

SORTINO

Updated: 31 Mar 2016

Use `SORTINO` to calculate the Sortino ratio based upon return data. The Sortino ratio is calculated as the mean difference of the returns (R) and the minimum acceptable return (R_m) divided by the downside deviation.

$$\text{SORTINO} = \frac{\bar{R} - R_m}{\sqrt{\frac{\sum_{i=1}^n \max(0, R_i - R_m)^2}{n}}}$$

Where

- \bar{R} = the average of the returns
- R_m = the minimum acceptable return
- R_i = the i^{th} return
- n = When `Full = True` then the number of rows passed into the function; else the number of rows where $\max(0, R_i - R_m) < 0$.

Syntax

```
Public Shared Function SORTINO(  
    ByVal R As Double(),  
    ByVal Mar As Double,  
    ByVal Full As Boolean,)
```

Arguments

R

the return for the period; the percentage return in floating point format (i.e. 10% = 0.10). *R* is an expression that returns an Array of **Double**, or of a type that can be implicitly converted to an Array of **Double**.

Mar

the minimum acceptable return. *Mar* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Full

how to calculate the downside deviation. When `Full = True` the downside deviation is calculated with n equal to the number of rows passed into the function. When `Full = False` n is equal to the number of rows where $\max(0, R - R_m) < 0$. *Full* is an expression that returns a **Boolean**, or of a type that can be implicitly converted to **Boolean**.

Return Type

Double

Remarks

- If there are no negative returns, then **SORTINO** is NULL.
- *Full* defaults to FALSE.

See Also

- EQALPHA - Intercept of the security characteristic line between an asset and a specified benchmark
- EQBETA - Correlated volatility (beta) between an asset and a specified benchmark
- EQVOLATILITY - Historical volatility based upon price or valuation data
- INFORATIO - Information ratio based upon return data
- INFORATIO2 - Information ratio based upon price or valuation data
- MAXDD - Maximum drawdown based on net asset or portfolio values
- MAXDD2 - Maximum drawdown based on net asset or portfolio returns
- MOIC - Multiple of Invested Capital
- SHARPE - Sharpe ratio based upon return data
- SHARPE2 - Sharpe ratio based upon price or valuation data
- SORTINO2 - Sortino ratio based upon price data
- TREYNOR - Treynor ratio based upon return data
- TREYNOR2 - Treynor ratio based upon price or valuation data