ODDLPRICE

Updated: 31 Mar 2016

Use ODDLPRICE to calculate the price per 100 face value of a bond with an odd last coupon period. The formula for price when the settlement date is less than the last coupon date is:

$$ODDLPRICE = \left(\frac{\frac{-C}{Y} + \frac{RV + LC}{(1+Y)^{\sum_{i=1}^{NCL}\frac{DLC_i}{NLL_i}}}}{(1+Y)^N} - \frac{-C}{Y} \right) \times (1+Y)^{1-\frac{DSC}{E}} - A$$

Where

C	=	100 * coupon rate / frequency
Y	=	yield / frequency
RV	=	redemption value
DSC	=	number of days from settlement to coupon
N	=	the number of coupons between the settlement date and the last coupon date
E	=	the number of days in the current coupon period
A	=	C * accrued days / E
NCL	=	the number of quasi-coupons from the last coupon date to the quasi-maturity date
DLC$_i$	=	the number of days from the previous coupon date to the lesser of the next coupon date and the maturity date in the ith quasi-coupon period
NLL$_i$	=	the normal length in days of the full ith quasi-coupon period in the odd last period
LC	=	C * $\sum_{i=1}^{NCL}\frac{DLC_i}{NLL_i}$

The formula for price when the settlement date is greater than or equal to the last coupon date is:

$$ODDLPRICE = \frac{RV + LC}{\left(1 + Y \times \sum_{i=1}^{NCL}\frac{DSC_i}{NLL_i}\right)} - C * \sum_{i=1}^{NCL}\frac{A_i}{NLL_i}$$

Where

C	=	100 * coupon rate / frequency
Y	=	yield / frequency
RV	=	redemption value
NCL	=	the number of quasi-coupons from the last coupon date to the quasi-maturity date
DSC$_i$	=	number of days from settlement date (or beginning of quasi-coupon period) to the next quasi-coupon within odd period (or to redemption date) for the ith quasi-coupon period
A$_i$	=	number of accrued days for the ith quasi-coupon period within odd period counting forward from the last interest date before redemption
DLC$_i$	=	the number of days from the previous coupon date to the lesser of the next coupon date and the maturity date in the ith quasi-coupon period
NLL$_i$	=	the normal length in days of the full ith quasi-coupon period in the odd last period
LC	=	C * $\sum_{i=1}^{NCL}\frac{DLC_i}{NLL_i}$

Syntax

```
Public Shared Function ODDLPRICE(
    ByVal Settlement As Date,
    ByVal Maturity As Date,
    ByVal Last_interest As Date,
    ByVal Rate As Double,
    ByVal Yld As Double,
    ByVal Redemption As Double,
    ByVal Frequency As Double,
    ByVal Basis As String,)
```

Arguments

Settlement

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

Issue

>the issue date of the bond. *Issue* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

Last_interest

>the date on which the last regular periodic coupon is paid. *Last_interest* is an expression that returns a **Date**, or of a type that can be implicitly converted to **Date**.

Rate

>the coupon rate of the bond in decimal format (10% = 0.10). *Rate* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Yld

>the yield on the bond in decimal format (10% - 0.10). *Yld* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Redemption

>the redemption value of bond. *Redemption* 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 bimonthly @Frequency = 6; for monthly, @Frequency = 12. For bonds with @Basis = "A/364" or 9, you can enter 364 for payments made every 52 weeks, 182 for payments made every 26 weeks, 91 for payments

made every 13 weeks, 28 for payments made every 4 weeks, 14 for payments made every 2 weeks, and 7 for weekly payments.. *Frequency* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Basis

the daycount convention associated with the bond. *Basis* is an expression that returns a **String**, or of a type that can be implicitly converted to **String**. Permissible values are:

Basis	Daycount convention
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/364"	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/364 NON-EOM"	Actual/364 non-end-of-month

Return Type
Double

Remarks
- If Settlement is NULL then Settlement equals the system processing date.
- If Rate is NULL then Rate = 0.
- If Yield is NULL then Yield = 0.
- If Redemption is NULL then Redemption = 100.
- If Frequency is NULL then Frequency = 2.
- If Basis is NULL then Basis = 0.

- If Frequency is any number other than 1, 2, 4, 6 or 12, or for Basis = "A/364" any number other than 1, 2, 4, 6, or 12 as well as 7, 14, 28, 91, 182, or 364 ODDLPRICE returns an error.
- If Basis is invalid (see above list) an error is returned.
- If Maturity is NULL then an error is returned.
- If Last_interest is NULL then an error is returned.

See Also
- BONDCF - Cash flows for a bond paying regular periodic interest
- DIRTYPRICE - Dirty price of a bond
- DIRTYYIELD - Yield of a bond from the dirty price
- DIS - Price, discount rate, and/or yield of a discount security
- DISC - Discount rate
- DISFACTORS - Factors for the price calculation of a discount security
- IAM - Price and/or yield of a security paying interest at maturity
- IAMFACTORS - Factors for the price calculation of a security paying interest at maturity
- ODDFPRICE - Price of a bond with an odd first coupon
- ODDFYIELD - Yield of a bond with an odd first coupon
- ODDLYIELD - Yield of a bond with an odd last coupon
- OFC - Calculate the price and/or yield of a bond with an odd first coupon using the ODDFPRICE equation
- OFCFACTORS - Returns the components of the ODDFPRICE equation
- OFL - Calculate the price and/or yield of a bond with an odd first and an odd last coupon using the OFLPRICE equation
- OFLFACTORS - Returns the components of the OFLPRICE equation
- OFLPRICE - Calculate the price of a security with an odd first and odd last period
- OFLYIELD - Calculate the yield of a security with an odd first and odd last period
- OLC - Calculate the price and/or yield of a bond with an odd last coupon using the ODDLPRICE equation
- OLCFACTORS - Returns the components of the ODDLPRICE equation
- PRICE - Price of a security paying regular periodic interest
- PRICEACT - Price of a bond where coupon amounts are based on number of days in the coupon period
- PRICEACTV - Cash flows and discount factors for a bond where coupon amounts are based on number of days in the coupon period
- PRICEDISC - Price of a discounted security
- PRICEFR - Price of a bond with forced redemptions
- PRICEMAT - Price of an interest-at-maturity security
- PRICESTEP - Price of a security with step-up rates
- RPI - Calculate the price and/or yield of a bond with regular periodic coupons
- RPIFACTORS - Factors for the calculation of the price of a bond that pays regular periodic interest

- TBILLEQ - Bond equivalent yield of a Treasury Bill
- TBILLPRICE - Price of a Treasury Bill
- TBILLYIELD - Yield of a Treasury Bill
- YIELD - Yield of a bond paying regular periodic interest
- YIELDACT - Yield of a bond where coupon amounts are based on number of days in the coupon period
- YIELDDISC - Yield on a discount security
- YIELDFR - Yield of a bond with forced redemptions
- YIELDMAT - Yield on an interest-at-maturity security
- YIELDSTEP - Yield of a security with step-up rates