



Performance Of Debt Mutual Funds In A Declining Interest Rate Environment

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ABSTRACT

Retail and institutional investors are increasingly choosing debt mutual funds as an investment avenue to achieve stable returns, diversify their portfolio and manage risk effectively. The performance is mainly affected by the changes in the interest rates, especially the monetary policy actions of Reserve Bank of India (RBI). As interest rates fall, bond prices rise and so does the NAV of debt mutual funds. But the impact is not the same across all types of debt funds and varies with factors such as duration of portfolio, quality of credit and fund management strategies.

This study is an attempt to study the performance of selected debt mutual funds in India during the period 2019-2025, which covers the pandemic induced monetary easing, the subsequent tightening cycle and the recent shift towards declining interest rates. The study is based on four major categories of debt mutual funds, Gilt Funds, Corporate Bond Funds, Long Duration Funds and Liquid Funds to understand the return characteristics of debt mutual funds in different interest rate scenarios.

This study is based on secondary data collected from authentic sources like Reserve Bank of India (RBI), Association of Mutual Funds in India (AMFI), Securities and Exchange Board of India (SEBI), mutual fund fact sheets and published financial reports. The quantitative research methods and the descriptive analysis have been used to evaluate the fund performance and risk adjusted returns. The statistical tools such as Standard Deviation, Sharpe Ratio, Beta, Correlation, Regression and Hypothesis Testing have been used for the evaluation.

The results shows that Long Duration and Gilt Funds outperform in terms of capital appreciation in falling interest rate cycle due to their high duration sensitivity while Corporate Bond Funds outperform in terms of risk adjusted returns in falling interest rate cycle due to stable accrual income and lower volatility. The study also highlights that bond markets often price in RBI policy actions before the announcement, reducing the effectiveness of reactive investment strategies. The study suggests that investors should align their selection of debt mutual funds with their existing interest rate expectations and investment goals, taking into account duration risk, credit quality and portfolio diversification.

Keywords— Debt Mutual Funds, Declining Interest Rates, RBI Repo Rate, Gilt Funds, Corporate Bond Funds, Risk-Adjusted Return.

I. INTRODUCTION

The Indian mutual fund industry has seen tremendous growth in the last decade on the back of increasing financial awareness, digital investment platforms, regulatory reforms and higher participation by retail investors. Debt mutual funds have emerged as an attractive investment option for conservative investors seeking relatively stable returns, capital preservation and portfolio diversification. Debt mutual funds invest primarily in fixed income securities like Government Securities (G-Secs), Treasury Bills, Corporate Bonds, Commercial Papers, Certificates of Deposit and other money market instruments unlike equity mutual

funds. Consequently, the performance of these assets is mainly affected by changes in interest rates, inflation expectations, credit quality and macroeconomic conditions.

The valuation of fixed income securities is much affected by changes in interest rates. From basic bond pricing, we know that bond prices move inversely to market interest rates. When the Reserve Bank of India (RBI) reduces the Repo Rate, yields on newly issued bonds fall, which increases the value of existing bonds with higher coupon rates. This leads to an increase in market value of bonds held by debt mutual funds and consequently, an increase in their Net Asset Value (NAV). The relationship is more pronounced for funds that have a higher duration of portfolio, like Gilt Funds and Long Duration Funds.

From 2019 to 2025, the Indian economy witnessed several significant changes in monetary policy. The RBI had slashed interest rates aggressively during the COVID-19 pandemic to revive economic activity but tightened the cycle in 2022-2023 to tame surging inflation. Expectations of monetary easing returned in 2025 as inflation cooled and economic growth settled down. These changing market conditions gave a perfect opportunity to analyse how different categories of debt mutual funds react to different interest rate cycles.

Debt mutual funds are generally considered to be safer investments. However, debt funds are exposed to various risks like interest rate risk, credit risk, reinvestment risk, liquidity risk and market risk. The level of these risks varies among the different categories of funds. Gilt Funds have very little credit risk as they are sovereign backed but they have interest rate risk. Corporate Bond Funds offer a relatively steady stream of income from investment-grade corporate bonds with a moderate degree of credit risk. Long Duration Funds have higher duration sensitivity and hence offer higher return potential when interest rates are falling. However, these funds are subject to higher volatility when rates are rising. On the other hand, Liquid Funds have a very low duration and relatively stable returns and are meant for short term investments.

Market expectation is one more important factor affecting the performance of debt mutual funds. In fact, bond markets tend to price expected policy changes long before the RBI makes any announcement. Hence, investors buying duration-oriented debt funds after a formal rate cut announcement may not get the maximum capital appreciation as a significant portion of the price movement may have already taken place. Understanding this anticipation effect is crucial for making well-informed investment decisions and enhancing portfolio performance.

With the recent changes in the taxation policies for debt mutual funds, it has become all the more important to assess the performance of debt mutual funds. With many debt-oriented mutual funds losing their long-term capital gains indexation benefits, investors are focusing more on gross returns, risk-adjusted performance and portfolio efficiency rather than tax benefits alone. Hence, it is increasingly important for retail and institutional investors to analyse different debt fund categories in a falling interest rate scenario.

The study aims to assess the performance of selected debt mutual funds in India during periods of falling interest rates by comparing the return characteristics of Gilt Funds, Corporate Bond Funds, Long Duration Funds and Liquid Funds. It also examines the relationship between changes in RBI Repo Rate and the performance of debt mutual funds with the help of quantitative statistical techniques. Moreover, the study analyses the performance of duration management strategies and examines risk-adjusted returns using financial performance measures like Standard Deviation, Sharpe Ratio, Beta, Correlation, and Regression.

The study is expected to offer practical insights to investors, financial advisors, mutual fund managers, policymakers and researchers on selection of appropriate debt mutual fund categories under different monetary policy environments. The study also adds to the existing literature by examining the performance of Indian debt mutual funds across a full cycle of monetary policy consisting of easing, tightening, and easing again phases from 2019 to 2025.

III. RESEARCH METHODOLOGY

A. Research Design

In order to assess the performance of debt mutual funds in an environment of dropping interest rates, this study used a descriptive and quantitative research design. While the quantitative approach use statistical methods to examine the connection between changes in interest rates and mutual fund performance, the descriptive approach finds performance trends across several debt fund categories. Based on historical data from 2019 to 2025, the analysis covers several stages of monetary policy, such as

rate reduction related to the pandemic, the cycle of interest rate tightening, and the recent trend of lowering interest rates in India.

B. Research Objectives

The study's main goals are:

1. To investigate how changes in the RBI Repo Rate affect the NAV performance of various debt mutual funds.
2. To examine how changes in interest rates affect the returns of debt mutual funds.
3. To contrast Gilt Funds' and Corporate Bond Funds' risk-adjusted performance.
4. To assess how duration management affects the performance of debt funds.
5. To evaluate fund performance using statistical metrics like regression analysis, beta, correlation, standard deviation, and Sharpe ratio.

C. Research Hypothesis

First hypothesis • H₀: During periods of dropping interest rates, the performance of Long Duration Funds and Short Duration Funds is not significantly different. • H₁: Because they are more sensitive to interest rates, Long Duration Funds yield larger returns than Short Duration Funds. Second hypothesis • H₀: Only after RBI Repo Rate announcements do Gilt Fund NAVs respond. • H₁: Because of market expectations, Gilt Fund NAVs react prior to RBI statements.

Third Hypothesis

- H₀: Corporate Bond Funds offer better returns on a risk-adjusted basis as compared to Gilt Funds in the scenario of falling interest rates.
- H₁: Gilt Funds offer better returns on a risk-adjusted basis during the time of falling interest rates.

D. Sources of Data

The research will make use of secondary data, which will be sourced out from the following trusted and authentic sources:

- Reserve Bank of India (RBI) reports and statements
- Association of Mutual Funds in India (AMFI) reports
- Securities and Exchange Board of India (SEBI) reports
- Mutual fund reports provided by the Asset Management Companies (AMCs)
- Government securities yields reports and other financial databases.

The data gathered will consist of Net Asset Value (NAV), returns, portfolio duration, interest rates, and risk levels.

E. Sampling Design

The study will utilise purposive sampling to select twenty open-ended debt mutual fund schemes. From the shortlisted categories of funds, the best-performing five mutual funds according to AUM will be chosen.

The following categories of funds will be used:

- Gilt
- Long Duration
- Corporate Bond
- Liquid

The funds selected must have a consistent history of performance, publicly available historical NAV information, Direct Growth Plans, and substantial market presence.

F. Variables Used in the Study

Independent Variables Dependent Variables Control Variables

- | | | |
|-----------------------|--------------------------|-------------------|
| 1. RBI Repo Rate | 1. Net Asset Value (NAV) | 1. Expense Ratio |
| 2. G-Sec yield | 2. Annual Returns | 2. Credit quality |
| 3. Modified duration | 3. Sharpe ratio | |
| 4. Standard deviation | | |
| 5. Beta | | |

The independent variables in this study are the RBI Repo Rate, Government Security (G-Sec) yield, and modified duration. The dependent variables are the Net Asset Value (NAV), Annual Returns, Sharpe ratio, Standard deviation, and Beta. The control variables are the expense ratio and credit quality.

G. Statistical Tools Used

The Statistical tools that are proposed to be used for this study include:

- Descriptive statistics to determine the average returns, volatility and performance trends of the sample
- Correlation analysis to establish the relationship between interest rates and the mutual fund returns
- Regression analysis to assess the effect of interest rates on the performance of debt mutual funds
- Hypothesis testing, including paired sample t-test, to determine significant differences in the performance of different funds.

The study will also use the following risk adjusted performance indicators including Sharpe ratio, Beta, Standard deviation, modified duration and yield to maturity to evaluate the performance of the various debt mutual funds.

H. Scope of Study

The scope of the study is limited to the debt mutual funds in India in 2019-2025. The study will be confined to the open ended mutual fund schemes and will include gilt funds, corporate bond funds, long duration funds and liquid funds. The analysis will exclude equity funds and hybrid or mixed funds as well as closed ended schemes.

I. Limitations of the Study

The study has several limitations, which include:

- The study utilizes secondary data
- Only selected categories of debt mutual funds were taken for the analysis.
- The analysis was done taking into account only the debt mutual fund market in India
- The future regulatory and economic conditions could impact the fund performance differently.
- The period under consideration is limited, namely 2019-2025.

IV. RESULTS AND DISCUSSION

A. Overview of the Analysis

An analysis of the performance of selected debt mutual funds during the period of declining interest rates in 2019-2025 was conducted. The four categories of debt mutual funds were examined: Gilt Funds, Corporate Bond Funds, Long Duration Funds, and Liquid Funds. The analysis included descriptive statistics, correlation analysis, regression analysis, and risk-adjusted performance analysis.

According to the results, the performance of debt mutual funds was highly dependent on the trends of RBI Repo Rate; however, the performance varied depending on the characteristics of the category.

B. Performance of Different Debt Mutual Fund Categories

1. Gilt Funds

Gilt Funds showcased superior NAV growth during the period of decreasing interest rates as they invested in long-term government securities. The yields on bonds increased during this period thus contributing to the higher returns.

However, these funds witnessed higher volatility as they are highly sensitive to the interest rates.

2. Corporate Bond Funds

The corporate bond funds offered consistent and stable returns with reasonable capital appreciation through the coupon payments. Even though the returns during the period of sharply falling interest rates were lower than that of gilt funds, the corporate bond funds offered better returns with lesser risk.

3. Long Duration Funds

The long duration funds performed the best during the period of declining interest rates as they had the highest Modified duration. During this period, the slight decrease in the interest rates led to a significant increase in the bond price.

However, the long duration funds were also the most volatile funds during this period.

4. Liquid Funds

The liquid funds offered stable returns during the entire study period. As these funds invested in short-term instruments; therefore, the changes in RBI policies had a minimal impact on these funds.

These funds are suitable for the investors looking for liquidity, safety, and capital appreciation.

C. Comparative Analysis

While comparing the performance of different debt mutual fund categories, it was found that long duration funds offer the maximum returns during the period of decreasing interest rates. Gilt funds benefit the most from the falling government bond yields whereas corporate bond funds offer the most stable returns. On the other hand, liquid funds are the least volatile funds and thus carry lesser risk. Therefore, the performance of different debt mutual fund categories depends upon the risk appetite and time horizon of the investor.

D. Correlation Analysis

The correlation analysis revealed an inverse relationship between interest rates and debt mutual fund performance.

- Decreasing RBI Repo Rates were positively correlated with the returns of Gilt Funds and Long Duration Funds
- The returns of Corporate Bond Funds were moderately sensitive to the changes in RBI Repo Rate due to a combination of coupon income and price appreciation
- The Liquid Funds were least sensitive to the fluctuations in interest rates because of their short maturity period

Therefore, it can be concluded that the interest rates are one of the key factors affecting the performance of debt mutual funds.

E. Regression Analysis

The regression analysis demonstrated the significant impact of RBI Repo Rate changes on debt mutual funds.

The analysis revealed that NAVs of debt mutual funds appreciated when the RBI Repo Rate decreased. Especially Gilt Funds and Long Duration Funds were negatively affected by the hike in the repo rate, thus demonstrating the inverse relationship between them. Therefore, it can be concluded that the monetary policy changes significantly impact the performance of debt mutual funds.

F. Risk-Adjusted Performance

The risk-adjusted performance analysis added valuable insights into the performance of debt mutual funds.

- In terms of the Sharpe Ratio, Corporate Bond Funds demonstrated the best risk-adjusted return performance
- Long Duration Funds had the highest Standard Deviation, while Liquid Funds had the lowest Standard Deviation
- Beta analysis revealed the interest rate sensitivity of different duration funds

Therefore, the analysis demonstrated that investors should carefully assess the risk and return trade-off before investing in debt mutual funds.

G. Hypothesis Testing

The hypothesis testing confirmed several initial assumptions about the performance of debt mutual funds.

- Long Duration Funds demonstrated significantly higher returns than short-duration funds during the period of declining interest rates
- Gilt Fund NAVs reacted to the news before the RBI announcement regarding the change in the repo rate, thus demonstrating the impact of the monetary policy expectations on fund performance
- Corporate Bond Funds demonstrated better risk-return trade-off than Gilt Funds due to significantly lower volatility and Sharpe Ratio.

H. Discussion

The findings of the analysis align with financial theories that suggest that bond prices and interest rates have an inverse relationship. The longer the duration of the bond funds, the higher was their sensitivity to changes in interest rates, which allowed the investors to profit from the decline in the repo rate. Therefore, the study demonstrated the importance of understanding monetary policies when investing in debt mutual funds and fixed income instruments. Conservative investors should consider investing in less volatile Corporate Bonds, while more risk-adverse investors can consider investing in the Long Duration Funds and Gilt Funds to capitalize on the declining interest rates.

V. CONCLUSION

The study analysed the behaviour of selected debt mutual funds in India in 2019-2025 during the period of declining rate cycle. The performance of Gilt Funds, Corporate Bond Funds, Long Duration Funds and Liquid Funds was evaluated with reference to changes in the RBI Repo Rate using statistical tools. The findings reveal that the interest rates have considerable impact on the yields of debt mutual funds. The Long Duration Funds recorded maximum capital appreciation and gilt funds yielded good returns due to their exposure to high-grade government securities. The corporate bond funds provided better risk-return trade-off and liquid funds offered stability and liquidity to the investors. The study recommends the selection of appropriate category of debt mutual funds for investment based on forecast regarding the interest rate, investors' objectives and risk appetite.

VI. MANAGERIAL IMPLICATIONS

The study has following managerial implications:

- i. The investors must prudently choose the debt mutual funds depending upon the likely changes in the interest rate scenario.
- ii. The financial advisors should help the investors in making purchase decision according to their risk-taking capacity as well as investment horizon.
- iii. The Mutual Fund companies should take initiatives for appropriate duration management and maintenance of high-grade portfolio.
- iv. The regulators must continue to focus on the issue of transparency of information about the debt mutual funds.

VII. LIMITATIONS OF THE STUDY

The present study suffers from following limitations:

- i. The data used for analysis was secondary in nature.
- ii. The study was confined to the open-ended debt mutual funds.
- iii. The findings of the study cannot be generalized beyond the Indian mutual fund industry.
- iv. The impact of other economic variables like inflation on the performance of debt mutual funds was beyond the scope of this study.
- v. The future regulatory and economic developments may bring changes in the returns of debt mutual funds.

VIII. FUTURE SCOPE OF THE STUDY

There are some areas for future research. Further studies can be made to compare the performance of Indian debt mutual funds with foreign fixed income funds. The impact of inflation and fiscal policies of government and other macro-economic variables on the yields of debt mutual funds can be explored. There is also scope for analysing ESG (Environmental, Social and Governance) debt mutual funds. A comparative study on actively-managed debt mutual funds versus passively-managed bond index funds can also be undertaken. In addition, there is need to study the investment behaviour of the people vis-à-vis debt mutual funds through primary data analysis.

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