CROSSING POINT

Financial Ratios Explained

Although return and volatility are the most well known financial ratios, there are a number of ratios which are also important to investors.

Sharpe Ratio - 'Risk-adjusted return'

Return of an investment (R_p) in excess of a risk-free return (R_f) per unit of volatility (σ_p).

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

It combines performance and risk by adjusting the return of an investment for the amount of excess risk which is associated with the investment.

Generally, a higher Sharpe Ratio is better when comparing similar portfolios.

Sortino Ratio - 'Downside risk-adjusted return'

Return of an investment (R_p) in excess of a risk-free return (R_f) per unit of downside volatility (σ_d).

$$Sortino\ Ratio = \frac{R_p - R_f}{\sigma_d}$$

The Sortino ratio is similar to the Sharpe ratio, but it only takes into account the volatility of negative returns instead of both positive and negative returns. By only considering negative returns, it gives a better indicator of investment return generated from adverse negative volatility and excludes wanted positive upside volatility in the risk calculation.

Generally, a higher Sortino Ratio is better when comparing similar portfolios.

Information Ratio

Return of an investment (R_p) above its benchmark's return (R_b) considering the consistency of the returns calculated through tracking error (standard deviation of the difference between the portfolio and benchmark returns $\sigma_{R_p - R_b}$).

$$IR = \frac{R_p - R_b}{\sigma_{R_p - R_b}}$$

The top half of the equation considers the excess return of the portfolio compared to the benchmark. The bottom half of the equation denotes how consistent the portfolio returns are compared to the benchmark's returns. A larger difference in tracking error in the bottom half of the equation will signify a higher amount of risk, less consistency in tracking the benchmark and will have the effect of reducing the IR.

This is also a risk adjusted return indicator similar to both Sharpe and Sortino ratios, but instead of considering a risk-free asset the IR compares the investment to a benchmark or market index.

Generally, a higher IR is better when comparing similar portfolios.

CROSSING POINT

Financial Ratios Explained (cont.)

Although return and volatility are the most well known financial ratios, there are a number of ratios which are also important to investors.

Maximum Drawdown (MDD)

The maximum loss from the peak to a trough of an investment.

MDD is an indicator of the maximum amount which has been lost before a new peak has been established and is representative of the downside risk associated with an investment. This does not take into account frequency, how long it has taken an investment to recover, or if the investment has recovered.

A smaller maximum drawdown is better when comparing similar portfolios.

$$MDD = \frac{Trough\ Value - Peak\ Value}{Peak\ Value}$$

Alpha

Return of an investment above or below a benchmark or market index's return.

It represents the extra value from a manager's investment.

It can be positive or negative. A higher alpha has a return higher than would be expected from investing in the benchmark or index.

$$\alpha$$

Beta

Volatility of an investment compared to the benchmark or market as a whole.

Some investors may want an investment with a higher expected risk and return. Others may want an investment which is less risky.

$\beta = 1$ Market risk

$\beta < 1$ Less risky than the market

$\beta > 1$ Riskier than the market

FE Risk Score

A measure of relative risk which compares the volatility of a portfolio or investment to the volatility of an index of the 100 largest UK companies.

An FE risk score above 100 indicates that the investment is riskier than an investment in the largest 100 UK companies and vice versa.

$FE\ risk\ score < 100$ Less risk than index

$FE\ risk\ score > 100$ Riskier than index