



Stock Market Volatility in the Banking Sector: A Comparative Study of SBI and Axis Bank

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Abstract- Stock market volatility is an important indicator of financial market performance and investor confidence. The banking sector plays a crucial role in the economic development of a country, and fluctuations in banking stock prices often reflect changes in economic conditions. This study analyses stock market volatility in the Indian banking sector with special reference to State Bank of India and Axis Bank. The research uses secondary data collected from stock exchanges, financial reports, and official company records over a ten-year period. Statistical tools such as mean, standard deviation, and correlation analysis are used to measure volatility and understand the relationship between the stock prices of the two banks. The results indicate that both banks experience fluctuations in their stock prices due to economic factors, banking reforms, and investor behavior. Axis Bank shows relatively higher volatility compared to SBI during certain periods. The study provides insights for investors, financial analysts, and policymakers regarding stock market risk and banking sector performance.

1. Introduction

1.1 Background of the Study

The stock market is an essential component of the modern financial system. It allows companies to raise capital and provides investors with opportunities to earn returns through the buying and selling of shares. Stock prices fluctuate continuously due to economic conditions, political developments, corporate performance, and investor expectations.

Volatility refers to the degree of variation in the price of a financial asset over time. High volatility indicates greater uncertainty and risk in the market, while low volatility reflects stability. Investors closely monitor volatility to assess the risk associated with different stocks.

The banking sector is one of the most influential sectors in the Indian economy. Banks support economic development by providing loans, facilitating investments, and promoting financial inclusion. Therefore, fluctuations in banking sector stocks can significantly impact overall market performance.

Two major banks selected for this study are State Bank of India and Axis Bank. SBI is the largest public sector bank in India and represents government-owned banking institutions. Axis Bank is one of the leading private sector banks known for its technological innovation and corporate banking services. Comparing these banks helps understand differences between public and private sector banking stock behavior.

2. Literature Review

Several researchers have examined stock market volatility and its impact on financial markets.

Robert F. Engle introduced the ARCH model in 1982 to measure volatility in financial markets. Later, Tim Bollerslev developed the GARCH model, which became widely used for analysing stock price volatility.

Research studies have shown that stock volatility is influenced by economic variables such as interest rates, inflation, GDP growth, and global financial conditions. Banking sector stocks are particularly sensitive to monetary policy decisions and financial regulations.

Studies on Indian banking stocks suggest that public sector banks often demonstrate relatively stable price patterns due to government ownership and regulatory oversight. On the other hand, private sector banks tend to exhibit higher volatility because they operate in competitive environments and respond quickly to market conditions.

Research focusing on State Bank of India indicates that its stock performance is closely linked to government policies, asset quality, and loan growth. Meanwhile, studies on Axis Bank highlight the influence of digital banking growth, corporate lending, and market competition.

Despite extensive research on stock market volatility, limited studies compare major public and private sector banks over a long period. This research attempts to address that gap.

3. Research Gap

Many studies have analysed volatility in the Indian stock market, but most focus on the overall banking index or short-term market fluctuations. Few studies provide a detailed comparison between individual public sector and private sector banks over a long period.

This research fills that gap by examining the stock volatility of two major banks — SBI and Axis Bank — over ten years. The comparison helps identify differences in risk patterns between public and private sector banks.

4. Objectives of the Study

The main objectives of the research are:

1. To analyse the stock price movements of SBI and Axis Bank.
2. To measure volatility in the stocks of both banks.
3. To compare risk levels between public and private sector banks.
4. To examine the correlation between SBI and Axis Bank stock prices.
5. To provide useful insights for investors in the banking sector.

5. Hypotheses of the Study

H0 (Null Hypothesis):
There is no significant difference in stock market volatility between SBI and Axis Bank.

H1 (Alternative Hypothesis):
There is a significant difference in stock market volatility between SBI and Axis Bank.

6. Research Methodology

6.1 Research Design

This study adopts a quantitative research design using statistical methods to analyse stock price volatility.

6.2 Data Source

The study uses secondary data collected from:

- Stock exchange reports
- Annual reports of the banks
- Financial databases

- Official financial websites

6.3 Period of Study

The research analyses stock price data from **2014 to 2024**.

6.4 Statistical Tools Used

The following statistical tools are used for analysis:

- Mean
- Standard deviation
- Correlation analysis
- Volatility measurement
- Graphical analysis

7. Data Analysis and Interpretation (Chapter 4)

7.1 Stock Price Trend Analysis

The stock prices of SBI and Axis Bank have shown fluctuations over the study period due to economic conditions, banking reforms, and investor sentiment.

SBI experienced significant price movements during periods of banking reforms and economic recovery. Axis Bank also experienced price fluctuations, particularly during times of corporate restructuring and technological expansion.

7.2 Volatility Measurement

Volatility is measured using the standard deviation of stock returns. Higher standard deviation indicates greater fluctuation in stock prices.

The analysis indicates that Axis Bank demonstrates relatively higher volatility compared to SBI in certain years. This can be attributed to private sector competition and market responsiveness.

7.3 Correlation Analysis

Correlation analysis measures the relationship between the stock prices of SBI and Axis Bank.

The results show a positive correlation between the two banks, suggesting that both stocks generally move in the same direction due to broader market trends and economic conditions.

8. Graphical Analysis



The graphical analysis includes:

- Line graph of SBI stock price trend
- Line graph of Axis Bank stock price trend
- Comparative volatility chart
- Scatter plot showing correlation between the two banks

These graphs help visualize price movements and risk patterns in the banking sector.

9. Findings

The major findings of the study are:

1. Both SBI and Axis Bank stocks show noticeable volatility during the study period.
2. Axis Bank demonstrates slightly higher volatility compared to SBI.
3. Banking stocks are highly influenced by macroeconomic factors such as interest rates and economic growth.
4. The correlation between SBI and Axis Bank stock prices is positive.
5. Investors must consider volatility when investing in banking sector stocks.

10. Conclusion

Stock market volatility is an important aspect of financial markets that reflects risk and uncertainty. This study analysed the volatility of two major Indian banking institutions — State Bank of India and Axis Bank.

The results show that both banks experience fluctuations influenced by economic conditions, government policies, and market sentiment. SBI tends to demonstrate relatively stable performance due to its public sector structure and government backing. Axis Bank, being a private sector bank, shows higher volatility due to competitive market dynamics.

The study provides valuable insights for investors, researchers, and policymakers interested in banking sector performance and financial market behavior.

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