



Meta Title: What is Treynor Ratio? | Explanation | Example

Meta Description: Learn what Treynor ratio is and its role in finance. Discover how it works and the difference between the Treynor ratio and Sharpe ratio.

Primary Keyword: what is treynor ratio

Secondary Keywords: treynor ratio defined, treynor ratio meaning, treynor ratio explained, treynor ratio in finance, treynor ratio example, how treynor ratio works, difference between treynor ratio and sharpe ratio.

What is the Treynor ratio and how does it work

Key takeaways

Treynor ratio:

- measures how much excess return an investment portfolio generates for each unit of risk taken
- ratio focuses exclusively on market-driven risk
- helps investors and analysts compare portfolios against a market benchmark

What is the Treynor ratio?

Do you know what separates great [financial portfolios](#) from average ones? Whether they perform better than the market or not.

Treynor ratio is a performance metric used to compare the performance of various portfolios or funds. It is named after the American economist Jack Treynor, one of the pioneers of the capital asset pricing model (CAPM).

Treynor ratio explained

It measures the excess return earned by an investment portfolio relative to the [market risk](#). That means any profit made above what a completely risk-free asset would have produced over the same period.

Treynor ratio defined

The Treynor ratio evaluates whether an investment manager earned enough profit to justify taking on that unavoidable market fluctuation.

Treynor ratio compares a portfolio's excess return to its beta.

Beta (β_p) measures how volatile an asset or portfolio is compared to a broader market index, such as the [S&P 500](#). It determines how much systematic risk a portfolio takes on.

Systematic risk is the broad market risk due to macroeconomic factors. It cannot be managed with portfolio diversification. Unsystematic risk is specific to an asset, such as the [stock](#) of a company or an industry.

The Treynor ratio directly evaluates whether an investment manager earned enough profit to justify the unavoidable market risk they took.

[What does \$B_p\$ indicate?](#)

$B_p = 1.0$, the portfolio is similar to the market

$B_p > 1.0$, the portfolio is more volatile than the market

$B_p < 1.0$, the portfolio is less volatile than the market

[Treynor ratio formula](#)

Treynor ratio = $(R_p - R_f) / \beta_p$

Here,

R_p = return of the portfolio over a specific timeframe

R_f = return of a risk-free asset during the same period

β_p = how volatile an asset or portfolio is compared to a broader market index

This value indicates the percentage return earned for every unit of market risk accepted by the trader or the portfolio manager.

[Role of Treynor ratio in finance](#)

The primary role of the Treynor ratio in finance is to help evaluate whether the portfolio is being managed adequately.

For instance, a [fund manager](#) might generate a 20% annual return in a certain timeframe. Assume that they took on extreme levels of market [leverage](#) during a massive [bull market](#) that rose 25%. This means that the portfolio performance was poor relative to the market risk taken.

Financial analysts rely on it for:

Portfolio comparison: to directly evaluate performance differences between two mutual funds or portfolios.

Tracking historical performance: to determine if a fund manager has converted market exposure into net profit over multi-year cycles.

Assessing [diversification](#) strategy: to evaluate well-diversified portfolios rather than single stocks, as the metric assumes unsystematic risk has already been diversified.

Treynor ratio example

Consider two distinct [mutual funds](#) operating during the same calendar year:

Assume that R_f (based on short-term government treasury bills) is 3.0%.

For fund A

$$R_p = 15.0\%$$

$$\beta_p = 1.2$$

$$\text{Treynor ratio (A)} = (15.0 - 3.0) / 1.2 = 10.0$$

For fund B

$$R_p = 12.0\%$$

$$\beta_p = 0.75$$

$$\text{Treynor ratio (B)} = (12.0 - 3.0) / 0.75 = 12.0$$

This indicates that Fund B earned more return per unit of market risk taken than Fund A during the period under consideration.

If an investor holds a non-diversified portfolio, the unsystematic risk is high. In that specific scenario, evaluating performance based strictly on market beta may give an incomplete assessment of total [investment risk](#).

How the Treynor ratio works

Understanding how the Treynor ratio works requires examining how adjustments to its inputs shift the resulting metric:

Impact of higher excess returns: for two portfolios with the same beta, the portfolio with higher net profits produces a higher Treynor ratio.

Impact of beta adjustments: if two portfolios have the same total returns, the portfolio with a lower beta yields a higher ratio. This is because it took on less risk.

Negative Treynor ratio meaning

A Treynor ratio turns negative under two conditions:

1. The portfolio earns less than the risk-free rate ($R_p < R_f$)
2. Inverse market funds and certain hedging strategies make beta negative ($\beta_p < 0$)

Difference between Treynor ratio and Sharpe ratio

Treynor ratio uses beta, which only considers systematic risk (market risk) and assumes that the portfolio is fully diversified. Sharpe ratio, on the other hand, uses standard deviation (SD), which measures total risk. This means that SD includes both systematic market risk and unsystematic company-specific risk.

FAQs

Between a higher or lower Treynor ratio, which is better?

A higher Treynor ratio is considered better as it indicates that a portfolio or fund manager earned more excess return for every unit of systematic market risk accepted.

Which is better, the Treynor ratio or Sharpe ratio?

Sharpe ratio is more suited for evaluating non-diversified portfolios or individual stocks, while the Treynor ratio specifically works for fully diversified portfolios.

How to read Treynor ratio?

Treynor ratio does not generate an ideal value. It is a comparison metric. When comparing two portfolios, the one with a higher value over a given period is considered better.