
SHARPE'S RATIO

Description of the Measure:

The Sharpe's Ratio is a Return/Risk measure given by the annualised average of the monthly returns, deducted the yield of an investment without risk (approximated by EURIBOR or EONIA), divided by the standard deviation of fund returns.

Interpretation:

Just like some other risk-adjusted ratios, the Sharpe's Ratio is a relative measure of performance. It allows to compare the returns to a specific measure of risk: in this case the standard deviation. It is designed to evaluate the potential returns in light of the underlying risk.

Use:

The Sharpe's Ratio is useful to evaluate the quality - rather than the quantity of the returns of a fund. If our choice contains a given potential in terms of returns, the comparison with the standard deviation of returns - a measure of volatility - indicates to which magnitude of risk such a security/funds or portfolio is exposed. It represents the expected return by unity of risk taken when buying the fund. The highest the reading of the indicator, the better the quality of the returns on a Reward/risk basis.

Potential Misuse:

In some cases, since the choice of the standard deviation as a measure of risk is not appropriate one (it does not well characterized the behaviour of some funds), Sharpe's ratio can be misleading. Moreover, the ratio should be applied to an homogenous class of assets risk and should not be used to compare funds when too different since it is not a leverage-invariant indicator. The need of long series is also essential.

Formula:

$$S_{p,t} = \frac{E_t(R_{p,t}) - R_f}{\hat{\sigma}_{R_p}}$$

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; $\hat{\sigma}_{R_p}$ is the standard deviation of the fund return over period.

Two year data of weekly series is considered.

References:

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