

Bond Yield Using Excel

Bond yields can be easily calculated using the rate function in Excel. The Rate function can be found under the financial category. The inputs are similar to a financial calculator.

Bond Yield Example:

Calculate the yield to maturity on a 6 year bond with a 5% coupon, a market value of \$990, and a face value of \$1000.

The image shows the 'Function Arguments' dialog box for the Excel RATE function. The dialog has a blue title bar with a question mark and a close button. Inside, the 'RATE' function is selected. The arguments are: Nper: 6, Pmt: 50, Pv: -990, Fv: 1000, Type: 0. To the right of each input field is a small icon and a formula bar showing the value (e.g., =6, =50, =-990, =1000, =0). Below the arguments, the text reads: 'Returns the interest rate per period of a loan or an investment. For example, use 6%/4 for quarterly payments at 6% APR.' Below this, a note states: 'Fv is the future value, or a cash balance you want to attain after the last payment is made. If omitted, uses Fv = 0.' At the bottom, the 'Formula result =' is shown as '5%'. There are 'OK' and 'Cancel' buttons at the bottom right, and a 'Help on this function' link at the bottom left.

Argument	Value
Nper	6
Pmt	50
Pv	-990
Fv	1000
Type	0

Formula result = 5%

Nper is the total number of periods. This bond matures in 6 years.

Pmt is the annual coupon payment. This bond pays 5% annually and it has a face value of \$1000. The annual coupon payment is \$50.

Pv is the present value or market value of the bond. This bond has a market value of \$990.

Fv is the future value or face value of the bond. This bond has a face value of \$1000

Type is used to define the timing of the payments. If the payments are made at the beginning of the period enter 1. If the payments come at the end of the period leave blank or enter 0. Coupon

Note that the present value is negative while the payment and future values are positive. The present value is negative because this is a payment for the bond, and the future value and payments are positive because these are payments you receive.