Financial Aggregation Functions in Charts

irr(`[[set_expression] `***total*** `[<fld {,fld}>] ] expression`**)**

returns the aggregated internal rate of return for a series of cash flows represented by the numbers in expression iterated over the chart dimension(s). These cash flows do not have to be even, as they would be for an annuity. However, the cash flows must occur at regular intervals, such as monthly or annually. The internal rate of return is the interest rate received for an investment consisting of payments (negative values) and income (positive values) that occur at regular periods. The function needs at least one positive and one negative value to calculate. Text values, null values and missing values are disregarded. See also the *rangeirr(value { ,value})* function.

Expression must not contain aggregation functions, unless these inner aggregations contain the **total** qualifier. For more advanced nested aggregations, please use the *Advanced Aggregation* function in combination with calculated dimensions, see *Add calculated dimension...* .

If the word **total** occurs before expression the calculation will be made over all possible values given the current selections but disregarding the chart dimension variables.

The **total** qualifier may be followed by a list of one or more field names within angle brackets. These field names should be a subset of the chart dimension variables. In this case the calculation will be made disregarding all chart dimension variables except those listed, i.e. one value will be returned for each combination of field values in the listed dimension fields. Also fields which are not currently a dimension in a chart may be included in the list. This may be useful in the case of group dimensions, where the dimension fields are not fixed. Listing all of the variables in the group causes the function to work when the cycle or drill-down level changes.

Examples:

```
irr( Payments )
irr( X*Y/3 )
irr( total Payments )
irr( total <Grp> Payments )
```

xirr (`[set_expression][ `***total*** `[<fld {,fld}>] ] valueexpression, dateexpression`**)**

returns the aggregated internal rate of return for a schedule of cash flows (that is not necessarily periodic) represented by paired numbers in *valueexpression* and *dateexpression* iterated over the chart dimension(s). All payments are discounted based on a 365-day year. Text values, null values and missing values in any or both pieces of a data-pair will result in the entire data-pair to be disregarded. See also the *rangexirr(value, date { ,value, date})* function.

Valueexpression and *dateexpression* must not contain aggregation functions, unless these inner aggregations contain the **total** qualifier. For more advanced nested aggregations, please use the *Advanced Aggregation* function in combination with calculated dimensions, see *Add calculated dimension...* .

If the word **total** occurs before the function arguments the calculation will be made over all possible values given the current selections but disregarding the chart dimension variables.

The **total** qualifier may be followed by a list of one or more field names within angle brackets. These field names should be a subset of the chart dimension variables. In this case the calculation will be made disregarding all chart dimension variables except those listed, i.e. one value will be returned for each combination of field values in the listed dimension fields. Also fields which are not currently a dimension in a chart may be included in the list. This may be useful in the case of group dimensions, where the dimension fields are not fixed. Listing all of the variables in the group causes the function to work when the cycle or drill-down level changes.

Examples:

```
xirr( Payments, Dates )
xirr( A/B, X*Y/3 )
xirr( total Payments, Dates )
```

```
     xirr( total <Grp> Payments, Dates)
```

npv ([set_expression][*total* [<fld {,fld}>]] *rate, expression* **)**

returns the aggregated net present value of an investment based on a discount *rate* and a series of future payments (negative values) and incomes (positive values) represented by the numbers in *expression* iterated over the chart dimension(s). The result has a default number format of money. Rate is the interest rate per period. The payments and incomes are assumed to occur at the end of each period.Text values, null values and missing values are disregarded. See also the **rangenpv** function.

Rate and expression must not contain aggregation functions, unless these inner aggregations contain the **total** qualifier. For more advanced nested aggregations, please use the *Advanced Aggregation* function in combination with calculated dimensions, see *Add calculated dimension...* .

If the word **total** occurs before the function arguments the calculation will be made over all possible values given the current selections but disregarding the chart dimension variables.

The **total** qualifier may be followed by a list of one or more field names within angle brackets. These field names should be a subset of the chart dimension variables. In this case the calculation will be made disregarding all chart dimension variables except those listed, i.e. one value will be returned for each combination of field values in the listed dimension fields. Also fields which are not currently a dimension in a chart may be included in the list. This may be useful in the case of group dimensions, where the dimension fields are not fixed. Listing all of the variables in the group causes the function to work when the cycle or drill-down level changes.

Examples:

```
npv( 0.1, Payments )
npv( 0.1, X*Y/3 )
npv( total 0.1, Payments )
npv( total <Grp> 0.1, Payments )
```

xnpv ([set_expression][*total* [<fld {,fld}>]] *rate, valueexpression, dateexpression***)**

returns the aggregated net present value for a schedule of cash flows (not necessarily periodic) represented by paired numbers in *valueexpression* and *dateexpression* iterated over the chart dimension(s). *Rate* is the interest rate per period. The result has a default number format of money. All payments are discounted based on a 365-day year. Text values, null values and missing values in any or both pieces of a data-pair will result in the entire data-pair to be disregarded. See also the *rangexnpv(rate, value, date { ,value, date})* function.

Rate, *valueexpression* and *dateexpression* must not contain aggregation functions, unless these inner aggregations contain the total or all qualifiers. For more advanced nested aggregations, please use the *Advanced Aggregation* function in combination with calculated dimensions, see *Add calculated dimension...* .

If the word **total** occurs before a field the calculation will be made over all possible values given the current selections but disregarding the chart dimension variables.

The **total** qualifier may be followed by a list of one or more field names within angle brackets. These field names should be a subset of the chart dimension variables. In this case the calculation will be made disregarding all chart dimension variables except those listed, i.e. one value will be returned for each combination of field values in the listed dimension fields. Also fields which are not currently a dimension in a chart may be included in the list. This may be useful in the case of group dimensions, where the dimension fields are not fixed. Listing all of the variables in the group causes the function to work when the cycle or drill-down level changes.

Examples:

```
xnpv( 0.1, Payments, Dates )
xnpv( 0.1, A/B, X*Y/3 )
xnpv(total 0.1, Payments, Dates )
xnpv(total <Grp> 0.1, Payments, Dates)
```

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