

COMPARATIVE FINANCIAL PERFORMANCE OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA: EVIDENCE FROM SELECTED BANKS (2015–2021)

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Abstract

The banking sector plays a pivotal role in promoting economic growth, financial inclusion, capital formation, and monetary stability in India. Following financial sector reforms, both public and private sector banks have expanded their operations significantly while facing increasing competition, technological transformation, and evolving regulatory requirements. The present study evaluates and compares the financial performance of selected public and private sector banks in India during the period 2015–16 to 2020–21. The analysis is based on twelve financial performance indicators representing capital adequacy, liquidity, profitability, operational efficiency, solvency, and asset utilization. Secondary data were collected from the published annual reports of the selected banks. Paired sample t-tests were employed to examine the financial performance and compare the two banking groups.

The empirical findings indicate that private sector banks generally outperformed public sector banks in terms of capital adequacy, credit deployment, profitability, operational efficiency, and non-interest income generation. Public sector banks demonstrated comparatively stronger liquidity in selected indicators but lagged in several profitability and efficiency measures. Although differences were observed across most financial ratios, the magnitude and statistical significance varied among performance indicators. The findings suggest that technological adoption, prudent risk management, efficient resource utilization, and diversified income sources have contributed substantially to the superior financial performance of private sector banks during the study period.

The study provides useful insights for policymakers, banking regulators, investors, and bank management in formulating strategies to improve competitiveness and financial sustainability in the Indian banking industry.

Keywords: Public Sector Banks, Private Sector Banks, Financial Performance, Paired t-Test, Banking Efficiency

INTRODUCTION

The banking system constitutes one of the most important pillars of a nation's financial architecture. It mobilizes savings, facilitates investment, provides credit to productive sectors, supports entrepreneurship, enables payment systems, and contributes significantly to economic development. An efficient banking sector strengthens financial stability and enhances the overall productivity of an economy by ensuring the effective allocation of financial resources. In developing economies such as India, banks perform an even broader developmental role by promoting financial inclusion, rural development, infrastructure financing, agricultural credit, and industrial growth. Consequently, the performance of banks has a direct influence on macroeconomic stability and sustainable economic development.

The Indian banking industry has undergone remarkable transformation over the last three decades. The economic reforms initiated in 1991 introduced greater competition, deregulation, prudential norms, and technological modernization. These reforms encouraged the entry and expansion of private sector banks while simultaneously compelling public sector banks to improve efficiency, customer service, and financial performance. Regulatory initiatives introduced by the Reserve Bank of India (RBI), including Basel norms, enhanced capital adequacy requirements, stricter asset quality regulations, digital banking initiatives, and corporate governance reforms, have fundamentally altered the competitive landscape of the Indian banking sector.

Public sector banks continue to dominate the banking system in terms of branch network, financial inclusion initiatives, and priority sector lending. Their role extends beyond commercial banking objectives to supporting government welfare schemes, rural credit expansion, and socio-economic development. However, these institutions often encounter challenges associated with higher non-performing assets, operational inefficiencies, legacy systems, and comparatively slower decision-making processes.

In contrast, private sector banks have increasingly focused on operational efficiency, technology-driven banking services, customer-centric business models, innovation, and diversified revenue generation. Their emphasis on digital transformation, data analytics, risk management, and product innovation has enabled them to strengthen profitability and improve overall financial performance. Consequently, comparisons between

public and private sector banks have attracted considerable attention among researchers, regulators, investors, and policymakers.

Financial performance evaluation provides a scientific basis for assessing the efficiency, profitability, liquidity, solvency, and operational effectiveness of banking institutions. Ratio analysis remains one of the most widely accepted approaches for measuring banking performance because it converts complex financial statements into meaningful indicators that facilitate comparison across institutions and over time. Capital adequacy ratios indicate the financial strength of banks, profitability ratios assess earnings performance, liquidity ratios measure short-term financial resilience, while efficiency ratios evaluate resource utilization and operational effectiveness.

The period covered in the present study represents a particularly significant phase in the evolution of Indian banking. During these years, banks experienced rapid digitalization, implementation of Basel III norms, increasing adoption of electronic payment systems, consolidation through mergers among public sector banks, and unprecedented operational challenges arising from the COVID-19 pandemic. These developments substantially influenced the financial performance of banks and created new dimensions for comparative evaluation.

Against this backdrop, the present study undertakes a comprehensive comparative assessment of selected public and private sector banks using twelve important financial performance indicators. Unlike studies focusing solely on profitability or asset quality, this research incorporates multiple dimensions of banking performance, thereby providing a holistic evaluation of the financial strength and operational efficiency of both categories of banks. The findings are expected to contribute to the growing body of banking literature and offer practical insights for bank management, policymakers, regulators, investors, and researchers interested in the future development of India's banking sector.

LITERATURE REVIEW

The empirical literature demonstrates that banking performance is a multidimensional concept influenced by profitability, liquidity, capital adequacy, operational efficiency, asset quality, and managerial effectiveness. Earlier studies primarily focused on profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM) to evaluate bank performance (Pathak, 2003; Singla, 2008). However, subsequent research recognized that profitability alone is insufficient to measure the financial soundness of banks, particularly after the implementation of Basel norms and increased regulatory oversight. Consequently, researchers expanded the analytical framework to include capital adequacy, liquidity, credit-deposit ratio, asset quality, and operational efficiency (Goel & Bajpai, 2013; Kumar & Gulati, 2014). This shift reflects the growing understanding that sustainable banking performance depends on maintaining an appropriate balance between profitability, risk management, and financial stability.

A comparison of public and private sector banks has produced diverse findings across different time periods and performance dimensions. Several studies reported that private sector banks outperform public sector banks in terms of profitability, operational efficiency, technological adoption, and customer service because of greater managerial flexibility and market-oriented business strategies (Balasubramanian, 2007; Chaudhary & Sharma, 2011; Kumar & Gulati, 2014). In contrast, public sector banks have been found to perform better in promoting financial inclusion, priority sector lending, and branch expansion, thereby fulfilling broader socio-economic objectives beyond profit maximization (Kaur, 2012).

These findings suggest that performance evaluation should not be restricted to financial returns alone but should also consider the developmental responsibilities assigned to public sector institutions.

Another important trend emerging from the literature is the increasing significance of capital adequacy, liquidity management, and risk mitigation in determining banking performance. Studies conducted after the global financial crisis highlighted that banks maintaining stronger capital buffers and prudent liquidity management were better positioned to withstand economic uncertainties (Goel & Bajpai, 2013). Similarly, Mistry (2014) emphasized that effective corporate governance, sound financial management, and transparency contribute significantly to improving profitability and long-term financial sustainability. More recent research also indicates that diversified income sources, particularly non-interest income, have become increasingly important for enhancing profitability while reducing dependence on traditional lending activities (Mistry & Savani, 2015). These findings underline the need for a comprehensive performance assessment framework incorporating multiple financial indicators.

The COVID-19 pandemic introduced a new dimension to banking research by highlighting the importance of institutional resilience, digital transformation, and operational continuity. Recent studies indicate that banks with stronger digital infrastructure, diversified income streams, and better risk management practices recovered more rapidly from pandemic-induced disruptions (International Monetary Fund [IMF], 2024; Reserve Bank of India [RBI], 2024). The rapid adoption of internet banking, mobile banking, Unified Payments Interface (UPI), artificial intelligence-based customer services, and digital payment ecosystems significantly altered banking operations and customer behaviour. Consequently, post-pandemic banking performance cannot be interpreted solely through conventional profitability measures but must also consider technological capability and organizational adaptability.

Although the existing literature provides valuable insights into banking performance, several limitations remain evident. First, many studies evaluate performance using only a limited number of financial ratios, thereby overlooking the multidimensional nature of banking operations. Second, a considerable proportion of comparative studies were conducted before the COVID-19 pandemic and therefore do not capture the structural changes resulting from digital transformation, regulatory reforms, and post-pandemic recovery. Third, previous research frequently concentrates either on profitability or efficiency without integrating liquidity, solvency, capital adequacy, operational efficiency, and income diversification into a unified analytical framework. Furthermore, findings regarding the relative superiority of public and private sector banks remain inconclusive because of differences in sample selection, study period, statistical techniques, and performance indicators. These inconsistencies justify the need for a more comprehensive comparative investigation.

RESEARCH GAP

Based on the foregoing review, it is evident that substantial research has been undertaken on the financial performance of Indian banks. However, limited studies have comprehensively compared public and private sector banks using a broad set of financial indicators over an extended period while integrating recent developments such as digital transformation, regulatory reforms, and post-pandemic recovery. Moreover, the existing literature reports inconsistent findings regarding comparative performance because of variations in methodology and sample characteristics. Therefore, the present study seeks to bridge these gaps by conducting a holistic comparative assessment of selected public and private sector banks using twelve financial performance indicators and appropriate statistical techniques. The study is expected to provide updated empirical evidence that will contribute to the literature on banking performance and assist policymakers, regulators, investors, and bank management in formulating strategies for enhancing the competitiveness and sustainability of the Indian banking sector.

RESEARCH METHODOLOGY

Research Design

The present study adopts a quantitative, descriptive, and comparative research design to evaluate the financial performance of selected public and private sector banks in India. A quantitative approach is appropriate because the study relies on numerical financial indicators extracted from audited financial statements to compare the financial position and operational efficiency of banks. The comparative design facilitates the identification of similarities and differences between public and private sector banks across multiple dimensions of financial performance.

The study is based on secondary financial data and employs statistical techniques to test whether significant differences exist between the two banking groups. By integrating ratio analysis with inferential statistical methods, the study provides objective evidence regarding the relative financial performance of the selected banks.

Research Objectives

The study is guided by the following objectives:

1. To evaluate the financial performance of selected public sector and private sector banks in India.
2. To compare the financial performance of public and private sector banks using selected financial indicators.
3. To identify the financial strengths and weaknesses of the selected banks.
4. To examine whether significant differences exist between public and private sector banks with respect to financial performance.

Research Hypotheses

To achieve the above objectives, the following hypotheses are formulated.

Overall Hypothesis

Null Hypothesis (H_0):

There is no statistically significant difference between the financial performance of selected public sector and private sector banks in India.

Alternative Hypothesis (H_1):

There is a statistically significant difference between the financial performance of selected public sector and private sector banks in India.

The above hypothesis is tested separately for each selected financial ratio using paired sample t-tests.

Nature and Sources of Data

The study is entirely based on secondary data collected from authentic and publicly available sources. Financial information has been obtained from:

- Published Annual Reports of the selected banks
- Reserve Bank of India publications

- RBI Report on Trend and Progress of Banking in India
- RBI Statistical Tables Relating to Banks in India
- Official websites of the respective banks
- Published research articles
- Books
- Government reports
- RBI Bulletins

The use of audited financial statements enhances the reliability and authenticity of the data used in the analysis.

Sample Design

Population

The population comprises all scheduled commercial banks operating in India.

Sampling Technique

A non-probability purposive sampling technique was adopted to select representative public sector and private sector banks based on market presence, operational size, and availability of financial information.

Sample Banks

Table 1 Sample Banks	
Public Sector Banks	Private Sector Banks
State Bank of India	HDFC Bank
Punjab National Bank	ICICI Bank
Bank of Baroda	Axis Bank
Canara Bank	Kotak Mahindra Bank

Study Period

The study covers the financial performance of the selected banks during 2015–16 to 2020–21.

Variables Used in the Study

The financial performance of banks is evaluated using twelve financial ratios selected on the basis of previous literature and their relevance to banking operations.

Table 2 Financial Performance Indicators		
Variable	Indicator	Purpose
X ₁	Capital Adequacy Ratio	Financial Strength
X ₂	Credit–Deposit Ratio	Lending Efficiency
X ₃	Current Ratio	Liquidity
X ₄	Interest Income to Total Fund Ratio	Income Generation
X ₅	Loans Turnover Ratio	Operational Efficiency
X ₆	Net Profit Margin Ratio	Profitability
X ₇	Non-Interest Income to Total Fund Ratio	Income Diversification
X ₈	Quick Ratio	Liquidity Position
X ₉	Return on Assets	Asset Utilization
X ₁₀	Return on Net Worth	Shareholders' Return
X ₁₁	Total Assets Turnover Ratio	Asset Efficiency
X ₁₂	Total Debt to Owners' Fund Ratio	Solvency

These indicators collectively capture the capital adequacy, liquidity, profitability, operational efficiency, and solvency dimensions of bank performance.

Statistical Tools

The collected data were analysed using descriptive and inferential statistical techniques.

The following statistical tools were employed:

- Mean
- Standard Deviation
- Variance
- Ratio Analysis
- Paired Sample t-Test

Descriptive statistics summarize the financial performance of individual banks, whereas inferential statistics determine whether observed differences between public and private sector banks are statistically significant. The level of significance for hypothesis testing is 5% ($\alpha = 0.05$).

Analytical Framework

The analytical framework of the study consists of four stages:

1. Collection of audited financial data.
2. Computation of financial ratios.
3. Statistical comparison of public and private sector banks using ANOVA and paired sample t-tests.
4. Interpretation of results and formulation of conclusions and policy implications.

This structured framework ensures a systematic evaluation of financial performance across the selected banking institutions.

SCOPE OF THE STUDY

The study is confined to selected public and private sector commercial banks in India. It focuses exclusively on financial performance measured through accounting-based indicators and does not examine customer satisfaction, service quality, behavioural factors, or stock market performance. Therefore, the findings should be interpreted within the scope of the selected banks, variables, and study period.

LIMITATIONS OF THE STUDY

The study has certain limitations:

1. It is based exclusively on secondary financial data.
2. The analysis is confined to selected banks and may not represent the entire Indian banking sector.
3. The findings depend upon the accuracy of published annual reports.
4. Macroeconomic variables such as inflation, GDP growth, and monetary policy changes have not been incorporated into the statistical analysis.
5. The study focuses on accounting-based performance indicators and does not evaluate market-based performance measures.

RESULTS AND DISCUSSION

Table 3 Comparative Financial Performance of Public and Private Sector Banks

Financial Indicator	Public Sector Banks (Mean)	Private Sector Banks (Mean)	Better Performing Sector
Capital Adequacy Ratio	12.422	16.971	Private
Credit-Deposit Ratio	71.120	89.790	Private
Current Ratio	0.053	0.089	Private
Interest Income / Total Fund	7.096	8.916	Private
Loans Turnover Ratio	0.119	0.145	Private
Net Profit Margin	-4.578	8.345	Private
Non-Interest Income / Total Fund	1.026	1.869	Private
Quick Ratio	26.443	18.914	Public
Return on Assets	213.706	214.576	Private (Marginal)
Return on Net Worth	-5.209	3.604	Private
Total Assets Turnover	0.071	0.090	Private
Total Debt to Owners' Fund	17.401	8.489	Private (Lower leverage)

Source: Computed from annual reports of the selected banks.

Comparative Analysis of Financial Performance

The financial performance of the selected public and private sector banks was evaluated using twelve financial indicators representing capital adequacy, liquidity, profitability, operational efficiency, income generation, asset utilization, and solvency. Mean values were first compared between the two banking groups, followed by paired sample t-tests to determine whether the observed differences were statistically significant.

Overall, the results indicate that private sector banks performed better than public sector banks on most financial indicators. The superior performance of private sector banks can be attributed to greater operational efficiency, improved risk management practices, diversified income sources, and higher adoption of technology-driven banking services. Public sector banks, however, maintained stronger liquidity in selected

indicators and continued to play an important developmental role through priority sector lending and financial inclusion initiatives.

Capital Adequacy Ratio (CAR)

Capital adequacy is an important indicator of a bank's financial strength because it reflects its ability to absorb unexpected losses while protecting depositors and maintaining financial stability. The analysis revealed that the average Capital Adequacy Ratio of the selected private sector banks was higher than that of the public sector banks. The paired sample t-test indicated that this difference was statistically significant at the 5% significance level, suggesting that private sector banks maintained stronger capital buffers during the study period.

Higher capital adequacy enables banks to withstand economic uncertainty, comply with Basel III requirements, and support future business expansion. Similar findings have been reported by Kumar and Gulati (2014), who observed that efficient capital management enhances banking stability and long-term competitiveness. Likewise, the Reserve Bank of India (2024) reported that stronger capitalization has been one of the major contributors to the resilience of the Indian banking sector in recent years.

Credit-Deposit Ratio (CDR)

The Credit-Deposit Ratio measures the extent to which deposits mobilized by banks are converted into loans and advances. The results indicate that private sector banks recorded a significantly higher average Credit-Deposit Ratio than public sector banks, and the difference was statistically significant.

A higher Credit-Deposit Ratio generally indicates more effective utilization of available financial resources for lending activities. However, excessively high values may also expose banks to liquidity risks if not supported by prudent risk management. The findings suggest that private sector banks adopted relatively aggressive lending strategies while maintaining adequate financial discipline.

These results are consistent with the findings of Balasubramanian (2007) and Chaudhary and Sharma (2011), who reported greater lending efficiency among private sector banks because of improved credit appraisal systems and stronger operational flexibility.

Liquidity Performance

Liquidity was assessed using both the Current Ratio and the Quick Ratio. The findings reveal contrasting results across these indicators. Although the Current Ratio was marginally higher for private sector banks, the difference was not statistically significant. In contrast, public sector banks demonstrated a significantly higher Quick Ratio, indicating a comparatively stronger ability to meet immediate financial obligations without relying on the liquidation of less liquid assets.

These findings suggest that while private sector banks maintained efficient working capital management, public sector banks adopted relatively conservative liquidity policies. Such conservative liquidity management may be attributed to their broader public responsibilities, larger deposit base, and regulatory obligations.

Similar observations have been reported by Goel and Bajpai (2013), who emphasized that prudent liquidity management played an important role in maintaining financial stability during periods of economic uncertainty.

Profitability Analysis

Profitability constitutes one of the most important indicators of financial performance because it reflects management's ability to generate sustainable earnings. The study examined profitability using Net Profit Margin, Return on Assets (ROA), and Return on Net Worth (RONW).

Private sector banks reported higher average profitability across most indicators. Although the difference in Net Profit Margin was not statistically significant, the consistently higher mean values indicate relatively better earnings performance. Similarly, Return on Assets and Return on Net Worth demonstrated comparatively stronger financial performance among private sector banks, reflecting more efficient utilization of available assets and shareholders' funds.

Higher profitability among private sector banks may be explained by lower operating costs, greater digitalization, diversified fee-based income, and more effective credit risk management. These findings support those of Mistry and Savani (2015), who reported that operational efficiency and asset utilization significantly influence bank profitability.

Income Generation and Operational Efficiency

The study also evaluated Interest Income to Total Funds, Non-Interest Income to Total Funds, Loans Turnover Ratio, and Total Asset Turnover Ratio to assess operational efficiency.

Private sector banks generated significantly higher non-interest income, indicating greater diversification of revenue through digital banking services, investment banking, insurance distribution, wealth management, and transaction-based services. Such diversification reduces dependence on interest income and strengthens long-term financial sustainability.

Similarly, higher Loans Turnover and Total Asset Turnover ratios suggest that private sector banks utilized their assets more efficiently for income generation. These findings highlight the importance of technological innovation, customer-oriented services, and effective resource allocation in improving banking performance.

OVERALL DISCUSSION

The comparative analysis demonstrates that private sector banks outperformed public sector banks across most financial dimensions, particularly capital adequacy, lending efficiency, profitability, income diversification, and operational efficiency. These findings are consistent with much of the contemporary literature, which attributes superior performance to stronger governance, greater technological adoption, efficient risk management, and managerial flexibility.

However, the results should not be interpreted as indicating overall superiority of one banking group over the other. Public sector banks continue to perform important developmental functions by promoting financial inclusion, extending priority sector credit, supporting government welfare programmes, and maintaining financial stability. Consequently, their performance should also be evaluated from a socio-economic perspective rather than solely through profitability indicators.

The findings suggest that public sector banks can further improve their financial performance by strengthening digital transformation, diversifying income sources, improving operational efficiency, and adopting advanced risk management practices. At the same time, private sector banks should continue maintaining prudent capital adequacy and sound governance to sustain their competitive advantage.

Table 4 Summary of Paired Sample t-Test Results

Variable	t-value	p-value	Result	Interpretation
Capital Adequacy Ratio	2.864	0.024	Significant	Private banks performed better
Credit-Deposit Ratio	5.298	0.001	Significant	Private banks performed better
Current Ratio	1.759	0.122	Not Significant	Similar liquidity position
Interest Income / Total Fund	1.974	0.089	Not Significant	Comparable interest earning efficiency
Loans Turnover Ratio	2.145	0.069	Not Significant	Comparable loan utilization
Net Profit Margin	1.418	0.199	Not Significant	Similar profitability statistically
Non-Interest Income / Total Fund	6.810	0.000	Significant	Private banks earned higher fee income
Quick Ratio	-2.812	0.026	Significant	Public banks maintained stronger liquidity
Return on Assets	0.011	0.991	Not Significant	Similar asset utilization
Return on Net Worth	1.048	0.329	Not Significant	Similar shareholder returns statistically
Total Assets Turnover	2.007	0.085	Not Significant	Similar asset utilization efficiency
Total Debt to Owners' Fund	-5.509	0.001	Significant	Public banks carried higher leverage

Source: Author's calculations based on paired sample t-test.

Table 4 presents the results of the paired sample *t*-test conducted to determine whether statistically significant differences exist between the financial performance of selected public sector and private sector banks across twelve financial performance indicators. The analysis reveals that significant differences were observed for five variables, whereas the remaining seven variables did not exhibit statistically significant differences at the 5% level of significance.

Capital Adequacy Ratio (CAR)

The paired sample *t*-test produced a *t*-value of **2.864** with a **p-value of 0.024**, which is lower than the significance level of 0.05. Therefore, the null hypothesis is rejected, indicating a statistically significant difference between public and private sector banks regarding capital adequacy. The higher average CAR reported by private sector banks suggests that they maintained stronger capital buffers during the study period. Adequate capitalization enhances a bank's ability to absorb unexpected losses, comply with Basel III norms, and strengthen depositor confidence. The superior capital position of private sector banks reflects prudent financial management and stronger regulatory preparedness, thereby contributing to long-term financial stability and sustainable growth.

Credit-Deposit Ratio (CDR)

The *t*-test results indicate a **t-value of 5.298** with a **p-value of 0.001**, confirming a statistically significant difference between the two banking groups. The significantly higher Credit-Deposit Ratio observed among private sector banks indicates more effective utilization of mobilized deposits for lending activities. This suggests that private banks were more efficient in converting deposits into productive assets, thereby improving their earning potential. Public sector banks, while maintaining relatively conservative lending policies, may have been influenced by priority sector lending obligations and higher risk aversion.

Current Ratio (CR)

For the Current Ratio, the calculated **p-value of 0.122** exceeds the 5% significance level, indicating that the difference between public and private sector banks is not statistically significant. Although private sector banks reported a marginally higher average current ratio, the observed difference is insufficient to conclude that one

banking group maintained a superior short-term liquidity position. This finding suggests that both categories of banks followed similar working capital management practices and maintained adequate current assets to meet short-term obligations.

Interest Income to Total Fund Ratio

The paired sample *t*-test yielded a **t-value of 1.974** and a **p-value of 0.089**, indicating no statistically significant difference between public and private sector banks. Both banking groups generated comparable levels of interest income relative to total funds employed. Although private sector banks recorded slightly higher average values, the difference was not large enough to establish statistical significance. This finding implies that both banking groups effectively utilized their interest-bearing assets and followed similar lending strategies in generating interest income.

Loans Turnover Ratio

The Loans Turnover Ratio produced a **t-value of 2.145** and a **p-value of 0.069**, which is marginally above the 5% significance threshold. Consequently, the null hypothesis is accepted. The results suggest that loan recovery and loan portfolio utilization were broadly comparable between public and private sector banks. While private banks demonstrated relatively better loan turnover, the difference was not statistically significant, indicating that both banking groups managed their loan portfolios with comparable effectiveness.

Net Profit Margin Ratio

The *t*-test results for Net Profit Margin indicate a **p-value of 0.199**, confirming the absence of a statistically significant difference. Although private sector banks achieved higher average profitability, variability among individual banks reduced the statistical significance of the difference. This suggests that profitability was influenced by several institution-specific factors such as operational costs, provisioning for non-performing assets, and business diversification rather than ownership alone.

Non-Interest Income to Total Fund Ratio

A **t-value of 6.810** and a **p-value below 0.001** indicate a highly significant difference between public and private sector banks. Private sector banks generated considerably higher non-interest income through fee-based services, digital banking, wealth management, insurance distribution, and other financial services. This result highlights the greater success of private banks in diversifying their revenue streams and reducing dependence on traditional interest income. Such diversification enhances financial resilience and supports long-term profitability.

Quick Ratio

The Quick Ratio recorded a **negative t-value (-2.812)** with a **p-value of 0.026**, indicating a statistically significant difference favouring public sector banks. The negative sign reflects the higher liquidity maintained by public sector banks. This suggests that public banks possessed a greater volume of highly liquid assets to meet immediate financial obligations. Their stronger liquidity position may be attributed to their larger deposit base, conservative treasury management, and broader public responsibilities.

Return on Assets (ROA)

The analysis of Return on Assets produced a **t-value of 0.011** and a **p-value of 0.991**, indicating virtually no statistical difference between the two banking groups. Although private sector banks reported a marginally higher average ROA, both categories of banks utilized their assets with comparable efficiency in generating profits. This finding suggests that asset utilization was broadly similar despite differences in business models and ownership structures.

Return on Net Worth (RONW)

The paired sample *t*-test yielded a **t-value of 1.048** with a **p-value of 0.329**, indicating no statistically significant difference. Private sector banks reported relatively higher returns on shareholders' equity; however, the variability among banks prevented the difference from reaching statistical significance. This result implies that both banking groups generated comparable returns to equity investors during the study period.

Total Assets Turnover Ratio

The Total Assets Turnover Ratio produced a **t-value of 2.007** and a **p-value of 0.085**, indicating no statistically significant difference. Although private sector banks utilized their assets slightly more efficiently to generate revenue, the statistical evidence suggests that overall asset utilization efficiency remained comparable between public and private sector banks.

Total Debt to Owners' Fund Ratio

The final variable recorded a **t-value of -5.509** with a **p-value of 0.001**, indicating a statistically significant difference between the two banking groups. Public sector banks maintained significantly higher debt relative to owners' funds, reflecting greater financial leverage. Conversely, private sector banks relied comparatively more on shareholders' equity and internal capital, indicating a stronger solvency position and lower financial risk.

Overall Inference

Overall, the paired sample *t*-test demonstrates that ownership structure significantly influences certain dimensions of banking performance, particularly **capital adequacy, credit deployment, non-interest income generation, liquidity, and financial leverage**. However, variables relating to **profitability, asset utilization, loan management, and shareholder returns** did not differ significantly between public and

private sector banks. These findings suggest that while private sector banks generally exhibit stronger financial performance through efficient resource utilization, diversified income sources, and stronger capitalization, public sector banks continue to maintain higher liquidity and fulfill broader developmental objectives. Consequently, both banking groups possess distinct strengths, and policy measures should focus on improving operational efficiency and capital management in public sector banks while encouraging private sector banks to sustain prudent risk management and financial stability.

Table 5 Overall Comparative Assessment

Performance Dimension	Public Sector Banks	Private Sector Banks
Capital Adequacy	Moderate	Excellent
Credit Deployment	Moderate	Excellent
Liquidity	Excellent	Good
Interest Income	Good	Better
Loan Management	Good	Better
Profitability	Moderate	Better
Fee-based Income	Moderate	Excellent
Asset Utilization	Good	Better
Shareholders' Return	Moderate	Better
Financial Leverage	Higher Debt	Lower Debt
Overall Performance	Good	Very Good

Table 5 presents the overall comparative assessment of the financial performance of selected public and private sector banks. The analysis indicates that private sector banks outperformed public sector banks in most performance dimensions, including capital adequacy, credit deployment, profitability, fee-based income, asset utilization, shareholders' return, and overall financial performance. This superior performance may be attributed to efficient resource utilization, diversified income sources, effective risk management, and greater adoption of technology-driven banking practices. In contrast, public sector banks demonstrated a stronger liquidity position, reflecting their conservative financial management and ability to meet short-term obligations. However, they also maintained relatively higher financial leverage due to greater dependence on debt financing. Overall, the findings suggest that while private sector banks exhibited better financial efficiency and competitiveness, public sector banks continued to play an important role in maintaining financial stability and promoting inclusive banking services.

CONCLUSION

The present study examined the comparative financial performance of selected public and private sector banks in India using twelve financial indicators covering capital adequacy, liquidity, profitability, operational efficiency, asset utilization, and solvency during the study period. The comparative analysis revealed that both categories of banks played a significant role in the Indian financial system; however, notable differences were observed in their financial performance.

The empirical results indicate that private sector banks consistently performed better across most of the selected financial indicators. They demonstrated superior capital adequacy, higher credit-deposit ratios, greater interest and non-interest income generation, stronger profitability, improved operational efficiency, and better asset utilization. These results suggest that private sector banks have been more successful in adopting technology-driven banking practices, diversifying revenue sources, optimizing operational costs, and strengthening risk management systems. Their ability to maintain higher financial efficiency while responding quickly to changing market conditions has enhanced their competitiveness within the Indian banking industry. In contrast, public sector banks exhibited relatively stronger liquidity, as reflected by the Quick Ratio, indicating their greater ability to meet short-term obligations. However, they also maintained higher debt relative to owners' funds, suggesting greater financial leverage and comparatively lower dependence on internally generated capital. Although public sector banks did not outperform private sector banks on most profitability and efficiency measures, they continue to fulfill critical developmental functions by promoting financial inclusion, supporting priority sector lending, implementing government welfare schemes, and maintaining banking access in rural and underserved regions. Therefore, their performance should be evaluated not only from the perspective of commercial profitability but also in terms of their broader socio-economic contributions.

The hypothesis testing further revealed that statistically significant differences existed between public and private sector banks with respect to Capital Adequacy Ratio, Credit-Deposit Ratio, Non-Interest Income to Total Fund Ratio, Quick Ratio, and Total Debt to Owners' Fund Ratio, whereas differences in Current Ratio,

Interest Income to Total Fund Ratio, Loans Turnover Ratio, Net Profit Margin, Return on Assets, Return on Net Worth, and Total Assets Turnover Ratio were not statistically significant. These findings indicate that although private sector banks generally reported better average performance, the differences were not uniformly significant across all financial dimensions.

Overall, the study concludes that private sector banks maintained a stronger competitive position during the study period because of better financial management, technological advancement, operational flexibility, and diversified business models. Nevertheless, public sector banks remain indispensable to the Indian banking system because of their developmental mandate, extensive branch network, and contribution to inclusive economic growth. Consequently, future banking reforms should focus on enhancing the operational efficiency of public sector banks while preserving their developmental role.

MANAGERIAL IMPLICATIONS

The findings of this study provide several important implications for bank management. First, public sector banks should strengthen capital planning and improve asset quality to enhance financial resilience and regulatory compliance. Improving operational efficiency through greater adoption of digital banking technologies, automation, artificial intelligence, and data analytics can reduce operating costs while improving customer service and profitability.

Second, the relatively lower non-interest income earned by public sector banks indicates the need to diversify revenue sources beyond conventional lending activities. Expansion of fee-based services such as wealth management, insurance distribution, digital payment services, investment advisory, and transaction banking can improve long-term financial sustainability.

Third, strengthening credit appraisal mechanisms and adopting advanced risk management practices can improve lending efficiency while reducing future non-performing assets. Greater emphasis on employee training, technological innovation, and customer relationship management may also enhance overall competitiveness.

Private sector banks should continue investing in technological innovation, cybersecurity, and customer-centric financial products while maintaining prudent capital adequacy and liquidity management. Sustaining operational excellence and effective governance will remain essential for preserving their competitive advantage in an increasingly dynamic banking environment.

POLICY IMPLICATIONS

The findings have significant implications for policymakers, regulators, and the Reserve Bank of India. First, policy initiatives should encourage public sector banks to improve operational efficiency without compromising their developmental responsibilities. Performance-linked governance reforms, digital transformation initiatives, and greater managerial autonomy may enhance financial performance while maintaining public accountability.

Second, regulatory authorities should continue promoting strong capital adequacy, prudent liquidity management, and effective corporate governance across the banking sector. Continuous monitoring of capital buffers and asset quality will further strengthen financial stability and resilience against future economic shocks.

Third, policies supporting digital banking infrastructure, cybersecurity, financial technology integration, and financial inclusion should be strengthened to ensure sustainable growth of the banking sector. Collaboration between traditional banks and fintech institutions can further enhance efficiency, innovation, and customer satisfaction.

Finally, strengthening financial literacy and expanding digital financial services in rural and semi-urban areas will contribute to inclusive economic development while improving the overall effectiveness of the Indian banking system.

LIMITATIONS OF THE STUDY

The study has certain limitations that should be considered while interpreting the findings.

1. The analysis is confined to selected public and private sector banks and therefore may not represent the performance of the entire Indian banking industry.
2. The study relies exclusively on secondary data obtained from published annual reports and official financial statements.
3. Financial performance has been evaluated primarily through accounting-based ratios without incorporating market-based indicators such as stock returns or market capitalization.
4. Macroeconomic variables including inflation, interest rates, GDP growth, and monetary policy changes have not been explicitly incorporated into the statistical analysis.
5. The study period does not fully capture the long-term post-pandemic transformation of the banking industry.

SCOPE FOR FUTURE RESEARCH

The present study offers several directions for future research.

Future studies may extend the analysis by including additional public, private, foreign, small finance, and payment banks operating in India. Comparative evaluation using more recent financial data would provide deeper insights into post-pandemic banking performance and the effects of digital transformation.

Researchers may also employ advanced econometric techniques such as panel data regression, Data Envelopment Analysis (DEA), Stochastic Frontier Analysis (SFA), CAMELS framework, Structural Equation Modelling (SEM), or machine learning approaches to identify determinants of banking performance more comprehensively.

Future investigations may further explore the influence of environmental, social, and governance (ESG) practices, fintech adoption, artificial intelligence, cybersecurity preparedness, and climate-related financial risks on banking performance. Comparative international studies involving emerging and developed economies could also provide valuable insights into the evolving dynamics of the global banking industry.

CONTRIBUTION OF THE STUDY

The present research contributes to the existing literature by providing a comprehensive comparative assessment of public and private sector banks using twelve financial performance indicators. Unlike many previous studies that focus on a limited set of profitability or efficiency measures, this study integrates capital adequacy, liquidity, profitability, operational efficiency, asset utilization, income diversification, and solvency within a unified analytical framework. The findings contribute to academic literature while providing practical guidance for bank management, investors, regulators, and policymakers seeking to improve the efficiency and sustainability of the Indian banking sector.

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