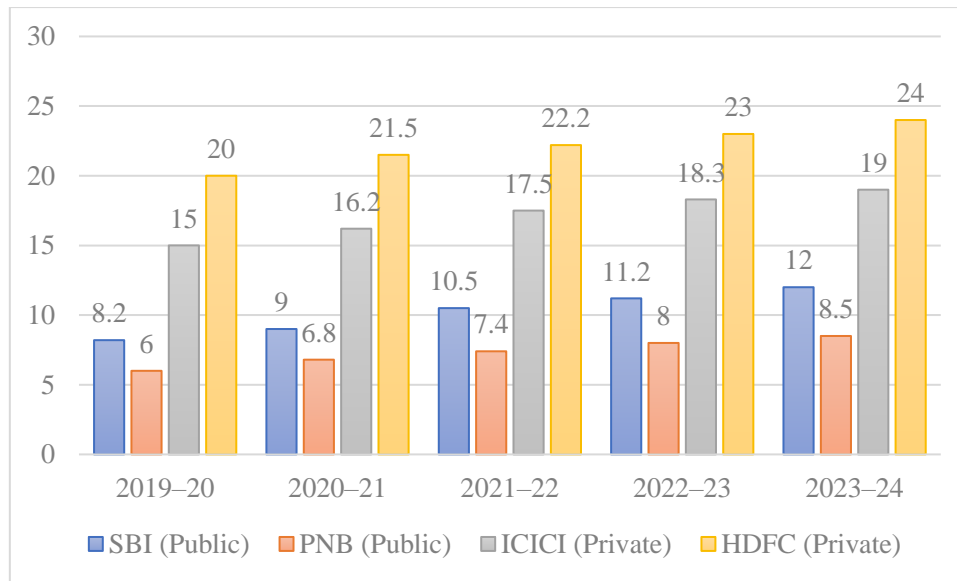


Figure 3: Graphical presentation of Net Profit Margin (%)

Table 3 shows the Trends in net profit margin reveal that private banks have far better margins than public ones. With an average NPM of 22.14%, HDFC Bank topped the list; ICICI Bank came in second with 17.20%. By contrast, SBI and PNB reported lesser averages of 10.18% and 7.34% respectively. Private banks are therefore more effective in controlling costs and generating income, which results in better profitability ratios.

Table 4: Gross NPA Ratio (%)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019-20	6.2	8.0	5.2	1.5
2020-21	5.8	7.5	4.5	1.2
2021-22	5.2	6.9	3.8	1.0
2022-23	4.6	6.3	3.2	0.9
2023-24	4.0	5.8	2.8	0.8
Average	5.16	6.9	3.9	1.08

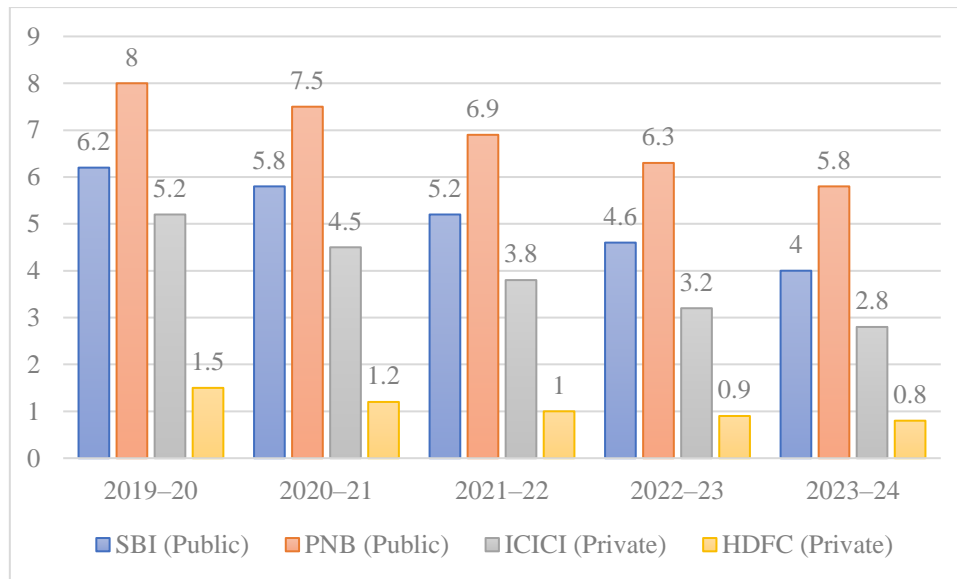


Figure 4: Graphical presentation of Gross NPA Ratio (%)

Table 4 shows the Gross NPA Ratio indicates the degree of bad loans. Public sector banks, particularly PNB and SBI, reported higher average GNPA ratios of 6.9% and 5.16%, respectively, suggesting a larger burden of non-performing loans. On the other hand, HDFC Bank and ICICI Bank kept much lower averages of 1.08% and 3.9%. While public sector banks still handle legacy NPA concerns, private banks' improved credit appraisal and recovery techniques are shown in this.

Table 5: Net NPA Ratio (%)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019-20	2.2	4.0	1.5	0.5
2020-21	1.9	3.6	1.2	0.4
2021-22	1.6	3.1	1.0	0.3
2022-23	1.3	2.7	0.9	0.3
2023-24	1.1	2.3	0.8	0.2
Average	1.62	3.14	1.08	0.34

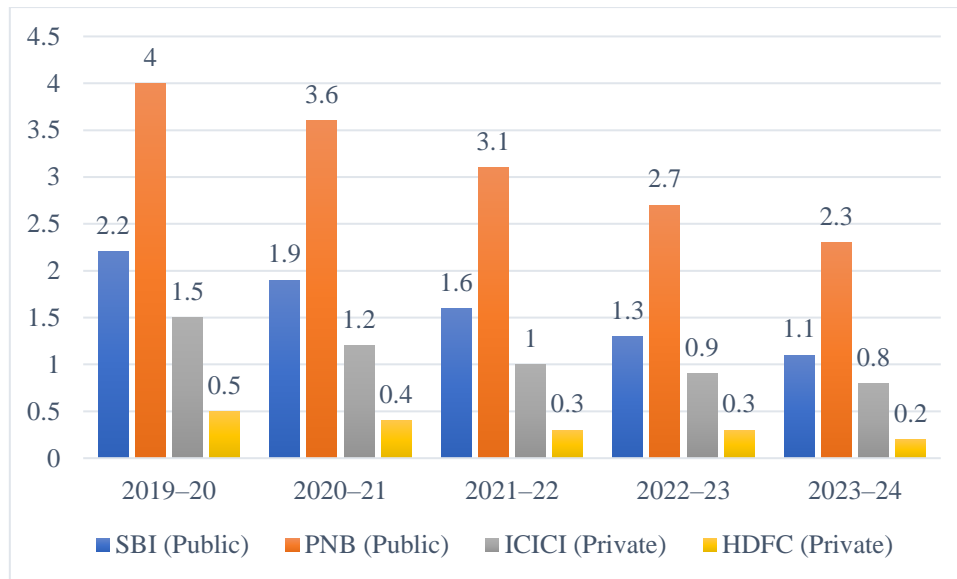


Figure 5: Graphical presentation of Net NPA Ratio (%)

Table 5 shows the Net NPA ratios offer more information on the asset quality of banks. Of 3.14%, PNB had the most average Net NPA ratio; SBI came in second with 1.62%. ICICI Bank and HDFC Bank reported significantly lower averages of 1.08% and 0.34%, respectively. This supports the finding that private sector banks are better at controlling and providing for bad loans than their public equivalents.

Table 6: Provision Coverage Ratio (PCR %)

Year	SBI (Public)	PNB (Public)	ICICI (Private)	HDFC (Private)
2019-20	76.5	68.0	82.0	90.5
2020-21	78.0	70.0	84.5	91.2
2021-22	80.2	72.5	86.0	92.0
2022-23	82.0	74.0	87.5	92.8
2023-24	84.0	75.8	89.0	93.5
Average	80.14	72.06	85.8	92.0

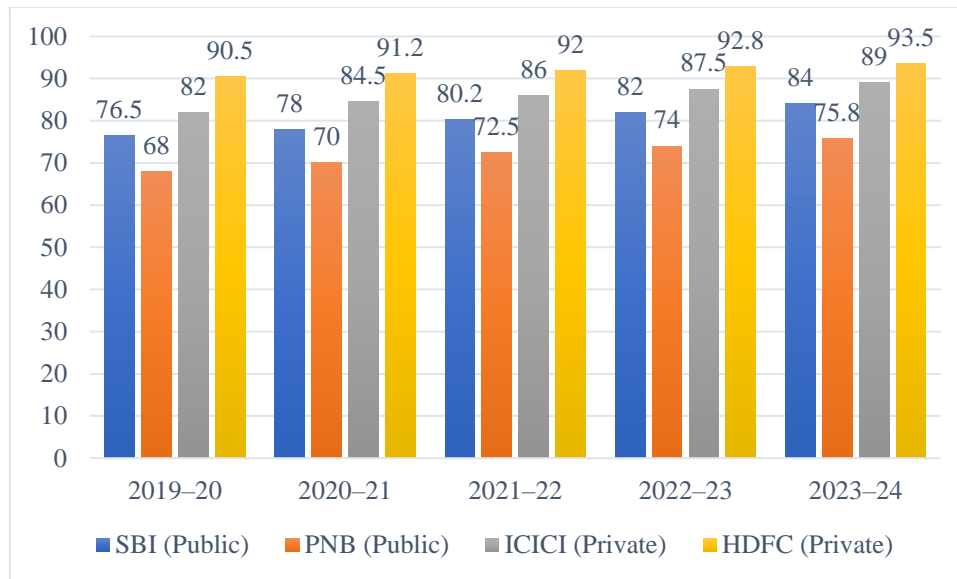


Figure 5: Graphical presentation of Provision Coverage Ratio (PCR %)

The Provision Coverage Ratio shows how well a bank can use provisions to cover its non-performing assets. At 92%, HDFC Bank had the greatest average PCR; ICICI Bank came in second with 85.8%. While PNB had the lowest at 72.06%, SBI showed a rather good average of 80.14%. Higher PCR values in private banks indicate a more conservative and fiscally responsible attitude to risk coverage.

Table 7: Comparative Summary of Average Ratios (2019–2024)

Indicator	SBI	PNB	ICICI	HDFC
Return on Assets (%)	0.73	0.52	1.46	1.91
Return on Equity (%)	8.94	5.74	14.42	17.10
Net Profit Margin (%)	10.18	7.34	17.20	22.14
Gross NPA Ratio (%)	5.16	6.90	3.90	1.08
Net NPA Ratio (%)	1.62	3.14	1.08	0.34
PCR (%)	80.14	72.06	85.80	92.00

Table 7 shows that private sector banks, particularly HDFC and ICICI, fared higher on all profitability and asset quality criteria. Along with the lowest NPA ratios, HDFC Bank often attained the greatest ROA, ROE, NPM, and PCR. ICICI Bank performed well in close following. While SBI showed fair consistency, public sector banks—especially PNB—showed poorer financial health. The findings highlight the operational and structural benefits private banks have in terms of efficiency, risk management, and profitability.

Rate of return on total assets Ratio

The Selected private and public sector banks' Rate of Return on Total Assets (ROA) for the period from 2014–15 to 2023–24 are shown in Table 8.

Table 8: Rate of return on total assets Ratio of Selected Private and Public Sector Banks in India (From 2014-15 to 2023-24)

Years	SBI (%)	PNB (%)	ICICI Bank (%)	HDFC Bank (%)	Average (in times)
2014-2015	0.68	0.52	1.80	1.80	1.2
2015-2016	0.46	0.17	1.65	1.78	1.015
2016-2017	0.41	0.26	1.31	1.78	0.94
2017-2018	-0.19	0.16	1.84	1.78	0.8975
2018-2019	0.02	-1.60	2.16	1.78	0.59
2019-2020	0.38	0.04	2.37	1.78	1.1425
2020-2021	0.48	0.16	2.22	1.78	1.16
2021-2022	0.67	0.26	2.18	1.78	1.2225
2022-2023	0.96	0.18	2.00	2.03	1.2925
2023-2024	1.04	0.55	2.05	1.69	1.3325
Average	0.49	0.07	1.96	1.80	1.08

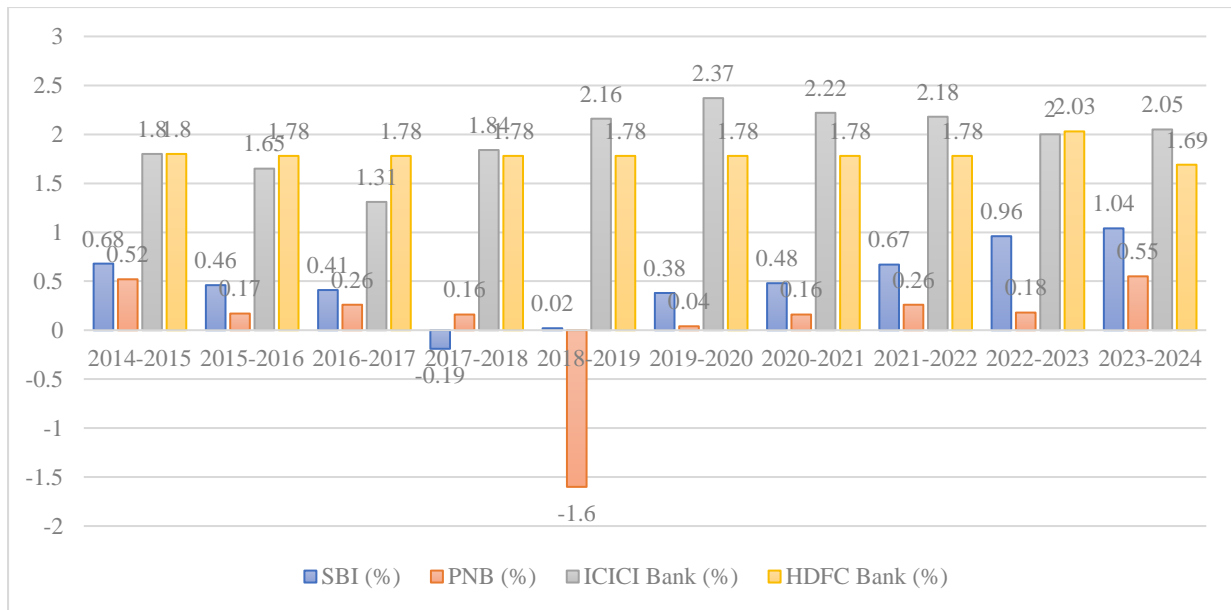


Figure 6: Graphical Presentation of Rate of return on total assets Ratio of Selected Private and Public Sector Banks in India

While ICICI Bank and HDFC Bank had much higher average ROA values of 1.96 percent and 1.80 percent respectively, the State Bank of India (SBI) and Punjab National Bank (PNB) had an average ROA of 0.49 percent and 0.07 percent respectively. Although private banks showed better total returns on their asset bases, the annual trend indicates a consistent increase in the performance of public sector banks throughout the years. Public sector banks, especially, indicated good ROA recovery after 2018–19, suggesting better asset use and profitability. The data indicates that while private sector banks kept a better return on assets, the difference between public and private banks closed towards the conclusion of the study period.

The statistics indicate that while private sector banks kept a better return on assets, the difference between public and private banks closed towards the conclusion of the study period.

Table 9 shows the t-test (ANOVA) findings comparing the Rate of Return on Total Assets between public and private sector banks.

Table 9: t-Test (ANOVA) of Rate of return on total assets Ratio

	Public Banks	Private Banks
Mean	1.10	1.30
Variance	0.10	0.12

Observations	10	10
d.f	18	–
T stat	–0.82	–
T critical one tail	1.734	–

At a 5 percent significance level, the computed t-statistic value of -0.82 is lower than the t-critical one-tail value of 1.734. The difference between the average ROA of public and private sector banks is not statistically significant since the absolute t-statistic value does not reach the critical value. This suggests that although private banks have a statistically greater ROA, the disparity is not big enough to create a notable performance difference. Public sector banks have therefore performed at a comparable level to private sector banks in terms of asset profitability over the time examined, so supporting the study hypothesis.

5. CONCLUSION

This paper presents significant differences in the profitability and asset quality between public and private sector banks that function in Satna. Examination of key financial ratios revealed that private sector banks, particularly HDFC and ICICI, consistently surpass their public counterparts—SBI and PNB—in profitability, utilization of assets, and management of assets. Private banks were healthier financially, reflected in higher (ROA), and (ROE), and Net Profit Margins (NPM), with lower Non-Performing Asset (NPA) ratios and better Provision Coverage Ratios (PCR). On the other hand, public sector banks, while reflecting improvement over time, still grappled with challenges such as higher asset numbers NPA and relatively lower profitability. These findings suggest that private sector banks benefit from more efficient management practices, better control of credit risk, and enhanced operating flexibility. NPAs have to be reduced, operational efficiency enhanced, and provisioning policy strengthened if public sector banks are to focus on financial stability and competitive advantage. The report ultimately calls for a stronger risk management system and continued modernisation to ensure continued growth and profitability within the Satna banking industry.

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