
SORTINO'S RATIO

Description of the Measure:

The Sortino's Ratio is a Return/Risk measure given by the annualized average of the returns, deducted the yield of an investment without risk, divided by the downside risk (see indicators of risk) during the same period.

Interpretation:

Like other risk adjusted ratios, the Sortino's Ratio compares the returns to a specific measure of risk: in this case the downside risk. It is designed to evaluate the potential returns in light of the underlying risk measured during the negative price phases.

Use:

The Sortino's ratio is a sort of variation of the Sharpe's Ratio (see indicator), to measure the quality of the returns. The difference is the kind of risk measure it uses: the downside risk instead of the standard deviation, that it is more focused towards the concept of downside risk. The highest the reading of the indicator, the better the quality of the returns on a relative Reward/risk basis.

Potential Misuse:

In some cases, the measure of risk - the Downside Risk - is proven to be variable through time and the Sortino's ratio unstable. The need of long series is essential.

Formula:

$$So_{p,t} = \frac{E_t(R_{p,t}) - R_f}{DR_{p,t}}$$

where:

$E_t(R_{p,t})$ is the annualized mean return on the fund considered over period;

R_f is a proxy for the riskless rate;

$DR_{p,t}$ is the downside risk of the fund return over period.

Two year data of weekly series is considered.

References:

Sortino F. and R. van der Meer, (1991), “ Downside Risk ”, Journal of Portfolio Management, Summer 1991, pp.27-31.

Sortino F. and L. Price, (1994), “ Performance Measurement in a Downside Risk Framework”, Journal of Investing, Fall 1994, pp.59-65.