FinSearch 2025

MIDTERM REPORT

Understanding the Effects of Interest Hikes on Stock, Bond, and Derivatives Markets

Objective:

To cover RBI's past interest rate hikes with relevant graphs, reasons for their implementation, and the macroeconomic effects such as economic growth, inflation, and consumer spending. Also, to provide necessary details on how these interest rate hikes affected the stock market, bond market, and derivatives market.

Our Team :

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SUMMARY:

The report starts with discussion of basic concepts like interest rates and interest rate hikes and their relevance to the report with role of the central bank of India (RBI) and formation and regulation of the monetary policy of Indian economy.
This is followed by a well-curated database of rate hikes done by RBI in the past with a timeline from 2008-2025 added with possible reasons of such hikes as well as a brief analysis of complete line trend of repo rate hikes from 2008 to 2025, covering the global economic crisis as well as the covid era and its impact on the graph.
The macroeconomic effects of such hikes like the consumer spending, economic growth and inflation, loan borrowing, economic well being of the people are then discussed, which is further followed by the impact on stocks, bonds and derivatives market.
Towards the end, the report is concluded by overall learning and outcomes of the overall team. The resources and possible origin of any information presented in this report has also been attached in the end for reference.
Thank you.

INTRODUCTION

What exactly are interest rate hikes, and their relevance to this midterm report?
Interest rate hikes refer to the increase in the benchmark set by the central bank of any country (RBI in the case of India) through which the interest rates are essentially set. It acts as a weapon for the central bank of the country to ensure the proper functioning of any and every monetary system countrywide.
It makes borrowing for the needy more complicated, which directly or indirectly affects the enhancement of currency, inflation, and a good image of the country's economy, as we are going to discuss further in detail for our given topic through this finsearch report.

What is the role of the RBI in the monetary policy?
To put it simply, the RBI is the bank of the banks. It is responsible for every decision related to the monetary system that holds the economy of India. Its main objective is to maintain price stability while ensuring an adequate flow of credit.
It formulates as well as regulates the monetary policy. Some terms which we got familiar with, while working, such as repo rates, maintaining the liquidity, inflation control, reverse repo rates, and more, are some fancies of RBI which is going to be dealt with, moving forward.

What is the repo rate and why is it important?

Repo rate is the interest rate at which regular banks (like SBI, HDFC, etc.) borrow money from the Reserve Bank of India (RBI) when they're a bit short on cash. Imagine RBI as a lender of last resort—when banks need quick funds, they go to the RBI, hand over some government bonds as security, and agree to pay back the money with a little extra (the repo rate) after a short period.

RBI mainly increases repo rate if inflation is a problem and lowers it if the economy needs a boost. This encourages people and businesses to spend and invest, helping the economy grow.

Scenarios of interest rate hikes:

1) Unexpected rate hikes
2) Expected rate hikes
3) Rates remaining constant or decreasing.

What is Liquidity management?

Liquidity management is the proactive process of ensuring a company has the cash on hand to meet its financial obligations as they come due. It is a critical component of financial performance as it directly impacts a company's working capital.Interest rate changes are a tool used by central banks to manage liquidity and control inflation.

Are Rising Interest Rates Good or Bad for Futures Traders?

Rising interest rates are generally bad for futures traders because they can lead to lower contract prices. However, traders who anticipate these rate increases may profit from short positions in certain futures contracts.

Cost of Carry Model

The futures price of an asset is derived from the cost of carry model, which accounts for storage costs, dividends, and interest rates:
F=S×e(r+c−y)T
Where:

- S = Spot price of the asset
- r = Risk-free interest rate
- c = Storage cost (as a percentage)
- y = Convenience yield (for commodities)
- T = Time to maturity

Scope of this report

While collecting data relevant to the given topic for the midterm report, we decided to restrict the timeline of the database to be between **2025 and 2008** due to being sufficient as well as easily available. We also realised covering this timeline would make data more interesting since the 2008 economic crisis, as well as the COVID-19 economic trend, would make it crunchier.

RECORD OF HIKES IMPLEMENTED BY RBI IN THE PAST:

A table of RBI **repo rate** changes from **2008 through June 2025**, indicating whether each move was a hike or a cut, along with the magnitude in basis points (bps):

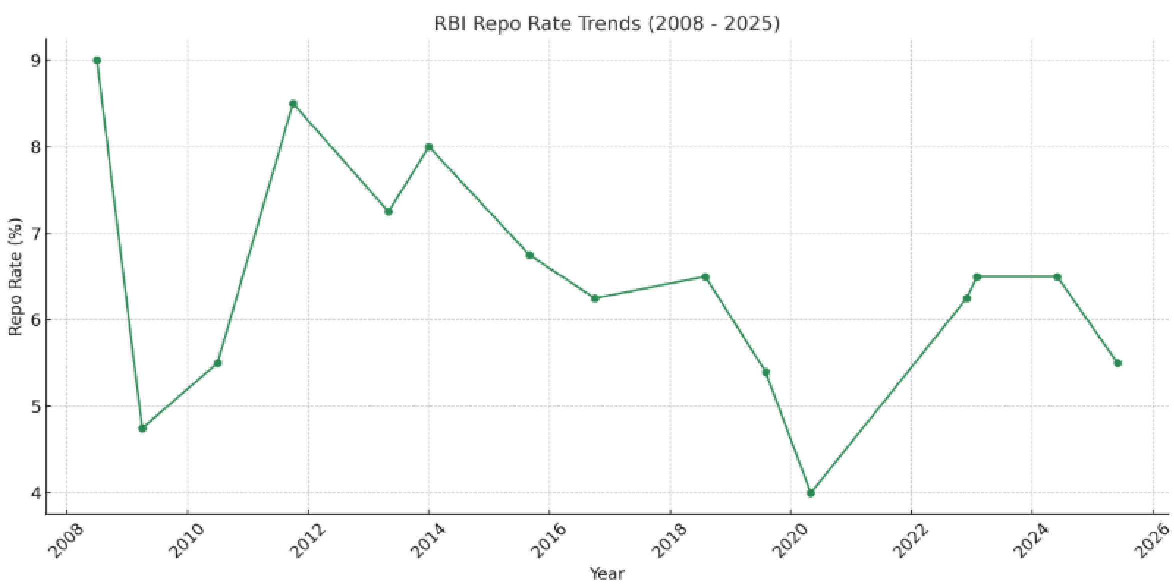
Date Of Hike/ Repo Rate	**Change in basis points (bps)**	**Hike/ Cut Status**
12 June 2008/ 8.00	25	gain
25 June 2008/8.50	50	gain
30 July 2008/9.00	50	gain
20 October 2008/8.00	100	cut
3 November 2008/7.50	50	cut
8 December 2008/6.50	100	cut
5 January 2009/5.50	100	cut
21 April 2009/4.75	75	cut
19 March 2010/5.00	25	gain
20 April 2010/5.25	25	gain
2 July 2010/5.50	25	gain
27 July 2010/5.75	25	gain
16 September 2010/6.00	25	gain
2 November 2010/6.25	25	gain
25 January 2011/6.50	25	gain
17 March 2011/6.75	25	gain
3 May 2011/7.25	50	gain
16 June 2011/7.50	25	gain
26 July 2011/8.00	50	gain

16 September 2011/8.25	25	gain
25 October 2011/ 8.50	25	gain
17 April 2012/ 8.00	50	cut
29 January 2013/ 7.75	25	cut
19 March 2013/ 7.50	25	cut
3 May 2013/7.25	25	cut
20 September 2013/ 7.50	25	gain
29 October 2013/ 7.75	25	gain
28 January 2014/ 8.00	25	gain
15 January 2015/ 7.75	25	cut
4 March 2015/ 7.50	25	cut
2 June 2015/7.25	25	cut
29 September 2015/ 6.75	50	cut
5 April 2016/6.50	25	cut
4 October 2016/6.25	25	cut
2 August 2017/6.00	25	cut
6 June 2018/6.25	25	gain
1 August 2018/6.00	25	cut
7 February 2019/6.25	25	gain
4 April 2019/6.00	25	cut

6 June 2019/5.75	25	cut
7 August 2019/5.40	35	cut
6 February 2020/5.15	25	cut
27 March 2020/4.40	75	cut

22 May 2020/4.00	40	cut
8 June 2022/4,90	90	gain
5 August 2022/5.40	50	gain
30 September 2022/5.90	50	gain
7 December 2022/6.25	35	gain
8 Feb 2023/6.50	25	gain

8 Jun- 6 Dec (2024)/6.50	0	On hold
7 Februray 2025/6.25	25	cut
6 June 2025/6.00	25	cut



*Trend graph generated through Chat-GPT by inserting collected data.

INTERPRETATION OF DATABASE: Possibilities & Reasons for the Repo-rate fluctuation

Why is there a need to fluctuate the repo rate for the RBI?

When the RBI wants to make more money available, it lowers the repo rate. This lowers the cost of borrowing money from the RBI for financial institutions. The repo rate is increased by the RBI to discourage banks from borrowing money and thereby lower the money supply.

1. **Loans Get Pricier**: That's because banks now have to pay more to borrow money from the RBI, so they pass that extra cost on to you. For many families, this means tightening the monthly budgets.

2. Profit in savings: Banks often raise the interest rates on fixed deposits and savings accounts after a repo rate hike, which benefits the people who keep their money for savings.

3. Expenditure becomes less: Since loans become more expensive, people think twice before borrowing. When lots of people and companies do this, overall spending in the economy slows down.

4. Inflation: This is the RBI's main reason for hiking the repo rate. By making borrowing costlier and slowing down spending, the RBI hopes to keep prices from rising too quickly.

There are more factors involved, such as the impact of rate hikes on the stock market, bonds, and derivatives, which will be covered in our upcoming sections.

Analysing the trend from 2008 to 2025:

- As the trend starts with an overheated economy and upcoming crisis during 2008-2009, we observe a repo rate of 9.00% as a response. As the global crisis hits, the repo rate has a very brutal, sharp cut to around 4.75% in order to increase the liquidity and demand.
- The years of 2010 and 2011 saw a gradual hike in response to the post-crisis situation. However, the high inflation is clearly visible as a consequence.

- 2012-13 are the years where some mild cuts are seen, probably due to growth concerns after a very impactful crisis situation. The repo rate was back to 8.00 % in 2014 to curb inflation.
- 2015,2016,2017: with a little cuts of only around 25 bps, a moderate inflation scenario.
- COVID-19 AND ITS IMPACT: Following 2019, the rate drops to 4.00% as a response to the pandemic and boost sudden liquidity. In the next year, it was held quite steady as a recovery stage. As we enter 2022, a hike is seen as a post-COVID surge and a global condition.
- 2023-Present: These years are facing mostly a hold in order to moderate inflation, while not completely being in a comfort zone. The present repo rate has been cut to 5.5% as disinflation continues, growth slows, and space for easing opens up.

MACROECONOMIC EFFECTS OF HIKES BY RBI:

- **Increases the cost of borrowing**. With higher interest rates, interest payments on credit cards and loans are more expensive. Therefore this discourages people from borrowing and spending. People who already have loans will have less disposable income because they spend more on interest payments. Therefore other areas of consumption will fall.
- **Increase in mortgage interest payments.** Related to the first point is the fact that interest payments on variable mortgages will increase. This will have a significant impact on consumer spending. This is because a 0. 5% increase in interest rates can increase the cost of a £100,000 mortgage by £60 per month. This is a significant impact on personal discretionary income.
- **Increased incentive to save rather than spend.** Higher interest rates make it more attractive to save in a deposit account because of the interest gained.
- **Higher interest rates increase the value of a currency** (Due to hot money flows, investors are more likely to save in British banks if UK rates are higher than other countries) A stronger Pound makes UK exports less competitive – reducing exports and increasing imports. This has the effect of reducing aggregate demand in the economy.
- **Rising interest rates affect both consumers and firms**. Therefore the economy is likely to experience falls in consumption and investment.
- **Government debt interest payments increase.** The UK currently pays over £30bn a year on its national debt. Higher interest rates increase the cost of government interest payments. This could lead to higher taxes in the future.

- **Reduced confidence**. Interest rates affect consumer and business confidence. A rise in interest rates discourages investment; it makes firms and consumers less willing to take out risky investments and purchases.

EFFECTS ON STOCK, BOND, AND DERIVATIVES MARKETS :

Why Do Interest Rate Hikes Reduce the Value of Existing Bonds? Let's say you bought a bond that pays 5% annual interest (₹500 per year on a ₹10,000 bond). Now suppose new bonds in the market start offering 7% interest (₹700 on ₹10,000) because the central bank raised interest rates. Why would someone buy your old 5% bond, when they can get a 7% return elsewhere?

Impact on the Stock Market:

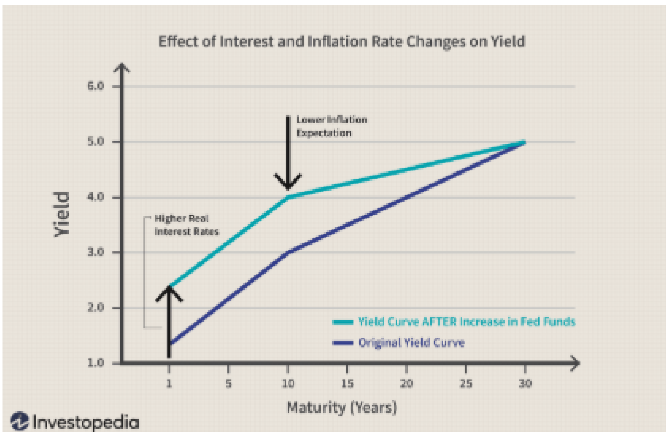
- Unexpected interest rate hikes:
  - If the market is not expecting a rate hike, and the central bank suddenly increases rates, the stock market will react negatively and fall significantly.
  - This is because the unexpected rate hike introduces uncertainty into the market.
- Expected interest rate hikes:
  - If the market is already anticipating a rate hike, the impact on the stock market is not as severe.
  - The extent of the market's reaction will depend on whether the actual rate hike matches market expectations. If it's higher than expected, the market may see a mild decline.
- Rates remaining constant or decreasing:
  - If the market expects a rate hike, but the central bank keeps rates constant or decreases them instead, the market reaction would be positive, and the market would likely rally.

1. Equity Futures

- Higher interest rates increase corporate borrowing costs, reducing profitability and equity valuations. Stock index futures (e.g., E-mini S&P 500) often decline.
- Lower rates have the opposite effect, encouraging investment in growth stocks and lifting futures.

2. Bond Futures

- Bond prices move inversely to interest rates. Rising rates lead to falling bond futures prices (e.g., Treasury futures).
- The yield curve's shape (steepening/flattening) signals market expectations, impacting long-dated bond futures.



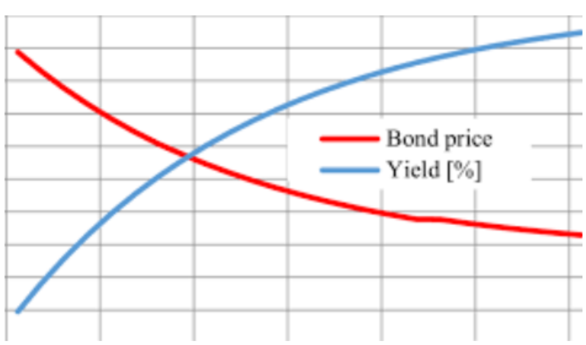
3. Bond Futures & Duration

Bond futures are sensitive to yield changes. The modified duration (Dmod) predicts price sensitivity:

$$\Delta P \approx -Dmod \times P \times \Delta y$$

Where:

- ΔP = Change in bond futures price
- Δy = Change in yield (driven by interest rates)



4. Real estate

One of the most immediate impacts of rising interest rates is the increase in borrowing costs. Commercial property owners who rely on debt financing may face increased loan servicing costs. This, in turn, could result in lower cash flow or reduced returns on investment (ROI). Investors in office buildings, retail centers, or industrial properties could find themselves reassessing their portfolios as financing becomes more expensive.

What Happens to Growth Stocks When Interest Rates Rise?

Growth stocks are heavily reliant on capital for future business expansion. Periods of low interest rates are the golden ages for growth stocks because capital can be obtained cheaply and growth is easier to come by. Many investors therefore believe that growth stocks are less favorable as interest rates rise because their long-term discounted cash flow is reduced and their ability to secure low-cost debt financing becomes more difficult.

LEARNING & OUTCOME:

- As the FinSearch journey reaches its midway, we, as a team, were able to make the best possible out of this opportunity. The concepts of the economy and finance, with added teamwork and how a report is led to work, are some main learnings, and we look forward to the completion of this research project.
- Familiarity with otherwise new concepts like the functioning of the central bank, hike rates, and their importance, concept of repo rate and reverse rate, and factors like the global market, as well as the amount of export and money transfer affecting them directly or indirectly.
- The hikes or cuts implemented by the RBI in the past and its possibility in the future, and how it is based on various factors. The fancies of stock markets, bond markets, and derivatives markets, and how they are impacted both in the long term and short term, with some basic algorithms of the market.

RESOURCES:

https://www.forbesindia.com/article/explainers/repo-rate-current-history-india/85101/1

How does raising interest rates control inflation? : https://www.youtube.com/watch?v=R8VBRCs2jTU

https://www.taxmann.com/post/blog/introduction-to-central-banking

https://www.bajajfinserv.in/investments/rbi-hikes-repo-rate-how-will-it-impact-you

https://www.economicshelp.org/macroeconomics/monetary-policy/effect-raising-interest-rates/#:~:text=Therefore%2C%20higher%20interest%20rates%20will,(even%20negative%20growth%20%E2%80%93%20recession)

All the resources as contained in the provided material by the FinSearch team.

Chat GPT for generating relevant graphs, trends, or images as required in relevant places.