Comparison of Performance of Selected Open-Ended Equity and Debt Mutual Fund Schemes

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Abstract:

Purpose: The numerous organisations that provide a range of funds are making it difficult for retail investors to choose an investment that is acceptable to them. During the pandemic, global market systems were disturbed, notably hurting market returns.

Design: Evaluate the open-ended schemes' performance concerning equity and debt in mutual funds. The sample contains 10 schemes chosen from ten of the BSE 30 corporate schemes from January 2018 to December 2022. The performance of selected funds is examined to determine various statistical tools such as the daily average return, standard deviation, beta, and risk-adjusted value (Treynor and Jensen ratios). A benchmark index has also been created for analysis.

Findings: The results of the performance evaluation showed that equity schemes had a comparatively better return with moderate risk compared to debt schemes, but at the same time, the risk would be lower in debt schemes compared to equity. This study will help investors to identify good schemes and asset management firms should enhance the performance of their equity schemes to attract investors who are eager to pick the market's portfolio structure. It is critical to identify and investigate the reasons for changes in time and market structure.

Keywords: Mutual funds, risk analysis, Jenson alpha, beta, market return, NAV.

1. **Introduction**

Mutual funds in India have successfully channelled household savings into the stock market. Since the introduction of unit trusts in India in 1964, the mobilisation of funds by mutual funds has increased. After the privatisation of mutual fund companies, fund mobilisation made tremendous progress. The invention and expansion of different mutual fund products in the Indian capital market are one of the most catalytic devices in creating significant investment growth in the capital market (Suchita Shukla, 2015). With a focus on increasing domestic savings and improving investment deployment through markets, the necessity for and scope for mutual fund activities have grown dramatically (Sathya Swaroop Debasish, 2009). Although overall development in the mutual fund industry in India is thriving, average assets under management stood at 40.76 trillion Indian rupees, and at the same time, only two per cent of the population is participating in mutual fund investments.

Small investors use their savings to invest in mutual funds. The investing public is afraid of volatility in the returns of mutual funds due to market fluctuation, and people also don't understand the behaviour of market returns. To help small investors realise capital gains and decent recurrent returns, the mutual fund sector will provide these services. The majority of mutual fund providers established asset management companies to create solid portfolios, maintain them, and offer investors a choice of alluring schemes. When investors know about market predictions, it helps them make good earnings. To protect investors' interests and stop market fraud, SEBI oversees and regulates the well-established mutual fund institution sector. Over the last decade, the mutual fund sector has developed to become one of the investors' favourite long-term investment vehicles. During the pandemic, global market systems were disturbed, notably hurting market returns. There is a need to analyse the behaviour of mutual fund returns in India from 2018 to 2022, which is why the present study, "Comparison of Performance of Selected Open-Ended Equity and Debt Mutual Fund Schemes".

2. **Literature Review**

The reviews were from journals, articles, websites, and books. The present "behavioural finance" research in this field is relatively scattered. A review of the literature indicates a research study was done on the subject of performance mutual fund returns.

Ajay Shah and Susan Thomas (1994), researchers examined the performance of eleven mutual fund schemes. Since the schemes' inception in April 1994, the weekly returns have been calculated. Jensen and Sharpe's measurements were utilised to assess the schemes' greater performance. The risk of these schemes was quite high, and the money may have been under-diversified. Jayadev (1995) had seriously examined mutual funds' desperate practices in the assessment of investments. Empirical studies on the

link between NAV repurchase price and market price, as well as the reasons for closed-end fund discounts, have yet to be conducted in the Indian context. Kaura and Jayadev (1995) used the Sharpe, Treynor, and Jenson metrics to assess the success of five growth-oriented plans in 1993–94. 'Mastergain-91,' 'Can Bonus,' and 'Ind Sagar' outperformed the market in terms of systematic risk but not overall risk. Kale and Uma (1995), indicated that, on average, the strategies achieved their goals. According to the data, growth schemes produced an average CAGR of 47 per cent; tax planning schemes produced an average CAGR of 30 per cent; balanced schemes produced a CAGR of 28 per cent; and income schemes produced an 18 per cent CAGR.

Madhusudan V. and Jambodeka (1996), According to the survey, income plans and open-ended schemes are preferred over growth plans and closed-ended schemes. Murthi, Choi, and Desai (1997), there are 731 mutual funds in seven categories: aggressive growth, asset allocation, equity-income, growth-income, balanced, and income funds. According to the findings, managers in aggressive growth, asset allocation, income, and equity-income funds have a lower efficiency score. Only eleven of the 33 categories had a positive connection.

Sharad Panwar and R. Madhumathi (2005), indicated that, in terms of mean percentage returns, the study indicated that public-sector-sponsored funds do not differ much from private-sector-sponsored funds. However, there is a considerable difference in standard deviation, variance, and coefficient of variation (COV) between public- and private-sector-sponsored mutual funds. D. N. Rao (2006), Monthly compounded mean return, risk per unit return, and Sharpe ratio were shown to be significant. In terms of the specified factors, the financial performance of the 21 open-ended equity growth plans and the 21 open-ended equity dividend plans was compared. The investigation revealed that growth plans produced larger returns than dividend plans but at a higher risk. Sathya Swaroop Debasish (2009), evaluates the performance of chosen schemes of mutual funds based on risk-return relationship models and measurements. From April 1996 to March 2009, a total of 23 schemes provided by six private-sector mutual funds and three public-sector mutual funds were investigated. When tested against risk-return relationship models, Franklin Templeton and UTI mutual funds perform well, whereas Birla Sun Life, HDFC, and LIC mutual funds score poorly.

2.1 Research Gap:

Numerous studies on mutual fund performance have been conducted around the world. Several researchers had analysed mutual funds, taking into consideration diverse plans. They carried out the performance study by considering several sectors as well as the NAV of the schemes. However, as time and market structure change, it is always necessary to identify and analyse the circumstances in which the changes happened. It is possible to conclude that

there is a research gap for selected open-ended schemes of BSE-30-listed asset management companies. As a result, the current study tries to close the gap by utilising the most recent available data.

3. Objectives of the Study

1. To evaluate and compare the performance of mutual fund equity and debt schemes.

2. To compare the risk assessments of debt and equity growth schemes to the benchmark index.

4. Research Methodology

The information was gathered only from secondary sources. To examine mutual fund scheme performance, researchers identified 10 open-ended equity and debt growth schemes among the top ten BSE 30 companies that were publicly traded. The information was obtained from the AMFI website, books, and periodicals. For secondary data collection, the period from January 2018 to December 2022 was chosen as five years of net asset value. For this analysis, the following mutual fund asset management firms were considered: SBI, HDFC, ICICI Prudential, Nippon, Axis, DSP Blackrock, Kotak, Tata, Aditya Birla Sun Life, and L&T.

5. Scope of the Study

The current analysis, which examines the performance of mutual fund returns, only covers growth-oriented open-ended stock and debt schemes. The insights acquired from this research will be immensely useful in understanding how mutual fund businesses will work in the current market climate, the rapidly altering nature of mutual funds, and the rising mutual fund industry in India.

6. Data Analysis

The NAV returns of chosen stocks daily of open-ended equity and debt funds were obtained from the AMFI website, and the return was calculated using Excel to implement the various ratios and statistical methods.

6.1 Return:

The portfolio's return is calculated using monthly adjusted Net Asset Value (NAV) data from several schemes.

Where,

$$Rp = \frac{NAVt - NAV\,t-1}{NAVt-1} * 100$$

RP   = Portfolio return

NAV t   = The current NAV

NAV t-1   = NAV from the previous day

The average return analyses of the growth plans and benchmark are shown in Tables 1 and 2, which are supported by Figures 1 and 2.

6.2 Risk Analysis of Performance

6.2.1 Standard Deviation:

The risk associated with mutual fund schemes and the market index was calculated using the standard deviation (σ). It is a strategy for calculating the difference between the actual and expected returns of mutual fund schemes over a certain amount of time. A greater standard deviation suggests that the schemes are more volatile and risky.

$$\sigma p = \sqrt{\frac{1}{n-1}\Sigma(Rpt - Rp)^2}$$

6.2.2 Beta

Beta (referred to as systematic risk, gauges how volatile an investment's returns are with the market return.

$$\beta = \frac{r\rho \cdot \sigma m \cdot \sigma \rho}{\sigma^2 m}$$

Where,

σm = Standard deviation of portfolio

$\sigma \rho$ = Standard deviation of the market

$r\rho$ = return of the portfolio

6.2.3 Treynor Performance Index

To evaluate an investment portfolio's risk-adjusted performance. The index's primary purpose was to determine a return over each unit of uncertainty for a portfolio employing beta as a risk metric.

$$Ti = \frac{Rp - Rf}{\beta p}$$

Where,

Ti - Treynor Performance Index

Rp – a rate of return that is risk-free

Rf – the portfolio's return

βp – the portfolio's beta

6.2.4 Jensen Performance Index

The alpha coefficient is the excess return on a portfolio over the necessary return, or expected return, for the risk level indicated by its beta. As a result, unlike beta, which is based on volatility, alpha is determined by the underlying values of the portfolio's firms.

$$= Rp - [Rf + \beta p\, (Rm - Rf$$

Where,

Rp = Return of portfolio

Rf = Return on Risk-Free Investment

βp = Systematic Risk Assessment

Rm = The market's average return.

Table 1: Average Daily Returns on Equity Growth Schemes

S. No.	Mutual Fund Schemes	2018	2019	2020	2021	2022	Overall
1	SBI Equity Savings	0.03	0.86	1.14	1.07	0.14	0.66
2	HDFC Equity Savings	0.15	0.60	0.91	1.39	0.47	0.71
3	ICICI Prudential Dividend Yield	-1.18	0.17	1.53	3.44	0.85	0.96
4	Nippon India Focused Equity	-1.27	0.80	1.93	2.72	0.48	0.94
5	Axis Equity Saver	0.55	0.89	0.88	0.36	0.30	0.60
6	DSP Equity Opportunities	-0.84	1.31	1.69	2.27	0.42	0.98
7	Kotak Emerging Equity Scheme	-1.11	1.29	2.00	3.07	0.51	1.16

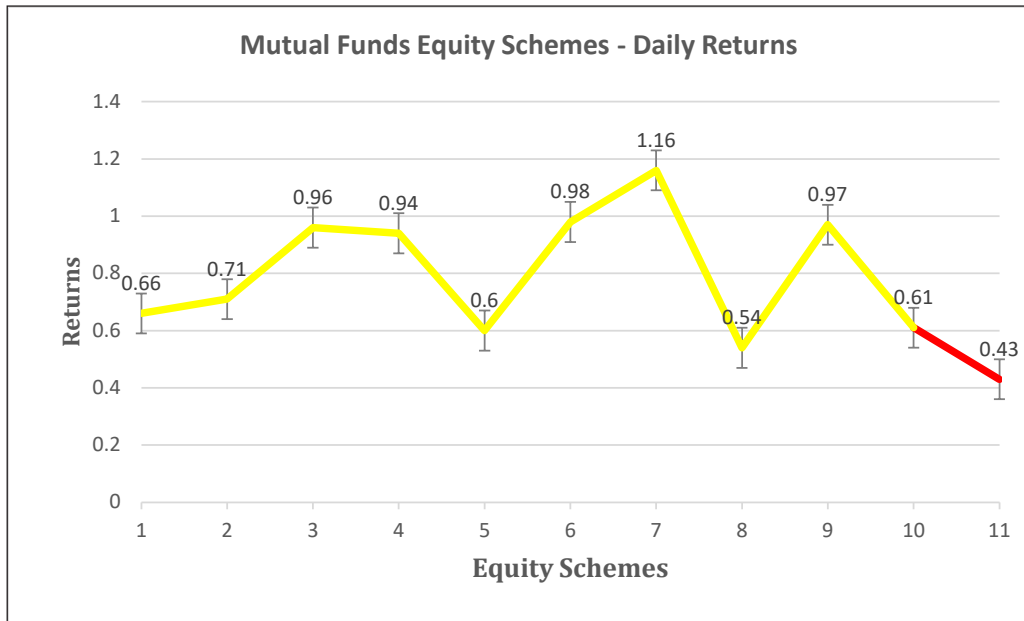| 8	Tata Equity Savings	0.09	0.67	0.80	0.87	0.25	0.54
9	Aditya Birla Sun Life Focused Equity	-0.47	1.24	1.68	2.06	0.23	0.97
10	L &T Focused Equity	0.06	0.54	1.00	1.29	0.27	0.61
11	BSE 30	0.50	0.79	0.84	0.37	-0.41	0.43

Figure 1: Average Daily Returns on Equity Growth Schemes

It could be observed Table 1, reveals the daily returns of the selected growth-oriented equity schemes and the bench market value. In all the years among the ten schemes, the Kotak Emerging Equity Scheme secured the highest market returns, followed by the DSP Equity Opportunities; Aditya Birla Sun Life Focused Equity earned close to the Kotak Emerging Equity; and the remaining equity schemes were reporting above the benchmark returns that indicate overall equity schemes had secured good market returns; however, during the COVID pandemic, which is in the years 2020 and 2021, the market showed good returns compared to the benchmark. It concludes that all growth-oriented equity schemes were good investors who had earned the best long-term returns. By taking into account the whole study period for open-ended debt schemes, it is evident that every scheme had positive daily average returns. SBI bonds had achieved the greatest return, followed by Nippon India Banking and PSU debt and Axis Banking and PSU debt, all of which had positive daily average returns. All other schemes, except the DSP bond (0.41),

Table 2: Average Daily Returns on Debt Growth Schemes

S. No	Mutual Fund Schemes	2018	2019	2020	2021	2022	Overall
1	SBI Dynamic Bond	0.50	1.10	0.85	0.23	0.44	0.63
2	HDFC Banking and PSU	0.48	0.83	0.81	0.29	0.28	0.54
3	ICICI Prudential Banking and PSU	0.47	0.81	0.72	0.32	0.38	0.55
4	Nippon India Banking & PSU	0.55	0.89	0.88	0.36	0.30	0.60
5	Axis Banking & PSU Debt	0.64	0.87	0.75	0.32	0.33	0.59
6	DSP Bond	0.32	0.31	0.80	0.30	0.29	0.41
7	Kotak Banking and PSU	0.54	0.88	0.81	0.31	0.31	0.57
8	Tata Short-Term Bond	0.07	0.81	0.82	0.30	0.31	0.46
9	Aditya Birla Sun Life Banking & PSU	0.55	0.81	0.84	0.30	0.30	0.56
10	L & T Banking and PSU Debt	0.55	0.82	0.82	0.30	0.15	0.53
11	BSE 30	0.50	0.79	0.84	0.37	-0.41	0.43
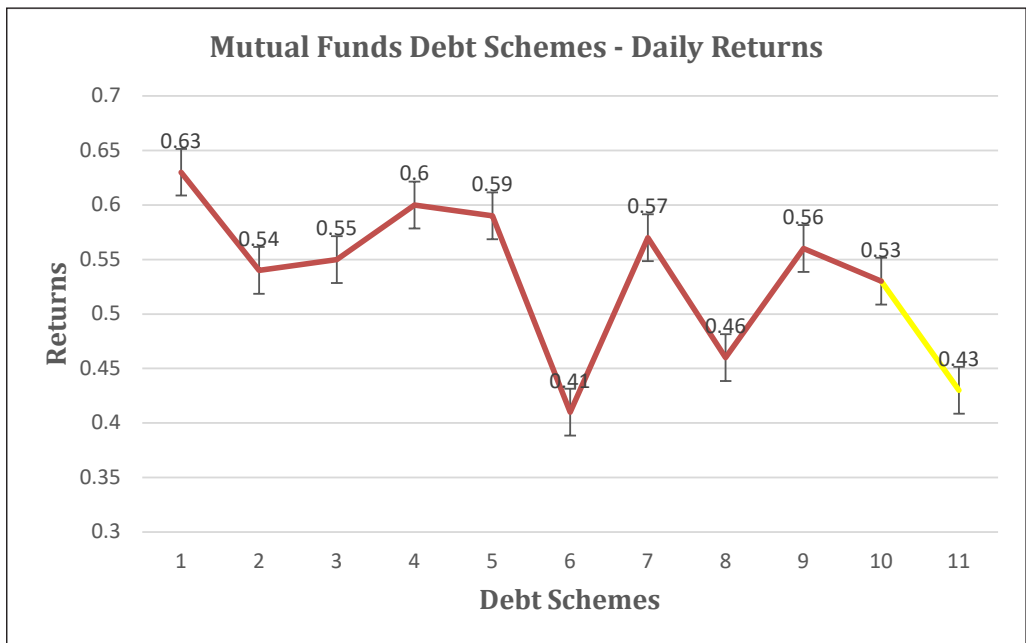
Figure 2: Average Daily Returns on Debt Growth Schemes

recorded returns that were higher than the benchmark. It shows that, except for DSP bonds, all debt schemes delivered superior returns over the research period. Due to market swings, the DSP bond schemes were providing a minimal return; however, the tendency has been mild since 2018. It concludes that the selected mutual debt scheme was able to achieve good returns that were positive, large, and comparable to the benchmark.

Table 3: Risk Analysis of the Returns of Equity Growth Schemes

S. No	Mutual Fund Schemes	SD	Beta	Treynor Index	Jenson Alpha Index
1	SBI Equity Savings	2.13	0.6744	0.0041	0.0010
2	HDFC Equity Savings	1.99	0.4352	0.0069	0.0017
3	ICICI Prudential Dividend Yield	4.87	0.9653	0.0058	0.0002
4	Nippon India Focused Equity	5.39	1.1952	0.0045	-0.0010
5	Axis Equity Saver	0.54	0.1917	0.0100	0.0016
6	DSP Equity Opportunities	4.77	1.1968	0.0048	-0.0011
7	Kotak Emerging Equity Scheme	5.12	1.1093	0.0068	-0.0008
8	Tata Equity Savings	1.59	0.4055	0.0033	0.0008
9	Aditya Birla Sun Life Focused Equity	4.51	1.1148	0.0050	-0.0006
10	L & T Focused Equity	2.34	0.5132	0.0040	-0.0011

According to Table 3, risk assessment includes diversification of the factors of risk. Investment decisions are made with the help of market prediction techniques and past-year market performance, of which the standard deviation is one of the tools to measure the risk pattern, which indicates the high volatility of returns. Among the ten open-ended equity growth-oriented schemes, the one with the lowest risk value was Axis Equity Saver, followed by Tata Equity Savings and HDFC Equity Savings, which had a value of less than 2, and the remaining schemes had a higher risk value, of which Nippon India Focused Equity had a high value of 5.39. It concludes that out of ten, five had the minimum fluctuation, and the remaining had high volatility in market returns. Furthermore, the beta value assesses how sensitive a stock's price is to fluctuations in the general market. When the benchmark index BSE 30 is compared to the returns of a specific scheme, a pattern emerges that demonstrates the equity plan's sensitivity to market risk. This allows the investor to choose between the riskier stock that is highly associated with the market and the less volatile one. Table 3 shows that four schemes had more than one beta value, such as DSP Equity Opportunities 1.1968, Nippon India Focused Equity 1.1952, Nippon India Focused Equity 1.1917, and Aditya Birla Sun Life Focused Equity 1.1148, which indicates the high volatility of the schemes and, hence, a riskier investment as compared to the other schemes.
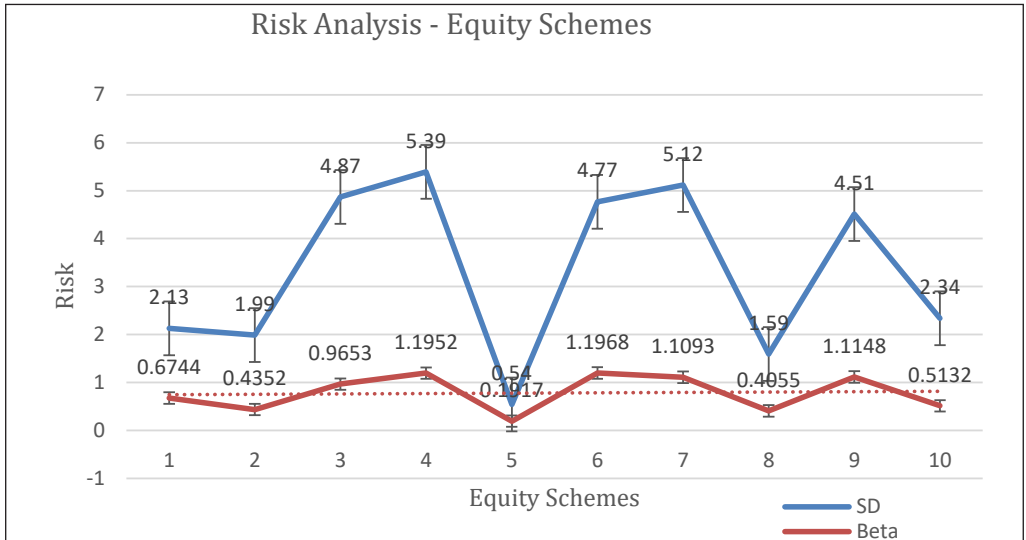
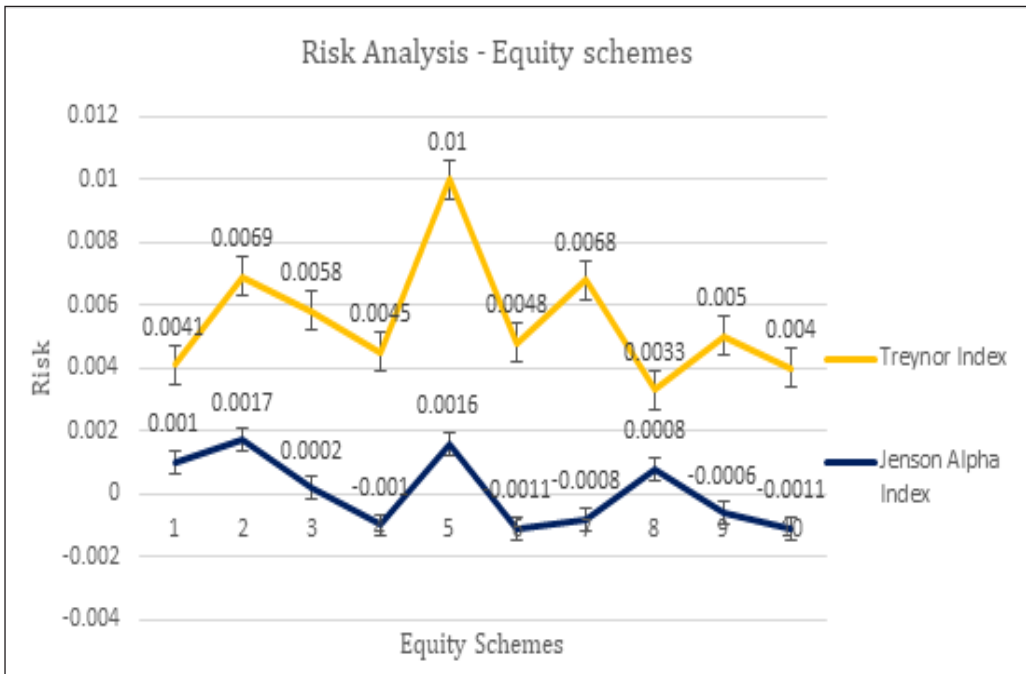**Figure 3 (a)** Risk Analysis of the Returns of Equity Growth Schemes – Standard Deviation and Beta

Figure 3 (b): Risk Analysis of the Returns of Equity Growth Schemes – Treynor and Jensons Alpha Index

Figure 3 b deals with the Treynor Index and Jenson alpha index values. In the case of the Treynor Index value, which measures how much return on investment a mutual fund earns for the amount of risk the investment assumes, all the schemes reported a value less than 0.01; that means Axis Equity Saver funds had the best performance on a risk-adjusted basis as compared to other open-ended equity schemes. However, the insight it offers may not always predict future performance. As a result, as investors, we should remember that the Treynor ratio should not be the only factor we examine when making investment decisions.

As the value observed from Table 3 indicates, the investment selection would be made based on the positive Jenson alpha value, and the portfolio would be earnings excess returns. Among the ten schemes, five had positive values, and the remaining were negative. Out of five positive schemes, the HDFC equity had the highest value as an investor would have earned reasonable returns, and in the case of negative Jenson Alpha value, the DSP Equity Opportunities and L & T Focused Equity had secured the minimum value, meaning the investor would have met the minimum returns. Considering the level of risk, they were incurring, the investment might not have yielded a sufficient return.

According to Table 4, which depicts risk assessment, where the standard deviation indicates the high volatility of returns, ICICI Prudential Banking PSU Debt had the lowest risk value among the ten open-ended debt growth-

oriented schemes, ahead of Axis Banking PSU Debt, Aditya Birla Sun Life Banking PSU, and HDFC Banking PSU, all of which had a value less than 0.5. The remaining schemes had higher risk values, with SBI Dynamic Bo having the highest. Although every debt scheme reported a range between 0.4 and 0.7, this simply suggests that there would be some modest variations in the volatility of market returns across each debt scheme.

Additionally, a pattern that demonstrates the debt scheme's exposure to market risk emerges when the benchmark index for BSE 30 is compared to the returns of a specific scheme. This helps the investor decide between the riskier scheme with a high connection to the market and the less volatile one. No schemes had more than one beta value, as shown in Table 4, and all debt schemes had a beta value lower than 1. Because debt securities are fixed-bearing interest instruments, this suggests that the debt schemes are less volatile than equity schemes and are thus a risk-free investment.

All of the schemes reported a Treynor Index value of less than 0.015. In terms of risk-adjusted performance, the funds beat comparable debt schemes. The SBI Dynamic Bond has the lowest index value of -0.2315 and the highest index value of 0.151, representing market returns. These values are lower than those for the schemes. As a result, investors may select debt schemes based on this value. According to Jenson Alpha, this is one of the schemes with positive values, meaning investors profit from market returns. The SBI Dynamic

Table 4: Risk Analysis of the Returns of Debt Growth Schemes

S. No	Mutual Fund Schemes	SD	Beta	Treynor Index	Jenson Alpha Index
1	SBI Dynamic Bond	0.67	0.1451	0.0151	0.0019
2	HDFC Banking and PSU	0.50	0.1873	0.0072	0.0011
3	ICICI Prudential Banking and PSU	0.44	0.1726	0.0079	0.0011
4	Nippon India Banking & PSU	0.54	0.1917	0.0100	0.0016
5	Axis Banking & PSU Debt	0.48	0.1707	0.0105	0.0015
6	DSP Bond	0.66	0.1233	-0.0001	0.0000
7	Kotak Banking and PSU	0.53	0.2000	0.0083	0.0013
8	Tata Short-Term Bond	0.65	0.1634	0.0035	0.0005
9	Aditya Birla Sun Life Banking & PSU	0.50	0.1894	0.0082	0.0005
10	L&T Banking and PSU Debt	0.60	0.1882	-0.2315	0.0003
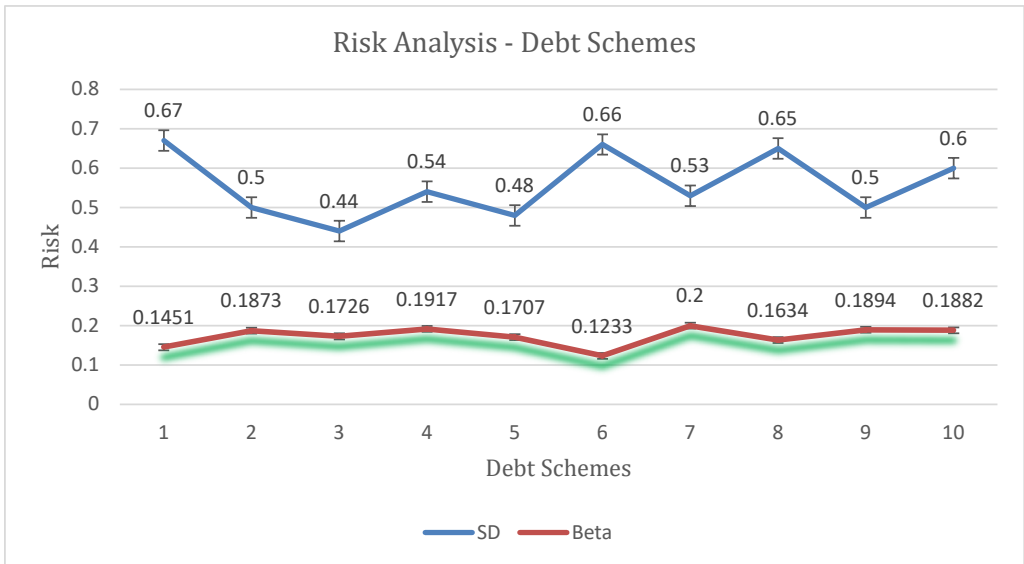
Figure 4 (a): Risk Analysis of the Returns of Debt Growth Schemes – Standard Deviation and Beta

Bond had the best value among the positive plans since an investor would have received respectable returns, but as a long-term investor, nothing would be obtained in the case of a zero Jenson Alpha value for the DSP Bond during the study period.
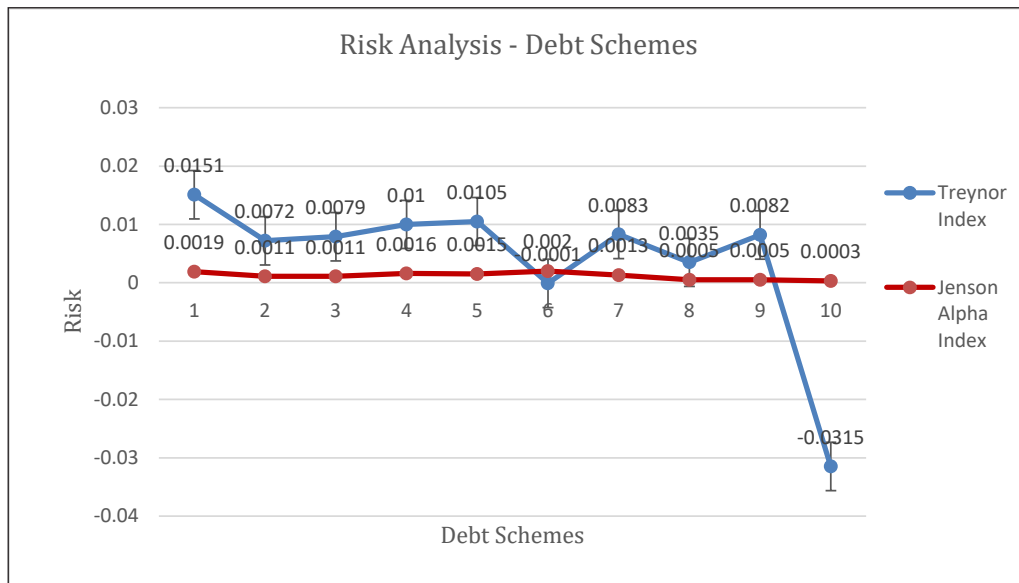
Figure 4 (b) Risk Analysis of the Returns of Debt Growth Schemes – Treynor and Jensons Alpha Index

7. **Findings of the Study**

Equity schemes of Aditya Birla Sun Life Focused and debt schemes like the SBI Dynamic Bond Fund had the highest earnings returns to investors during the study period out of the ten selected growth-oriented mutual fund schemes because the fund adopts a top-down and bottom-up approach for selecting stocks. Furthermore, it focuses on identifying companies with sound management and promising future growth prospects; similarly, the Dynamic Bond Fund has earned enormous returns because funds with excellent credit ratings have a cumulative creditworthiness of an AA as well as higher-rated investments in the market.

Axis Equity Saver, Tata Equity Savings, and HDFC Equity Savings Fund, three of the ten equity schemes, have lower standard deviation values than the market index value of two, which indicates lower minimal volatility on the daily average return than the market index. In terms of debt funds, ICICI Prudential Banking and PSU, Axis Banking and PSU Debt, HDFC Banking and PSU, and Aditya Birla Sun Life Banking & PSU funds all had low standard deviations when compared to the market index, which indicates the low-risk associated with investing in these funds because the asset management firms carefully established the structure of the portfolio selection.

The DSP Equity Opportunities, Nippon India Focused Equity, Aditya Birla Sun Life Focused Equity, and Kotak Emerging Equity Schemes have a value of more than one out of ten equity funds, showing that these funds have portfolios

that are riskier than the typical market portfolio due to variables relating to fund management allocation. All schemes relating to debt funds with less than the value of one that is these funds are less risky in the market, and debt always returns gradually little increases happen in the market.

In an equity scheme concerning the Treynor index, a good result is achieved by one scheme like Axis Equity Saver. The debt scheme showed satisfactory results, with all the schemes having minimum value. It outperforms the risk-free yield of return on systematic risk. Jensen's alpha values were positive in all debt-oriented schemes and five out of ten equity schemes. It is agreed that all debt and positive equity schemes have good fund performance and better timing abilities in their fund managers. Jensen's alpha with a larger positive value indicates superior fund performance and the capacity of fund managers to time the market by investing in securities.

8. Conclusion

Equity schemes provided a higher return with a lower risk than debt schemes over the research period, although the risk was lower in debt schemes. Portfolio managers, according to the study, should focus more on refining their investment strategies to reduce volatility and obtain higher returns. As a result, to be desirable to investors and willing to choose the market portfolio structure, they must improve the performance of their equity schemes.

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