

# TREYNOR

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Use **TREYNOR** to calculate the Treynor ratio based upon return data. You have the option of computing the Treynor ratio using either simple returns or geometric returns. For simple returns, the Treynor ratio is calculated as the mean of the returns minus the risk-free rate divided by the beta of the returns against the benchmark returns.

$$TREYNOR = \frac{\bar{R} - Rf}{\beta_{R,Rb}}$$

For geometric returns, the Treynor ratio is calculated as the geometric mean of the return minus the risk-free rate divided by the beta of the returns against the benchmark returns. For the sake of consistency, the risk-free rate should be in the same units as the scaling factor.

$$TREYNOR = \frac{[(\prod_{i=1}^n 1 + R_i)^{scale/n} - 1]}{\beta_{R,Rb}}$$

$$\beta_{R,Rb} = \text{SLOPE}(R,Rb)$$

## Syntax

```
Public Shared Function TREYNOR(  
    ByVal R As Double(),  
    ByVal RB As Double(),  
    ByVal RF As Double,  
    ByVal Scale As Double,  
    ByVal Geometric As Boolean,)
```

## Arguments

*R*

the return value; the percentage return in floating point format (i.e. 10% = .01). *R* 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 value. *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 rate. *RF* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

*Scale*

the scaling factor used in the calculation. *Scale* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

### *Geometric*

identifies whether or not to use geometric returns in the calculation. *Geometric* is an expression that returns a **Boolean**, or of a type that can be implicitly converted to **Boolean**.

## Return Type

Double

## Remarks

- If *@Geometric* IS NULL then *@Geometric* is set equal to FALSE.
- If *@Scale* IS NULL then *@Scale* is set to 1.
- For daily returns set *@Scale* = 252.
- For weekly returns set *@Scale* = 52.
- For monthly returns set *@Scale* = 12.
- For quarterly returns set *@Scale* = 4.
- To calculate the Treynor ratio using price data or portfolio values, use the TRYENOR2 function.

## 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
- SORTINO - Sortino ratio based upon return data
- SORTINO2 - Sortino ratio based upon price data
- TREYNOR2 - Treynor ratio based upon price or valuation data