



FINANCIAL RATIOS

Risk-adjusted return ratios

Sharpe, Sortino, Treynor and the information ratio: how much a fund earned for the risk it carried

Treasury bill yield as on 1 September 2026; repo rate as on 7 October 2026

For training and education only. Not investment advice.

A return figure says what a fund earned. It does not say how bumpy the journey was.

Two funds can reach the same return after very different rises and falls. A risk-adjusted ratio divides the return by a measure of those rises and falls.

Standard deviation in plain words

TWO FUNDS, FOUR MONTHS

Fund S, monthly returns: +2%, +2%, +2%, +2%.

Fund V, monthly returns: +8%, -4%, +8%, -4%.

- 1 Average monthly return of S = $(2 + 2 + 2 + 2) \div 4 = 2\%$. Average of V = $(8 - 4 + 8 - 4) \div 4 = 2\%$. The averages match.
- 2 S is at its average in each of the four months, so its standard deviation is 0.
- 3 V is 6 percentage points away from its average in each month: $8 - 2 = 6$, and $-4 - 2 = -6$.
- 4 Square the gaps, average them, take the square root: $\sqrt{[(36 + 36 + 36 + 36) \div 4]} = \sqrt{36} = 6$. V's standard deviation is 6.

Standard deviation is the typical distance of returns from their average. Higher means bumpier.

Illustration with invented funds and assumed figures. Factsheets use more months and state a yearly figure.

Four ratios, one pattern

Each divides an extra return by a measure of risk. Only the two parts change.



Sharpe ratio

(Fund return – risk-free rate) ÷ standard deviation of the fund's returns. Risk here is every up and down.



Sortino ratio

(Fund return – risk-free rate) ÷ downside deviation, which counts only the negative returns.



Treynor ratio

(Fund return – risk-free rate) ÷ beta. Beta shows how sensitive the fund's returns are to the market's moves.



Information ratio

(Fund return – benchmark return) ÷ standard deviation of that gap. The lower part is called tracking error.

Formulas as set out in Value Research, Statistical Variables Methodology (September 2023), and, for the information ratio, SEBI circular of 17 January 2025.

Two funds, ranked two ways

ASSUMED, OVER 3 YEARS

Fund P: return 16% a year, standard deviation 20%.

Fund Q: return 14% a year, standard deviation 12.5%.

Risk-free rate: 6% a year.

- 1 On return alone, P ranks first: 16% against 14%.
- 2 Sharpe ratio of P = $(16 - 6) \div 20 = 10 \div 20 = 0.50$.
- 3 Sharpe ratio of Q = $(14 - 6) \div 12.5 = 8 \div 12.5 = 0.64$.
- 4 On Sharpe ratio, Q ranks first. For each point of standard deviation, Q earned 0.64 points over the risk-free rate and P earned 0.50.

P earned more. Q earned more for each unit of ups and downs. Both statements describe the past.

Illustration with two invented funds and assumed figures. Not a forecast and not a view on any scheme.

The same two funds on all four ratios

Further assumed figures: benchmark return 12% a year; other inputs as shown in each row.

Ratio	Fund P	Fund Q	Higher
Sharpe	$(16 - 6) \div 20 = 0.50$	$(14 - 6) \div 12.5 = 0.64$	Q
Sortino	Downside deviation 12.5%: $(16 - 6) \div 12.5 = 0.80$	Downside deviation 8%: $(14 - 6) \div 8 = 1.00$	Q
Treynor	Beta 1.25: $(16 - 6) \div 1.25 = 8.0$	Beta 0.80: $(14 - 6) \div 0.80 = 10.0$	Q
Information ratio	Tracking error 8%: $(16 - 12) \div 8 = 0.50$	Tracking error 5%: $(14 - 12) \div 5 = 0.40$	P

Illustration with two invented funds and assumed figures. Not a forecast and not a view on any scheme.

Which ratio answers which question

1

Sharpe ratio

What did the fund earn over the risk-free rate for each unit of its total ups and downs?

2

Sortino ratio

The same question, counting only the falls. Sharp rises are not held against the fund.

3

Treynor ratio

What did it earn over the risk-free rate for each unit of market risk? Suits a fund that is one holding among several.

4

Information ratio

What did it earn over its benchmark, and how steadily? It looks at the result of the fund manager's active choices.

Compare a ratio only across funds of one category, over one period, worked out the same way.

The risk-free rate in Indian factsheets

Factsheets state the rate used in a footnote. Many use an overnight rate such as MIBOR.

ONE FACTSHEET, MAY 2026

5.52%

Risk-free rate used for Sharpe ratios in one fund house's factsheet. Source shown: MIBOR.

91-DAY TREASURY BILL

5.26%

Cut-off yield at the last auction, as shown by RBI on 1 September 2026: 5.2640%.

RBI POLICY REPO RATE

5.50%

Raised from 5.25% on 7 Oct 2026 (5.25% on 1 Sep 2026).

Sources: a fund house factsheet, May 2026; RBI Current Rates, as on 1 Sep 2026; RBI Monetary Policy Statement, 7 Oct 2026.

SEBI's rule on the information ratio

1

The circular

SEBI's circular of 17 January 2025 made disclosure of the information ratio compulsory. It took effect within three months.

2

Which schemes

Equity-oriented schemes only.

3

Where and how often

On the fund house's website, with its performance disclosure, daily. AMFI's website carries it in a comparable, downloadable form.

4

How it is worked out

$(\text{Scheme return} - \text{benchmark return}) \div \text{standard deviation of that gap, using the Tier 1 benchmark and daily returns.}$

Source: SEBI circular SEBI/HO/IMD/IMD-PoD-2/P/CIR/2025/6, 'Disclosure of Risk adjusted Return - Information Ratio (IR) for Mutual Fund Schemes', 17 January 2025.

If you learnt this from older material

The formulas are unchanged. What a scheme must disclose, and against what, has changed.

What older decks say

- No risk-adjusted ratio is compulsory.
- A fund is measured against a price index.
- A higher ratio marks out the fund to pick.

What holds now

- The information ratio is compulsory for equity-oriented schemes, daily.
- Benchmarks are total return indices, which include dividends.
- A ratio describes a past period. It assures nothing about the next.

Sources: SEBI circular of 17 January 2025 (information ratio); SEBI circular of 4 January 2018 (total return index, from 1 February 2018).

Four things people get wrong



'A higher Sharpe ratio means less risk.'

It means more return per unit of risk in that period. A fund can have a higher Sharpe ratio and also a higher standard deviation.



'A high ratio will continue.'

The four ratios are worked out from past returns. A higher past ratio assures nothing about future returns.



'Any two funds can be compared.'

Compare within one category, over one period, with one risk-free rate and one benchmark. Otherwise the figures do not line up.



'A negative ratio is just a low one.'

When a fund earns less than the risk-free rate, the ranking breaks down: a bumpier fund shows a less negative Sharpe ratio.

Check yourself

Q1

Fund X returned 13% a year with a standard deviation of 14%. Fund Y returned 11% with a standard deviation of 8%. The risk-free rate is 6%. Which Sharpe ratio is higher?

Q2

A scheme returned 15% a year and its benchmark 12%. The standard deviation of the gap was 6%. What is the information ratio, and which schemes must disclose it?

Q3

A client says: 'This fund has the highest Sharpe ratio in its category, so it will do well.' What would you explain?

Sources and disclaimer

SOURCES FOR THE FIGURES IN THIS DECK

- Information ratio rule and formula: SEBI circular SEBI/HO/IMD/IMD-PoD-2/P/CIR/2025/6, 17 January 2025.
- Meaning and limits of the information ratio: AMFI explanatory notes on the information ratio (AMFI website).
- Sharpe, Sortino and Treynor formulas, beta: Value Research, Statistical Variables Methodology, Sept 2023 (secondary source).
- Risk-free rate 5.52% (FIMMDA MIBOR), three years, month-end NAV: a fund house factsheet, May 2026.
- 91-day Treasury bill 5.2640%: RBI Current Rates, as on 1 Sep 2026 (auction of 27 Aug 2026). Repo rate 5.50%: Monetary Policy Statement, 7 Oct 2026.
- Total return benchmarking from 1 February 2018: SEBI circular SEBI/HO/IMD/DF3/CIR/P/2018/04, 4 January 2018.
- Funds S, V, P, Q, X and Y and their figures are invented for illustration. They do not refer to any real scheme.

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