UpsidePotentialRatio

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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
- \(\text{MAR}\) = minimum acceptable return
- \(n\) = number of rows in the GROUP
- \(n_u\) = either \(n\) or the number of rows where \(R > \text{MAR}\)
- \(n_d\) = either \(n\) or the number of rows where \(R < \text{MAR}\)

**Syntax**

```vba
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). \(\text{MAR}\) 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 \(\text{Full}\) is TRUE then \(n_u\) and \(n_d\) are the number of non-null rows in the GROUP; when \(\text{Full}\) is FALSE then \(n_u\) is the number of rows where \(R > \text{MAR}\) and \(n_d\) is the number of rows where \(R < \text{MAR}\). \(\text{Full}\) 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 \(\text{MAR}\) 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