

A Comparative Analysis of Risk - Return Performance of Banking Companies Listed on the National Stock Exchange: A Study for the Period of April 2023 to March 2026

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Abstract

This study examines the risk - returns performance of five banking sector companies listed on the NSE (National Stock Exchange of India): HDFC Bank Ltd, ICICI Bank Ltd, State Bank of India, Kotak Mahindra Bank Ltd., and Axis bank limited. The study was conducted for the period of April 2023 to march 2026 and employs monthly adjusted closing prices collected from published sources. The analysis applied average return, normalised price trend, range, Standard deviation, coefficient of variation, correlation and beta, along with the Sharp ratio for risk adjusted performance evaluation of securities. The findings show considerable differences in return and risk across the selected securities. State Bank of India (SBIN) recorded the highest share price growth (79.07%) and the highest annual return (23.304%), while HDFC Bank Ltd. recorded a negative normalised share price growth of 9.9% and an annual return -1.488 percent. State Bank of India Ltd. also recorded the highest Sharp ratio (0.1893), whereas HDFC bank Ltd. (- 0.1159) and Kotak Mahindra Bank (-0.1067) recorded negative Sharp ratios. Beta values ranged from 0.82 for ICICI bank to 1.09 4 SBIN, indicating the differences in systematic risk. The results exhibits that Investors in banking sector stocks should consider price trend, return, volatility and Sharp ratio together, rather than relying on share price growth alone.

Keywords: Banking Sector, NSE, Equity, Returns, Investment, Risk, Standard Deviation, Beta, Sharpe Ratio, Risk-Return Analysis.

Introduction

Investment decisions in equity comprises a fundamental trade-off between the expected return and the risk. Investors seek capital growth and income, but share prices swing in response to global market conditions, economic changes, interest rate and company related factors. Therefore, selection of securities for investment on the basis of return alone does not provide a complete assessment of investment performance. A risk-return analysis supports investors to evaluate whether the return produced by a security is proportionate with the risk associated with that return.

The banking sector is a major constituent of the Indian financial system and it plays a significant role in creating savings, extending credit and funding economic activities. Banking sector stocks are affected by factors such as interest rates, credit growth, asset quality, liquidity, capital adequacy, regulatory measures, macro and micro economic factors and investor expectations. These factors influence bank profitability, valuation and share price fluctuations, resulting in changes in the risk return profiles of securities of banking companies.

The study focuses on the top five constituents of Bank Nifty index of NSE: HDFC Bank Ltd., ICICI Bank Ltd., State Bank of India, Kotak Mahindra Bank Ltd., and Axis Bank Ltd. The study mainly

used 3 years, 36 months observations, from April 2023 to March 2026. It explains a comparative evaluation of return, total risk, relative risk, correlation, systematic risk and risk adjusted performance of selected banking companies. The inclusion of public and private banking companies permits a comparison of market behaviour across the selected securities.

Review of Literature and Research Gap

Prior studies have established that equity investment in banking sector companies exhibit distinctive return and volatility of share price. Muthukamu (2018), in a study of banking sector stocks listed on the National Stock Exchange, observed return and volatility using descriptive statistics tools and GARCH models and reported considerable volatility differences across banking stocks. The study highlighted the importance of understanding volatility when evaluating banking-stock performance.

Ali and Talukdar (2020) studied volatility and size of the company in the banking sector listed on the NSE and stated that volatility clustering, persistence and asymmetric effects in banking stock returns. Singh (2017) modelled conditional volatility in the banking sector stocks and found sign of persistent volatility and leverage effects, with implications for portfolio management. Recently, Singh (2024) in another study compared stock performance and volatility in return across the public and private sector banking stocks in India and stated that the determining factor of performance and steadiness can differ between the two groups. These studies establish the significance of analysing banking sector securities through return, volatility and risk components.

Although previous studies have observed Indian banking sector stocks using volatility models, financial indicators and sectoral comparisons, still there exist scope for focused comparative analysis of selected banking stocks using a set of risk and risk adjusted performance measures over the period April 2023–March 2026. This study addresses this gap by merging return, price trend, volatility, risk, relative risk, beta, correlation and Sharpe ratio measures for selected five banking companies.

Objectives of the Study

- To examine the returns of selected banking companies using historical prices.
- To analyse the risk associated with the banking company shares using statistical tools such as range, standard deviation and beta.
- To evaluate the relationship of risk return of the selected banking companies using the Sharpe ratio.
- To provide insights for investors interested in banking sector securities.

Research Methodology

Research Design

This study adopts a descriptive and analytical research design; the descriptive element presents the return and risk characteristics of the securities, whereas the analytical part compares the securities using statistical tools and risk adjusted performance measures.

Sample and Study Period

The sample comprises top 5 Bank Nifty constituents based on index weightage: HDFC Bank Ltd., ICICI Bank Ltd., State Bank of India Ltd., Kotak Mahindra Bank Ltd., and Axis Bank Ltd. The study period covers April 2023 to March 2026, providing 36 monthly observations. The selected banks include one major public sector and four private-sector banks, providing representation across the main ownership categories in the Indian banking sector.

Data Sources

This study relies mainly on secondary data comprising monthly adjusted closing prices and other market information obtained from published sources, including NSE India and Yahoo Finance as mentioned in the source dataset. The adjusted closing prices were used for monthly return calculations and to understand the price change over the study period. The bench mark index Nifty 50 is used as the market index for beta calculation.

Measures and Analytical Tools

Monthly return of the selected securities is calculated as:

Return = [(Current adjusted closing price – Previous adjusted closing price) / Previous adjusted closing price] × 100.

Mean return denotes the arithmetic average of monthly returns. Range is the difference between the highest and lowest returns. Standard deviation used to measure the total variability in monthly returns. The coefficient of variation is used to compare the relative risk return efficiency.

Beta used to measure systematic risk relative to the bench mark index Nifty 50. A beta of greater than one indicates that the security is riskier than the market index, while a beta of less than one indicates less risky than market. The Sharpe ratio is used to measure return per unit of total risk. This study uses 6.75% per annum as risk-free rate of return which is converted to approximately 0.56% per month.

Results and Discussion

• Price and Return Performance

The price details in Table 1 shows clear differences in the performance of the banking sector equity shares between the study period. SBIN recorded the highest increase, with the normalized value increase from 100 to 179.07, representing a 79.07 percentage increase. Axis Bank and ICICI Bank also recorded an increase of 35.40 percent and 34.70 percent respectively. Whereas, HDFC Bank and Kotak Mahindra Bank declined by 9.90 percent and 8.50 percent respectively. Thus, three out of five selected securities recorded positive price growth, while two recorded negative price changes.

Table 1

Name of the Company	Initial Value	Final Value	Percentage of Change
HDFC Bank Ltd.	100	90.1	-9.9
ICICI Bank Ltd.	100	134.7	34.7
State Bank of India	100	179.07	79.07
Kotak Mahindra Bank Ltd.	100	91.5	-8.5
Axis Bank Ltd.	100	135.4	35.4

Source: nseindia.com

The price change details facilitate a direct comparison of start to end price performance, whereas the details of returns in subsequent tables provides the behaviour of monthly earnings and annual performance of the selected securities. As per the details given in the above table (Table 1), State Bank of India Ltd. clearly outperformed the other banks. HDFC Bank Ltd. and Kotak Mahindra Bank Ltd. recorded negative growth, indicating that price change was not uniform across the sample shares. These differences validate the need to study volatility and risk adjusted performance alongside share price change.

• Mean Return and Monthly Consistency

Table 2

Company	2023 Mean (%)	2024 Mean (%)	2025 Mean (%)	Overall Mean (%)
HDFC Bank Ltd.	-1.1	2.2	-1.5	-0.124
ICICI Bank Ltd.	1.7	1.9	-0.8	0.949
State Bank of India	2.9	0.5	2.5	1.942
Kotak Mahindra Bank Ltd.	-0.6	1.8	-1.5	-0.08
Axis Bank Ltd.	1.9	0.6	0.7	1.077

Source: NSE India

The average annual return shows that SBIN recorded the highest overall mean monthly return (1.942%), followed by Axis Bank Ltd. (1.077%) and ICICI Bank Ltd. (0.949%). While HDFC Bank Ltd. (-0.124%) and Kotak Mahindra Bank Ltd. (-0.08%) recorded negative mean monthly returns. Besides, State Bank of India maintained positive returns in all three-year periods, with a strong performance in 2023–24 (2.9%) and 2025–26 (2.5%), while ICICI Bank shows positive mean returns in the first two financial years and a negative mean return in 2025–26. At the same time HDFC Bank and Kotak Mahindra Bank recorded negative mean returns in two financial years and positive return in one financial year. The results indicate that State Bank of India exhibited the highest and most persistent average return among the selected banking securities.

- **Risk–Return Comparison**

Table 3

Company	Average Monthly Return (%)	Monthly SD (%)	Range (%)
HDFC Bank Ltd.	-0.124	5.9	27.54
ICICI Bank Ltd.	0.949	4.4	24.53
State Bank of India	1.942	7.3	35.33
Kotak Mahindra Bank Ltd.	-0.08	6.0	28.98
Axis Bank Ltd.	1.077	6.5	27.42

Source: NSE India

State Bank of India recorded the highest mean monthly return (1.942%) along with highest monthly standard deviation of 7.3 percent and the highest return range (35.33%). Axis Bank Ltd. recorded an average monthly return of 1.077 percent and a standard deviation of 6.5 percent. At the same time ICICI Bank Ltd shows the lowest monthly standard deviation of 4.4 percent, indicating the lowest volatility in the selected sample shares, by keeping its average monthly return positive at 0.949 percentage. As per the table, HDFC Bank and Kotak Mahindra Bank Ltd. recorded negative average returns despite the moderate volatility or standard deviation. It means there exists a clear difference between the return and risk exposure. State Bank of India achieved the highest return but also bore the highest volatility, whereas ICICI Bank achieved a positive return with the lowest volatility.

- **Relative Risk Return Efficiency**

Table 4

Company	Annual Return (%)	Annual SD	Coefficient of Variation	Rank
HDFC Bank Ltd.	-1.488	0.2044	-13.74	4
ICICI Bank Ltd.	11.388	0.1524	1.34	2
State Bank of India	23.304	0.2529	1.09	1
Kotak Mahindra Bank Ltd.	-0.96	0.2078	-21.65	5
Axis Bank Ltd.	12.924	0.2252	1.74	3

Source: NSE India

The above table shows the coefficient of variation which rank State Bank of India first (1.09), followed by ICICI Bank Ltd. (1.34) and Axis Bank Ltd. (1.74) among the banks with positive returns. A lower positive Coefficient of Variation indicates less relative dispersion of risk for the return achieved. As the HDFC Bank and Kotak Mahindra Bank Ltd. have negative returns and consequently negative Coefficient of Variation values (-13.74 and -21.65). These negative values should not be interpreted as greater efficiency; rather, they mirror the negative denominator in the conventional Coefficient of Variation formula. Therefore, the meaningful comparison of relative risk return efficiency is primarily between the banks generating positive returns, within which SBIN records the most favourable Coefficient of Variation as per the given table.

- **Correlation among Selected Securities**

Table 5

Companies	HDFC	ICICI	SBIN	KOTAK	AXIS
HDFC Bank Ltd.	1	0.555	0.3116	0.5126	0.5729
ICICI Bank Ltd.	0.555	1	0.6142	0.4504	0.4507
State Bank of India	0.3116	0.6142	1	0.2742	0.4793
Kotak Mahindra Bank Ltd.	0.5126	0.4504	0.2742	1	0.2993
Axis Bank Ltd.	0.5729	0.4507	0.4793	0.2993	1

Source: NSE India

The table 5, the correlation matrix shows that all pairwise correlations between the five banking companies are positive. The highest correlation is between ICICI Bank Ltd. and State Bank of India (0.6142), followed by HDFC Bank Ltd. and Axis Bank (0.5729) and HDFC Bank and ICICI Bank (0.5550). The lowest correlation is between SBIN and Kotak Mahindra Bank (0.2742), followed by Kotak Mahindra Bank and Axis Bank (0.2993). As there is no negative correlations, which indicates that the selected banking sector stocks normally moved in the same direction during the period of study, although the degree of correlation varied across pairs.

The positive correlation indicates that, diversification within the selected banking companies may not leads to risk reduction in larger sense because the securities are exposed to common banking sector and economy wide factors. However, the lower correlations like, between State Bank of India and Kotak Mahindra Bank and Kotak Mahindra Bank–Axis Bank Ltd. shows that such combinations may still offer diversification benefits. Diversification across the sectors and asset categories may provide greater risk reduction opportunities than concentrating entirely within the banking sector stocks.

- **Risk-Adjusted Performance: Sharpe Ratio**

Table 6

Company	Mean Monthly Return (%)	Monthly SD (%)	Risk-Free Rate (%)	Sharpe Ratio
HDFC Bank Ltd.	-0.124	5.9	0.56	-0.1159
ICICI Bank Ltd.	0.949	4.4	0.56	0.0884
State Bank of India	1.942	7.3	0.56	0.1893
Kotak Mahindra Bank Ltd.	-0.08	6	0.56	-0.1067
Axis Bank Ltd.	1.077	6.5	0.56	0.0795

Source: NSE India

As per the Table 6, State Bank of India shows the highest Sharpe ratio (0.1893) which indicates SBIN has the highest risk adjusted performance in the selected sample shares. ICICI Bank Ltd recorded a Sharpe ratio of 0.0884, while Axis Bank records 0.0795. HDFC Bank Ltd. (-0.1159) and Kotak Mahindra Bank Ltd. (-0.1067) shows negative Sharpe ratios due to their mean returns are below the risk-free rate of return. This result indicates that SBIN generated the highest return per unit of total risk during the study period of 2023 to 2026, while HDFC Bank Ltd. and Kotak Mahindra Bank Ltd. did not reward investors for the assumed risk-free rate under the reported measure.

- **Systematic Risk and Market Sensitivity**

Table 7

Company	Beta
HDFC Bank Ltd.	0.99
ICICI Bank Ltd.	0.82
State Bank of India	1.09
Kotak Mahindra Bank Ltd.	0.96
Axis Bank Ltd.	1.02

Source: NSE India

Table 7 shows the beta values of sample shares which reveals meaningful differences in systematic risk. State Bank of India Ltd. has the highest beta of 1.09, followed by Axis Bank Ltd. with a beta value of 1.02. These values indicate slightly greater risk than the Nifty 50 benchmark index. HDFC Bank Ltd. has a beta of 0.99, which is approximately in line with the bench mark index, while Kotak Mahindra Bank Ltd (0.96) and ICICI Bank Ltd. (0.82) have betas below one, indicating lower systematic risk than the market index. Thus, only SBIN and Axis Bank Ltd. have beta values greater than one, whereas ICICI Bank has the lowest systematic risk among the five selected banking companies.

Key Findings

- All five selected banking companies shows difference in price and return outcomes over period of study. State Bank of India marked the highest standardized price change, while HDFC Bank Ltd. and Kotak Mahindra Bank Ltd. recorded declines in the share price.
- SBIN recorded the highest price change of 79.07 percentage, followed by Axis Bank Ltd. (35.40%) and ICICI Bank Ltd. (34.70%). HDFC Bank Ltd. marked a decline of 9.90 percentage, whereas Kotak Mahindra Bank Ltd. declined by 8.50 percentage.
- State Bank of India marked the highest mean return (1.942%), followed by Axis Bank Ltd. (1.077%) and ICICI Bank Ltd. (0.949%). HDFC Bank Ltd. (-0.124%) and Kotak Mahindra Bank Ltd. (-0.08%) marked a negative mean monthly return.
- State Bank of India shows a positive annual mean returns in all three years of study periods, while HDFC Bank and Kotak Mahindra Bank shows a negative annual mean return in two years of study period.

- State Bank of India Ltd. recorded the highest standard deviation (7.3%) and widest range (35.33%) in the monthly returns, while ICICI Bank recorded the lowest monthly standard deviation of 4.4 percentage.
- Among the selected banking shares with positive annual returns, SBIN recorded the lowest coefficient of variation (1.09), followed by ICICI Bank Ltd. (1.34) and Axis Bank Ltd. (1.74). As the mean returns were negative, Coefficient of Variation values for HDFC Bank Ltd. and Kotak Mahindra Bank Ltd. should not be considered as evidence of efficiency.
- The correlation of all pairs was positive and the highest correlation was between ICICI Bank Ltd. and State Bank of India Ltd (0.6142). While the lowest correlation was between SBIN and Kotak Mahindra Bank Ltd. (0.2742).
- State Bank of India marked the strongest Sharpe ratio (0.1893), followed by ICICI Bank Ltd. (0.0884) and Axis Bank Ltd (0.0795). While HDFC Bank Ltd. and Kotak Mahindra Bank recorded negative Sharpe ratios.
- The study revealed that the beta ranged from 0.82 for ICICI Bank to 1.09 for State Bank of India. State Bank of India Ltd. and Axis Bank Ltd recorded beta values above one, HDFC Bank Ltd. was approximately market sensitive (0.99), and ICICI Bank Ltd. and Kotak Mahindra Bank Ltd. marked beta of below one.

Conclusion

The study establishes that the selected sample banking companies unveiled significantly different risk and return pattern during April 2023–March 2026. State Bank of India appeared as the best performer on the standardized price change, return, and Sharpe ratio, although this better return was accompanied by the highest standard deviation and the highest beta. Axis Bank Ltd and ICICI Bank Ltd also marked positive price change and positive returns, with ICICI Bank showing the lowest volatility and the lowest beta. HDFC Bank and Kotak Mahindra Bank marked negative price changes and negative overall mean returns, resulted in negative Sharpe ratios.

The findings indicate that banking sector stock performance should not be assessed solely on the basis of share price appreciation, it should be by considering standard deviation, beta, coefficient of variation and Sharpe ratio which provides information about risk, risk return trade off, systematic risk or market sensitivity and excess return per unit of total risk. The positive correlations among all pairs of selected banking securities indicates that diversification within the banking sector is not much effective. Investors looking for broader risk reduction may need to consider shares of different sectors and asset categories in addition to choosing banking stocks.

This study is conducted within the selected sample securities and the period. It do not establish investment recommendations, and past performance cannot guarantee returns in future. Banking sector stock risk and return can be affected by global economic conditions, interest rates, credit growth, central bank policies, asset quality, liquidity, regulatory measures, macro and micro economic factors, market sentiments and broader financial market aspects.

Limitations and Scope for Future Research

This study is based completely on secondary data and is limited to five selected banking companies covering the period from April 2023–March 2026. The analysis mainly used historical share prices and therefore does not bank fundamentals such as net interest margin, NPA, loan, deposits, liquidity, profitability or asset quality. This study also does not explicitly separate the effects of inflation, interest rates, monetary policy or macro and micro economic factors. Future research may extend the study period, include a large number of public and private sector banks, include dividend adjusted returns, use CAPM, Jensen's alpha and Treynor measures of performance evaluation, measure volatility using GARCH models, and examine the effect of bank related and macroeconomic factors on stock returns.

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