“Evaluating key financials of public versus private sector banks in India: An investment perspective”

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EVALUATING KEY FINANCIALS OF PUBLIC VERSUS PRIVATE SECTOR BANKS IN INDIA: AN INVESTMENT PERSPECTIVE

Abstract

India's banking sector, with its mix of public and private banks, presents diverse opportunities from an investment perspective. The relative performance of public and private sector banks is a crucial consideration when optimizing investment allocation strategies. Much academic debate has centered around the comparative performance of the public versus private sector, with conflicting findings. This study aims to analyze the financial performance of public versus private banks in India from a comparative investment perspective. To analyze the financial performance of public and private banks in India from an investment perspective, the Net Interest Margin ratio, Gross Non-Performing asset ratio, Net Non-Performing asset ratio, Current Account Savings Account (CASA) ratio, and total deposit over ten years from 2014–2023 are employed. The findings of the study state that the Net Interest Margin range of private sector banks extends from 6.06% to 2.76%, while the range of public banks begins at 2.66% and goes as low as 2.06%. The gross and net non-performing asset ratios witness higher consistency in asset quality and better risk management in the private sector. However, public sector banks, led by the State Bank of India, maintain dominance in total deposits. While both sectors perform on par in the Current Account Savings Account ratio analysis, the hold of the public sector, especially the State Bank of India, in terms of total deposits, is indisputable. The study concludes that private sector banks demonstrate superior efficiency to public sector banks in India, particularly in profitability, risk management, and asset quality.

Keywords investment, banking industry, portfolio optimization, profitability, efficiency, ratios

JEL Classification G21, G11

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INTRODUCTION

A reliable banking system is indispensable for any country's advancement and growth, and India is no exception. The Indian banking sector, with its mix of public and private banks, presents diverse opportunities from an investment perspective. In the Indian context, Public Sector Banks (excluding SBI) experienced a decline in market share from 53% in FY2005 to 35% in FY2023, while their private counterparts saw their market share rise from 25% to 38% during the same period. Private banks are growing rapidly, reflecting their trustworthiness and positioning them as attractive investment options. Private banks show resilience and financial strength, holding a 17% weight in market cap-based indices of the top 500 companies. Notably, they contribute 21% to profitability, highlighting their strong earnings potential. This underscores their role in driving growth in the banking sector and offers investors an attractive opportunity.

On the other hand, despite being undervalued, public sector banks hold significant growth potential, making them attractive to long-term investors. The resurgence of Public Sector undertaking banks in

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India suggests a promising turnaround, potentially overshadowing concerns about the performance of private banks. Public sector banks in India have also made a strong comeback, outperforming private banks due to government-led reforms such as capital infusion and governance improvements. It has significantly improved asset quality, profitability, and lending capabilities, supporting economic growth. Investors eager to diversify their portfolio by turning towards the Indian banking sector face the problem of choosing between private versus public sector banks. It is, therefore, crucial to examine the comparative financial performance of both public and private banks to pit their relative strengths and weaknesses as investment options, carefully selecting sector-appropriate ratios and parameters that provide valuable insights into the fundamental dynamics of both sectors.

1. LITERATURE REVIEW

The inherent centrality of the banking sector to the economy has ensured that it has received a significant influx of scholarly attention. Researchers have attempted to unravel the comparative performance of banks in India to equip investors with the practical knowledge to navigate complex markets and make informed investment decisions effectively. Alam et al. (2021) highlight that private-sector banks have demonstrated higher productivity than public-sector banks. Sirisha (2015) also confirmed the superior productivity of the private sector, providing a detailed classification of the Indian banking industry. This classification included nationalized banks, SBI and its associates, public sector banks, old private sector banks, new private sector banks, foreign banks, and scheduled commercial banks, revealing the higher productivity of the private sector Technology utilization emerged as a critical factor in distinguishing between cases.

The literature on the Indian banking sector is dominated by studies assessing the comparative performance of the country's public and private sectors. Most studies have based their findings on a sample of a group of public and private sector banks selected based on predefined criteria.

The broad strokes of consensus in the field hint towards the edge the private sector enjoys. It has triumphed over the public banks in terms of productivity (Narwal & Pathneja, 2015; Obilesu & Ranganatham, 2021; Srinivasan & Britto, 2017), stability and liquidity (Suresh & Pradhan, 2023), returns (Kaur & Sukhija, 2018), deposit mobility (Kumari & Ramakrishnaiah, 2022), debt-equity ratio (Sukanya, 2019), profitability (Dixit, 2016), as well as financial performance (Gaikwad & Shinde, 2020). Prior studies have identified various driving forces for the creation of this phenomenon, from professional and efficient management along with better customer focus and services seen in the private banking sector (Dash et al., 2017) to technology utilization (Obilesu & Ranganatham, 2021; Srinivasan & Britto, 2017), as well as implementation of modern technology banking reforms and recovery mechanism in the private banking sector of India (Kulshrestha & Srivastava, 2022).

However, there is also a voice of dissent. A study by Thiagarajan and Ramachandran (2011) found that between 2004 and 2010, the ratio of Non-Performing Assets (NPAs) to total loans was higher for private sector banks than in India. However, a subsequent study in 2016, which examined a sample of 25 public sector banks, 18 private, and 8 foreign banks, reported that public sector banks ranked the highest in financial performance (Srinivasan & Saminathan, 2016). During the same year, another study, based on the evidence from 5 public sector and 5 private sector banks, reported that public sector banks outperformed the private sector in India (Dhanabhakyam & Karthick, 2016).

The academic scrutiny in this field springs forth with various statistical methodologies and tools for analysis. Narrowed down to literature that aims to assess banks comparatively, mainly when grouped as the public versus private sector, a few prominent models emerge. A note-worthy amount of scholarly work has stood on the shoulders of the Camel model for evaluating the performance of the banking sector, delving into the parameters for Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity (Chavda et al., 2022; Dash et al., 2017; Dhanabhakyam & Karthick, 2016; Dixit, 2016; Kulshrestha & Srivastava, 2022; Ray &

Raha, 2023; Srinivasan & Saminathan, 2016; Suba, 2022). Some studies have utilized data envelope analysis (DEA) (Narwal & Pathneja, 2015; Obilesu & Ranganatham, 2021; Sangeetha, 2020). A strand of literature has also addressed this issue using the Generalised Method of Moments (GMM) model to analyze the NPAs of 46 Indian banks (Bawa et al., 2019).

Ratio analysis dominates the methodological approach for evaluating the banking industry, with studies training their lens on popular ratios such as capital adequacy ratio, asset turnover ratio, return on net worth, operating profit ratio, return on capital employed, current ratio, quick ratio, net profit ratio, cash deposit ratio, credit deposit ratio, and total funds ratio. A thorough analysis of the contrasting findings in the literature indicates that the choice of ratio plays a critical role in defining the findings of the study. The differing conclusions of previous studies expose the need for more consensus on the accurate set of ratios to arrive at a theoretically sound conclusion of the comparative performance of the public versus private sector banks in India.

The literature on the comparative analysis of public versus private banks in the Indian context is both cluttered and ambiguous. While academicians have revisited this research domain frequently with an array of analytical tools, the findings have failed to find consensus. Moreover, while ratio analysis is often resorted to, the precise set of ratios that can accurately demystify banking performance in India remains elusive.

The banking industry often focuses on traditional financial ratios, ignoring practical ones like the CASA ratio, deposit growth, Gross and Net NPAs, and Net Interest Margin. By emphasizing these often-overlooked ratios, the purpose of the study is to provide stakeholders and investors with a clearer understanding of a bank's financial performance and efficiency. The research gap extends further to the lack of comprehensive comparative studies that assess the performance of public sector banks compared to their private sector counterparts in the Indian context.

This research aims to bridge the above-stated gaps by conducting a thorough comparative analysis of critical financial indicators over ten years, providing valuable insights into the evolving dynamics of the Indian banking sector and facilitating informed decision-making by stakeholders and investors.

Based on the arguments presented above, the following hypotheses were formulated in the study:

H_{01}: *There is no significant difference in the mean Net Interest Margin between Indian public and private sector banks.*

H_{02}: *There is no significant difference in the mean Gross Non-Performing Assets between Indian public and private sector banks.*

H_{03}: *There is no significant difference in the mean Net Non-Performing Assets between Indian public and private sector banks.*

H_{04}: *There is no significant difference in the mean Current Account Savings Account (CASA) Ratio between Indian public and private sector banks.*

H_{05}: *There is no significant difference in the mean Total Deposits between Indian public and private sector banks.*

2. METHODS

The study period spans 2014 to 2023, with annual data collected from the banks' annual reports. The sample for this study comprises 12 public sector banks and 12 private sector banks, all of which are constituents of the Nifty 500 index. The selection of banks is based on two primary criteria: market capitalization and data availability for the chosen study period.

To conduct a comparative study of public and private sector stocks in India over the past 10 years, the following key financial ratios are selected, each with its unique significance in assessing the financial performance of banks.

Net interest margin (NIM) measures the difference between banks' interest income and the interest expenses paid to lenders relative to their as-

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Table 1. List of public sector banks and private sector banks chosen for the study

Source: NSE (n.d.).

Private Banks	Market Capitalization (Cr)	Public Banks	Market Capitalization (Cr)
HDFC Bank Ltd	1,105,644	State Bank of India	551,808.8
ICICI Bank Ltd.	701,004.4	Bank of Baroda Ltd	118,243.2
Kotak Mahindra Bank Ltd.	355,511.5	Punjab National Bank	112,532.6
Axis Bank Ltd.	326,679.8	Union Bank of India	105,886.8
IndusInd Bank Ltd.	115,948.2	Indian Overseas Bank	87,045.61
Yes Bank Ltd.	71,045.43	Canara Bank	82,415.94
IDFC First Bank Ltd.	56,261.99	Bank of India	60,618.77
Bandhan Bank Ltd.	36,149	Indian Bank	59,481.93
The Federal Bank Ltd.	34,611.48	UCO Bank	51,051.94
RBL Bank Ltd.	15,682.65	Central Bank of India	47,614.95
Karur Vysya Bank Ltd.	14,468.34	Bank of Maharashtra	38,062.38
The Jammu & Kashmir Bank Ltd	14,392.45	Punjab & Sind Bank	31,753.93

sets. A higher NIM indicates better profitability and operational efficiency.

$$Net\ Interest\ Margin = \frac{(Interest\ Income - Interest\ Expense)}{Average\ Earning\ Assets} \cdot 100, \quad (1)$$

where, *Interest Income* = Total income earned by the bank in the form of interest from lending; *Interest Expense* = Total expense incurred by the bank in the form of interest for deposits and other borrowed funds; *Average Earning Assets* = Average value of the bank's interest earning assets in the specific time period.

Gross Non-Performing Assets (GNPA) represents the percentage of loans outstanding that are unlikely to be recovered. Lower GNPA ratios signify healthier loan portfolios and effective credit risk management.

$$Gross\ Non - Performing\ Assets = \frac{Total\ Gross\ NPA}{Total\ Advances} \cdot 100, \quad (2)$$

where, *Total Gross NPA* = Total value of all non-performing assets of a bank minus provision; *Total Advances* = The total amount of advances and loans given by the bank.

Net Non-Performing Assets (NNPA) represents the Gross NPA adjusted for provisions to cover potential losses from bad loans. Lower NNPA values indicate better provisioning for bad loans and more robust risk management practices.

$$Net\ Non - Performing\ Assets = Gross\ NPA - Provisions, \quad (3)$$

Current Account Savings Account (CASA) Ratio measures the proportion of low-cost current and savings account deposits to total deposits. A higher CASA Ratio indicates a lower reliance on costly funding sources and a more substantial low-cost funding base.

$$CASA\ Ratio = \frac{\begin{pmatrix} Current \\ Account \\ Deposits \end{pmatrix} + \begin{pmatrix} Savings \\ Account \\ Deposits \end{pmatrix}}{Total\ Deposits} \cdot 100, \quad (4)$$

where, *Current Account Deposits* = Deposits maintained mainly by business persons who do not earn interest from the bank; *Savings Account Deposits* = Deposits maintained by individuals that earn interest from the bank; *Total Deposits* = The value of all the deposits held by the bank such as fixed deposits, recurring deposits and so on.

Total Deposits represent the total amount of funds deposited with the bank, reflecting its deposit mobilization capabilities and customer confidence.

A one-way ANOVA is used to compare the differences in the financial performance of Indian public and private sector banks. When comparing the means of two or more independent groups,

One-Way ANOVA is utilized to ascertain whether there is a statistically significant difference in the means of the related population.

Following is the equation for the one-way ANOVA model:

$$Y_{ij} = \mu + \tau_i + \varepsilon_{ij}, \quad (5)$$

where Y_{ij} = the observed value of the dependent variable (outcome) for the j^{th} observation in the i^{th} group; μ = overall population mean of the dependent variable; τ_i = the effect of the i^{th} group (also known as the treatment effect or factor effect); ε_{ij} = the random error term associated with the j^{th} observation in the i^{th} group, assumed to be independently and identically distributed with mean zero and constant variance.

This equation represents the basic linear model underlying the one-way ANOVA analysis, where the observed values of the dependent variable are modeled as a combination of the overall mean, the effects of the different groups, and random error. Wherein τ_i captures the differences in means between the groups, and ε_{ij} accounts for random variability within each group.

The chosen ratios are net interest margin (NIM), gross non-performing assets, net non-performing assets, CASA ratio, and total deposits as a proxy for the financial performance of the banks under scrutiny.

3. RESULTS

The results section presents a comprehensive comparison of private and public sector banks in India based on key financial ratios such as Net Interest Margin (NIM), Gross Non-Performing Assets (GNPA), Net Non-Performing Assets (NNPA), CASA ratios, and total deposits.

The NIM shows how much a bank earns from loans compared to what it pays for deposits. A higher NIM indicates better asset utilization and profitability for the bank. Table 2 displays the 10-year average Net Interest Margin (%) and Group Rankings for Public and Private Sector Banks. The average net interest margin (NIM) for private sector banks over the past 10 years significantly surpasses that of public sector banks, indicating superior profitability and efficiency in managing interest-related activities. The highest-ranked public sector bank in the sample, i.e., State Bank of India, has a lower net interest margin than the 12th-ranked private sector bank in the chosen sample. Further, private sector banks have consistently demonstrated higher NIMs, ranging from 6.06% to 2.76%, while public

Table 2. 10-year average net interest margin (%) and group rankings for public and private sector banks in India

Private Sector Banks			Public Sector Banks		
Name of Bank	10 years Average Net Interest Margin (%)	Rank	Name of Bank	10 years Average Net Interest Margin (%)	Rank
Bandhan Bank Ltd	6.06	1	State Bank of India	2.66	1
Kotak Mahindra Bank Ltd.	4.05	2	Bank of Maharashtra	2.60	2
HDFC Bank Ltd	3.90	3	Indian Bank	2.56	3
IndusInd Bank Ltd	3.71	4	Central Bank of India Ltd	2.51	4
The Jammu & Kashmir Bank Ltd	3.57	5	Punjab National Bank	2.43	5
Karur Vysya Bank Ltd	3.33	6	Bank of Baroda Ltd	2.33	6
ICICI Bank Ltd.	3.28	7	Union Bank of India	2.28	7
Axis Bank Ltd	3.17	8	Indian Overseas Bank	2.27	8
RBL Bank Ltd	3.14	9	UCO Bank	2.27	9
IDFC First Bank Ltd	2.99	10	Punjab & Sind Bank	2.16	10
The Federal Bank Ltd	2.88	11	Bank of India	2.13	11
Yes Bank Ltd	2.76	12	Canara Bank	2.06	12

Note: In the table, a higher Net Interest Margin (NIM) is given a higher ranking.

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Table 3. ANOVA: Single factor of NIM (%) for private and public sector banks in India

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (Df)	Mean Square (MS)	F-Statistic	P-value	F critical
Between Groups (Private vs Public Banks)	8.841292	1	8.841292	21.72662	0.00012	4.30095
Within Groups (Bank Comparison)	8.952541	22	0.406934	–	–	–

sector banks exhibit lower NIMs, ranging from 2.66% to 2.06%. This wide variance underscores the significant difference in profitability and efficiency between the two sectors.

The one-way ANOVA compares the Net Interest Margin (%) between private and public sector banks. Private banks exhibited a significantly higher mean Net Interest Margin (%) (M = 3.57, SD = 0.78) compared to public banks (M = 2.36, SD = 0.04), as shown in Table 3. This indicates that private banks tend to have a more robust net interest margin than public banks. There by concluding that there is a statistically significant difference in the mean Current Account Savings Account (CASA) Ratio between Indian public and private sector banks.

Table 4 shows the 10-year average gross NPA (%) and group rankings for public and private sector banks. Private banks have maintained a narrower range of average gross non-performing asset (NPA) ratios, varying from 1.14% to 7.83 %, indicating more consistent asset quality. In contrast, public sector banks exhibit a wider range, ranging from 5.89% to 14.41%, underscoring more significant variability in asset quality. This disparity underscores private banks' superior risk management and credit quality practices.

Furthermore, private banks have recently achieved significantly low non-performing assets (NPAs), signaling improved asset quality and adept credit risk management. This decline in NPAs reflects a reduction in problematic loans within their portfolios, attributed to rigorous credit risk management measures such as robust loan monitoring systems and stringent underwriting standards. This achievement showcases the banks' capability to maintain sound asset quality and reinforces investor confidence in their financial stability and ability to mitigate potential losses.

The one-way ANOVA assessed Gross NPA (%) differences between private and public sector banks

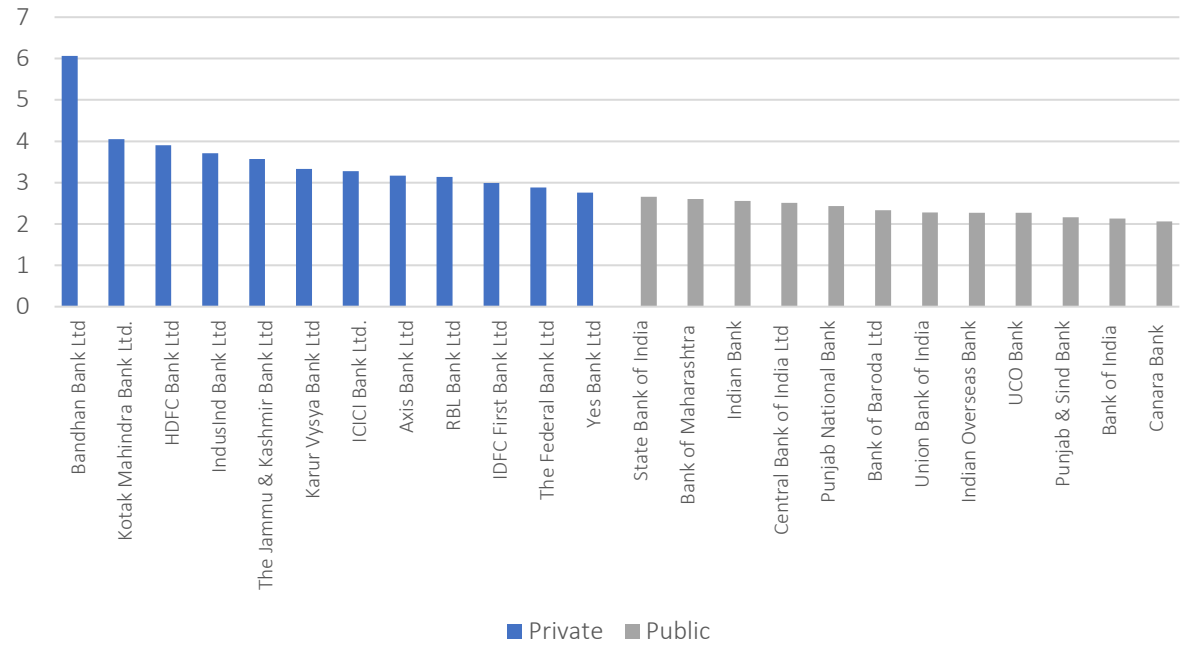

Figure 1. 10-year average of NIM for private and public sector banks in India

Table 4. 10-year average gross NPA (%) and group rankings for public and private sector banks in India

Private Banks			Public		
Bank Name	**Avg Gross NPA (%)**	**Rank**	**Bank Name**	**Avg Gross NPA (%)**	**Rank**
HDFC Bank Ltd	1.14	1	State Bank of India	5.89	1
IndusInd Bank Ltd	1.64	2	Indian Bank	6.78	2
RBL Bank Ltd	2.23	3	Canara Bank	7.61	3
Kotak Mahindra Bank Ltd.	2.28	4	Bank of Baroda Ltd	7.76	4
The Federal Bank Ltd	2.70	5	Punjab & Sind Bank	9.62	5
IDFC First Bank Ltd	3.48	6	Bank of Maharashtra	9.81	6
Axis Bank Ltd	3.50	7	Union Bank of India	10.62	7
Bandhan Bank Ltd	3.82	8	Bank of India	11.31	8
Karur Vysya Bank Ltd	4.77	9	Punjab National Bank	12.00	9
Yes Bank Ltd	5.58	10	UCO Bank	13.23	10
ICICI Bank Ltd.	5.67	11	Central Bank of India Ltd	14.16	11
The Jammu & Kashmir Bank Ltd	7.83	12	Indian Overseas Bank	14.41	12

Note: In the table, lower Gross NPA is given a higher ranking.

Table 5. ANOVA: Single factor of gross NPA (%) for private and public sector banks in India

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (Df)	Mean Square (MS)	F-Statistic	P-value	F critical
Between Groups (Private vs Public Banks)	257.2	1	257.2	42.76849	1.41E-06	4.30095
Within Groups (Bank Comparison)	132.303	22	6.013773	–	–	–

(Table 5). The mean Gross NPA (%) for private entities (M = 3.72, SD = 1.95) was significantly lower compared to that of public entities (M = 10.27, SD = 2.87). Since the p-value is less than 0.05 (1.41E-06) it can concluded that there is a statistically significant difference in the mean of Gross NPA public and private sector banks. Public sector banks tend to have higher non-performing assets than private sector banks.

NNPA is arrived at by subtracting provisions against bad loans from the Gross NPA. Table 6 shows the 10 Years Average Net NPA (%) and Group Rankings for Public and Private Sector

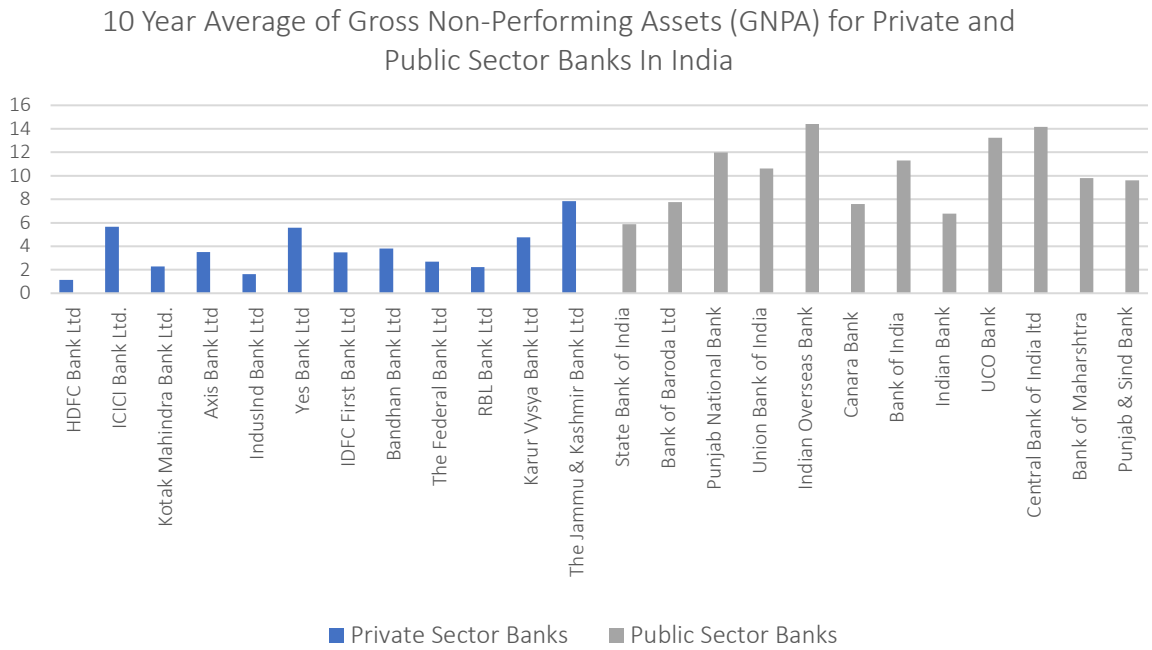

Figure 2. 10-year average of Gross Non-Performing Assets (GNPA) for private and public sector banks in India

Table 6. 10-year average net NPA (%) and group rankings for public and private sector banks in India

Private Banks			Public		
Bank Name	**Net NPA**	**Rank**	**Bank Name**	**Net NPA**	**Rank**
HDFC Bank Ltd.	0.36	1	State Bank of India	2.64	1
IndusInd Bank Ltd.	0.60	2	Indian Bank	3.06	2
Kotak Mahindra Bank Ltd.	0.83	3	Bank of Baroda Ltd	3.08	3
RBL Bank Ltd.	0.99	4	Canara Bank	4.27	4
The Federal Bank Ltd.	1.17	5	Union Bank of India	4.76	5
Bandhan Bank Ltd.	1.21	6	Bank of India	4.85	6
Axis Bank Ltd.	1.28	7	Bank of Maharashtra	4.96	7
IDFC First Bank Ltd.	1.46	8	Punjab & Sind Bank	5.25	8
Yes Bank Ltd.	2.00	9	Punjab National Bank	6.02	9
ICICI Bank Ltd.	2.07	10	UCO Bank	6.09	10
Karur Vysya Bank Ltd.	2.56	11	Central Bank of India Ltd	6.29	11
The Jammu & Kashmir Bank Ltd.	3.07	12	Indian Overseas Bank	7.44	12

Note: In the table, lower Net NPA is given a higher ranking.

Table 7. ANOVA: Single factor of net NPA (%) for private and public sector banks in India

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (Df)	Mean Square (MS)	F-Statistic	P-value	F critical
Between Groups (Private vs Public Banks)	70.36733	1	70.36733	50.5572	3.94E-07	4.30095
Within Groups (Bank Comparison)	30.62039	22	1.391836	–	–	–

Banks. The net non-performing asset (NPA) ratios range for private banks from 0.36% to 2.56%, showcasing a relatively narrow spread. In contrast, for public sector banks, the range is broader, spanning from 2.64% to 7.44%. This suggests that private banks have better asset quality and more effective risk management practices. For instance, HDFC Bank Ltd, the top-ranked private bank, has

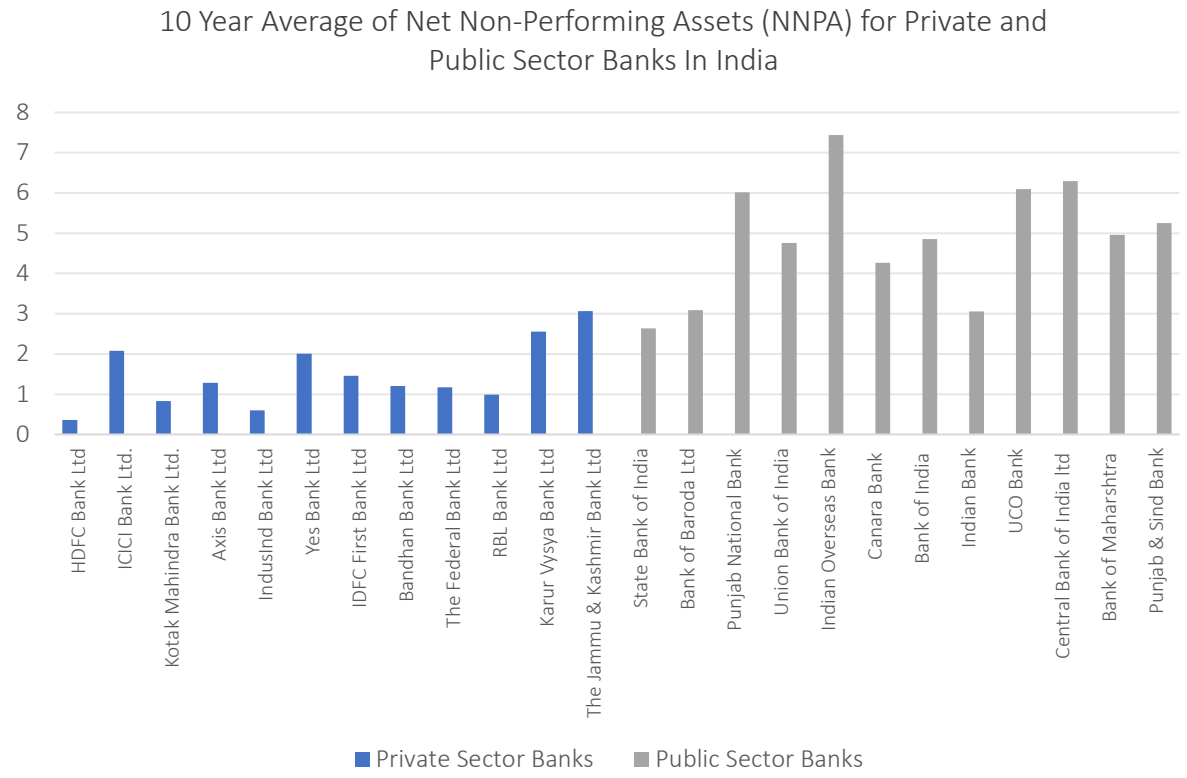

Figure 3. 10-year average of Net Non-Performing Assets (NNPA) for private and public sector banks in India

Table 8. 10-year average CASA ratio and group rankings for public and private sector banks in India

Private Banks			Public		
Bank Name	**CASA Ratio (%)**	**Rank**	**Bank Name**	**CASA Ratio (%)**	**Rank**
The Jammu & Kashmir Bank Ltd	49.94	1	Bank of Maharashtra	46.74	1
Kotak Mahindra Bank Ltd.	48.37	2	State Bank of India	43.73	2
ICICI Bank Ltd.	47.18	3	Central Bank of India Ltd	42.75	3
Axis Bank Ltd.	46.56	4	Punjab National Bank	41.32	4
HDFC Bank Ltd.	44.69	5	Indian Overseas Bank	36.03	5
IndusInd Bank Ltd.	39.10	6	Indian Bank	35.67	6
Bandhan Bank Ltd.	35.90	7	UCO Bank	35.34	7
The Federal Bank Ltd.	32.85	8	Union Bank of India	33.90	8
Yes Bank Ltd.	29.37	9	Bank of Baroda Ltd	33.79	9
Karur Vysya Bank Ltd.	28.63	10	Bank of India	32.47	10
IDFC First Bank Ltd.	27.19	11	Canara Bank	29.47	11
RBL Bank Ltd.	26.29	12	Punjab & Sind Bank	27.29	12

Note: In the table, higher CASA is given a higher ranking.

Table 9. ANOVA: Single factor of CASA ratio for private and public sector banks in India

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (Df)	Mean Square (MS)	F-Statistic	P-value	F critical
Between Groups (Private vs Public Banks)	12.86929	1	12.86929	0.219951	0.643691	4.30095
Within Groups (Bank Comparison)	1287.216	22	58.50981	–	–	–

a Net NPA ratio of 0.36%, indicating a relatively small proportion of non-performing assets compared to its total loan portfolio. In contrast, the State Bank of India, the top-ranked public sector bank, has a significantly higher Net NPA ratio of 2.64%, signifying a larger portion of non-performing assets relative to its loan portfolio.

The one-way ANOVA examines the differences in Net NPA between private and public sector banks. Private Banks exhibited a significantly lower mean Net NPA (M = 1.47, SD = 0.66) than public entities (M = 4.89, SD = 2.13), as shown in Table 7. This suggests that public banks have a substantially higher level of NPAs than private entities. Since the p-value is less than 0.05 (3.94E-07) it can be concluded that there is a statistically significant difference in the mean of Net NPA for public and private sector banks. Public sector banks tend to have higher non-performing assets than private sector banks.

A higher CASA ratio is essential for banks as it lowers their cost of funds, leading to improved net interest margins. This ratio reflects the proportion of low-cost deposits, like current and savings accounts. Table 8 shows 10 Years Average CASA Ratio and Group Rankings for Public and Private Sector Banks. By comparing the average CASA ratios, it is found that the average CASA ratio for public sector banks (37.3333) is slightly higher than that of private banks (37.1485). However, the difference is nominal, suggesting that, on average, both private and public sector banks rely similarly on low-cost current and savings account deposits for their funding needs. In recent times, Private sector banks may have faced higher demand for credit, prompting a focus on term deposits, which offer larger and more stable funding than CASA deposits. Additionally, customers may prefer term deposits due to higher interest rates or perceived security. Consequently, private banks adjusted deposit strategies, leading to a decline in the CASA deposit ratio compared to PSBs.

The one-way ANOVA assesses the CASA Ratio (%) differences between private and public sector banks. Private Banks had an average CASA Ratio (%) of 38.00 (SD = 9.05), while public banks had an average CASA Ratio (%) of 36.54 (SD = 5.93), as shown in Table 9. However, this difference was not statistically significant as the p-value is more than 0.05 (0.6436).

Over the last ten years, the difference in average total deposits between private and public sector banks in India has been quite noticeable. Table 10 shows the 10-year average total deposits (cr)

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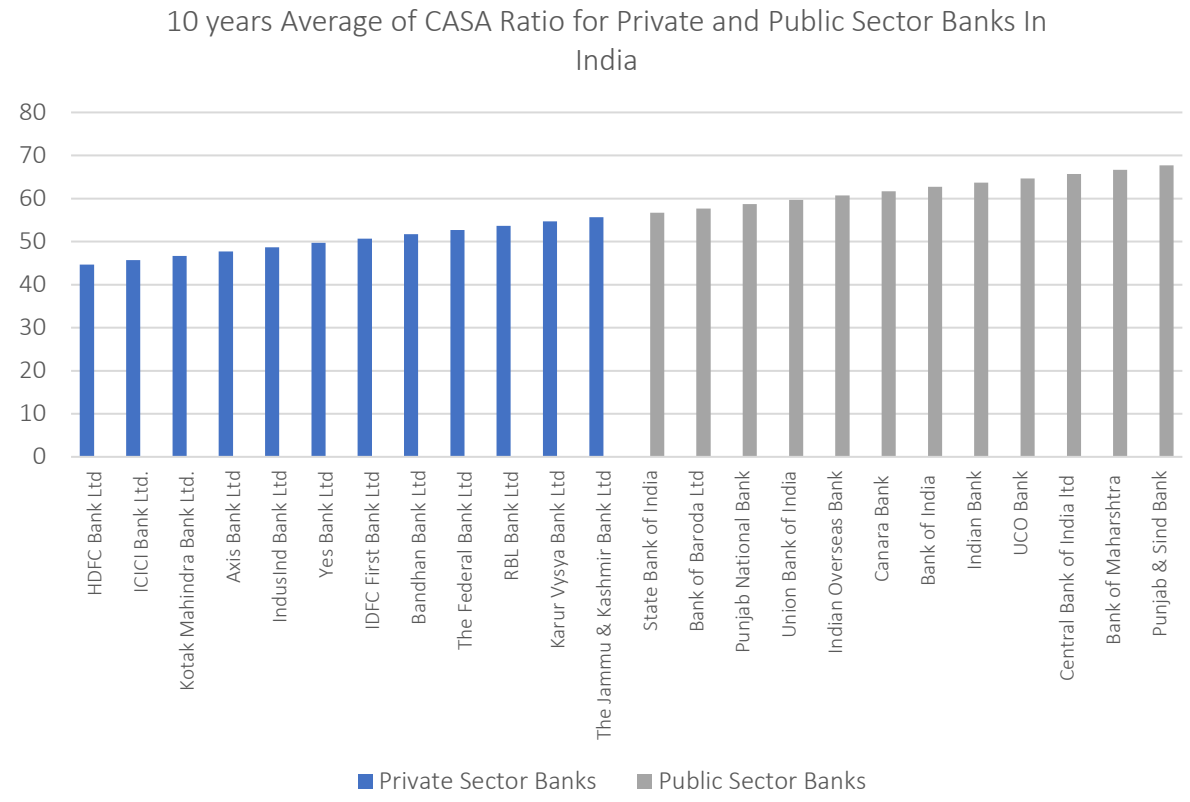

Figure 4. 10-year average of CASA ratio for private and public sector banks in India

Table 10. 10-year average total deposits (cr) and group rankings for public and private sector banks in India

Private Banks			Public		
Bank Name	**Total Deposits (cr)**	**Rank**	**Bank Name**	**Total Deposits (cr)**	**Rank**
HDFC Bank Ltd	964528.30	1	State Bank of India	2776261.00	1
ICICI Bank Ltd.	676774.10	2	Bank of Baroda Ltd	775478.00	2
Axis Bank Ltd	548483.50	3	Punjab National Bank	768334.60	3
Kotak Mahindra Bank Ltd.	206622.50	4	Canara Bank	689528.90	4
IndusInd Bank Ltd	178907.90	5	Union Bank of India	568216.40	5
Yes Bank Ltd	153131.50	6	Bank of India	558373.50	6
The Federal Bank Ltd	127436.00	7	Indian Bank	315574.60	7
The Jammu & Kashmir Bank Ltd	88918.70	8	Central Bank of India Ltd	299891.40	8
IDFC First Bank Ltd	63463.40	9	Indian Overseas Bank	233553.00	9
Karur Vysya Bank Ltd	57646.20	10	UCO Bank	207456.30	10
Bandhan Bank Ltd	50208.10	11	Bank of Maharashtra	155704.50	11
RBL Bank Ltd	48475.80	12	Punjab & Sind Bank	94609.70	12

Note: In the table, higher total deposits are given a higher ranking.

and group rankings for public and private sector banks. For example, HDFC Bank Ltd, a major private bank, has had an average total deposit of about 964,528.30 crores during this time. The State Bank of India (SBI), the largest public sector bank, has maintained a much higher average total deposit of around 2,776,261.00 crores. This illustrates the significant gap in deposit amounts between private and public sector banks in India. An eagle-eyed view of the findings also reveals that the State Bank of India has no rival regarding customer deposits. SBI's total deposits in the study period were about 258% higher than the second-highest deposit holder in the public sector, i.e., Bank of Baroda Ltd. The increase in deposits can be attributed to the extensive branch network of

Table 11. ANOVA: Single factor of total deposits (cr.) for private and public sector banks in India

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (Df)	Mean Square (MS)	F-Statistic	P-value	F critical
Between Groups (Private vs Public Banks)	7.63E+11	1	7.63E+11	2.503474	0.127867	4.30095
Within Groups (Bank Comparison)	6.7E+12	22	3.05E+11	–	–	–

public sector banks, the trust that the Indian public places in government-owned banks, and the expanding collaborations between public sector banks and third-party service providers, enhancing accessibility.

The one-way ANOVA was conducted to compare the Total Deposits (in crores) between private and public sector banks. Private banks had an average Total Deposit of approximately 263,716 crores (SD = 299,868 crores), while public banks had an average Total Deposit of approximately 620,248 crores (SD = 721,097 crores), as shown in Table 11. However, this difference was not statistically significant as p-value is more than 0.05 (0.1278). Therefore, it can be concluded that there is no significant difference in the mean total deposits between Indian public and private sector banks.

Pitting the financial performance of public and private sector banks against each other reveals two distinct paradigms unfolding in the Indian context. Public sector banks dominate deposit mobilization due to their historical advantages and public trust. However, the private sector outperforms in profitability and risk management metrics. The higher NIMs suggest that private-sector banks exhibit strong profitability and better asset utilization, which is attractive from an investment point of view. In contrast, the consistent under-performance of the public sector in NIMs raises serious questions about its lending practices.

The Gross and Net NPA ratios further reinforce these findings. The lower incidence of non-performing assets within private sector banks indicates their rigorous loan approval and credit recovery mechanisms. The public sector suffers from a

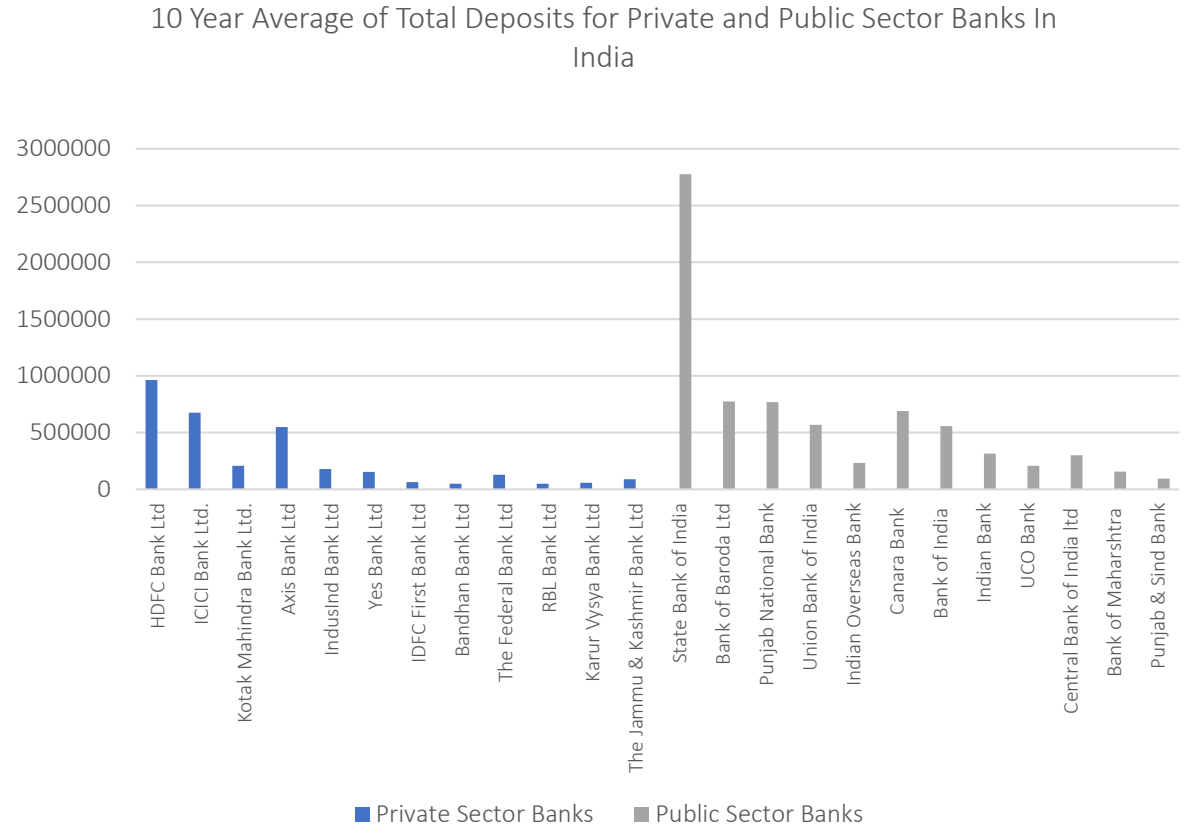

Figure 5. 10-year average of total deposits for private and public sector banks in India

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higher occurrence of non-performing assets. While a proportion of this is owed to lending loans on softer terms toward strategically important vulnerable sections, it is also necessary to scrutinize if its credit lending procedures are stringent enough.

A shift toward more stable term deposits might explain the similarity in the public and private sector CASA ratios. This promises long-term growth opportunities even though they incur a higher cost of funds immediately. This long-sighted approach might be attractive for investors seeking sustainable returns.

The study has confirmed the supremacy of the private sector banks in India on crucial parameters which is in line with previous literature (Dixit, 2016; Gaikwad & Shinde, 2020; Kumari & Ramakrishnaiah, 2022), The results of the current study lean on sector-specific ratios, which appreciate the dynamics of the banking sector. The careful selection of these ratios ensures that generic formulae are not indiscriminately applied to the banking sector to reach misleading conclusions that might be unsuitable for its needs.

The present study serves as the foundation for different future research directions. Researchers could conduct a longitudinal study to examine trends in performance over time or a cross-country analysis to investigate region-specific comparisons. The impact of regulatory changes on the dynamics between the public and private sectors could also be analyzed.

CONCLUSION

The study analyzes the financial performance of public and private banks in India from an investment perspective. As per the findings of the study, the private sector has a clear upper hand in net interest margins, gross NPAs, and net NPAs. The public and private sectors are neck-to-neck, with no statistical difference in their CASA ratios and total deposits. This concludes that the public sector does not outperform the private sector in any of the ratios analyzed for the study period.

Investors seeking to diversify their portfolio with banking stocks can hold the private sector banking companies with sound financial performance and risk management systems. In particular, the HDFC Bank Ltd. in the private sector has consistently performed well on most of the parameters. On the other hand, the SBI has shown its dominance among the public sector banks by achieving the top rank in every ratio except the CASA ratio, where it ranked second after the Bank of Maharashtra. The study concludes that private sector banks demonstrate superior efficiency to public sector banks in India, particularly in profitability, risk management, and asset quality.

Policy reforms are critical for public sector banks to withstand the stiff competition from the private sector. The threat of Non-Performing Assets shadows the public sector more closely than the private sector. Hence, management must streamline the credit risk management approach to create a healthier loan portfolio.

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