

TotalRisk

Updated: 31 Mar 2016

Use the aggregate function `TotalRisk` to calculate Total Risk. The square of `TotalRisk` is the sum of the square of `SystematicRisk` and the square of `SpecificRisk`.

$$\text{TotalRisk} = \sqrt{\text{SystematicRisk}^2 + \text{SpecificRisk}^2}$$

Syntax

```
Public Shared Function TotalRisk(  
    ByVal Ra As Double(),  
    ByVal Rb As Double(),  
    ByVal Rf As Double(),  
    ByVal Freq As Integer,)
```

Arguments

Ra

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

Rb

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

Rf

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

Freq

the period in which *Ra*, *Rb*, and *Rf* are expressed. For example, a *Freq* of 1 would indicate that the returns are annual; 4 would be quarterly, 12 would be monthly, and 252 would be business-daily. *Freq* is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

Return Type

Double

Remarks

- If *@Ra* or *@Rb* IS NULL it is not included in the calculation.
- If *@Rf* IS NULL it is set to zero.
- If there are no non-NULL then NULL is returned.

- *@Freq* must be greater than zero.
- If *@Freq* IS NULL then *@Freq* is set to 12.

See Also

- BetaCoKurt - Calculate the beta-cokurtosis of an asset return and a benchmark return
- BetaCoSkew - Calculate the beta-coskewness of an asset return and a benchmark return
- BetaCoVar - Calculate the beta-covariance of an asset return and a benchmark return
- DownsideDeviation - Calculate the downside deviation of asset returns
- DownsideFrequency - Calculate the downside frequency of asset returns
- DownsidePotential - Calculate the downside potential of asset returns
- FinCoKurt - Calculate the cokurtosis of an asset return and a benchmark return
- FinCoSkew - Calculate the coskewness of an asset return and a benchmark return
- Omega - Calculate the Omega of asset returns
- OmegaExcessReturn - Calculate the Omega Excess Return
- OmegaSharpeRatio - Calculate the Omega-Sharpe ratio of asset returns
- SemiDeviation - Calculate the semi-deviation of asset returns
- SemiVariance - Calculate the semi-variance of asset returns
- SpecificRisk - Calculate Specific Risk, the standard deviation of the error term in the regression equation
- SystematicRisk - Calculate the Systematic Risk
- UpsideFrequency - Calculate the upside frequency of asset returns
- UpsidePotentialRatio - Calculate the Upside Potential Ratio
- UpsideRisk - Calculate the Upside Risk, Upside Variance or Upside Deviation