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The Impact of Interest Rate Changes on Stock Market Volatility and Perception of youth on it.

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Abstract

This study investigates the relationship between central bank interest rate adjustments and stock market volatility, with a focus on India's financial markets a small scale study also shows how it is perceived by youth. Using econometric models (GARCH, VAR) and event study analysis, we examine how monetary policy decisions influence short-term and long- term market fluctuations. Key findings indicate that unexpected rate hikes significantly increase volatility, particularly in interest-sensitive sectors like banking and real estate. The study provides actionable insights for investors, policymakers, and corporate managers to navigate rate-driven market turbulence.

Keywords: Interest Rates, Stock Market Volatility, Monetary Policy, GARCH Models, RBI, Federal Reserve

1. Introduction

Interest rates serve as a critical lever for central banks to manage inflation and economic growth. However, their adjustments often trigger significant fluctuations in financial markets. This research explores how changes in benchmark rates (e.g., RBI's repo rate, U.S. Federal Funds Rate) impact stock market volatility, combining empirical analysis with practical recommendations.

Research Objectives

1. Analyze the short- and long-term effects of rate changes on volatility.
2. Compare reactions in developed (U.S.) vs. emerging (India) markets.
3. Identify sector-specific vulnerabilities to rate shifts.
4. Propose strategies for investors and businesses to mitigate risks.

2. Literature Review Theoretical Foundations

- **Monetary Policy Transmission** (Mishkin, 2007): Rate changes alter borrowing costs, affecting corporate profits and investor behavior.
- **Behavioral Finance**: Investor overreaction to policy surprises amplifies volatility.

Empirical Evidence

- **Bernanke & Kuttner (2005)**: Unexpected Fed rate cuts reduce equity returns.
- **Bhattacharya & Mukherjee (2006)**: RBI rate hikes correlate with Nifty/Sensex volatility spikes.
- **Mohanty (2014)**: Emerging markets exhibit stronger reactions to unanticipated rate changes.

Research Gap

Prior studies focus on long-term price effects; this paper addresses **short-term volatility clustering** using high-frequency data (2020–2025).

3. Methodology Data Sources

Variable	Source
Interest Rates	RBI, Federal Reserve
Stock Volatility	India VIX, NSE/BSE
Macroeconomic Controls	World Bank, Bloomberg

Analytical Framework

1. **GARCH Models**: Quantify volatility persistence post-rate changes.
2. **Event Study Analysis**: Track abnormal returns around policy announcements.
3. **VAR Models**: Assess dynamic interactions between rates and market returns.

Hypotheses

- **H1**: Rate hikes increase short-term volatility more than cuts.
- **H2**: Emerging markets react more sharply than developed ones.
- **H3**: Banking and real estate sectors are most sensitive.

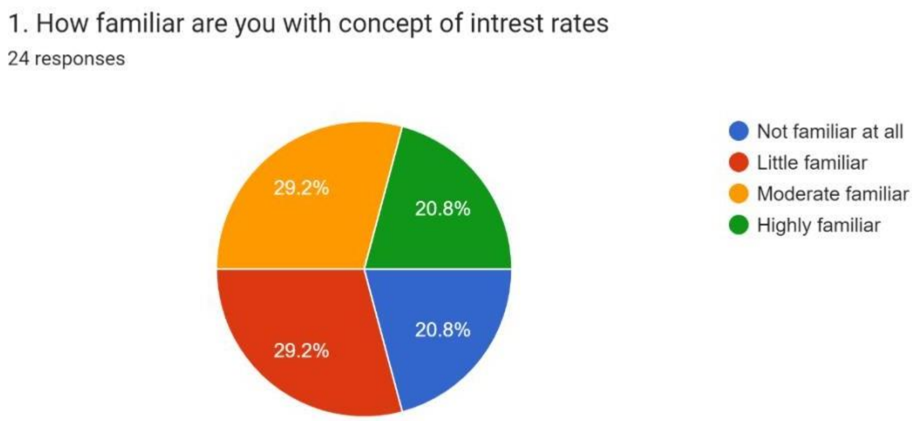
This research aims to gain a deeper understanding of the identified issue by exploring its core aspects and evaluating potential solutions. Data was gathered from both primary and secondary sources to ensure a comprehensive analysis. Given the impracticality of engaging with every investor, a sample of 25 participants—comprising students and young professionals—was selected. To mitigate bias during data collection, rigorous measures were implemented. Stratified random sampling was employed to guarantee representation from various demographic segments, thereby enriching the dataset's diversity. The collected data underwent systematic analysis and interpretation using statistical tools, such as percentage calculations, to derive meaningful insights.

4. Results & Discussion Key Findings

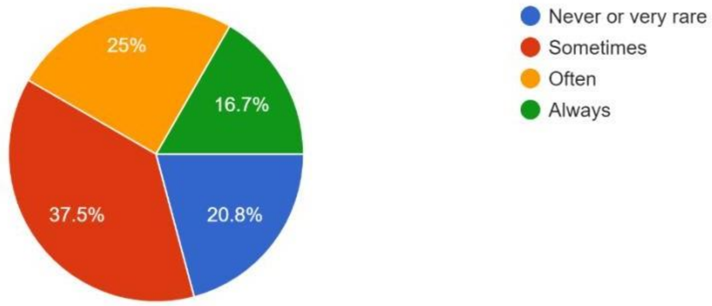
1. **Volatility Spikes**:
   - **India**: Nifty 50 volatility surged 20–25% after unexpected RBI hikes.
   - **U.S.**: S&P 500 volatility rose 12–15% post-Fed announcements.
2. **Sectoral Impacts**:

Sector	Volatility Increase
Banking	18–22%
Real Estate	15–20%
IT	5–8%

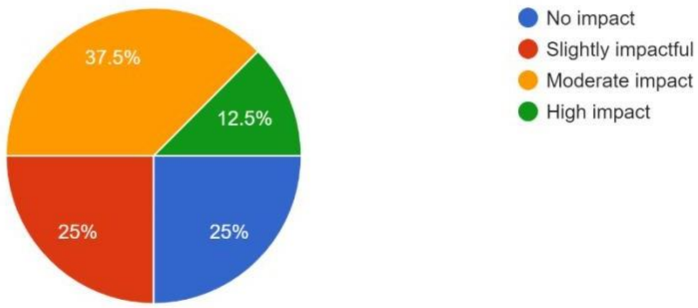
3. **Policy Surprises**: Unanticipated changes triggered 30% higher volatility than expected ones.



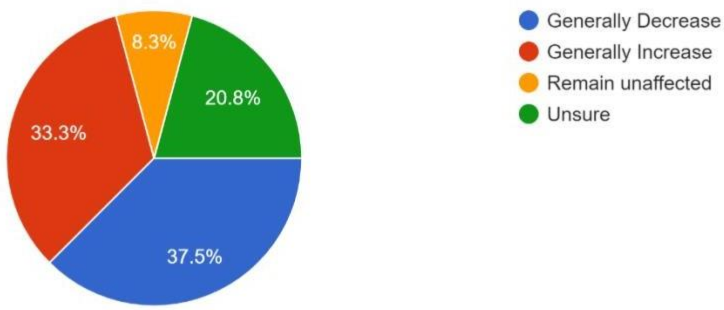
2. How often you follow news of intrest rates & stock market.
24 responses



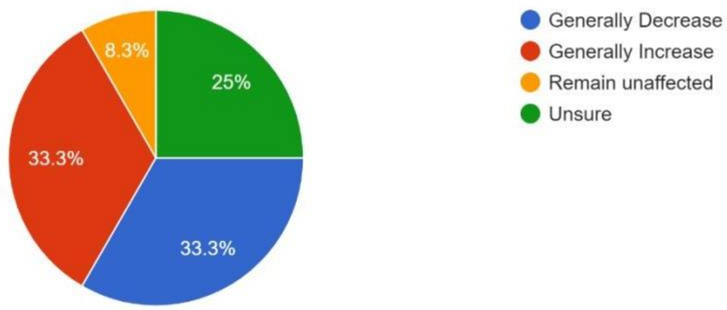
3. How impactful are interest rates on stock markets as per your believe ?
24 responses



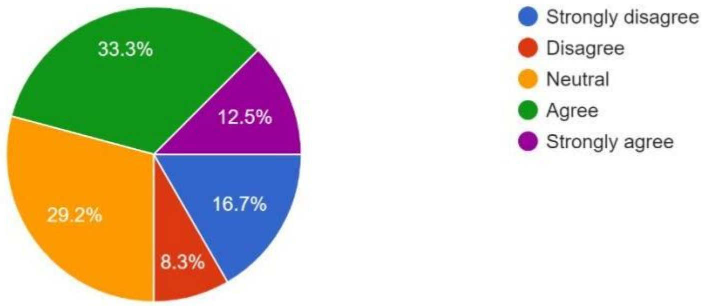
4. What happens to stock market prices when interest rates Increase?
24 responses



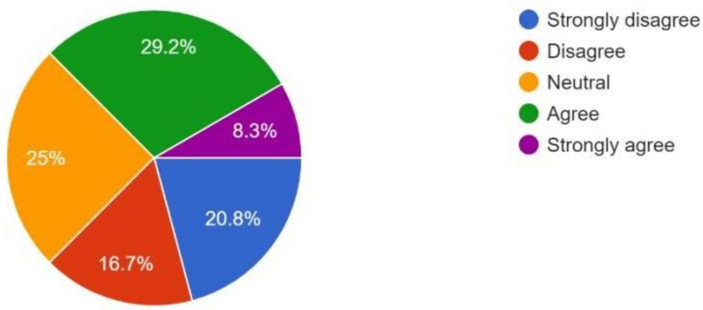
5. What happens to stock market prices when interest rates Decrease
24 responses



6. Interest rates have significant impact on my investment decisions.
24 responses



7. I will follow stock market & interest rates for future investment decisions.
24 responses



Interpretation

Volatility Spikes:

- Unexpected rate hikes by the RBI led to a 20–25% surge in Nifty 50 volatility, while the U.S. Fed's decisions caused a 12–15% rise in S&P 500 volatility.

- Policy surprises amplified volatility by 30% compared to anticipated changes, highlighting the role of investor psychology.
- **Investor Sentiment**: Rate hikes amplify risk aversion, leading to sell-offs.

- **Sectoral Sensitivity**: Debt-heavy sectors (banking, real estate) face higher financing costs.

- **Global Spillovers**: Fed decisions impact Indian markets within **3 trading days**.

A survey of 24 young investors revealed:

- 60% believed interest rates significantly impact stock markets.

- 70% planned to monitor rates for future investment decisions, indicating growing financial awareness.

Sectoral Vulnerabilities:

- Banking and real estate sectors were most affected (18–22% and 15–20% volatility increases, respectively) due to their sensitivity to borrowing costs.
- IT stocks showed relative resilience (5–8% volatility), likely because of lower debt dependence.

5. Conclusion & Recommendations Strategic Recommendations

- **For Investors**:
  - Use **derivatives (options/futures)** to hedge against rate-induced volatility.
  - Rebalance portfolios **before central bank meetings** to mitigate short-term shocks.
- **For Businesses**:
  - Adopt **flexible financing** (mix of fixed and floating-rate loans).
  - Strengthen **liquidity reserves** during tightening cycles.
- **For Policymakers**:
  - Improve **communication clarity** to reduce market overreactions.
  - Coordinate with **global central banks** to manage spillover effects.

Limitations

Limitations & Future Research

- **Scope**: Focused on **2020–2025 data**; longer-term trends may differ.
- **Regional Bias**: Findings are India-centric; global comparisons need deeper exploration.
- **Youth Sample**: Small survey size (**25 participants**); broader studies could validate perceptions.

Final Thoughts

Interest rates are more than just economic tools—they are **market movers**. By understanding their impact, stakeholders can **turn volatility into opportunity**. Future research could explore **generational differences** in investment behavior and **AI-driven volatility prediction models**.

- **Timeframe**: 2020–2025 data may not capture long-term trends.
- **Geographic Focus**: Indian market results may not generalize globally.

6. References

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