YIELDFR

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Use YIELDFR to calculate the yield given price of a bond with a forced redemption schedule where the coupon payment dates occur at regular periods and the redemptions can occur on any coupon date. There is no closed-from solution for the calculation of yield if there is more than one coupon period remaining to maturity. If the settlement date is in the final coupon period, then the formula for the calculation of yield is:

$$\text{YIELD} = \left(\frac{\text{Par} \times \left(1 + \frac{R}{F}\right)}{\text{Price} + \text{Par} * \frac{A}{E} \times \frac{R}{F}} - 1 \right) * \frac{F * E}{\text{DSR}}$$

Where:

A	=	Number of days from previous coupon date to settlement date
DSR	=	Number of days from settlement date to maturity date
E	=	Number of days in the current coupon period
F	=	Number of coupon payments per year
R	=	Annual interest rate in decimal terms (10% = 0.10)
Y	=	Annual yield in decimal terms (10% = 0.10)
Price	=	Clean price of the bond
Par	=	Par value of the bond

Syntax

```
Public Shared Function YIELDFR(
    ByVal Settlement As Date,
    ByVal Maturity As Date,
    ByVal Rate As Double,
    ByVal Par As Double,
    ByVal Price As Double,
    ByVal Frequency As Double,
    ByVal Basis As String,
    ByVal Repayments 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**.

Rate

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

Par

the par value of the security. All forced redemptions are subtracted from the par value on the redemption date and the adjusted balance is used in calculating the subsequent coupon interest. *Par* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Price

the clean price of the security. *Price* 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 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 type of day count to use.

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/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

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

Repayments

a SELECT statement, as a string, which identifies the coupon dates and the forced redemption amounts to be used in the price calculation. *Repayments* is an expression that returns a **String**, or of a type that can be implicitly converted to **String**.

Return Type
Double

Remarks
- If *Basis* is invalid then an error is returned.
- If *Frequency* is invalid then an error is returned.
- If *Maturity* < *Settlement* then NULL is returned*.*
- If *Repayments* returns no rows then NULL is returned.
- If *Settlement* is NULL, *Settlement* equals the current system processing date.
- If *Frequency* is NULL, *Frequency* = 2.
- If *Basis* is NULL, *Basis* = 0.
- `YIELDFR` forces the principal balance of the bond to zero at maturity.
- If *Par* is NULL then *Par* = 100.
- If *Rate* is NULL then *Rate* = 0.
- If *Yield* is NULL then *Yield* = 0.
- If *Maturity* is NULL then NULL 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
- ODDLPRICE - Price of a bond with an odd last 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
- YIELDMAT - Yield on an interest-at-maturity security
- YIELDSTEP - Yield of a security with step-up rates