

# UpsidePotentialRatio

Updated: 31 Mar 2016

Use [UpsidePotentialRatio](#) to calculate the Upside Potential Ratio. The Upside Potential Ratio, developed by Frank A. Sortino, measures upside performance per unit of downside risk. The Upside Potential Ratio can be calculated as:

$$\text{UpsidePotentialRatio} = \frac{\sum_{i=1}^n \max(0, R_i - \text{MAR})}{n_u} \times \sqrt{\frac{n_d}{\sum_{i=1}^n \max(0, \text{MAR} - R_i)^2}}$$

Where

- R = asset return
- MAR = minimum acceptable return
- n = number of rows in the GROUP
- n<sub>u</sub> = either n or the number of rows where R > MAR
- n<sub>d</sub> = either n or the number of rows where MAR > R

## Syntax

```
Public Shared Function UpsidePotentialRatio(  
    ByVal R As Double(),  
    ByVal MAR As Double,  
    ByVal Full As Boolean,)
```

## Arguments

*R*

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

*Full*

determines the treatment of n. When *Full* is TRUE then n<sub>u</sub> and n<sub>d</sub> are the number of non-null rows in the GROUP; when *Full* is FALSE then n<sub>u</sub> is the number of rows where R > MAR and n<sub>d</sub> is the number of rows where R < MAR. *Full* is an expression that returns a **Boolean**, or of a type that can be implicitly converted to **Boolean**.

## Return Type

Double

## Remarks

- If *R* 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.

### 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
- TotalRisk - Calculate Total Risk
- UpsidePotentialRatio - Calculate the Upside Potential Ratio
- UpsideRisk - Calculate the Upside Risk, Upside Variance or Upside Deviation