

Internship Summary

My internship at Bajaj Finserv, a non-banking financial company, was a great opportunity for me to apply my classroom knowledge of macroeconomics to the financial sector. I worked for a department that collects macroeconomic data, including data for public debt, government bonds and yields, consumption levels, geopolitical events, and interest rates, to identify trends to make proposals for financial decisions for the company.

I was introduced to databases like CEIC (global), CMI (Indian) and other government resources. Using the company's previous monetary policy analysis sheets as reference and the databases, I formed a report on the implications of monetary policy for inflation targeting on financial institutions. This expanded my knowledge about repo rates, reverse repo rates, EMIs, fixed deposit rates, mutual funds, and Standing Deposit Facility (SDF). I analyzed how the change in the SDF rate impacts the money supply by commercial banks in the economy. Analyzing predictions for the repo rate and SDF rate helped Bajaj Finserv and its subsidiaries like Bajaj Housing take a short term and long term view of interest rates and money supply to form its business strategy.

I also contributed to the presentation my mentor and her team were working on for the department head. I analyzed the trend of public debt for the last 10 years in India. I collected data for the 4 sectors that compose public debt: market borrowing, external debt, securities against small savings, and state provident funds.

I also got the opportunity to expand my knowledge about the government bond market. My mentor gave me a research paper to read called 'Deepening of the Government Bond Market' by Subhash Karmakar. I learnt about the types of bonds issued in India, gilt mutual funds, treasury bills (T-Bills), State Development Loans (SDLs), the direct proportionality of yields and economic slowdown and the inverse proportionality of yields and price.

I helped the team with another presentation. I did a comparison between the data of the 10-year yields in India and the USA for the last 2 decades. I used measures like range, standard deviation, 10-year averages, and the upcoming 10-year averages. I compared the volatility of yield in India to that in the USA and how it changed over a period of time, including the pandemic. The aim was to analyze the impact of yields and the volatility of yield over time on the financial sector, specifically housing finance.

Focusing on housing finance was completely new to me. I was taught how to forecast real estate demand using RBI reports. The reports help use data over a period of time to identify trends in the House Price Gap, sold/unsold inventories, House Price Index, and the percentage of residential housing loans. It helped the company to play on its collateral margins to outcompete its competitors.

Overall, the internship was an enlightening experience. I learnt a lot about the specifics in economics and how economic updates help non-banking financial companies in the following areas:

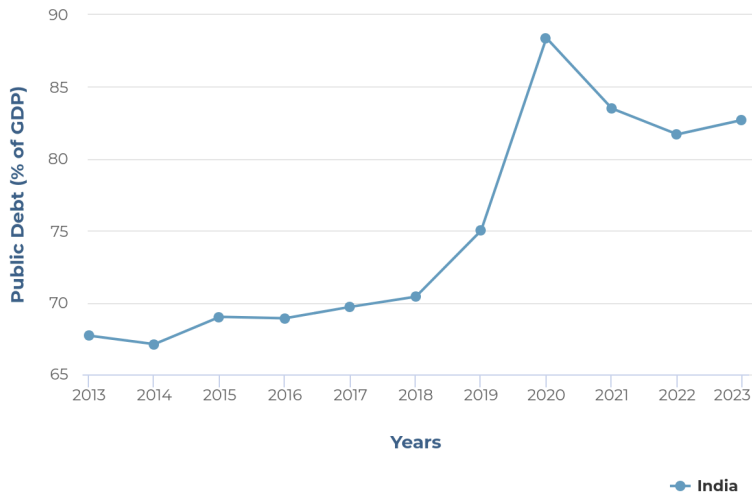
- Economic forecasting - predicting economic cycles.
- Risk assessments - identifying potential risks associated with economic downturns.
- Investment strategies - highlighting asset sectors that may perform well.
- Market analysis - analyzing specific markets to inform about pricing strategies, competitive positioning, and product offerings.

Internship Notes

1. Public Debt

Public debt is when government expenditure exceeds the government revenue, and is funded by borrowing from domestic and international sources. It is the total amount of money the government owes to the public sector. This includes the total liabilities borrowed by the government to meet its budget. Hence, it's a source to finance government spending. It is paid from the Consolidated Fund of India. If public debt is high or rapidly increasing, it can be a burden.

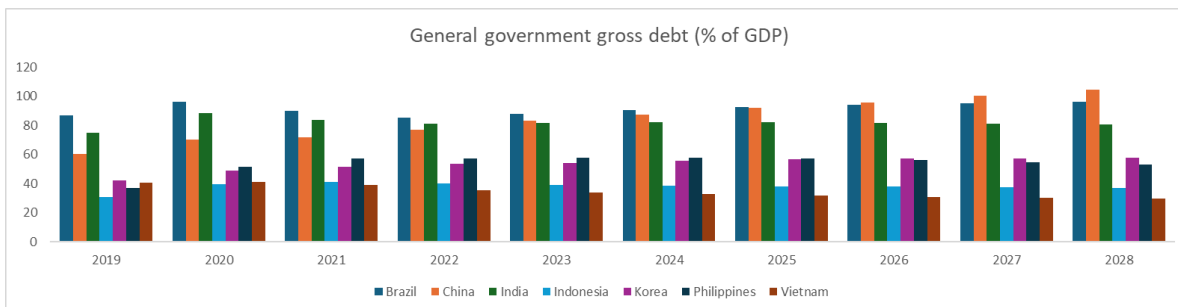
1. Public debt trend in India – over the past 15-20 years? Compare with other countries



The public debt of India gradually increased from 67.7% of GDP in 2013 to 75% of GDP in 2019, before spiking to 88.4% in 2020. It decreased to 81.7% of GDP in 2022. In 2023, this percentage rose to 82.7% of GDP in 2023.

Compared to countries like Japan (with a public debt of 263% of GDP), the USA (with a public debt of 121.3% of GDP), Italy (with a public debt of 140.5% of GDP), and the UK (with a public debt of 101.9% of GDP), India had a significantly lower public debt as a percentage of GDP in 2023.

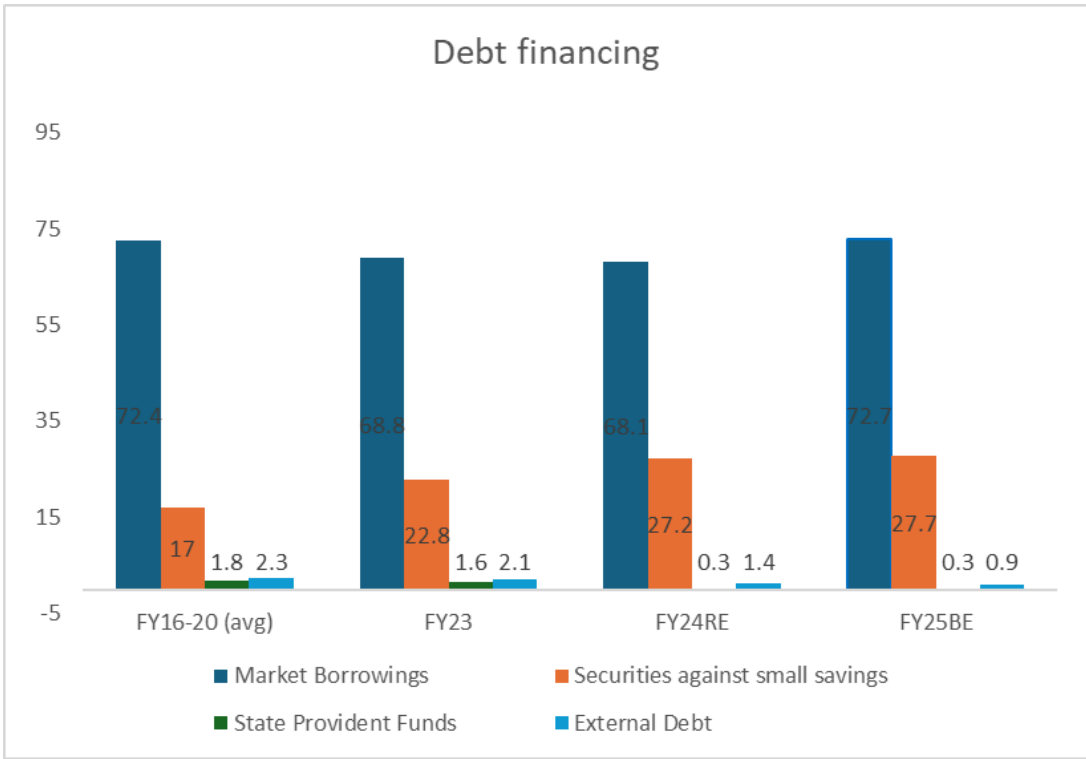
The % of short term debt in the total external debt of India was about 18.7%, lower than various other LMICs.



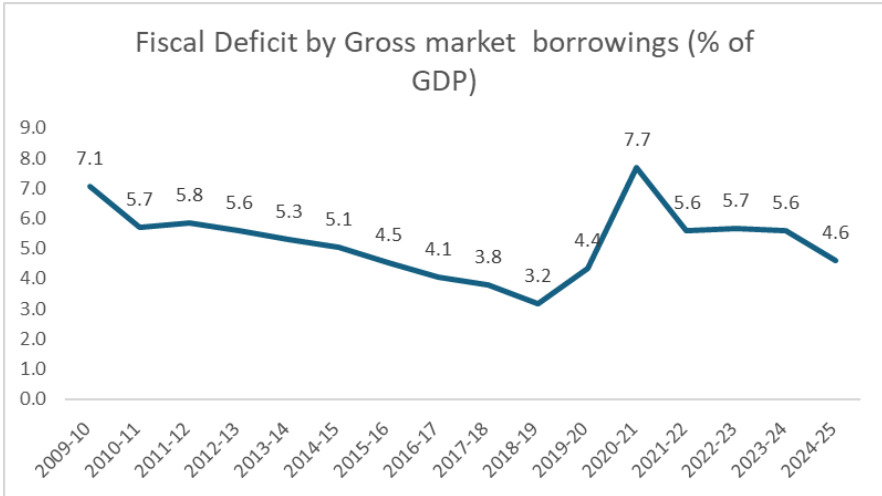
China and Brazil have a higher public debt as a % of GDP while Indonesia, Korea, Philippines, and Vietnam have a lower public debt as a % of GDP compared to India. India's public debt is forecasted to decrease overtime from 82.3% in 2024 to 80.5% in 2028.

2. Composition of public debt – market borrowing, external etc? and its trend

Public debt is composed of 4 main sectors, which are market borrowing, external debt, securities against small savings, and state provident funds.

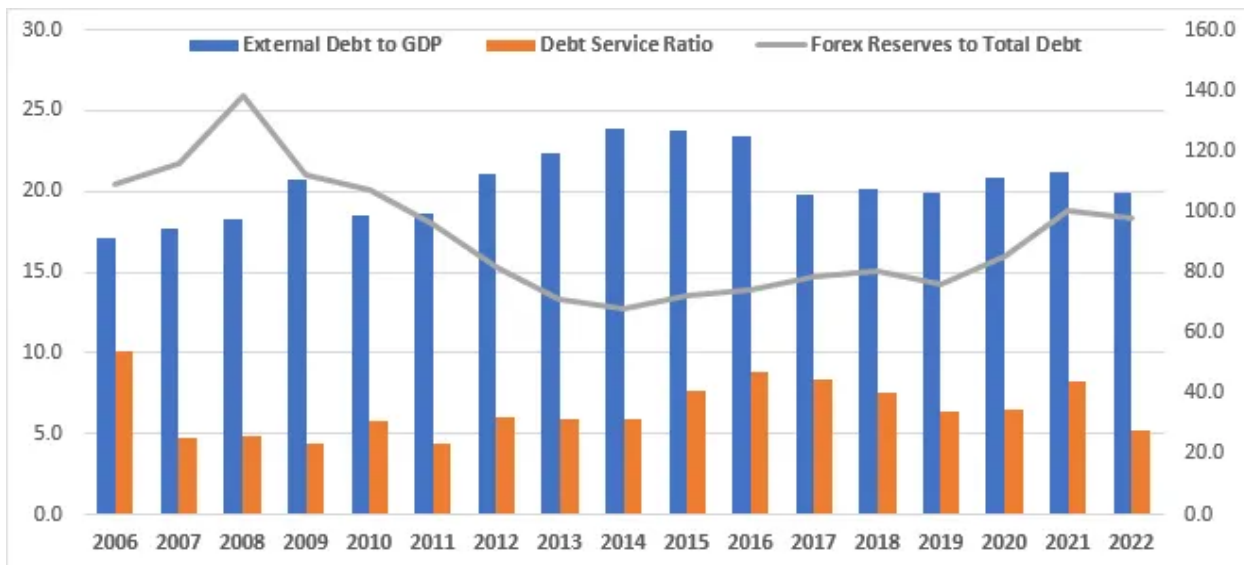


Market borrowing:



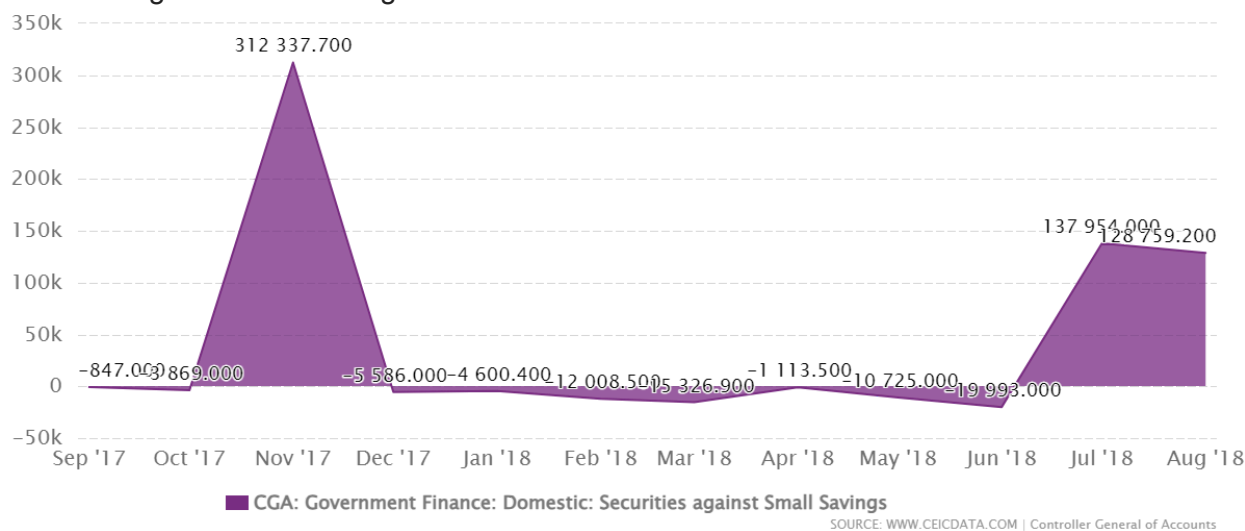
The fiscal deficit by gross market borrowing peaked in the FY 2021-22 at 7.7% of GDP due to the disruptions caused by COVID-19. This is predicted to decrease by 3.1 percentage points to 4.6% in the FY 2024-25.

External debt:



The data shows how the external debt of India rose from 17.1% of GDP in 2006 to 23.9% of GDP in 2014. This decreased to 19.9% of GDP in 2022. External debt is directly proportional to GDP. This is because credit drives economic activity, and credit is often sourced from international financial markets.

Securities against small savings:



There was a peak of more than 3,00,000 INR mm securities against small savings in November 2017. The data reached a culmination point of more than 4,50,000 INR mm in September 2003. The lowest was less than -2,50,000 INR mm in September 2016.

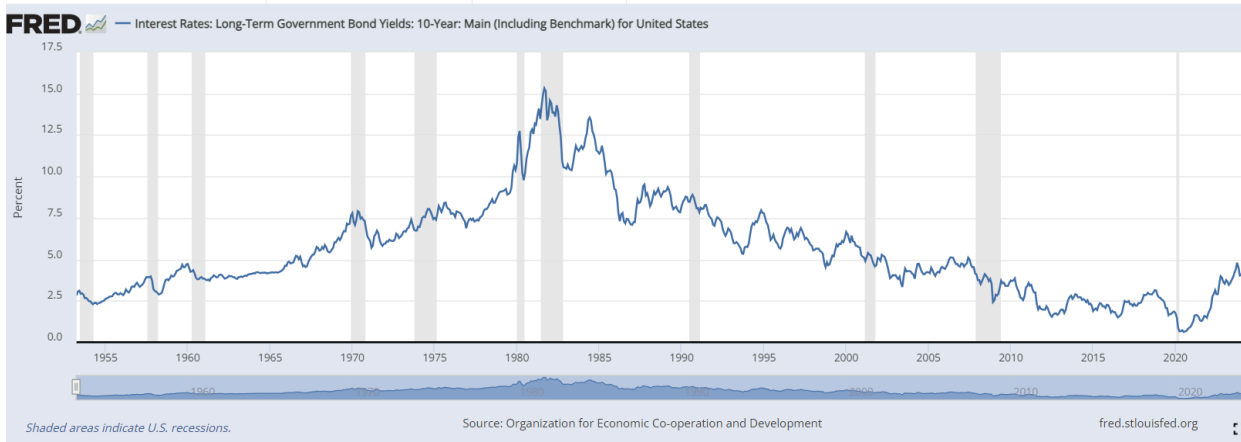
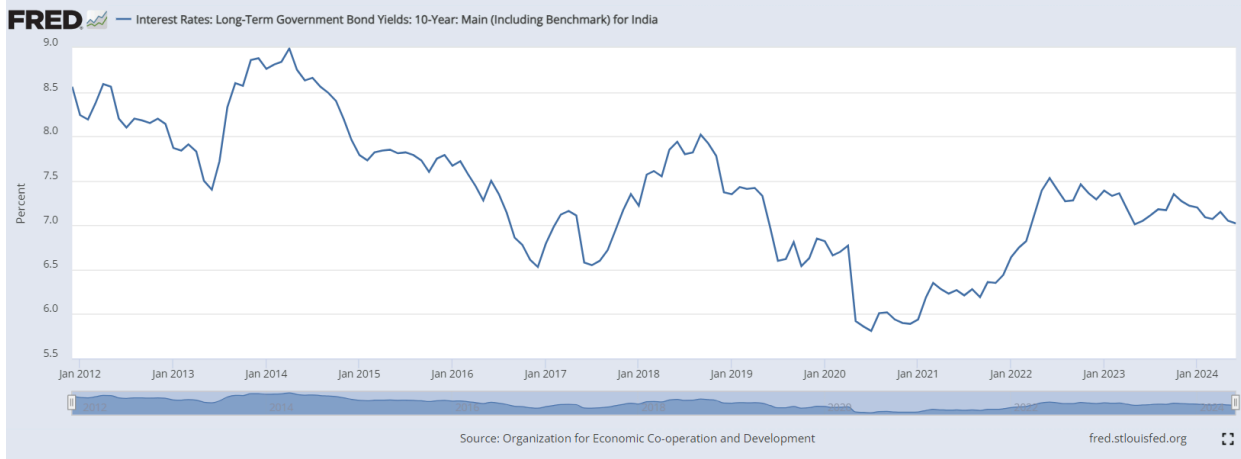
State provident funds:

- Pension funds
- Taken from salary of employee and employer
- The government uses that money but they grow it
- Once you retire or your provident fund matures, you get that money

3. Point out periods of abnormal growth or decline

There was abnormal growth of public debt in 2020. The government policies in response to COVID-19 led to a rise in external debt, which was 47.1 billion USD higher in the FY 2021-22 than the FY 2020-21. Even the market borrowing peaked at 7.7% of GDP in 2020. The overall public debt rose by 13.4 percentage points to 88.4% of GDP within a year during the pandemic.

2. Government Bond Yields



US past 10 year yield data

Range for the last 10 year	4.18	Max = 4.80%	Min = 0.62%
Standard Deviation	1.006234578		

India past 10 year yield data

Range for the last 10 year	2.2	Max = 8.01%	Min = 5.81%
Standard deviation	0.572253144		

The yield of the US has been more volatile in the US compared to the yield of India in the past 10 years. Over the 10 year time period, both the countries faced fluctuations in yield. The US yield increased by 2.43 percentage points while the Indian yield decreased only by around 0.77 percentage points since 2015.

Has the relationship between indian and us yield changed after covid

During COVID, in 2020, the yield in both countries dropped. Since COVID, the yield has gradually increased in both the countries until 2022. India has since seen a drop. As the USA was not devastatingly impacted by the first wave of the pandemic, government bonds were attractive for domestic and foreign investors. As the demand for bonds was high, the yields decreased.

During COVID, as the government was increasing money supply, there was higher demand, and a rise in bond prices. This led to a fall in yield in both countries. After COVID, as the government increased interest rates through MPC and FOMC, the yield gradually rose. The US faced a high rise in yield due to people not slowing down consumption despite high inflation. The yield volatility during the pandemic also rose.

Good source:

<https://www.frontiersin.org/journals/environmental-science/articles/10.3389/fenvs.2022.881260/full>

3. Housing Sector

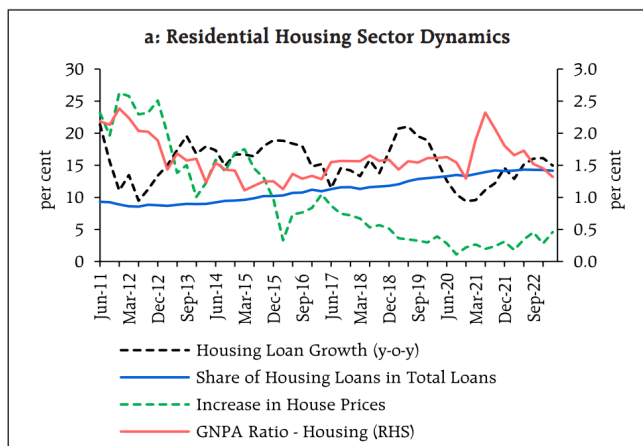
- **Floating rate or flexi rate**
- **Fixed rate**
- **These rates will be decided on the basis of the yield**
- **Because the rate at which the government is selling their bonds, people will want to borrow money at a similar or higher rate???**

June 28, 2023

<https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/0FSRJUNE20231159B36F45EA406E9D704BBC8F73D785.PDF>

The House Price Index (HPI) recorded its highest increase in the last 17 quarters in Q4 2022-23. There is strong demand for houses post-pandemic. House sales increased by 21.6%. Newly launched houses also have increasing demand. There was a rise in unsold inventory, which increased the inventory overhang in Q4 2022-23.

The percentage of residential housing loans in total loans increased over the 11 years preceding 2023 from 8.6% in March 2012 to 14.2% in March 2023.



Since June 2011, the housing loan growth has fluctuated while the house price growth has gradually decreased.

House Price Gap: Difference between average asking (supply) price and what the buyers are willing to pay for.

December 28, 2023

<https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/0FSRDECB815B9437D6D428F81D45C22BBF6C62A.PDF>

The HPI in India was around 3.4% in Q2 2023-24. This represented disinflation from 5.1% a year ago and 4.5% 2 years ago. After the rise in HPI post-pandemic, this showed a contraction. This has been due to lower demand pressures for houses and rentals. The house price gap has turned marginally negative and the prices are moving close along the trend. Housing loan growth remained stagnant while commercial real estate (CRE) loans increased. NPAs in the housing sector stayed relatively stable despite the rise in mortgage rates.

June 27, 2024

The HPI increased by 4.1% in Q4 2023-24. The house prices and the response to them varied depending on the cities. Residential real estate increase in the last 3 quarters of FY 2023-24. Housing sales remained strong despite contractionary monetary policy. This also led to a decline in unsold inventory overhang. Housing growth remained stable while the rate of growth of CRE loans decreased.

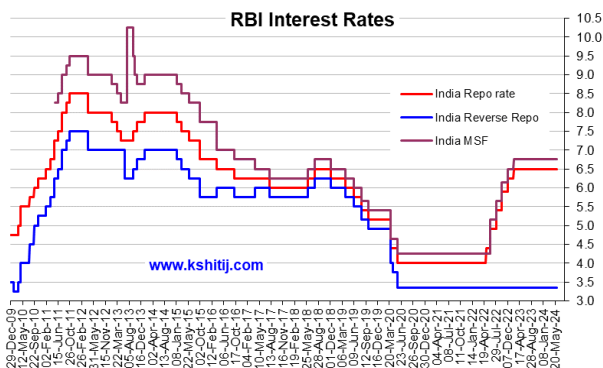
4. Road of Monetary Policy

Report:

The main objective of monetary policy is to stabilize inflation, such that it is low and steady and allows sustainable economic growth. Monetary policy also helps manage money supply and liquidity in an economy. India's central bank, the Reserve Bank of India (RBI), has a target of keeping the inflation rate at 4% with a scope of 2 percentage points up or down.

1.0 Controlling Inflation - Repo Rate

At times when the inflation rate is greater than the target inflation, central banks increase the repo rate, which is the rate at which the RBI lends short-term or temporary money to commercial banks. The repo rate of India increased from 6.25% to 6.50% on 8th February 2024. Since May 2022, the repo rate has risen from 4.40% to 6.50%. This was to help control inflation caused by supply disruptions due to the pandemic and increased prices of commodities due to global conflicts. Even weather conditions led to a rise in food prices over the last 2 years.



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These recent repo rate hikes can have various impacts on inflation, loans and EMIs, deposits and fixed deposit rates, mutual funds, and consuming and saving patterns.

1.1 Inflation and economic growth

A high repo rate increases the cost of borrowing for banks, which is passed onto consumers. As a result, there is a lower money supply in the economy and lower credit availability. This would reduce consumption levels, reducing demand and helping control inflationary pressures. The RBI forecasts inflation to fall to 4.5% in fiscal year 2024-25 and further to 4.1% the following fiscal year. The RBI policy rates are not expected to ease until the final quarter of the year, or even until the fiscal year 2024-25. This prediction is based on several factors, including inflation risks and a delay in US Federal Reserve rate cuts. By cutting rates before the US Fed does the same, India may be at a risk of undermining its currency. According to a Bloomberg survey, economists forecasted the inflation rate to stay at 4.5% throughout the fiscal year. According to the Economic Survey presented in Parliament by the finance minister on 22nd July 2024, economic growth is expected to grow between 6.5% to 7% in the fiscal year 2024-25. With a fast-growing economy and controlled inflation rates, changes in rates like the repo rate are not expected anytime soon.

1.2 Loans and EMIs

The RBI rate rise has directly increased EMIs, which are equated monthly installments that include the principal amount and the interest rate. This has made all types of loans more expensive. These loans include student loans, mortgages, personal loans, business loans and more. As it becomes more difficult for financial institutions like Bajaj Finance to borrow money from the RBI, borrowing money from these institutions also becomes more expensive. This restricts a low or medium income borrower from buying luxury goods and services, decreasing consumption.

1.3 Deposits and Fixed Deposit Rates

As the repo rate rises, the interest rate on bank deposits also rises. Higher interest rates benefit short and medium-term investments like fixed deposits and saving accounts as they get more return on their investment. Some banks offer interest rates of 8% or more, attracting risk-averse investors. An example is Unity Small Finance Bank, which offers a 9% interest for 1,001 days. As banks compete for deposits, the interest rates they offer are also expected to increase.

1.4 Mutual Funds

With a rise in repo rate, investors in debt mutual funds may become more cautious. Debt mutual funds invest in fixed income securities like government bonds, corporate bonds and more. An increased repo rate signifies an increase in interest rates, including bond yields. Bond yields and bond prices have an inversely proportional relationship. As yield increases, the price of the bonds decreases, which negatively impacts the return of these funds. This is why investor confidence may be low with high repo rates.

2.0 Controlling Excess Liquidity - Standing Deposit Facility (SDF)

Targeting a 4% inflation rate is also done by controlling excess liquidity. The RBI does that using the Standing Deposit Facility (SDF) and/ or the reverse repo rate. The SDF was introduced in 2022 to absorb liquidity. Essentially, the SDF allows commercial banks to deposit excess liquidity to the RBI without government security or collateral. The SDF rate is the interest rate at which the RBI accepts non collateralized deposits for a day. The current SDF rate is 6.25%.

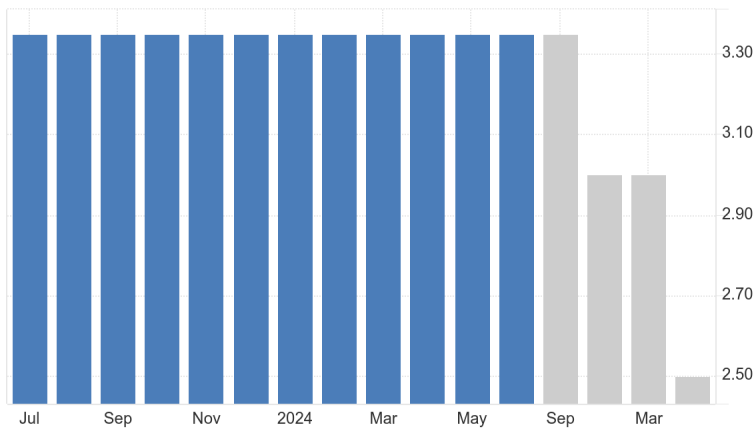
2.1 Impact of SDF on Financial Institutions

The SDF is a safe option for institutions to manage liquidity. The security of central bank deposits holds less risk than other forms of short-term lending. With an increase in the SDF rate, banks may prefer depositing the excess funds instead of lending them out to customers or in the interbank market. Raising the SDF rate is a tightening monetary policy. As banks deposit funds rather than lending them out, there is less circulation of money in the economy, which helps control inflation. The SDF rate is always 0.25% below the repo rate. As the repo rate is expected to remain unchanged at least until the fiscal year 2024-25, so is the SDF rate.

2.2 Controlling Excess Liquidity - Reverse Repo Rate

The reverse repo rate is the rate at which the RBI borrows money from the commercial banks to reduce the liquidity in the market. The reverse repo rate stands at 3.35%. From the 2000 until 2024, the average reverse repo rate is 5.37%. According to Trading Economics, the rate is predicted to decrease to 3.35% by the end of this quarter. According to Econometric Models, the Reverse Repo Rate is predicted to reach 2.50% by 2025.

IN Reverse Repo Rate - percent



Source: tradingeconomics.com | Reserve Bank of India

When the reverse repo rate is high, depositing their excess funds with the central bank becomes more attractive for commercial banks. This decreases the available funds and hence, the supply of money in the market. This reduces borrowing and consumption and hence, helps control inflation. However, as the reverse repo rate is expected to decrease overtime, the money supply in the economy may increase as financial institutions lessen the deposits with the RBI.

Overall, monetary policy aims to control inflation and the liquidity in an economy. In India, a growing economy, monitored inflation and other global factors lead to a forecast of unchanged repo rate and hence, SDF rate. However, the reverse repo rate is expected to decrease overtime.