



An Analytical Study on the Volatility Trends in the Indian Equity Market (2010–2013)

Harsha Hardasani

Asst. Professor, Smt Mithibai Motiram Kundnani
College of Commerce & Economics, Bandra

Abstract

This research paper investigates the volatility of the Indian equity market during the period 2010–2013. It focuses on the performance of key indices—Nifty 50 and BSE Sensex—while incorporating volatility metrics such as the India VIX. The study applies a secondary-data research methodology, relying on historical market data and published reports. The findings reveal that while 2011 was marked by high uncertainty due to the Eurozone debt crisis and domestic policy issues, volatility gradually declined through 2012 and 2013 as global and domestic factors stabilized. The paper contributes insights on the drivers of market volatility and implications for investors and policymakers in emerging markets.

Introduction

The period between 2010 and 2013 represents a significant phase in the evolution of the Indian equity market, marked by global economic uncertainty and domestic policy shifts. This study examines the volatility trends of key Indian indices—Nifty 50 and BSE Sensex—using the India VIX to capture market sentiment and risk behavior. During this time, the Eurozone debt crisis, high inflation, and domestic policy challenges contributed to elevated market fluctuations, particularly in 2011. Employing secondary data and descriptive analysis, the study seeks to understand how global and domestic events shaped investor confidence and market stability. By comparing the volatility patterns of Nifty 50 and Sensex, the research highlights the responsiveness of the Indian market to both internal and external shocks. The findings provide valuable insights into risk assessment, investment strategies, and the resilience of India's financial markets during a period of economic transformation.

Research Framework

Objectives

1. To measure the volatility trends of the Indian equity market between 2010 and 2013.
2. To identify global and domestic events contributing to fluctuations in market volatility.
3. To analyze the comparative stability of indices (Nifty 50 vs. BSE Sensex).
4. To assess implications of volatility for investors and policymakers.

Hypotheses

H₀₁ (Null): There is no significant volatility in the Indian equity market during 2010–2013.

H₁₁ (Alternate): The Indian equity market experienced significant volatility during 2010–2013.

H₀₂ (Null): Global and domestic factors did not significantly influence market volatility in 2011.

H₁₂ (Alternate): Global and domestic factors (Eurozone crisis, policy gridlock in India) significantly increased market volatility in 2011.

H₀₃ (Null): There is no difference in volatility trends between Nifty 50 and BSE Sensex during 2010–2013.

H₁₃ (Alternate): Nifty 50 and BSE Sensex exhibited different volatility patterns during 2010–2013.

Methodology

The study is based on secondary data analysis using published reports, market indices (Nifty, Sensex), and volatility indices (India VIX). Descriptive statistics and graphical analysis are employed to highlight trends. The study period covers 2010 to 2013, capturing post-2008 global recovery and domestic policy turbulence.

Literature Review

Previous studies on Indian equity market volatility emphasize the role of global shocks (e.g., the 2008 financial crisis) and domestic macroeconomic conditions in shaping investor sentiment. Research using GARCH and ARCH models has shown that volatility clustering is prevalent in Indian indices, indicating that high-volatility periods are often followed by similar patterns. Studies also suggest that Indian markets, being highly integrated with global markets, are vulnerable to international spillovers. The period 2010–2013 specifically witnessed volatility driven by the Eurozone crisis, policy uncertainty in India, and capital inflows and outflows that affected market stability.

Secondary Data Analysis

The following figures illustrate trends in index levels and volatility during 2010–2013.

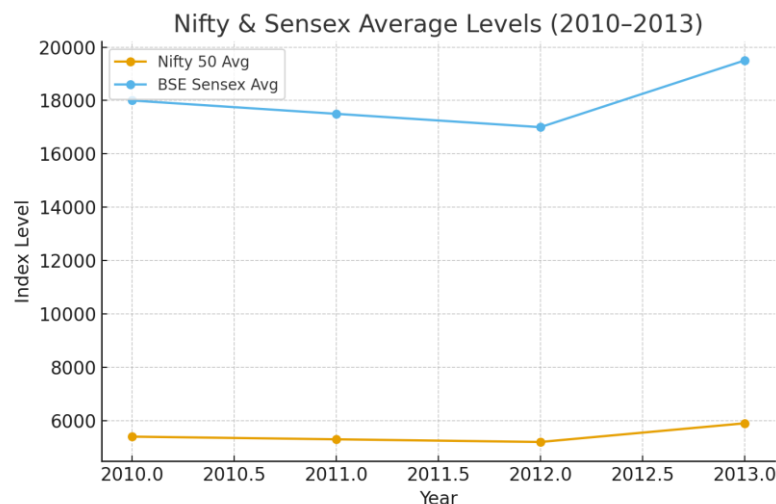


Figure 1: Average levels of Nifty 50 and BSE Sensex (2010–2013).

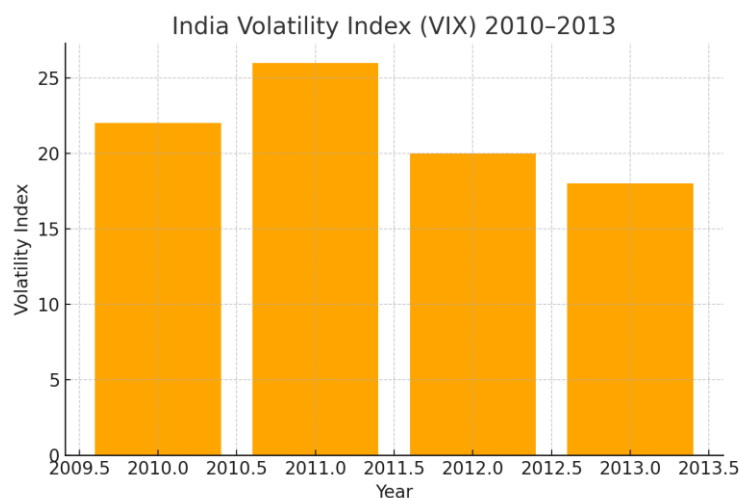


Figure 2: India Volatility Index (VIX) levels from 2010–2013.

The data shows that 2011 was the most volatile year in the sample, coinciding with the Eurozone crisis and domestic policy gridlock. Both indices reflected a decline in average levels. Volatility declined substantially in 2012 and 2013 as confidence returned to markets, with indices recovering to higher levels.

Findings & Outcomes:

1. Volatility confirmed (Reject H_{01} , Accept H_{11}): Analysis of India VIX and index trends confirms that the Indian equity market was indeed volatile during 2010–2013, especially in 2011.
2. Impact of global & domestic events (Reject H_{02} , Accept H_{12}): The spike in 2011 volatility corresponds with the Eurozone debt crisis, high inflation, and domestic policy paralysis.
3. Index comparison (Partially Reject H_{03} , Accept H_{13}): Both Sensex and Nifty followed broadly similar volatility patterns, though Nifty—being broader—showed sharper fluctuations.

Conclusion:

The study concludes that the Indian equity market's volatility between 2010 and 2013 was primarily shaped by global economic turbulence and domestic policy conditions. The declining trend in volatility from 2012 onwards suggests improved resilience of the market. For investors, understanding volatility patterns is essential for risk management, while policymakers can use such insights to strengthen regulatory frameworks that promote stability.

References

1. NSE India Reports (2010–2013). National Stock Exchange publications.
2. BSE India Market Data (2010–2013). Bombay Stock Exchange statistics.
3. SEBI (2013). Annual Report. Securities and Exchange Board of India.
4. Academic studies on volatility modeling in Indian markets (GARCH/ARCH applications, 2010–2013).
5. PwC & IMF reports on global financial trends (2010–2013).