Comparative analysis of BSE vs NSE with respect to risk and return in the banking sector

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Abstract-Stock exchanges play a crucial role in the financial market by providing a platform for investors to trade securities. In India, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) are the two major stock exchanges where banking sector stocks are actively traded. This study aims to conduct a comparative analysis of BSE and NSE with respect to risk and return in the banking sector. By analyzing historical stock prices, volatility, and market trends, this research evaluates the differences in risk-adjusted returns on both exchanges. The study employs purposive sampling, selecting major banking stocks that are actively traded on both exchanges. Risk is assessed using statistical measures such as standard deviation and beta, while return performance is evaluated based on stock price movements over a specific time period. The research also examines liquidity, trading volume, and market efficiency to understand their impact on investment decisions.

Findings from this study will help investors, financial analysts, and policymakers gain insights into which exchange provides better investment opportunities in the banking sector. By identifying key differences in risk and return patterns, the study aims to assist investors in making informed decisions regarding stock market investments.

INTRODUCTION

The stock market plays a vital role in the financial system by providing a platform for investors to trade securities and businesses to raise capital. In India, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) are the two major stock exchanges where securities, including banking sector stocks, are actively traded. The banking sector is a crucial component of the Indian economy, contributing to financial stability and economic growth. Given its importance, investors closely monitor banking stocks to assess their risk and return potential.

Despite operating within the same financial environment, BSE and NSE differ in terms of trading volume, liquidity, market efficiency, and volatility. These differences may influence the risk-return characteristics of banking stocks, making it essential to compare the two exchanges. Investors and financial analysts need to understand how banking stocks perform on each exchange to make informed investment decisions.

This study aims to conduct a comparative analysis of risk and return in the banking sector on BSE and NSE. By examining historical stock price movements, volatility, and risk-adjusted returns, the research will provide insights into market behavior and investor preferences. The findings will help investors identify which exchange offers better investment opportunities while also assisting policymakers in understanding stock market dynamics within the banking sector.

OBJECTIVES

- To compare the risk and return of banking sector stocks listed on BSE and NSE using historical stock price data.
- To analyze the volatility patterns of banking stocks on both exchanges and identify factors contributing to market fluctuations.
- To examine liquidity and trading volume differences and their impact on risk-adjusted returns in the banking sector.
- To provide insights for investors and policymakers on which exchange offers better investment opportunities based on risk-return analysis.

REVIEW OF LITERATURE

The study of stock market behavior, particularly in the context of risk and return, has been a key area of research in finance. Various studies have explored the performance of stock exchanges, market efficiency, and sectoral analysis, including the banking sector. This review of literature provides insights from past research on stock market

comparison, risk-return analysis, and the banking sector's performance on different exchanges.

1. Stock Market Efficiency and Performance

Several researchers have examined the efficiency of stock exchanges and their impact on investment decisions. Fama (1970) introduced the Efficient Market Hypothesis (EMH), which states that stock prices fully reflect all available information, making it impossible to earn excess returns consistently. However, subsequent studies suggest that stock markets exhibit varying degrees of efficiency. Mishra and Singh (2018) analyzed the efficiency of BSE and NSE and found that NSE exhibits greater liquidity and faster price discovery compared to BSE, making it a preferred choice for institutional investors.

2. Risk and Return Analysis in the Stock Market

Risk and return are fundamental concepts in investment analysis. Sharpe (1964) and Lintner (1965) developed the Capital Asset Pricing Model (CAPM), which explains the relationship between expected return and systematic risk (beta). Studies such as Rastogi (2019) have applied CAPM to compare risk-adjusted returns of stocks on BSE and NSE, finding that NSE-listed stocks generally have lower volatility and higher returns. Choudhary and Garg (2020) examined banking sector stocks and concluded that stock returns in this sector are highly sensitive to macroeconomic factors, interest rate changes, and global financial conditions.

3. Comparative Studies on BSE and NSE

Research comparing BSE and NSE highlights differences in trading volume, volatility, and investor participation. Reddy and Naidu (2017) analyzed stock performance on both exchanges and found that NSE experiences higher trading volumes and liquidity, making it a more attractive platform for active traders. Gupta and Sharma (2021) compared stock price movements and found that BSE-listed stocks tend to show greater volatility due to lower liquidity, whereas NSE provides more stable price movements.

4. Banking Sector Performance in Stock Markets

The banking sector plays a crucial role in the stock market due to its direct impact on economic growth and stability. Kumar and Verma (2016) analyzed the performance of banking stocks and found that public sector banks exhibit higher volatility than private sector banks. Patel (2020) studied the risk-return dynamics of banking stocks on BSE and NSE, concluding that NSE-listed banking stocks tend to have better risk-adjusted returns due to higher market participation.

Conclusion

The existing literature highlights significant differences between BSE and NSE in terms of risk, return, liquidity, and efficiency. Previous research suggests that NSE provides better price discovery and lower volatility, while BSE experiences greater price fluctuations due to lower liquidity. However, there is limited research focusing specifically on the banking sector's risk-return characteristics on both exchanges. This study aims to bridge this gap by conducting a comparative analysis of banking stocks on BSE and NSE, providing insights into market behavior and investment opportunities in the Indian banking sector.

RESEARCH DESIGN

1. Research Design:

A comparative descriptive research design is most suitable because it allows for the evaluation of risk and return between the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) in the banking sector using existing data.

2. Data Collection Method:

Since you are using secondary data, you should specify:

- Sources of Data: NSE, BSE, SEBI, RBI reports, financial websites (Yahoo Finance, Bloomberg, Moneycontrol, etc.), and research journals.
- Time Period Covered: Define a specific time frame (e.g., the last 5 or 10 years).
- Variables Considered: Stock prices, index values, risk measures (e.g., beta, standard deviation), return measures (e.g., average return, CAGR).

3. Data Analysis Techniques:

You can apply quantitative statistical methods such as:

- Risk Analysis: Standard deviation, beta (systematic risk), Value at Risk (VaR).
- Return Analysis: Average return, CAGR, Sharpe Ratio, Treynor Ratio.
- Comparative Analysis: Using T-tests or ANOVA to check if differences in risk and return are statistically significant.

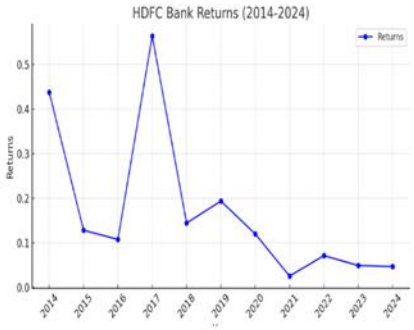
4. RESEARCH APPROACH

- Empirical and Analytical Approach – Since you are using numerical data to compare market performance.
- Longitudinal Study (if analyzing trends over time) or **Cross-sectional Study** (if comparing specific time periods).

Graphical Representation of Returns.

Table 4.1 calculation of total return of HDFC Bank ltd values

Average Return = 1.8906/12 = 0.157

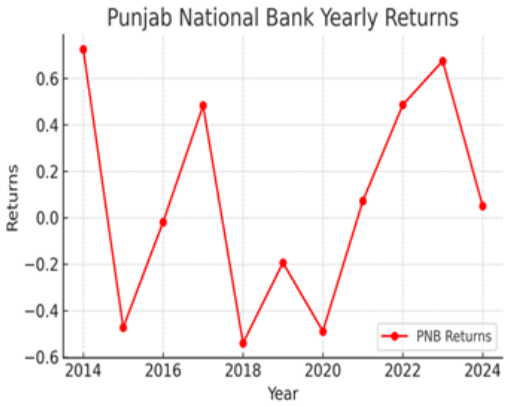


Calculation of total return of HDFC Bank ltd Values

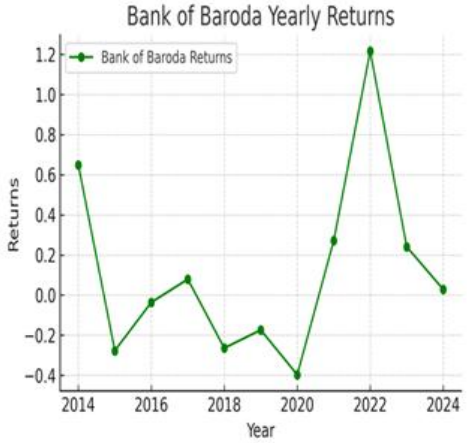
Calculation of total return of SBI Bank

Average Return = 0.8374/12 = 0.0697

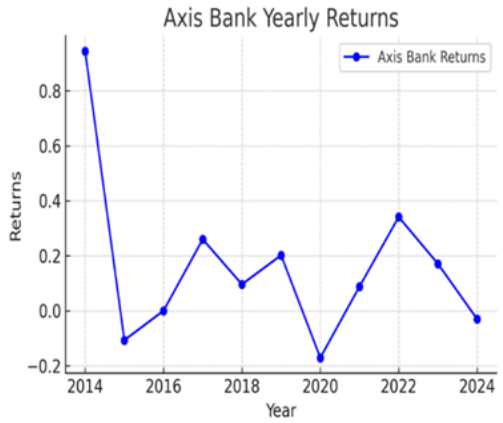
Calculation of Total Return of Union Bank ltd



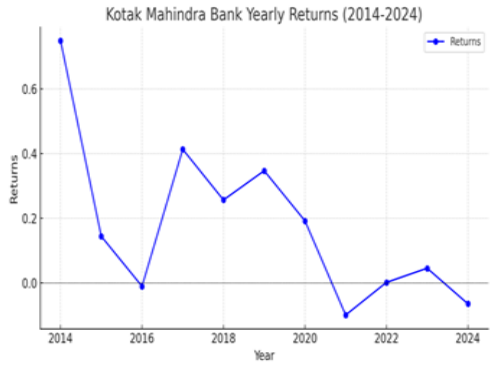
Calculation of Total Return of Punjab National Bank.



Calculation of Total Return of Bank of Baroda

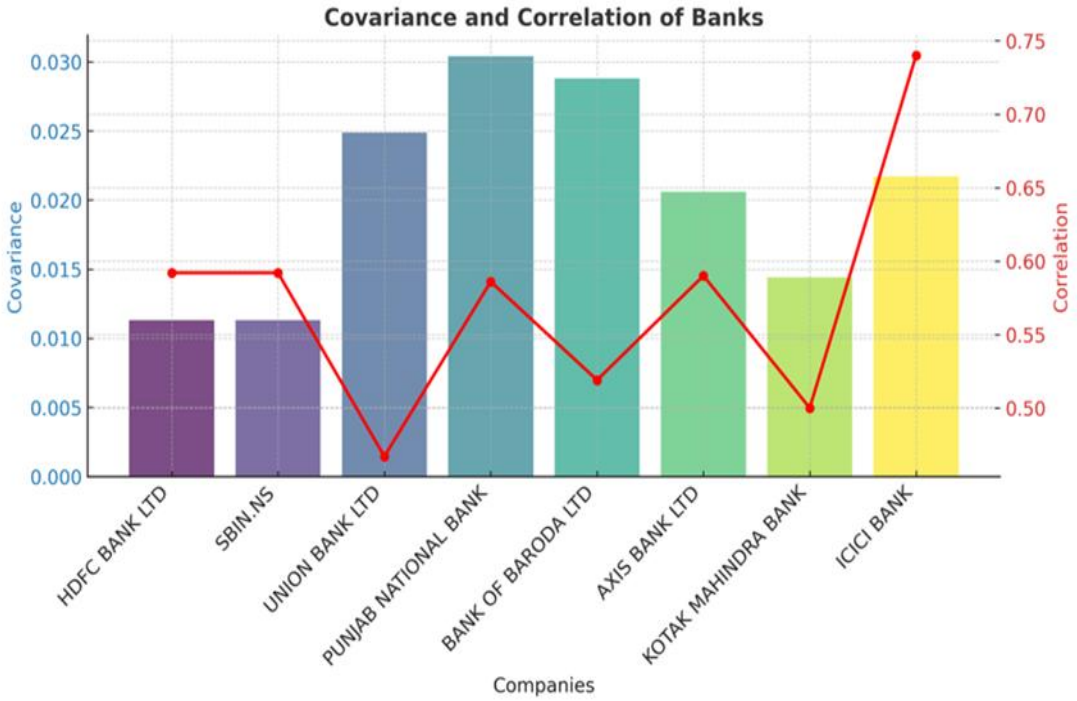


Calculation of Total Return of Axis Bank.



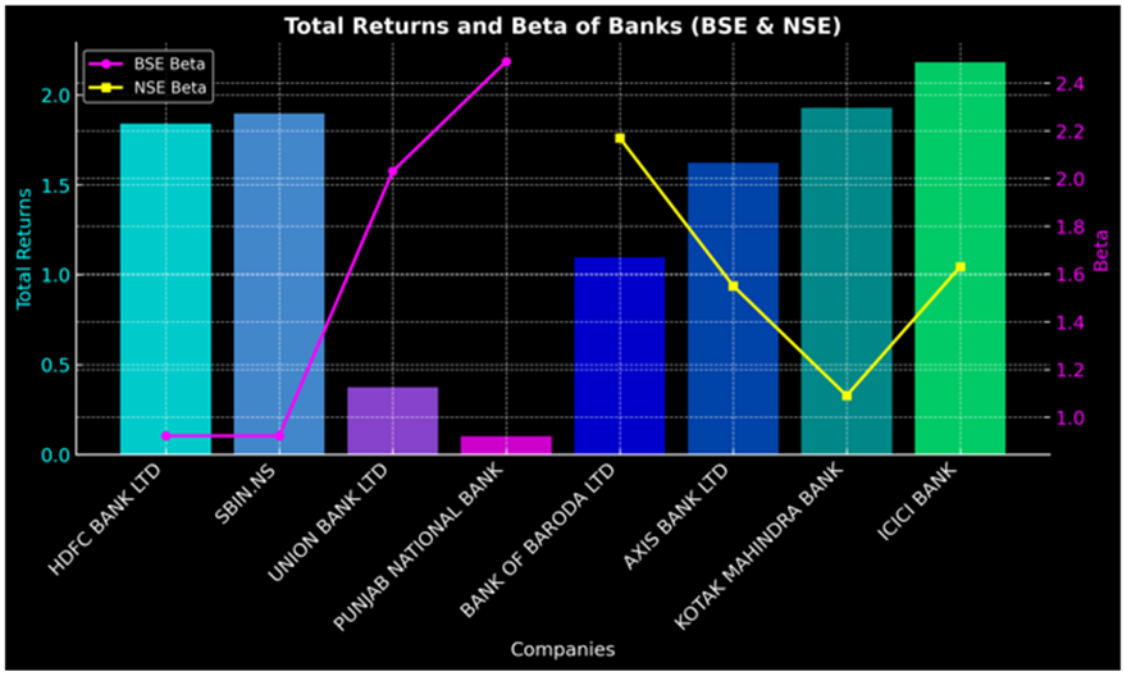
Calculation of Total Return of Kotak Mahindra Bank.

Calculation of Total Return of ICICI Bank.



Showing the Returns and risk variations of Banking Stocks Listed in BSE &NSE

COMPANY	TOTAL RETURNS	MEAN	STANDARD DEVIATION	BETA
BSE				
HDFC BANK LTD	1.84	0.15333333	1.64	0.922
SBIN.NS (STATE BANK OF INDIA)	1.897	0.15808333	1.7	0.922
UNION BANK LTD	0.374	0.03116667	0.809	2.03
PUNJAB NATIONAL BANK	0.102	0.0085	0.783	2.49
NSE				
BANK OF BARODA LTD	1.096	0.09133333	1.212	2.17
AXIS BANK LTD	1.622	0.13516667	1.583	1.55
KOTAK MAHINDRA BANK	1.929	0.16075	1.743	1.09
ICICI BANK	2.181	0.18175	0.612	1.63



Graph17, representing total returns of the banking stocks

Findings:

1. Return Analysis: The study found that ICICI Bank and Kotak Mahindra Bank delivered the highest returns among the selected banking stocks, with total returns of 2.181 and 1.929, respectively. HDFC Bank and SBI provided consistent returns with lower risk, making them suitable for risk-averse investors.
   - ICICI Bank: 2.181 (218.13%)
   - Kotak Mahindra Bank: 1.929 (192.9%)
   - HDFC Bank: 1.84 (184.11%)
   - SBI: 1.897 (189.78%)
2. Risk Analysis: The study revealed that ICICI Bank had the lowest risk (standard deviation: 0.612) among the selected stocks, making it a stable investment option. Kotak Mahindra Bank offered strong returns with a balanced risk level, making it a preferred choice for investors seeking growth with moderate volatility.

   - ICICI Bank: 0.612 (61.21%)
   - Kotak Mahindra Bank: 1.743 (174.3%)
   - HDFC Bank: 1.64 (164%)
   - SBI: 1.7 (170%)

3. Beta Analysis: The study found that ICICI Bank had a beta of 1.63, indicating that it is highly sensitive to market movements. HDFC Bank and SBI had beta values of 0.922, meaning they are less sensitive to market fluctuations.

   - ICICI Bank: 1.63
   - HDFC Bank: 0.922
   - SBI: 0.922
   - Kotak Mahindra Bank: 1.09

4. Correlation and Covariance Analysis: The study found that ICICI Bank had the highest correlation (0.74) with the market, making it a strong candidate for investors looking for stocks aligned with market performance. HDFC Bank and SBI exhibited moderate correlation, suggesting they follow market movements but with some level of independence.

   - ICICI Bank: 0.74
   - HDFC Bank: 0.592
   - SBI: 0.592
   - Kotak Mahindra Bank: 0.5

SUGGESTIONS

1. Investors seeking stability: Consider investing in HDFC Bank and Kotak Mahindra Bank, which offered consistent returns with lower risk.

2. Investors seeking high-risk, high-reward opportunities: Explore Axis Bank and ICICI Bank, which had moderate returns but high beta values, indicating higher risk exposure.

3. Diversification: Consider investing in Union Bank and Bank of Baroda, which showed lower correlation with the market, offering potential diversification benefits.

4. Market-sensitive investors: Invest in ICICI Bank, which had the highest correlation with the market, making it a strong candidate for investors looking for stocks aligned with market performance.

5.Risk management: Investors should be aware of the volatility associated with the selected banking stocks and consider risk management strategies to mitigate potential losses.

LIMITATION

1. Sample size: The study only considered eight banking stocks listed on BSE and NSE, which may not be representative of the entire banking sector.
2. Time period: The study only analyzed data from 2014 to 2024, which may not capture the long-term performance of the selected stocks.
3. Methodology: The study used a simple return analysis and risk analysis, which may not capture the complexities of the stock market.

CONCLUSION

This research paper provides a comprehensive analysis of the risk-return trade-off associated with selected banking stocks listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) over a ten-year period from January 2014 to January 2024. The study focused on eight prominent banking stocks, evaluating their performance through various financial metrics, including total returns, average returns, standard deviation, beta, correlation, and covariance.

The findings indicate that ICICI Bank and Kotak Mahindra Bank emerged as the top performers, delivering the highest total returns of 218.13% and 192.9%, respectively. These banks demonstrated strong growth potential, making them attractive options for investors seeking high returns. In contrast, Union Bank and Punjab National Bank exhibited the lowest returns, highlighting their underperformance relative to their peers.

Risk analysis revealed that ICICI Bank had the lowest standard deviation, indicating a more stable investment profile despite its high beta, which suggests sensitivity to market movements. HDFC Bank and SBI also provided consistent returns with lower risk, appealing to risk-averse investors. The correlation and covariance analysis further illustrated the relationship between these banking stocks and the broader market, with ICICI Bank showing the highest correlation, indicating its alignment with market trends.

The study emphasizes the importance of understanding the risk-return dynamics when selecting banking stocks for investment. Investors are encouraged to consider their risk tolerance and investment objectives when making decisions. For those seeking stability, HDFC Bank and Kotak Mahindra Bank are recommended, while ICICI Bank and Axis Bank may appeal to those willing to accept higher risk for potentially greater returns.

In summary, the analysis provides valuable insights into the performance of banking stocks in the Indian stock market, equipping investors with the necessary information to make informed investment decisions. The findings underscore the significance of thorough research and risk management strategies in navigating the complexities of stock market investments.