

FV

Updated: 31 Mar 2016

Use the scalar valued function **FV** to calculate the future value of an investment based on periodic, constant payments and a constant interest rate.

Syntax

```
Public Shared Function FV(  
    ByVal Rate As Double,  
    ByVal Nper As Double,  
    ByVal Pmt As Double,  
    ByVal PV As Double,  
    ByVal Pay_type As Integer,)
```

Arguments

Rate

the interest rate per period. *Rate* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Nper

the total number of periods in the annuity to be calculated. *Nper* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Pmt

the periodic payment amount. *Pmt* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

PV

the present value of the annuity. *PV* is an expression that returns a **Double**, or of a type that can be implicitly converted to **Double**.

Pay_type

the number 0 or 1 and indicates when payments are due. *Pay_type* is an expression that returns an **Integer**, or of a type that can be implicitly converted to **Integer**.

Set *Pay_type* equal to

0

1

If payments are due

At the end of a period

At the beginning of a period

Return Type

Double

Remarks

- If *Pay_type* is equal to 0, *FV* is calculated as:
 - $FV = (((1+rate)^{nper}-1)/rate)*-pmt+(((1+rate)^{nper})*-pv)$
- If *Pay_type* is equal to 1, *FV* is calculated as:
 - $FV = (((1+rate)^{(nper+1)}-(1+rate)))/rate*-pmt+(((1+rate)^{nper})*-pv)$
- It is important to be consistent with the units for *Rate* and *Nper*. For example if payments are to be paid monthly, then *Rate* should be the monthly rate, which can be specified as the annual rate divided by 12. If payments are made quarterly, divide the annual rate by 4. If payments are made semi-annually, divide the annual rate by 2.

See Also

- CUMODDFIPMT - Cumulative interest on the periodic annuity payments between a start period and an end period
- CUMODDFPPMT - Cumulative principal on the periodic annuity payments between a start period and an end period
- FVGA - Future Value of a Growing Annuity
- FVSCHEDULE - Future Value based on Compound Rates
- NOMINAL - Annual Nominal Interest Rate
- NPER - Number of Periods
- NPERGA - Number of Periods of a Growing Annuity
- ODDFIPMT - Interest portion of a periodic payment for an annuity with an odd first period
- ODDFPMT - Periodic payment for an annuity with an odd first period
- ODDFPMTSCHED - Generate Amortization schedule for an annuity with odd first period
- ODDFPPMT - Principal portion of a periodic payment for an annuity with an odd first period
- ODDFPV - Present value of an annuity with an odd first period
- ODDFRATE - Periodic interest rate for an annuity where the first period is longer or shorter than the other periods
- ODDPV - Present value of an annuity with an odd first period
- PMTGA - Initial Payment of a Growing Annuity
- PV - Present Value
- PVGA - Present Value of a Growing Annuity
- RATE - Interest Rate of an Annuity