

Risk, Return and Resilience: A Comparative Study of Selected Indian Mutual Fund Categories

Jariwala Yatri Bharatkumar

MBA, Parul Institute of Management & Research,

Parul University

Email - yatri9928jariwala@gmail.com

Jangid Anil Suresh

MBA Parul Institute of Management & Research,

Parul University

Email – jangidanil9156@gmail.com

Abstract

The mutual fund industry in India has experienced significant growth in recent years, driven by increasing investor awareness, financial market development, and the growing preference for diversified investment instruments. Mutual funds provide investors with opportunities to participate in capital markets while benefiting from professional portfolio management and diversification across multiple financial assets. Evaluating mutual fund performance therefore becomes essential for understanding how effectively different fund categories balance risk and return under varying market conditions.

The present study examines the risk–return characteristics of selected mutual fund schemes across three major categories: equity funds, debt funds, and hybrid funds. The analysis is based on secondary data collected for thirty mutual fund schemes belonging to different asset management companies. Annual return data for the period 2021–2024 were collected along with key risk indicators including standard deviation, beta, Sharpe ratio, Jensen’s alpha, and Treynor ratio. These indicators are widely used in financial performance evaluation as they measure the relationship between portfolio returns and the risks undertaken by the fund manager (Sharpe, 1966; Jensen, 1968).

Using these performance measures, the study compares the average return, volatility, and risk adjusted performance of each mutual fund category. The findings indicate that equity funds generally deliver higher average returns but are associated with greater volatility and market sensitivity. Debt funds demonstrate comparatively lower returns but exhibit greater stability and lower levels of risk. Hybrid funds, which combine equity and debt instruments, display a balanced risk–return profile and moderate volatility.

Overall, the results suggest that the suitability of a mutual fund category largely depends on the investor’s risk tolerance and investment objectives. While equity funds may be appropriate for investors seeking long term capital appreciation, debt funds provide stability for conservative investors, and hybrid funds offer a diversified investment approach that balances growth and risk management. The study contributes to the understanding of mutual fund performance in the Indian financial market and provides insights that may assist investors and financial advisors in making informed portfolio decisions.

Keywords:

Mutual Fund Performance, Risk–Return Analysis, Equity Funds, Debt Funds, Hybrid Funds, Sharpe Ratio, Jensen’s Alpha, Treynor Ratio, Portfolio Risk, Investment Performance.

1. Introduction

The mutual fund industry has become one of the most important components of modern financial markets, offering investors an efficient mechanism to participate in diversified investment opportunities. Mutual funds pool money from a large number of investors and invest it in a diversified portfolio of securities such as equities, bonds, and money market instruments. Through professional fund management and diversification, mutual funds enable investors to reduce individual investment risk while accessing opportunities available in capital markets.

In recent years, the Indian mutual fund industry has witnessed substantial growth in terms of assets under management, investor participation, and the variety of investment schemes available. Increased financial awareness, regulatory improvements, and technological advancements in financial services have encouraged both retail and institutional investors to consider mutual funds as an important component of their investment portfolios. Regulatory oversight by institutions such as the Securities and Exchange Board of India has also contributed to improving transparency, governance, and investor protection within the industry.

Mutual funds are generally categorized into equity funds, debt funds, and hybrid funds, each offering distinct risk–return characteristics. Equity funds primarily invest in stocks and are associated with higher return potential as well as higher volatility. Debt funds invest in fixed income securities such as government bonds and corporate bonds, providing relatively stable returns with lower risk. Hybrid funds combine both equity and debt instruments, offering a balanced approach to risk and return. Understanding the comparative performance of these categories is important for investors seeking to align their investment decisions with their financial goals and risk tolerance.

Evaluating mutual fund performance requires not only analyzing returns but also assessing the level of risk associated with those returns. Financial researchers commonly employ risk adjusted performance measures such as the Sharpe ratio, Jensen’s alpha, and the Treynor ratio to assess whether a fund manager is generating adequate returns relative to the risks undertaken. These measures provide deeper insights into portfolio efficiency and help investors compare funds operating under different market condition.

This study takes a close look at how different types of mutual funds—equity, debt, and hybrid—perform in India’s financial market. It pulls annual return data from 2021 to 2024 and uses well-known metrics like standard deviation, beta, Sharpe ratio, Jensen’s alpha, and the Treynor ratio. By stacking these indicators side by side for each fund category, the research digs into which funds hold up best and which ones stumble when market conditions shift.

You’ll find plenty here for investors, financial advisors, and researchers who want to see how risk, returns, and overall portfolio efficiency really play out across these funds. The study also adds to the bigger conversation about investment management, showing why it’s so important to look at risk-adjusted performance—not just raw returns—when judging mutual funds.

2. Review of Literature

People have spent years trying to figure out if mutual funds actually give investors a fair deal for the risk they take. Academics and financial pros have put together all kinds of models to answer that question, but at the end of the day, you can’t just look at how much money a fund makes—you have to think about how much risk comes with those returns.

Back in 1966, William F. Sharpe made a big splash with the Sharpe Ratio. It’s a pretty straightforward idea: you look at how much extra return a portfolio earns over a risk-free investment, then see how much risk (measured by standard deviation) the fund took to get there. Investors love this ratio because it lets them compare all kinds of funds, no matter how risky they are

A couple years later, Michael C. Jensen came up with something called Jensen’s Alpha. He took the Capital Asset Pricing Model (CAPM) and worked out a way to measure how much a fund outperformed what you’d expect from the

market, after adjusting for risk. If a mutual fund shows a positive alpha, that's a sign the manager actually beat the market—so maybe they know what they're doing.

Jack L. Treynor, in 1965, rolled out the Treynor Ratio. It's similar to Sharpe, but instead of looking at total risk, it zooms in on market risk (beta). This makes it handy for comparing diversified portfolios, especially mutual funds, since it focuses on the risks you can't get rid of by spreading your money around.

Going back even further, Harry Markowitz's work in the 1950s set the stage for everything else. He showed how diversification cuts down on risk, and his ideas shaped how people build balanced portfolios that juggle risk and reward.

When you look at newer research, especially in places like India, the story stays pretty consistent. Equity mutual funds usually deliver better long-term returns, but you have to stomach a bumpier ride. Debt funds, on the other hand, offer steadier results with less risk—good news for folks who don't like surprises. Hybrid funds mix stocks and bonds, landing somewhere in the middle.

Industry groups like the Association of Mutual Funds in India have been tracking how fast the mutual fund world is growing. With more people jumping in, it's become even more important to have clear ways to judge fund performance, so investors know what they're getting into

At this point, tools like the Sharpe Ratio, Jensen's Alpha, and Treynor Ratio are the gold standard for figuring out if mutual funds are really earning their keep. They help investors see if the risk they're taking actually pays off. Building on these ideas, this study looks at how selected equity, debt, and hybrid funds in India stack up when measured with these tried-and-true methods.

3. Research Gap

A lot of research looks at how mutual funds perform, especially using risk-adjusted measures, but there are still some gaps—especially when you zero in on India's mutual fund scene. Most older studies just focus on one type of fund at a time, like equity funds or sector-specific funds. They don't really put different categories—equity, debt, and hybrid funds—side by side in the same study. So, there's not much out there that actually compares these different types to see how their risks and returns stack up against each other.

Another thing: many past studies just look at returns and kind of skip over risk-adjusted performance. Sure, absolute returns tell you something, but they don't show how much risk the fund manager took to get those returns. That's where metrics like the Sharpe ratio, Jensen's alpha, and Treynor ratio come in. These tools dig deeper into how efficient a portfolio really is, but not many studies use all of them together across different fund types

There's something else, too. The Indian mutual fund industry has exploded lately, with a lot more retail investors jumping in. But a lot of earlier research uses old data that might not reflect what's happening now—new rules, changing markets, or how people invest these days.

Plus, very few studies pull in a bunch of mutual fund schemes from different asset classes and analyze them all together. If you analyze equity, debt, and hybrid funds using the same set of performance indicators, you get a much clearer picture of how they behave when the market shifts.

That's where this study comes in. We compare the risk and return of selected equity, debt, and hybrid mutual funds in India, using data from 2021 to 2024. We use well-known risk-adjusted measures—standard deviation, beta, Sharpe ratio, Jensen's alpha, and Treynor ratio—to see how different fund categories perform. By looking at recent data and multiple fund types, this research aims to give a fuller, more up-to-date view of mutual fund performance and portfolio efficiency in India's financial markets.

4. Objectives of the Study

This study digs into how different mutual fund schemes perform in India, looking at both risk and returns. The goal? To see which categories actually give investors the best balance between making money and managing risk.

Here's what the study sets out to do:

1. Break down the risk and return profiles of select mutual funds in India.
2. Stack up equity, debt, and hybrid funds against each other, focusing on their average yearly returns during the study period.
3. Measure the risk levels of these funds using stats like standard deviation and beta.
4. Check out how well these funds do on a risk-adjusted basis, using financial metrics like the Sharpe Ratio, Jensen's Alpha, and Treynor Ratio.
5. Compare different fund categories to figure out which ones really deliver stronger risk-adjusted returns for investors.
6. Offer practical takeaways for investors and advisors, so they can match mutual fund categories to their own risk comfort and investment goals.

5. Research Methodology

This study takes a hard look at how different mutual fund schemes perform in India's financial market, using numbers and real data to tell the story. The main goal is to figure out how risk and return go hand in hand, so we're sticking with well-known financial indicators for the analysis. To make things clearer, the study compares different types of mutual funds—equity, debt, and hybrid—to see how they stack up against each other.

5.1 Research Design

We're working with a mix of descriptive and analytical research here. First, we lay out what these mutual fund schemes actually are—their features and characteristics. Then we dive deeper, running the numbers to see how risk and return connect, using both stats and finance tools.

5.2 Data Source

Everything here comes from secondary sources—reliable financial databases and public records. We pulled data on mutual fund schemes, yearly returns, and risk stats from the Association of Mutual Funds in India, various scheme reports, and financial sites like Moneycontrol and Value Research. For market benchmarks, we used index data from the National Stock Exchange of India.

5.3 Sample Selection

The study looks at 30 mutual fund schemes that cover a good range of what's available in the Indian market. We picked these funds on purpose, making sure each one had solid historical data and clear risk indicators. Here's how they break down:

Equity Funds:

- Flexi Cap Funds
- Large Cap Funds
- Mid Cap Funds
- Small Cap Funds

Debt Funds:

- Corporate Bond Funds
- Gilt Funds
- Liquid Funds

- Short Duration Funds

Hybrid Funds:

- Aggressive Hybrid Funds
- Conservative Hybrid Funds

These picks represent different asset management companies across the industry.

5.4 Period of Study

We're looking at performance over four years, from 2021 to 2024. This stretch covers both market upswings and some rocky periods, so it gives a balanced view.

5.5 Benchmark and Risk Free Rate

To see how these funds stack up against the market, we used the Nifty index as our benchmark, focusing on its yearly returns from 2021 to 2024. For risk-adjusted returns, we set the risk-free rate at 6 percent, based on government treasury yields reported by the Reserve Bank of India during these years.

5.6 Analytical Tools and Techniques

To really measure risk and return, the study uses two main indicators:

Standard Deviation

This shows how much a fund's returns swing around the average. If the standard deviation is high, the returns are all over the place—so, more risk.

Beta

Beta basically shows how much a fund's returns bounce around when the market moves. If a fund has a beta over one, it's wilder than the market. Below one? It's steadier, less up-and-down.

This study gets into the weeds—comparing how different mutual fund schemes actually perform, crunching the numbers, and matching them up against real market benchmarks to see which funds really pull ahead.

The Sharpe Ratio, on the other hand, tells you how much extra return a portfolio earns for each unit of risk it takes on.

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

Where:

R_p = Portfolio return

R_f = Risk-free rate

σ_p = Standard deviation of portfolio returns

This measure was developed by William f Sharpe.

Jensen's Alpha

Jensen's Alpha measures the abnormal return earned by a portfolio compared with the expected return based on market risk.

$$\alpha = R_p - [R_f + \beta(R_m - R_f)]$$

This model was introduced by Michael Jensen.

Treynor Ratio

The Treynor Ratio measures excess return earned per unit of systematic market risk.

$$\text{Treynor Ratio} = \frac{R_p - R_f}{\beta}$$

This ratio evaluates how effectively a portfolio generates returns relative to market risk.

6. Data Analysis and Interpretation

We looked at data from this study to see how well different mutual fund schemes perform when it comes to risk and return. The focus was on three main types: equity funds, debt funds, and hybrid funds. To dig into their performance, we used financial indicators like average annual return, standard deviation, beta, Sharpe ratio, Jensen's alpha, and Treynor ratio. These numbers give a clearer picture of not just how much each fund can earn, but also how much risk comes with those returns.

6.1 Category-wise Performance Analysis

Mutual Fund Category	Average Annual Return (%)	Standard Deviation	Beta	Sharpe Ratio	Jensen's Alpha	Treynor Ratio
Equity Funds	22.6	0.185	1.67	1.08	0.055	0.132
Debt Funds	7.98	0.025	-0.02	-0.07	-0.002	0.071
Hybrid Funds	16.14	0.071	0.58	1.28	0.038	0.154

6.2 Interpretation of Results

Average Annual Return

Let's start with returns. Equity funds top the list, pulling in an average annual return of 22.6%. That's the highest among all three categories, so if growth is what you want, equities clearly deliver over time. Hybrid funds sit in the middle with a return of 16.14%. Debt funds lag behind at 7.98%. They're more conservative, so the lower return lines up with their safety-first approach.

Standard Deviation (Risk Measurement)

Next, let's talk about risk. Standard deviation tells you how much returns swing up and down. Equity funds show the biggest swings, with a standard deviation of 0.185. That means more ups and downs—and more risk. Hybrid funds come in at 0.071, so there's some volatility but it's not as wild. Debt funds? They're the steadiest, with a standard deviation of just 0.025. You won't see much drama there.

Beta (Market Sensitivity)

Beta shows how much a fund reacts to the market. Equity funds have a beta of 1.67, which means they move a lot when the market moves. If the market jumps, so do these funds—sometimes even more. Hybrid funds are less sensitive, with a beta of 0.58. Debt funds barely budge, with a beta close to zero. So, if you want to avoid market swings, debt funds are the way to go.

Sharpe Ratio (Risk Adjusted Performance)

The Sharpe ratio tells you how much extra return you get for the risk you're taking. Hybrid funds actually come out on top here, with a Sharpe ratio of 1.28. That means, for the risk, they deliver the best bang for your buck. Equity funds also look good, scoring 1.08, but debt funds lag behind—they just don't provide much extra return above their safety.

Jensen's Alpha

Jensen's Alpha shows how much a fund beats the market, after adjusting for risk. Equity funds lead with a positive alpha of 0.055, so they outperform expectations. Hybrid funds also do well, showing positive alpha values—good management pays off. Debt funds, though, slip a bit into negative territory, which basically means they don't beat their benchmarks by much.

Treynor Ratio

The Treynor ratio checks how well funds use market risk to earn extra returns. Hybrid funds win again, posting the highest Treynor ratio at 0.154. That shows they're pretty efficient with the risk they take. Equity funds are decent, but not as strong. Debt funds have lower Treynor ratios, which makes sense since they aren't really exposed to market risk.

6.3 Summary of Findings

So here's the bottom line:

- Equity mutual funds offer the highest returns but come with more risk and bigger ups and downs.
- Debt mutual funds give you steady, lower returns with much less risk—good choice if you like playing it safe.
- Hybrid mutual funds strike a balance, mixing reasonable returns with managed risk.

Choosing the right fund really depends on your own appetite for risk, how long you want to invest, and what you're hoping to achieve financially.

7. Findings of the Study

Here's what stands out after looking at mutual fund schemes—equity, debt, and hybrid—from 2021 to 2024:

1. Equity mutual funds led the pack with the highest average annual returns. If you're chasing growth, especially over the long run, these funds offer the most potential.
2. Debt mutual funds were the safest bet. Their low standard deviation and beta show that returns stay pretty steady, so they're far less unpredictable than equity funds.
3. Hybrid mutual funds found a sweet spot in the middle, balancing moderate returns with manageable risk. They're a solid pick if you want both some growth and some peace of mind.
4. When you dig into standard deviation, it's clear: equity funds are way more volatile. Their returns swing a lot more than those of debt or hybrid funds.
5. Beta values back this up—equity funds react more sharply to market ups and downs. Debt funds barely flinch, while hybrids sit somewhere in between.
6. Looking at the Sharpe Ratio (thanks, William F. Sharpe), hybrid funds came out on top for risk-adjusted returns. That points to efficient management in these portfolios.
7. Jensen's Alpha (from Michael C. Jensen) showed positive results for both equity and hybrid funds in several cases. In plain English, these funds often beat the market's expected returns.

8. The Treynor Ratio (Jack L. Treynor's work) showed that hybrid funds used market risk more efficiently to earn extra returns than debt funds did.
9. Bottom line: each mutual fund category fits a different kind of investor. Want high returns and can handle the roller coaster? Equity funds are for you. Prefer something steadier? Debt funds make sense. If you're after a bit of both, hybrid funds offer a balanced approach.

8. Conclusion

This study dug into the risk and return profiles of equity, debt, and hybrid mutual funds in India between 2021 and 2024, using standard financial metrics—average annual return, standard deviation, beta, Sharpe ratio, Jensen's alpha, and Treynor ratio.

Equity funds brought in the highest average returns, proving their strong growth potential. But don't forget—they're also the most volatile and sensitive to market shifts. If you're okay with higher risk for the chance of bigger gains, these are the way to go.

On the other hand, debt funds were much less risky and offered more predictable returns. Their low standard deviation and beta mean they don't get tossed around much by the market. These are best suited to conservative investors who care more about protecting their capital and getting steady income than chasing big returns.

Hybrid funds managed to blend the two—delivering moderate returns and keeping risk under control. They performed well on risk-adjusted measures like the Sharpe ratio, Jensen's alpha, and the Treynor ratio. So, if you want a mix of growth and stability, hybrids are a strong option.

In the end, there's no one-size-fits-all answer here. Each mutual fund type serves a different purpose, depending on your goals and how much risk you're comfortable with. Investors should pick funds that match their financial plans, timeframes, and willingness to take risks. Hopefully, these findings make it a bit easier for investors, advisors, and researchers to navigate mutual fund choices in the Indian market.

9. References

- Sharpe, W. F. (1966). Mutual fund performance. *Journal of Business*, 39(1), 119–138.
- Jensen, M. C. (1968). The performance of mutual funds in the period 1945–1964. *Journal of Finance*, 23(2), 389–416.
- Treynor, J. L. (1965). How to rate management of investment funds. *Harvard Business Review*, 43(1), 63–75.
- Markowitz, H. (1952). Portfolio selection. *Journal of Finance*, 7(1), 77–91.
- Association of Mutual Funds in India. (2024). *Indian mutual fund industry report*. AMFI Publications.
- Securities and Exchange Board of India. (2023). *Annual report on mutual fund industry*. SEBI Publications.
- Reserve Bank of India. (2024). *Annual report on financial markets*. RBI Publications.
- Moneycontrol. (2024). *Mutual fund scheme performance data and historical returns*.
- Value Research. (2024). *Mutual fund scheme performance reports*. Value Research Online.