

OmegaExcessReturn

Updated: 31 Mar 2016

Use the aggregate function `OmegaExcessReturn` to calculate the Omega Excess Return. Omega Excess Return is calculated as:

$$Rp = \left(\prod_{i=1}^n (1 + Ra_n) \right)^{\frac{Freq}{n}} - 1$$

$$\sigma_D = \sqrt{\frac{\sum_{i=1}^n \max(0, MAR - Ra)^2}{n}} \times \sqrt{Freq}$$

$$\sigma_{DM} = \sqrt{\frac{\sum_{i=1}^n \max(0, MAR - Rb)^2}{n}} \times \sqrt{Freq}$$

$$\text{OmegaExcessReturn} = Rp - 3 * \sigma_D \times \sigma_{DM}$$

Where

- Ra = asset return
- Rb = benchmark return
- MAR = minimum acceptable return
- Freq = periodicity of returns
- n = number of non-NULL returns in a GROUP

Syntax

```
Public Shared Function OmegaExcessReturn(  
    ByVal Ra As Double(),  
    ByVal Rb As Double(),  
    ByVal MAR 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**.

MAR

the minimum acceptable return in floating point format (i.e. 10% = 0.10). *MAR* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Freq

t the period in which *Ra*, *Rb*, and *MAR* 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 *MAR* IS NULL it is set to zero.
- If there are no non-NULL rows 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
- 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
- TotalRisk - Calculate Total 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