Journal of Information Systems Engineering and Management
2025, 10(2)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

A Comparative Analysis of Risk And Return with Special Reference to Financial Service Listed in Nifty 50 Stocks

Chorna Latha S [1], Dr. Ramya K [2]
[1] *Research Scholar, Department of Management Sciences, PSG College of Arts & Science, Coimbatore.*
[2] *Assistant Professor, Department of Management Sciences, PSG College of Arts & Science, Coimbatore.*

ARTICLE INFO
Received: 15 Oct 2024
Revised: 20 Dec 2024
Accepted: 28 Dec 2024

ABSTRACT
This study presents a comparative analysis of risk and return for financial service companies listed in the Nifty 50 index over the past 2 years. It evaluates the historical performance of selected stocks to understand the risk and return and it also provides insights for investors and policy makers. Key findings indicate that HDFC Bank and Axis Bank offer a better balance between risk and return, while Bajaj Finance and Bajaj Finserv show higher growth potential coupled with significant volatility. The analysis highlights State Bank of India as a stronger performer with substantial annual returns, although with higher risk. These insights aim to guide investment strategies in the dynamic financial service sector of the Indian Stock Market.

Keywords: Stock Market, Risk, Return, volatility.

INTRODUCTION

The Indian Stock Market is mostly represented by Nifty 50 which has become an important component of the country's economic landscape. The Nifty 50 index, comprising the 50 largest and liquid companies listed under the NSE (National Stock Exchange) of India, is a benchmark for the Equity market. The Indian Market has experienced significant growth and volatility, influenced by global and economic factors, over the past decade.

The largest stock market index is Nifty, which is made by combining National and Fifty (NIFTY). The benchmark is derived from tracking the performance of companies in a segment or sector. Nifty stocks are picked from different sectors, and a sample of 50 stocks that are performing and luring is used to determine the market trend.

In today's dynamic financial markets, the relationship between risk and return plays a crucial role in investment decision-making. Investors seek to maximize returns while minimizing risk, a balance that becomes especially significant in high-impact sectors such as financial services. The financial service sector, including banks, insurance companies, and other financial institutions, is the backbone of economic growth, influencing corporate and individual financial decisions.

This study focuses on the financial service companies listed in the Nifty 50 index, a benchmark representing the top 50 companies on the National Stock Exchange of India. By conducting a comparative analysis of risk and return over the past five years, this research aims to provide valuable insights into the performance and volatility of the financial service sector. Through this analysis, investors, policymakers, and analysts can gain a deeper understanding of the sector's behaviour, allowing for more informed decision-making in an ever-evolving market landscape.

LITERATURE REVIEW

Many research studies have been completed on the topic that is related to risk and return of nifty stocks. For the past 60 years researchers have been studying the relationship between risk and return but in this study, we have collected from the literature review for the years 2013 to 2023.

A study done by Meda Srinivasa Rao., Et.al., (2021) clearly defines that the stocks studied during the period I has a positive rate of return and it is also identified that every stock has a positive and double digit value and during the period II the study defines that the stocks are in Mixed trend relating to rate of return and identified that only seven (7) stocks are in positive rate of returns and the remaining stocks are in negative rate of return. Research done by (Makkar et al., n.d.) concludes that both the risk and return analysis are highly correlated, the significance of risk and return analysis seen in different spheres of life such as corporate sectors, banking sectors etc. and it has also attempted to find the research gap by reviewing the literatures of risk and return from both theoretical and empirical studies.

Study done by (Karthika, n.d.) defines that the computed values of beta shows that pharmaceutical housing related and automobile sectors were the most defensive sector and some sectors were the most aggressive sector (Most risky). Kusuma Perikala and Karishma Reddy (Perikala & Reddy, 2018) Assessed the performance of Indian equity markets, finding that the year 2009-10 was the best for investors, while 2008-09 was the worst. H. Ramya Kalyani and Y. Aysha Fathima (Kalyani & Fathima, 2021) compared the risk and returns of Sensex banking stocks, finding that City Union Bank had the highest returns but also the highest beta level.

Dr. S. Poornima and Swathiga P (Poornima, n.d.) Used the Capital Asset Pricing Model (CAPM) to study the risk-return relationship of selected NSE stocks, ranking companies based on their risk and return profiles. Naveen & Mallikarjunappa (Naveen & Mallikarjunappa, n.d.) Conducted a comparative analysis of CNX bank Nifty stocks. They found that while all banks had positive beta values, some like Bank of India and HDFC were less volatile. Mehta Vani Joghee (Et. Al., 2021) focused on the risk and return of selected banking securities. They found that Kotak Bank offered the highest returns with the lowest risk, while IndusInd Bank had the highest risk. Mr. Giridhara Naidu and Dr. A. Mahalakshmi (Naidu & Mahalakshmi, 2019) analysed sectorial indices and found that banking and FMCG sectors outperformed market returns but had higher risk.

Dr. Pramod Kumar Patjoshi (Patjoshi, 2016) studied the relationship between Sensex returns and banking stock returns, finding high correlation with Axis Bank and negative correlation with ICICI Bank. G. Sony and G. Srinath (Sony & Srinath, 2019) studied the commodity market, finding that gold had lower risk compared to silver, with both metals positively correlated with the Sensex. Ramasamy V. and Dr. G. Prabakaran (Ph.D Research Scholar, Management, Bharathiar University, Coimbatore, Tamilnadu. et al., 2017) evaluated futures and options in equity derivatives, finding high returns in short positions and high volatility in the derivatives market. In the financial sector, Sonia Lobo and Ganesh Bhat S (Lobo, 2021) analysed selected stocks within the S&P BSE Finance Index. Their findings highlighted IIFL Finance as the top performer in terms of monthly returns, while Nippon had the least returns but exhibited the lowest risk and volatility. The study underscored the importance of considering both return and risk when evaluating investment opportunities, with Nippon emerging as a more stable investment option despite its lower returns.

Anil Kumar Goyal and Tamanna Madan (Goyal & Madan, n.d.) Compared the returns of mutual funds with Nifty 50, finding that HDFC funds performed better in terms of volatility and returns compared to SBI and ICICI funds. P. Pavan Kumar and Dr. Archana H. N. (Kumar & H. N., 2022) Analysed Nifty IT companies, finding that large-cap companies had consistent returns with Nifty IT, while mid and small-cap companies did not.

OBJECTIVES OF THE STUDY

- To assess the relationship between risk and return of financial companies listed in Nifty 50 stocks
- To analyse the historical performance of the stocks selected for the period of study.
- To provide insights to the investors by identifying the consistent performance, significant capital appreciation, and the level of risk.

RESEARCH METHODOLOGY

This compares the risk and return of financial companies listed in Nifty 50 stocks. This paper also suggests the best company to invest in. The study relies on secondary data for financial companies, collected from Money control.com, NSE Website, Investing.com, Yahoo finance.com, and the company's official website. The tools used for this study are Coefficient of Variation, Standard deviation, Return, and Variance. This paper contains 3 years during the period of 01 January 2021, and 31 December 2023.

DATA ANALYSIS

The statistical techniques used in this study are,

Return: It indicates the gain and loss incurred by a company by trading a security in the share market.

Risk: It is identified as the best measure for the investment in equity shares, by analyzing the variance of actual returns from the expected return.

Variance: It is the square of standard deviation and measures how numbers in a data set are spread and it is used as an indicator for volatility in a data set. It is calculated using excel based formula.

Standard deviation: It measures the amount of variation from the average. If the standard deviation is low it indicates that the data points tend to be very close to the mean which is also called as expected value. If the standard deviation is high it indicates that the data points are spread out over a large range of values. The formula used is,

DATA INTERPRETATION

TABLE – 1 HDFC Life Insurance Company

	Monthly returns
Average Monthly returns	***0.1%***
Average Monthly variance	***0.4%***
Annual Monthly standard deviations	***6.5%***
Annual Returns	***1.3%***
Annual Variance	***5.1%***
Annual Standard deviations	***22.6%***
Coefficient of variations	***17.01***

Above table 1 explains that the return of 1.3% indicates that the stock has provided minimal growth over the period analyzed. This low return implies that the stock has not provided significant capital appreciation over the analyzed period. The annual standard deviation is 22.6% which indicates a significant fluctuation in the return of stocks, as the stock price vary widely from one period to another period the sign of risk considerable is highly volatile. The coefficient of variation is 17.01 suggests that compared to the return of mean and the return of stock is not consistent and is highly variable, which implies the return of stock do not adequately compensate for the level of risk taken by investors.

TABLE – 2 HDFC Bank Ltd

	Monthly returns
Average Monthly returns	***0.7%***
Average Monthly variance	***0.2%***
Monthly standard deviation	***4.9%***
Annual returns	***8.1%***
Annual variance	***2.9%***
Annual standard deviations	***17.1%***
Coefficient of variation	***2.11***

Above table 2 explains that the annual return of 8.1% shows that the stock price has provided significant capital appreciation, which suggests a healthy growth rate over the analyzed period. The annual variance of 2.9% shows the annual return's variability. This low variance suggests that the stock's yearly performance is relatively predictable and subject to fewer substantial fluctuation. The standard deviation of 17.1% shows yearly return of stocks which is moderately volatile. This implies that the stock price can moderately swing form its average annual returns that indicates moderate risk.

TABLE – 3 Bajaj Finance Ltd

	Monthly returns
Average Monthly returns	***1.3%***
Average Monthly variance	***0.8%***
Monthly standard deviation	***9.0%***
Annual returns	***15.6%***
Annual variance	***9.8%***
Annual standard deviations	***31.3%***
Coefficient of variation	***2.01***

Above table 3 explains that the annual returns of 15.6% indicates significant capital appreciation over the year. With an average annual increase, it reflects a robust growth rate for long term investors. The annual variance of 9.8% shows the dispersion of annual returns which suggests substantial fluctuations. The higher variance indicates that the stock's yearly performance is less predictable and subject to significant variability. The standard deviation of 31.3% shows that the stock experiences high annual volatility, which measures the extent of deviation in annual returns. This indicates high risk for long – term investment, which implies that annual returns can swing significantly. The coefficient of variation 2.01 is the ratio of the standard deviation to the mean return. It indicates that the stock carries a high level of risk compared to its average return, which suggests that while the stock offers growth potential and it also comes with substantial risk.

TABLE – 4 Bajaj Finserv Ltd

	Monthly returns
Average Monthly returns	***2.3%***
Average Monthly variance	***1.1%***
Monthly standard deviation	***10.3%***
Annual returns	***27.2%***
Annual variance	***12.6%***
Annual standard deviations	***35.5%***
Coefficient of variation	***1.31***

The above table 4 explains that the annual return of 27.2% indicates significant capital appreciation which reflects an increase in growth rate of long term investors. 12.6% of annual variance shows the dispersion of annual returns with average returns. It suggests that the annual returns have substantial fluctuations. The stocks yearly performance is less predictable and subject to significant variability. 35.5% of Standard deviation measures the extent of deviation in annual returns, it shows that the stock experiences high annual volatility. This volatility level implies that the annual returns can swing significantly indicating higher risk for long term investment.

TABLE – 5 Axis Bank Ltd

	Monthly Returns
Average Monthly returns	***1.9%***
Average Monthly variance	***0.5%***
Monthly standard deviation	***7.2%***
Annual returns	***22.3%***
Annual variance	***6.2%***
Annual standard deviations	***24.9%***
Coefficient of variation	***1.12***

The above table 5 explains that 22.3% of annual returns reflects a strong growth rate for long-term investors, which indicates a significant capital appreciation. The variance of 6.2% shows the dispersion of annual returns, which suggests that the annual returns have moderate fluctuations. This indicates that the yearly performance of stock is relatively predictable and is subjects to fewer substantial fluctuations. 24.9% of annual standard deviation measures the extent of deviation in annual returns. This volatility level implies that annual returns can significantly swing from the average which indicates moderate risk for long-term investment. The coefficient of variation 1.12 is the ratio of the standard deviation to the mean return, which indicates moderate level of risk of stocks.

TABLE – 6 State Bank of India

	Monthly returns
Average Monthly returns	***2.9%***
Average Monthly variance	***0.9%***
Monthly standard deviation	***9.6%***
Annual returns	***35.0%***
Annual variance	***11.1%***
Annual standard deviations	***33.3%***

Coefficient of variation	***0.95***

The above table 6 explains that 35% of annual return indicates significant capital appreciation, which reflects a strong growth rate for long-term investors. 11.1% of variance shows the dispersion of annual returns around the average annual return that suggests that the annual returns have moderate to high fluctuations, which indicates the yearly performance of stocks indicates that it can be less predictable with more substantial fluctuations. The standard deviation of 33.3% shows that the experience of stock is highly volatile. This volatility level implies that the annual returns can significantly swing from average which indicates higher risk for long term investments. The coefficient of variation 0.95 indicates that the stock carries a moderate to high level of risk when compared to the average return, which suggests that the stock offers significant growth potential, it also comes with higher risk.

TABLE – 7 SBI Life Insurance Company

	Monthly Returns
Average Monthly returns	***1.5%***
Average Monthly variance	***0.4%***
Monthly standard deviation	***6.0%***
Annual returns	***17.7%***
Annual variance	***4.3%***
Annual standard deviations	***20.6%***
Coefficient of variation	***1.17***

The above table 7 explains that the annual return of 17.7% indicates significant capital appreciation, which reflects a strong growth rate for long-term investors. 4.3% of annual variance shows that the returns are relatively with minor fluctuations. The moderate variance indicates that the stock's yearly performance is predictable with manageable fluctuations. Standard deviation of 20.6% shows that the stock experience moderate annual volatility. This level of volatility implies that annual returns can moderately swing from the average, which indicates moderate risk for long-term investments. The coefficient of variation 1.17 indicates that the stock carries a moderate level of risk, which suggests moderate growth potential with moderate risk.

TABLE – 8 Kotak Mahindra Company Ltd

	Monthly Returns
Average Monthly returns	***0.1%***
Average Monthly variance	***0.4%***
Monthly standard deviation	***6.1%***
Annual returns	***0.8%***
Annual variance	***4.5%***
Annual standard deviations	***21.2%***
Coefficient of variation	***27.91***

The above table 8 explains that the annual return of 0.8% indicates minimal capital appreciation, which reflects a low growth rate for long term investors. Annual variance of 4.5% suggests that the annual returns have moderate fluctuations. The moderate variance indicates that the yearly performance of the stock is predictable with manageable fluctuations. 21.2% annual standard deviation shows that the stock experience moderate annual volatility. This volatility level implies that the annual returns can moderately swing which indicates moderate risk for long-term investments. The coefficient of variation 27.91 indicates that the stock carries a high level of risk that suggests that the stock offers minimal growth potential with high risk.

TABLE – 9 IndusInd Bank Ltd

	Monthly Returns
Average Monthly returns	***2.1%***
Average Monthly variance	***0.9%***

Monthly standard deviation	***9.7%***
Annual returns	***25.6%***
Annual variance	***11.3%***
Annual standard deviations	***33.7%***
Coefficient of variation	***1.31***

The above table 9 explains that the annual return of 25.6% indicates that the stock reflects strong growth rate for long-term investors. The annual variance of 11.3% suggests that annual returns have moderate to high fluctuations. The moderate to high variance indicates that the stock's yearly performance is somewhat predictable with manageable fluctuations. The standard deviation of 33.7% shows that the stock experience high annual volatility, which implies that the annual returns can significantly swing indicating risk for long term investments. Coefficient of variation 1.31 indicates that the stock carries moderate to high level of risk, which suggests that the stock offers good growth potential but with a higher risk.

TABLE – 10 ICICI Bank Ltd

	Monthly returns
Average Monthly returns	***2.0%***
Average Monthly variance	***0.4%***
Monthly standard deviation	***6.2%***
Annual returns	***24.0%***
Annual variance	***4.6%***
Annual standard deviations	***21.4%***
Coefficient of variation	***0.89***

The above table 10 explains that the annual return of 24.0% reflects a strong growth rate for long term investors. The annual variance 4.6% suggests that it have relatively low fluctuations. The low variance indicates that the yearly performance of stock is somewhat predictable with manageable fluctuations. The standard deviation of 21.4% shows that the stock experiences moderate annual volatility. This level of volatility implies that the annual returns can significantly swing indicating moderate risk for long-term investments. The coefficient of variation 0.89 indicates that the stock carries a moderate level of risk compared to its average return, which suggests that the stock offer good growth potential with manageable risk.

FINDINGS & SUGGESTIONS:

- HDFC Life Insurance Company shows that the stock provided minimal growth with significant fluctuations. The high coefficient of variation suggests that the stock's returns do not adequately compensate for the level of risk, indicating high volatility and inconsistency in returns.
- HDFC Bank ltd shows that the stock has shown significant capital appreciation with moderate volatility. The lower coefficient of variation compares to HDFC Life insurance indicates more consistent returns relative to the risk.
- Bajaj Finance Ltd shows that the stock demonstrated substantial capital appreciation but with high annual volatility. The higher coefficient of variation indicates that while there is potential for high returns, it comes with significant risk.
- Bajaj Finserv Ltd shows that the stock has exhibited significant capital appreciation with high volatility. However, the relatively lower coefficient of variation suggests that the return are more consistent relative to the high level of risk.
- Axis bank Ltd shows that it provides strong growth with moderate risk. This holds low coefficient of variation which indicates a good balance between return and risk, which is relatively stable in investments.
- State Bank of India shows the highest annual return among the analysed stocks but with high volatility. This holds low coefficient of variation that suggests that the stock offers significant growth potential, even though it has substantial risk.
- SBI Life Insurance Company seems to offer good growth potential with moderate to high volatility, which is similar to other stocks in the insurance sector.
- ICICI bank shows relatively stable performance with consistent positive return in most of the months and fewer significant negative returns, which suggests a more predictable investment compared to other banks with more frequent and large native returns.

- Bajaj finance and Bajaj Finserv Ltd exhibit the highest annual standard deviation, indicating high volatility.
- Axis bank Ltd and State bank of India shows a better balance between return and risk. It also have the lowest coefficient of variation that suggests more consistent returns relative to their risk.
- State Bank of India and Bajaj Finserv Ltd shows the highest annual returns, which indicates significant growth potential with higher risk.
- Bajaj Finance Ltd and Bajaj Finserv Ltd might be suitable for high – risk, high – return investors.
- Axis bank Ltd and HDFC Bank Ltd could be preferable for moderate – risk, stable – return investors.
- State Bank of India offers strong growth rate with relatively acceptable risk level for balanced risk and return.

CONCLUSION

The study provides a comparative analysis of risk and return among financial service companies listed in the Nifty 50 index, offering insights into investment decisions based on historical performance. The findings suggest that while some stocks, such as HDFC Life Insurance Company, exhibit high volatility with inconsistent returns, others, such as HDFC Bank Ltd and Axis Bank Ltd, demonstrate a more stable balance between risk and return. Bajaj Finance Ltd and Bajaj Finserv Ltd, despite their significant capital appreciation, are characterized by high volatility, making them suitable for high-risk investors. In contrast, State Bank of India, which reports the highest annual returns, presents a substantial yet relatively balanced risk level. ICICI Bank Ltd shows consistent performance with fewer negative fluctuations, offering a predictable investment option. It suggest that investment preferences should align with risk tolerance. High-risk investors may find Bajaj Finance Ltd and Bajaj Finserv Ltd attractive due to their growth potential, whereas moderate-risk investors might consider Axis Bank Ltd and HDFC Bank Ltd for stable returns. State Bank of India appears to offer a compelling option for those seeking balanced growth and risk. Future research may focus on incorporating macroeconomic factors to enhance predictive models for risk-adjusted returns in the Indian financial sector.

REFERENCES:

[1] Joghee, M. V., Kanagatharani, B., Gayathri, S., & Devi, R. Y. (2021). A Study on risk and return analysis of selected banking securities. *Turkish Journal of Computer and Mathematics Education*, *12*(11), 122-127.

[2] VS, P. K., Harshitha, K., & Dhyan, A. (2022). Performance of mutual funds in India: comparative analysis of small-cap and mid-cap mutual funds. *Academy of Marketing Studies Journal*, *26*(4), 2242-2246.

[3] Kalyani, H. R., & Fathima, Y. A. (2021). A Comparative Analysis of Bse and Nse With Special Reference To Risk And Returns. 3(3), 1-11.

[4] M. V. J. Et. al., (2021). A Study on Risk and Return Analysis of Selected Banking Securities. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12(11), 122–127.

[5] Karthika, P. (n.d.). A Study on Comparative Analysis of Risk and Return with reference to selected stocks of BSE Sensex index, India. 01(04), 101-114.

[6] Kumar, P. P., & H. N., A. (2022). A Comparative Evaluation of Performance of Nifty IT Companies in Relation with Nifty IT Index. GBS Impact: Journal of Multi-Disciplinary Research, 8(1), 25–34.

[7] Lobo, S. (2021). Risk Return Analysis of Selected Stocks of Indian Financial Sector. 5(2).Makkar, N., Mittal, S., Chugh, A., & Dhaka, K. (n.d.). Risk and Return Analysis of Stocks listed in BSE and NSE: A Review Study. 11(5), 111-124.

[8] Raval, N., & Mehta, R. (2020). A comparative study between nifty50 with financial services & pharmaceutical sector. International Journal for Innovative Research in Multidisciplinary Field, 6(5), 286-291.

[9] Raval, N., & Mehta, R. (2020). A comparative study between nifty50 with financial services & pharmaceutical sector. International Journal for Innovative Research in Multidisciplinary Field, 6(5), 286-291.

[10] Purushotham, C. V. (2022). Risk and Return preferences of Institutional and Non-Institutional Investor categories–An analysis based on Nifty 50 stocks. RVIM Journal of Management Research, 57-61.

[11] Muthuswamy, V. V., & Nithya, N. (2023). Nifty Fifty Derivative Trading Strategy: A Heuristic Model Approach. International Journal of Economics and Finance Studies, 15(2), 434-453.