

MDURATION

Updated: 31 Mar 2016

Use the scalar valued function **MDURATION** to calculate the Macaulay modified duration for a security with an assumed par value of 100.

Syntax

```
Public Shared Function DURATION(  
    ByVal Settlement As Date,  
    ByVal Maturity As Date,  
    ByVal Coupon As Double,  
    ByVal Yld As Double,  
    ByVal Frequency As Double,  
    ByVal Basis As String,)
```

Arguments

Settlement

the settlement date of the security. *Settlement* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

Maturity

the maturity date of the security. *Maturity* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

Coupon

the security's annual coupon rate. *Coupon* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Yld

the security's annual yield. *Yld* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Frequency

the number of coupon payments per year. For annual payments, *Frequency* = 1; for semi-annual, *Frequency* = 2; for quarterly, *Frequency* = 4; for bi-monthly *Frequency* = 6; for monthly *Frequency* = 12. *Frequency* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Basis

the daycount convention.

Basis	Day count basis
0, "BOND"	US (NASD) 30/360
1, "ACTUAL"	Actual/Actual

2, "A360"	Actual/360
3, "A365"	Actual/365
4, "30E/360 (ISDA)", "30E/360", "ISDA", "30E/360 ISDA", "EBOND"	European 30/360
5, "30/360", "30/360 ISDA", "GERMAN"	30/360 ISDA
6, "NL/ACT"	No Leap Year/ACT
7, "NL/365"	No Leap Year /365
8, "NL/360"	No Leap Year /360
9, "A/365"	Actual/364
10, "BOND NON-EOM"	US (NASD) 30/360 non-end-of-month
11, "ACTUAL NON-EOM"	Actual/Actual non-end-of-month
12, "A360 NON-EOM"	Actual/360 non-end-of-month
13, "A365 NON-EOM"	Actual/365 non-end-of-month
14, "30E/360 NON-EOM", "30E/360 ICMA NON-EOM", "EBOND NON-EOM"	European 30/360 non-end-of-month
15, "30/360 NON-EOM", "30/360 ISDA NON-EOM", "GERMAN NON-EOM"	30/360 ISDA non-end-of-month
16, "NL/ACT NON-EOM"	No Leap Year/ACT non-end-of-month
17, "NL/365 NON-EOM"	No Leap Year/365 non-end-of-month
18, "NL/360 NON-EOM"	No Leap Year/360 non-end-of-month
19, "A/365 NON-EOM"	Actual/364 non-end-of-month

Basis is an expression that returns a **String**, or of a type that can be implicitly converted to **String**.

Return Type

Double

Remarks

- If *Yld* < 0 or if *Coupon* < 0 an error is returned.
- If the *Frequency* is any number other than 1, 2, or 4 an error is returned
- If *Settlement* > *Maturity* an error is returned
- If the *Basis* < 0 or the *Basis* > 4 an error is returned

See Also

- CFCONVEXITY - Convexity of a series of cash flows
- CFDURATION - Duration of a series of cash flows
- CFMDURATION - Modified duration of a series of cash flows
- CONVEXITY - Convexity of an option free bond

- DURATION - Duration of a security
- OFCCONVEXITY - Convexity of a bond with an odd first coupon
- OFCDURATION - Duration of a bond with an odd first coupon
- OFCMDURATION - Modified duration of a bond with an odd first coupon
- OFLCONVEXITY - Convexity of a bond with an odd first and odd last coupon
- OFLDURATION - Duration of a bond with an odd first and odd last coupon
- OFLMDURATION - Modified duration of a bond with an odd first and odd last coupon
- OLCCONVEXITY - Convexity of a bond with an odd last coupon
- OLCDURATION - Duration of a bond with an odd last coupon
- OLCMDURATION - Modified duration of a bond with an odd last coupon
- RPICONVEXITY - Convexity of a bond paying regular periodic interest
- RPIDURATION - Duration of a bond paying regular periodic interest
- RPIMDURATION - Modified duration of a bond paying regular periodic interest
- STEPCONVEXITY - Convexity of a stepped-coupon bond
- STEPDURATION - Duration of a stepped-coupon bond
- STEPMDURATION - Modified duration of a stepped-coupon bond