

An Empirical Analysis of Risk–Return Trade-off between Banking and IT Sector Stocks in India: Evidence from NSE

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Abstract: This study examines the risk–return performance of selected Indian Banking and Information Technology (IT) sector stocks over a 5-year period from April 2021 to March 2026, using the NIFTY 50 as the benchmark index. The sample includes leading banking sector companies such as ICICI Bank Ltd, State Bank of India (SBI), and HDFC Bank Ltd., along with the Indian IT Sector companies like HCL Technologies, Tata Consultancy Services (TCS), and Infosys. From my analysis is based on historical stock price data and important financial values such as yearly returns, Sharpe Ratio values, standard deviation (Instability), Jensen’s Alpha, Beta, Treynor Ratio to assess risk-adjusted efficiency and Indian market awareness. The Capital Asset Pricing Model (CAPM) and Fama-French 3-Factor Model framework is employed to assess expected returns and to measure the extent of abnormal returns generated by the selected securities. The findings indicate that the banking sector has good and stronger performance in terms of risk-adjusted returns, with select stocks visualizing to give positive Jensen’s Alpha, suggesting consistent outperformance over the market benchmark. In contrast, the IT sector shows comparatively higher volatility and moderate lower risk-adjusted returns during the study period, reflecting sensitivity to market fluctuations and global economic conditions. Overall, the study provides meaningful insights into sectoral performance differences and highlights the significance of diversification and gives conclusions to risk evaluation in investment. The results are useful for investors, portfolio managers, and researchers seeking to optimize portfolio efficiency and understand the dynamic relationship between risk and return in the Indian stock market.

Keywords: Jensen’s Alpha , Return, Beta, Risk, Sharpe Ratio, Stock Market, Investment Decision, Banking Sector, IT Sector.

1. INTRODUCTION

Risk and return are fundamental concepts that execute an important role in the investment process. Every investor aims to increase his returns at very low risk; however, these two variables are normally related. In financial theory, risk and return give a positive relationship, which represents that more returns can only be achieved by accepting a proportionate increase in risk. This trade-off between risk and return creates the core of intellect investment decisions and portfolio management strategies. In the main context of modern financial markets, particularly in emerging economies like India, investors are increasingly concerned with not only nominal returns but also real returns after adjusting for inflation and market volatility. As a result, the evaluation of investment performance requires a comprehensive analysis of both risk and return elements. Mean Return, Standard Deviation, Beta, Sharpe Ratio, and Jensen’s Alpha are the tools that can be used to become essential in measuring real risk-adjusted returns and evaluating portfolio efficiency.

The Indian stock market, represented by indices such as the NIFTY 50 as a benchmark, offers various investment opportunities across different sectors. Among these, the Banking and Information Technology (IT) sectors are two of the most significant and dynamic contributors to market performance. The banking sector, represented by institutions like State Bank of India and ICICI Bank, plays a major role in economic development through financial



intermediation. On the other hand, the IT sector, including companies such as Tata Consultancy Services and Infosys, significantly contributes to export earnings and technological advancement. Given the distinct nature, growth drivers, and risk profiles of these sectors, a comparative analysis of their risk–return characteristics becomes essential for informed investment decisions. This study indicates on analyzing the empirical bond between risk and return in selected Banking and IT sector stocks are enumerated from National Stock Exchange (NSE) of India. By applying standard financial metrics and models, the study aims to identify sectoral differences in performance and provide insights into optimal portfolio allocation.

2. REVIEW OF LITERATURE

The risk-return trade-off is notably helpful for most researchers in analyzing. Zahir and Khanna (1982), in 1976 to 1977 and 1977 to 1978, both financial years, took a list of the 101 Indian companies and evaluated share values using a multiple linear regression model. The results of the study explained that dividend per share and return were important factors of the stock price. Except for 1977 to 1978, the book value was outstanding. The effect of the income value multiplier on share price, it felt very weak. Ratna Sinha (2013) evaluates stock value from Banking and IT Sector companies. Compare both sector stock values using descriptive analysis and a T-test. The result will suggest holding the stocks for favorable achievement.

Shaini & Mallikarjunappa (2016) If an investor wishes to invest, they must have a clear understanding of the stock market conditions as well as the risks involved. By gaining such knowledge, they can better evaluate the risks associated with individual stocks and the returns they generate. Moreover, various tools and methods are used in the stock market to measure risk and return. Among these, Beta is considered a highly effective and precise measure for assessing both risk and return. It helps identify which investments offer higher returns and which stocks carry higher levels of risk.

Prabhu, (2018) To understand the concept of risk and return, it is essential to study the characteristics of the NIFTY 50 stocks in the Indian stock market. To analyze these characteristics, many researchers have examined the relationship between Beta and Standard Deviation through various studies. Their findings indicate that market return and risk are closely related, often showing an inverse relationship. Based on this, researchers have evaluated the performance and efficiency of the capital market and accordingly provided insights and analytical reports on the nature and behavior of the NIFTY 50 index.

Savsani & Rathod, (2018) this study examines the risk and return characteristics of selected Indian stocks in comparison with stocks listed on the Bombay Stock Exchange. Statistical tools such as the T-test and regression analysis are used to compare stock performance with benchmark indices. The findings indicate that the NIFTY 50 and BSE Sensex show a positive relationship with Banking sector returns. Furthermore, ICICI Bank Ltd. is identified as a stock that generates relatively higher returns.

Sreehari, (2017) study focuses on determining whether the value of business shareholders across various industries can be effectively assessed. In the financial domain, the analysis examines the annual performance impact of stocks based on their fluctuations and trends. The study is based on the risk and return analysis of 377 listed stocks, covering key sectors such as Banking, Information Technology, and the Automobile Industry. To evaluate shareholder value in these sectors, models such as the Capital Asset Pricing Model (CAPM) and Economic Value Added (EVA) are applied. The findings indicate that these methods are effective in measuring and explaining shareholder value.

Prasad, (2018) before making an investment, investors should clearly understand factors such as maximum return, optimal return, and safety. By doing so, they can ensure that their assets and securities are invested securely. This process is known as portfolio management. In portfolio management, all risk and return factors must be carefully considered to ensure the best investment decisions. In this context, stocks such as Tata Consultancy Services (TCS), Bajaj Auto, and HDFC Bank are included in the portfolio. The analysis shows that HDFC Bank provides better returns, while there is a positive relationship between TCS and Bajaj Auto. This relationship helps investors understand that such a combination can lead to an effective portfolio management investment decision.

3. RESEARCH GAP

Despite extensive research on equity performance in India, several significant gaps persist in the existing literature. A large proportion of prior studies rely on data limited to the pre-2022 period, thereby excluding critical developments associated with the post-COVID pandemic recovery, evolving monetary ideology, inflationary pressures, and recent regulatory changes that have impacted both the Banking and Information Technology (IT) sectors. Moreover, most of the research attention to flow on individual sectors in isolation, resulting in a lack of

comprehensive comparative analysis between banking and IT sector stocks using a consistent time frame, uniform methodology, and a common benchmark such as the NIFTY 50. The use of varying indices and inconsistent risk-adjusted performance measures across studies further limits the comparability and reliability of findings.

Additionally, existing research often emphasizes theoretical frameworks without adequately translating findings into practical investment insights. There is also a noticeable absence of integrated and up-to-date datasets that combine sectoral comparisons, standardized financial metrics, and year-wise low-risk rates in a systematic and approachable manner. To address these gaps, the present study utilizes recent data up to March 2026 and applies standardized risk–return measures, including Mean Return, Beta, Sharpe Ratio, Treynor Ratio, and Jensen’s Alpha, across selected Banking and IT sector stocks. By adopting a consistent analytical framework, the study aims to provide meaningful, comparable, and practically relevant insights to support informed investment decision-making.

4. OBJECTIVES OF THE STUDY

- There are many methods used to find the risk-return performance of selected IT and banking sector stocks. In this study, appropriate statistical methods are used for analysis, including MeanReturn, Standard Deviation, Beta, Sharpe Ratio and Trainor Ratio.
- The study analyzed and clarified the relationship between the risk and return of the selected Banking and Information Technology sector stocks, as well as the correlation between these two sectors.
- In this research, examine the total performance of the selected Banking and IT Sector stocks and gave clarity about which sector and company gives more returns.
- This study analyzes the five-year return performance of six selected companies from two different sectors, chosen for their high reliability and strong performance, to identify which company performs the best.
- Investors are provided with guidance to make better decisions by analyzing the advantages and disadvantages related to risk and return based on this information.

5. RESEARCH METHODOLOGY

This study accepts a Statistical Analysis and interpretation design to investigate the risk–return trade-off between selected Banking and Information Technology (IT) sector stocks listed on the National Stock Exchange of India.

Table 1: Risk and Return Calculation

Stock	Sector	Mean Return (%)	Standard Deviation (%)	Beta	Sharpe Ratio	Treynor Ratio
ICICI Bank Ltd.	Banking	17.30%	19.22%	0.96	0.55	10.99
SBI Bank Ltd.	Banking	27.05%	26.01%	1.10	0.78	18.40
HDFC Bank Ltd.	Banking	2.51%	18.45%	1.10	-0.23	-3.81
TCS Ltd.	IT	-2.13%	22.30%	0.97	-0.40	-9.17
Infosys Ltd.	IT	1.62%	24.93%	1.05	-0.20	-4.84
HCL Technologies Ltd.	IT	12.25%	26.22%	0.88	0.21	6.24
NIFTY 50	Benchmark	10.39%	13.19%	-	0.27	-

INTERPRETATION:

The table presents a contrastive analysis of selected Banking and IT sector stocks with the benchmark of NIFTY 50, based on key risk–return indicators such as Mean Return, Standard Deviation, Beta, Sharpe Ratio, and Treynor Ratio. The analysis clearly indicates that the **Banking sector outperforms the IT sector** during the study period in

terms of both absolute and risk-adjusted returns. Banking stocks, particularly SBI and ICICI Bank, provide higher returns with better risk efficiency, while IT stocks have fair higher volatility and weaker performance. This suggests that investors seeking better risk-adjusted returns during the period would have benefited more from investing in banking sector stocks compared to IT sector stocks.

Table 2: Sector-wise Performance comparison

Sector	No. of Stocks	Average Return (%)	Average Risk (%)	Average Sharpe Ratio	Best Performing Stock
Banking	3	15.63%	21.25%	0.37	SBI Bank Ltd.
IT	3	3.92%	24.49%	-0.13	HCL Technologies Ltd.

INTERPRETATION:

The table compares the overall performance of banking and IT sector stocks based on Average Return, Average Risk, and Sharpe Ratio.

- The **banking sector** (3 stocks) shows a higher **average return of 15.63%** with moderate risk (21.25%) and a positive **Average Sharpe Ratio of 0.37**, indicating efficient risk-adjusted performance. The best performer in this sector is State Bank of India (SBI).
- In contrast, the **IT sector** (3 stocks) records a lower **Average Return of 3.92%** with higher risk (24.49%) and a negative **Average Sharpe Ratio of -0.13**, reflecting poor risk-adjusted performance. The best-performing stock in this IT sector is HCL Technologies.

Overall, the banking sector provides **higher returns with better risk efficiency**, while the IT sector shows **lower returns and higher risk**, making it comparatively less attractive during the study period

Table 3: Risk vs Return

Stock	Sector	Mean Return (%)	Standard Deviation (%)	Risk Level (Low/Medium/High)	Performance Level
ICICI Bank Ltd.	Banking	17.30%	19.22%	Low Risk	High Performance
SBI Bank Ltd.	Banking	27.05%	26.01%	High Risk	High Performance
HDFC Bank Ltd.	Banking	2.51%	18.45%	Low Risk	Low Performance
TCS Ltd.	IT	-2.13%	22.30%	Medium Risk	Poor Performance
Infosys Ltd.	IT	1.62%	24.93%	Medium Risk	Low Performance
HCL Technologies Ltd.	IT	12.25%	26.22%	High Risk	Moderate Performance

INTERPRETATION:

The table classifies selected stocks based on their return, risk level, and performance.

- In the **Banking sector**, ICICI Bank shows **high performance with low risk**, making it an efficient investment. State Bank of India delivers the **highest return (27.05%)** but with **high risk**, indicating strong performance with greater volatility. In contrast, HDFC Bank has **low return and low risk**, reflecting weak performance.
- In the **IT sector**, Tata Consultancy Services records a **negative return**, indicating poor performance despite medium risk. Infosys shows **low performance with moderate risk**, while HCL Technologies performs relatively better with **moderate returns (12.25%)** but at **high risk**.

Overall, Banking stocks demonstrate **better performance across different risk levels**, while IT stocks show **lower returns and comparatively weaker performance**, with only limited improvement in select cases.

6. CONCLUSION

In this conclusion, the comparative analysis of selected Banking and IT sector stocks provides significant insights into their risk–return dynamics within the Indian equity market. The findings highlight that while both sectors offer investment opportunities, their performance differs notably in terms of risk and return characteristics. During the study period (2021–2026), banking sector stocks, particularly ICICI Bank and State Bank of India (SBI), gave clear and stable performance to the risk-adjusted basis. In these stocks, there are more returns with capable risk management. So, these stocks are more suitable for investors seeking steady and reliable growth. On the other hand, IT sector stocks showed comparatively higher volatility and intermixed performance. Although companies such as HCL Technologies delivered moderate returns, the sector as a whole remained more sensitive to market fluctuations and global economic conditions, resulting in less stable outcomes.

Overall, the study confirms that the banking sector offers a more favorable risk–return trade-off, whereas the IT sector presents opportunities for higher returns accompanied by greater uncertainty. Therefore, investors should carefully evaluate their risk tolerance and investment objectives while selecting between these Banking and IT sectors, emphasizing the importance of diversification and risk-adjusted performance measures in portfolio decision-making.

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