

MS-OFFICE 2007

English version

EXCEL

Charts

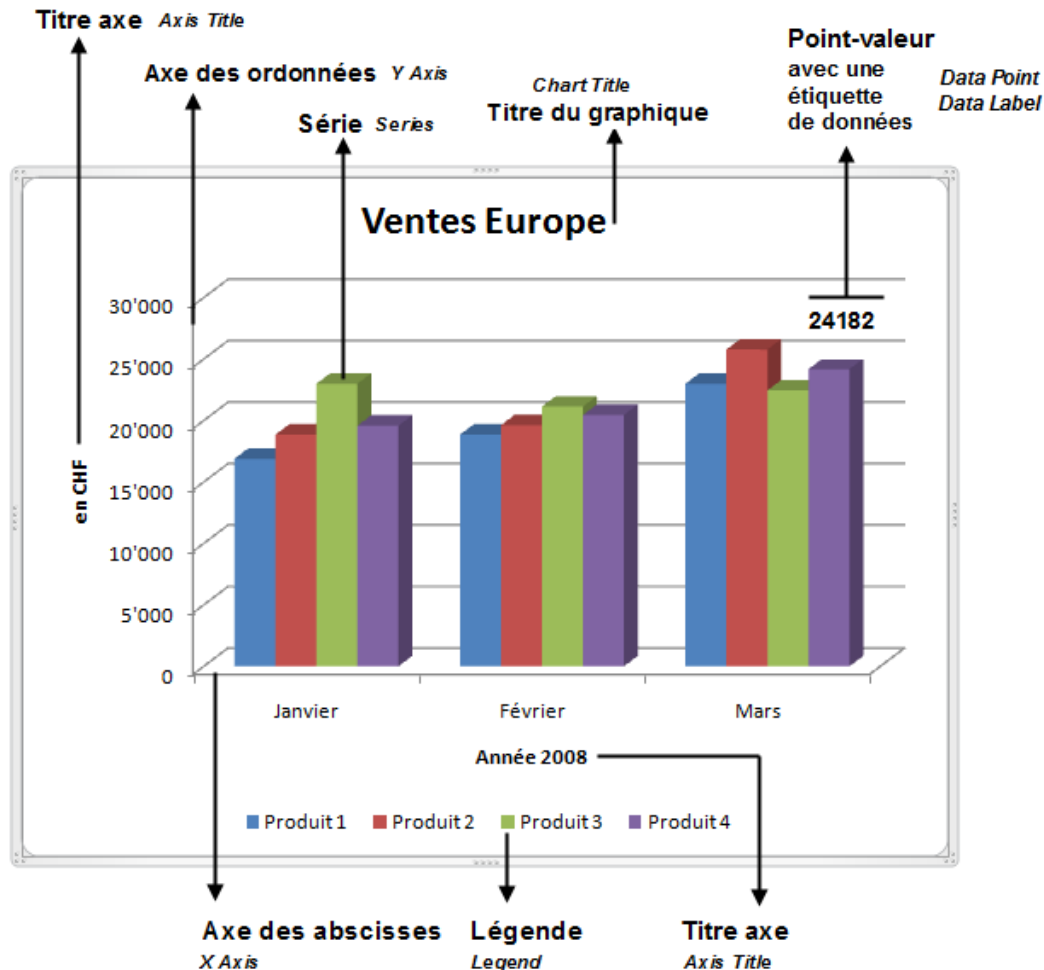
Table of contents

1	Generalities	3
1.1	Words specific to charts	3
1.2	What should you select to create a chart ?	3
2	Creating the chart and choosing its type	4
2.1	Creating	4
2.2	Location, size and deletion	5
3	The DESIGN Tab	6
3.1	Modifying the chart type (the whole chart or a series)	6
3.2	Switching row/column	6
3.3	Managing the source data	7
3.3.1	Source range of cells	7
3.3.2	Switch Row/Column	8
3.3.3	Add or delete a series, manage empty or hidden source cells	8
3.4	Chart layouts	11
3.5	Styles	11
3.6	Chart location	11
4	The LAYOUT Tab - I : managing the items (general)	12
4.1	Selecting an item	12
4.2	Titles, legend, data labels, data table, axes, gridlines and plot area	12
4.3	3D charts : particularities	13
4.4	Pie charts : particularities	14
4.5	Inserting pictures or shapes	15
5	LAYOUT Tab - II : working more specifically on given items	16
5.1	Options for the titles, the axes, the legend, the gridlines or the plot area	16
5.2	Options for data labels	17
5.3	Options for the X horizontal axis	18
5.4	Options for the Y vertical axis	21
5.5	Data table options	23
5.6	Options for series	23
5.6.1	General options	23
5.6.2	Secondary axis (available for many types of charts but particularly common for column charts)	24
5.7	Analysis tools : lines, bars, error bars and trendline	25
5.7.1	Adding projection lines to a chart (line type)	25
5.7.2	Adding error bars	27
5.7.3	Adding a trend line	28
6	FORMAT Tab : working on the item format	30
6.1	FORMAT Tab or FORMAT dialog box ?	30
6.2	The SHAPE STYLES Group : fill, border, outline	30
6.3	The WORDART STYLES group : when the item contains text	32
6.4	Resetting the original style after modifications	33
6.5	Foreground and background, selection pane, alignment, size and chart properties	33
6.5.1	Arrange group	33
6.5.2	Size group	34
7	Creating a template (customization)	35
7.1	Saving a chart as a template	35
7.2	Creating a chart based onto a template	35
7.3	Managing templates	36
7.4	Setting a chart as default chart	36

8	Printing the chart	36
9	Less common chart types : examples	37
9.1	Bar chart	37
9.2	Area chart	38
9.3	Scatter chart	39
9.4	Radar chart.....	40
9.5	Stock chart.....	41
9.6	Bubble chart.....	42

1 Generalities

1.1 Words specific to charts



The Y axis displays the series *values* (*figures*)

The X axis displays the *categories* (« *the analysis ratio* » - *timely or other*)
(exception : bar, XY(scatter) and bubble charts)

1.2 What should you select to create a chart ?

Select :

- What will become the X axis (horizontal) categories
- What will become the Y axis (vertical) and the series (the figures)
- The figures labels that will generate the legend

Excel will try to build the chart using your selection. To determine the future X and Y axis, Excel expects to find dates. They will be automatically considered as a timely analysis and will become the X axis of categories.

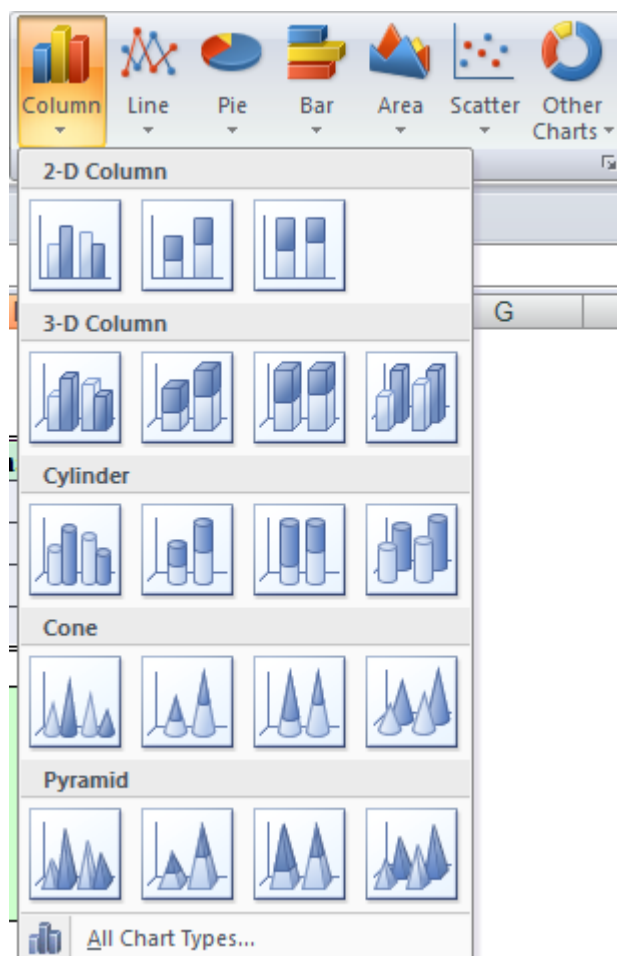
But caution, if it is easy for Excel to recognize a *Jan-08*, it is impossible for Excel to understand *Qtr 1, Zone 1* etc. In this latter case, Excel will proceed according to the number of rows and columns. The highest number is systematically understood as the future X axis.

If what Excel automatic creates is not what you expect and need, the commands related to charts include a *Switch Row/Column* option. This was done in the chart in the previous screen capture because *January, February, March* did not mean much to Excel. *Jan-08, Feb-08* would have been better understood ...

2 Creating the chart and choosing its type

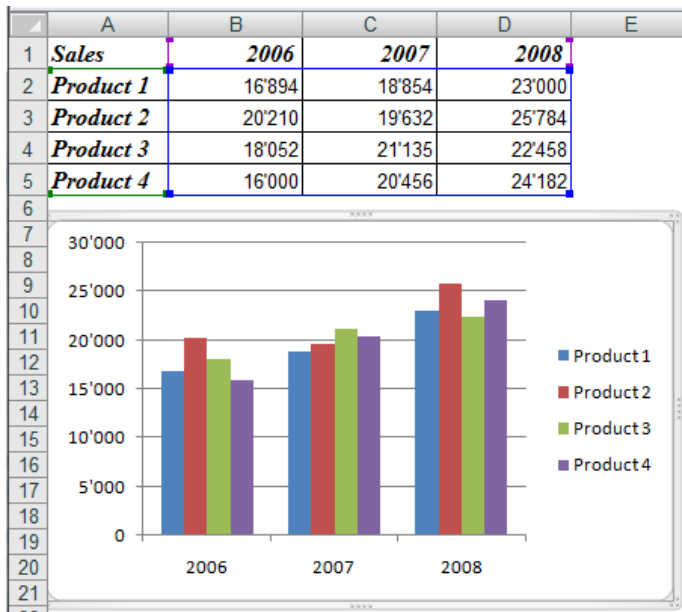
2.1 Creating

- Select the data
- Choose the type : INSERT Tab – CHARTS Group



The ALL CHART TYPES option displays a dialog box listing all the possible types as well as user-defined templates. You may also set the current chart as your *default chart*. This will be explained later in the documentation.

Note for users of previous versions : no more Wizard – the chart is automatically created as a graphic object on the sheet.




*
2006, 2007 and 2008 have not been typed as such but rather 1.1.2006 to which a custom "aaaa" format has been applied.

The chart will be automatically created and placed onto the Excel worksheet containing the data. The default colors are from the current theme.

When you select the chart, the source data is automatically displayed with a colored border : *in green the series name, in violet the categories (the X axis labels) and in blue the series figures (the actual data).*

The chart is always linked to its source data. Any change in the source data and the chart will be automatically updated accordingly.

The Ribbon displays three additional tabs : **DESIGN – LAYOUT and FORMAT**. These tabs contain all commands related to charts.

 Keyboard shortcuts to create a chart : select the data and **ALT + F1** for an **embedded chart** (on the same sheet containing the source data) and **F11** for a **chart in full page** (a new chart sheet is created). By default : the previous shortcuts create a column chart.

2.2 Location, size and deletion

The chart is an *object*, you may manage it as any standard drawn shape, picture and so on.

Location : click and drag the chart as required, but make sure not to drag a sizing handle or an inside element. (if you right click and drag the chart, a shortcut menu will be displayed and will offer the choice between *moving* or *copying*. If you click and drag the chart while pressing the ALT key, you will follow the underlying cells).

Size : click and drag a sizing handle. These handle are the three little dots located at each corner of the chart and also in the middle of each side. There is no problem of proportionality as with pictures.

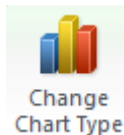
Delete : click anywhere else than onto an inside item (border, white area ...) and press the DELETE key.

3 The DESIGN Tab

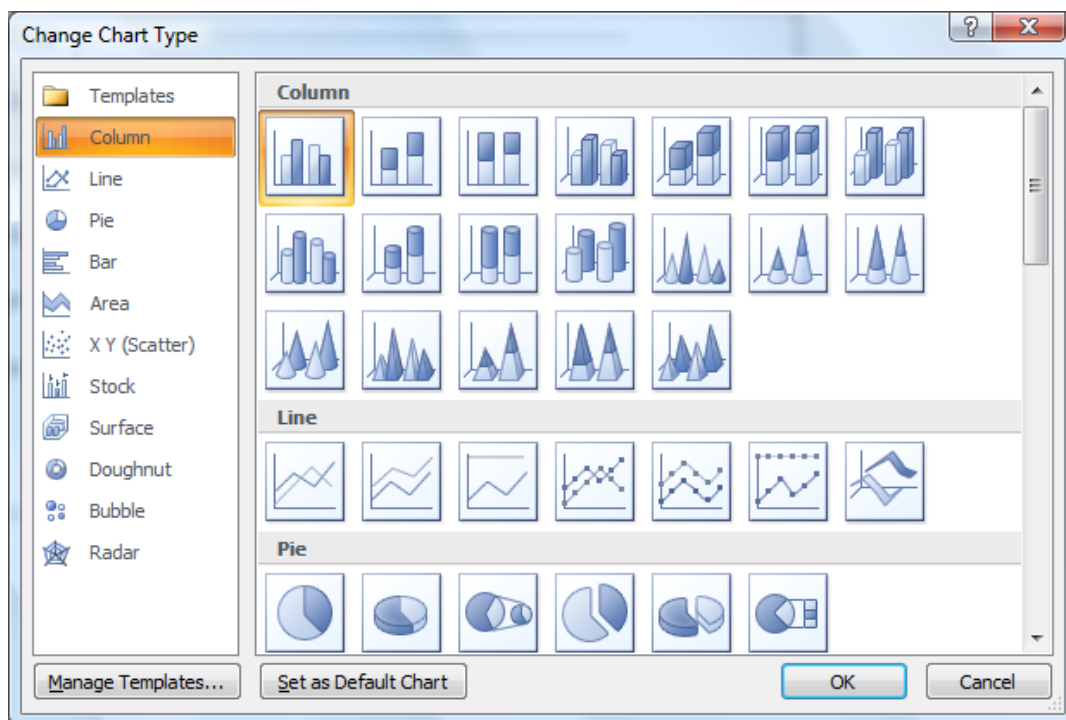
3.1 Modifying the chart type (the whole chart or a series)

The change can affect the whole chart or only a given series. It depends on your active selection : select the chart for a global change, select a series to change only this series ...


Button



The following dialog box will be displayed :

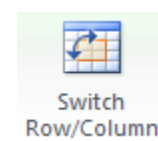


Make your choice. There are some less common chart types at the end of this documentation.

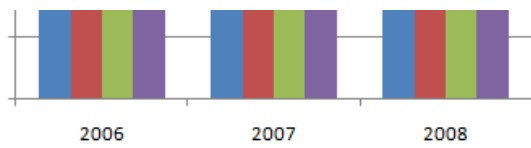
 To modify more than one series, no multiple selection using the CTRL key. It will have to be done series by series (even though the chart type is the same).

3.2 Switching row/column

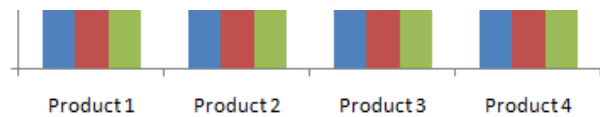
When Excel's *automatic* building is not what you need, simply click on the following button :



Excel will switch from :



to :

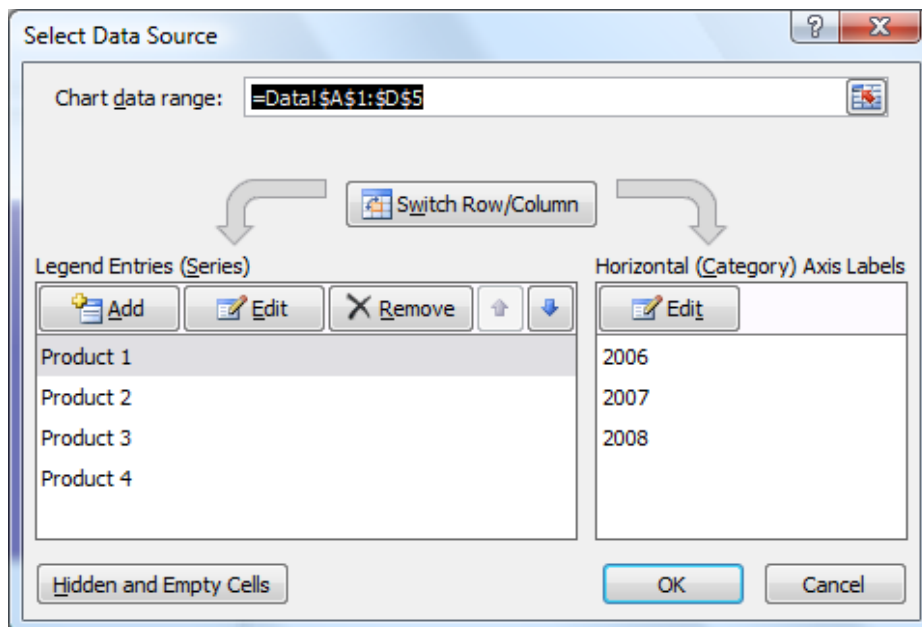


3.3 Managing the source data

Button :



Dialog box:



3.3.1 Source range of cells

Chart data range:

Check the source data
Can be modified as needed.

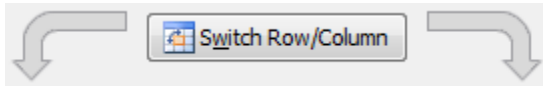
Directly on the worksheet : no need to use the above dialog box to modify the source range of cells. If you select the chart, the source data are automatically displayed with a colored border (like formula precedents). Click on the border line or handle either to change it or resize it.

Sales	2006	2007	2008
Product 1	16'894	18'854	23'000
Product 2	20'210	19'632	25'784
Product 3	18'052	21'135	22'458
Product 4	16'000	20'456	24'182

Point a corner and drag to *size*.

Point the border and drag to *move*

3.3.2 Switch Row/Column



Same as the SWITCH ROW/COLUMN button

3.3.3 Add or delete a series, manage empty or hidden source cells

Legend Entries (Series)

ADD and EDIT Buttons

Whatever you want to do, the dialog box is the same.

Select the required series (to add or to modify)

	A	B	C	D
1	Sales	2006	2007	2008
2	Product 1	16'894	18'854	23'000
3	Product 2	20'210	19'632	25'784
4	Product 3	18'052	21'135	22'458
5	Product 4	16'000	20'456	24'182
6	Product 5	20'000	21'000	25'000
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

Edit Series

Series name: = Product 1

Series values: = 16'894; 18'854...

OK Cancel

The dialog box displays the source data for the series name and its figures. Can be changed as needed.

Adding without going through the above dialog box : it is also possible – and certainly more comfortable – to select the series on the sheet (name and figures) and copy-paste directly inside the chart. The series is automatically added.

You can even modify by clicking on the series and changing the arguments of the SERIE(...) function in the formula bar.

REMOVE Button

Caution : no confirmation message

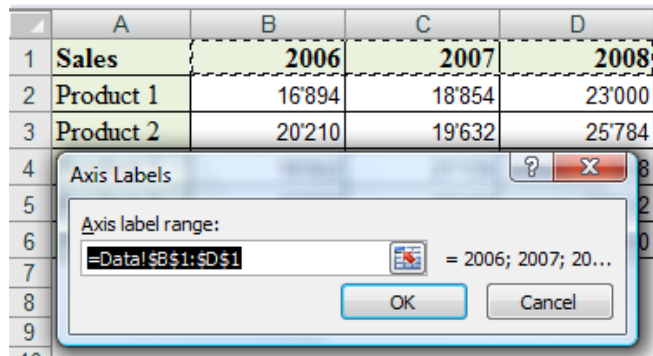
Arrows

To change the series order in the chart (and not in the source data).

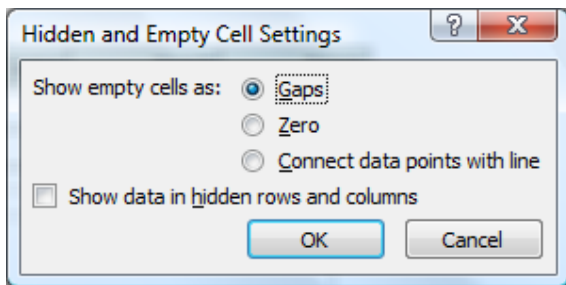
Horizontal (Category) Axis Labels

EDIT Button

Same as for series but applied to the labels of the category axis.

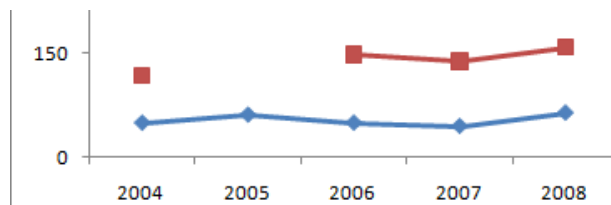


HIDDEN AND EMPTY CELLS Button

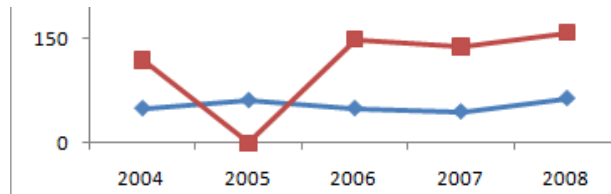


These options are particularly striking for line charts.

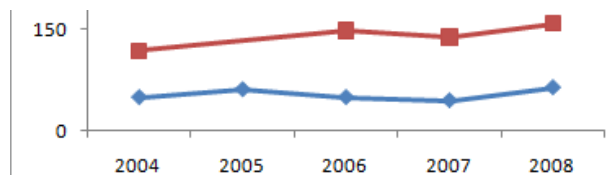
Gap



Zero

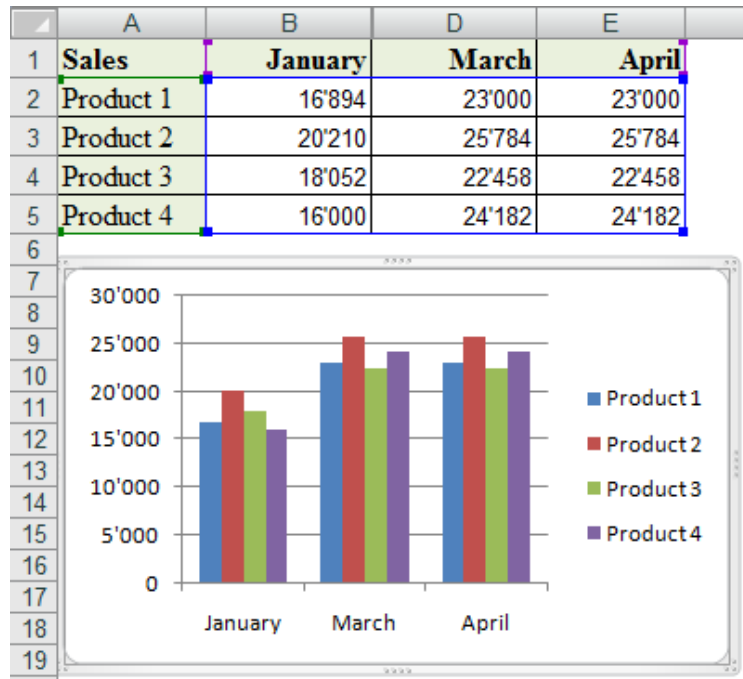


Connect data points with line



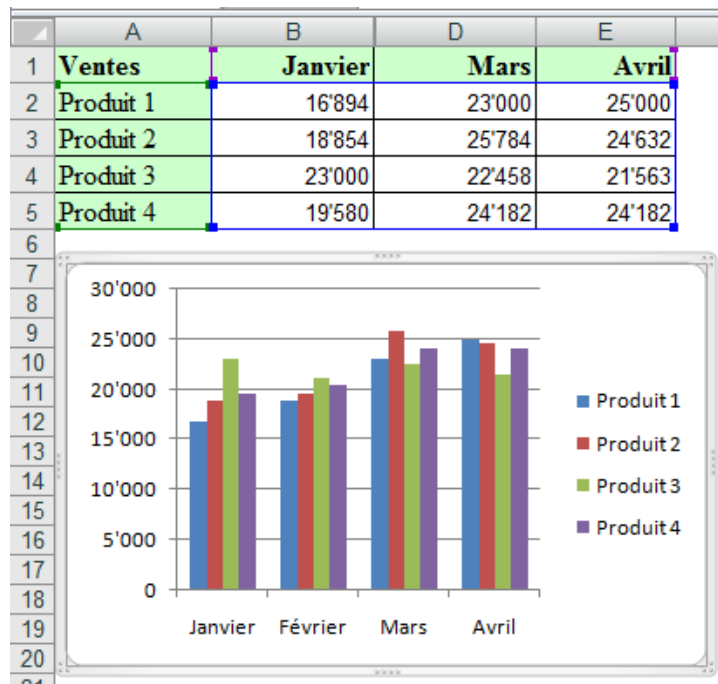
Show data in hidden rows and columns

When a chart source data contains hidden rows or columns, Excel automatically* omits what is hidden :
 (*sometimes does not work with special chronological data)

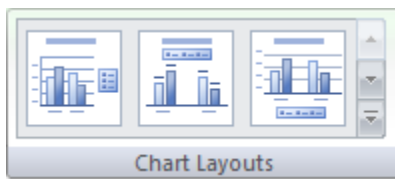


If you unhide the hidden column, it will be automatically displayed in the chart.

If you turn on the option, you can display the hidden column in the chart without displaying it in the data sheet :



3.4 Chart layouts



displays the following gallery :



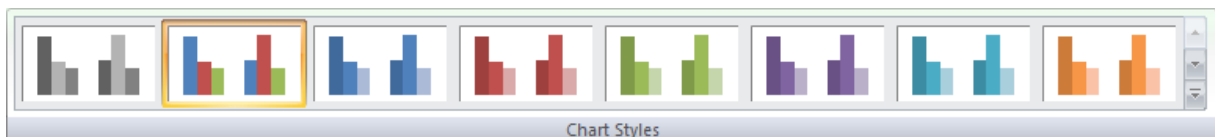
Each sample corresponds to a "chart setup" for the inside items : chart title displayed or omitted, legend below the title or at the bottom and so on.

A little bit difficult to preview the result because the samples are very small and there is not real-time preview.

But it is also possible to insert these items manually (chart title, axis titles ...).

3.5 Styles

The Chart Styles gallery :

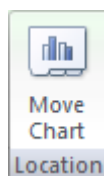


Expand the gallery to view all the possibilities (no real-time preview)

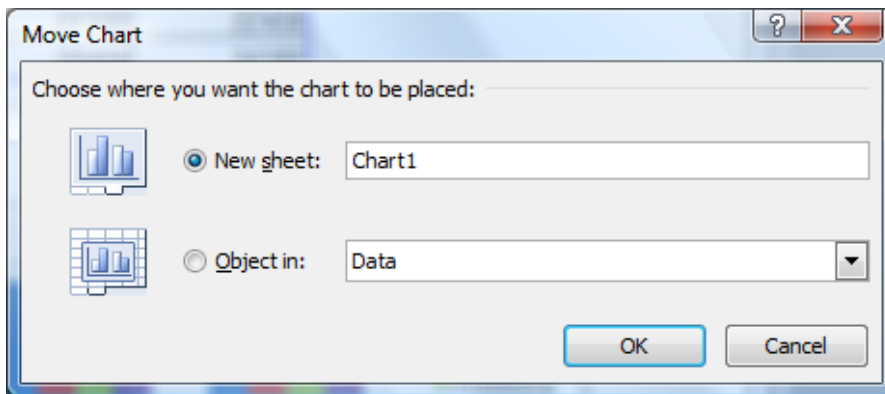
Theme : the gallery colors are shadings of the current theme.

3.6 Chart location

Group



Here below the dialog box :



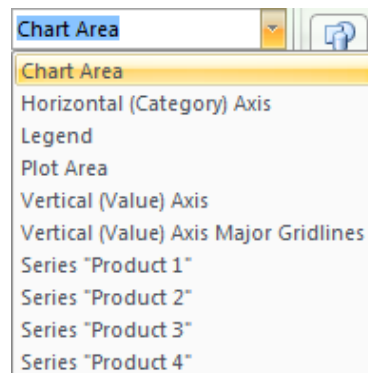
By default Excel creates a chart that is an *object*. You may remove it and replace it by a *full page* chart. Excel will create a new sheet and you may name the sheet directly into the above dialog box. The chart will occupy the whole screen. *Particularly appropriate when data is important or to get a better display for 3D charts.*

4 The LAYOUT Tab - I : managing the items (general)

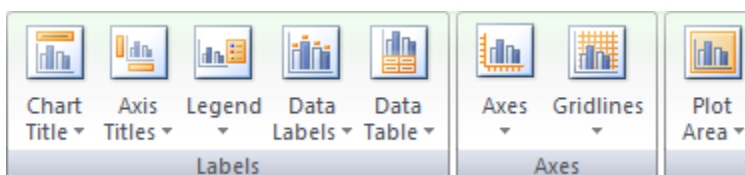
4.1 Selecting an item

Click the item *or*
Cursor arrows *or*

Use the following selection drop-down menu :



4.2 Titles, legend, data labels, data table, axes, gridlines and plot area

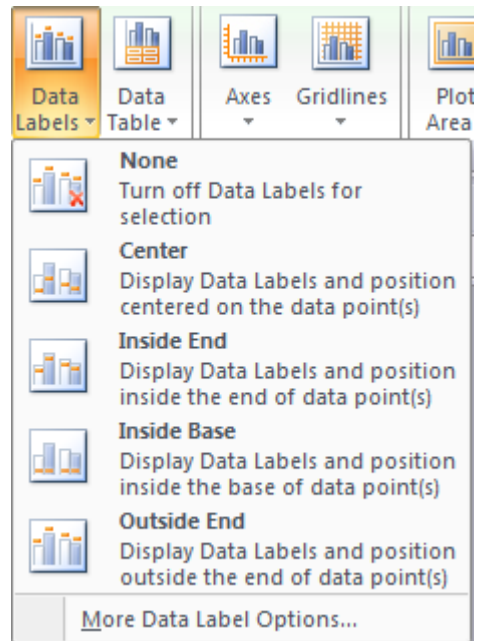


Unless you want to work on data labels, it is not necessary to select anything.

Data labels : select the chart to add labels to *all series* and select a given series to add labels to all *its data points* ...

Each button provides various preset suggestions.

Here below the DATA LABELS drop-down list of suggestions :



The preset suggestions correspond to standard settings. If you need something more special, click on the MORE XXXX OPTIONS option at the bottom of the drop-down list (explained later).

4.3 3D charts : particularities

Some options will become available :

The button of the BACKGROUND group :

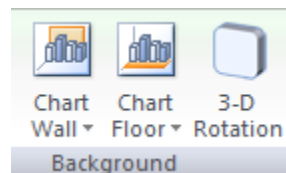
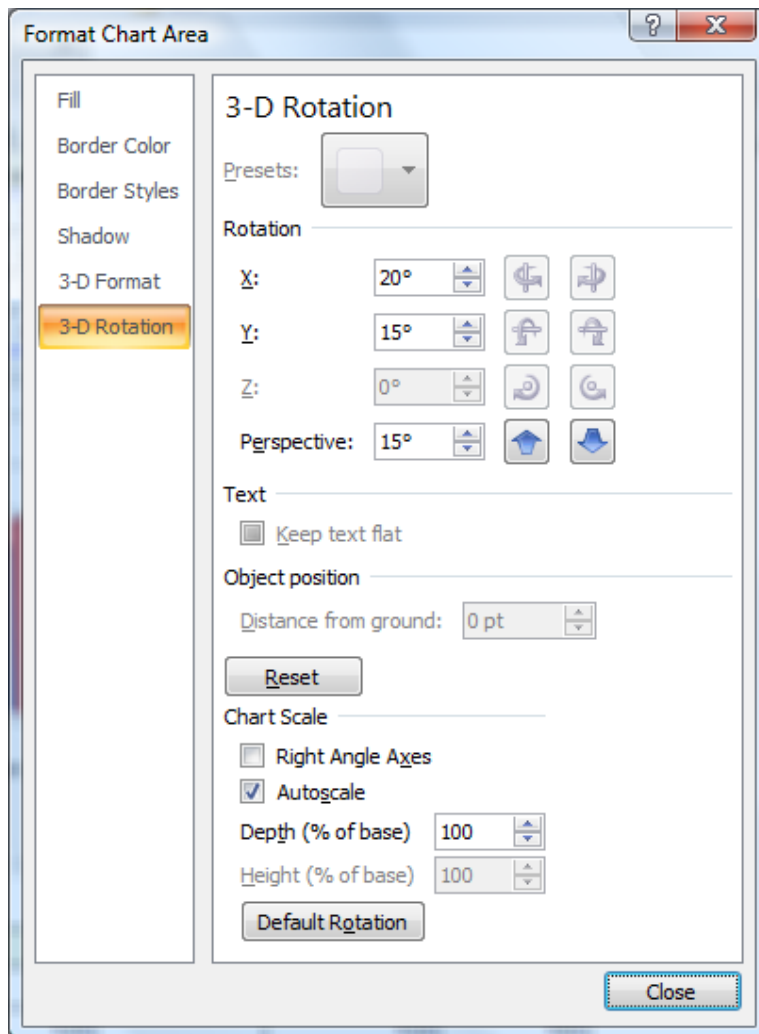


Chart Wall and *Chart Floor* offer standard format options (fill color, shadow, border etc ...) that are explained later in this documentation.

3D Rotation provides the following options :
(their availability depends on the type of 3D chart you have applied)



The effects are visual, so it is difficult to describe each option. Make some tests and see how they affect your chart.

Perspective : the smallest number (0) is identical to having a parallel camera, and the largest number (120) produces the most exaggerated perspective, similar to what is produced with a wide-angle camera.

Keep text flat : to avoid that the text inside a shape rotates when the shape rotates.

Click on the DEFAULT ROTATION button to reset the *rotation* settings to default (20/15).

RESET button : last tests = no effect

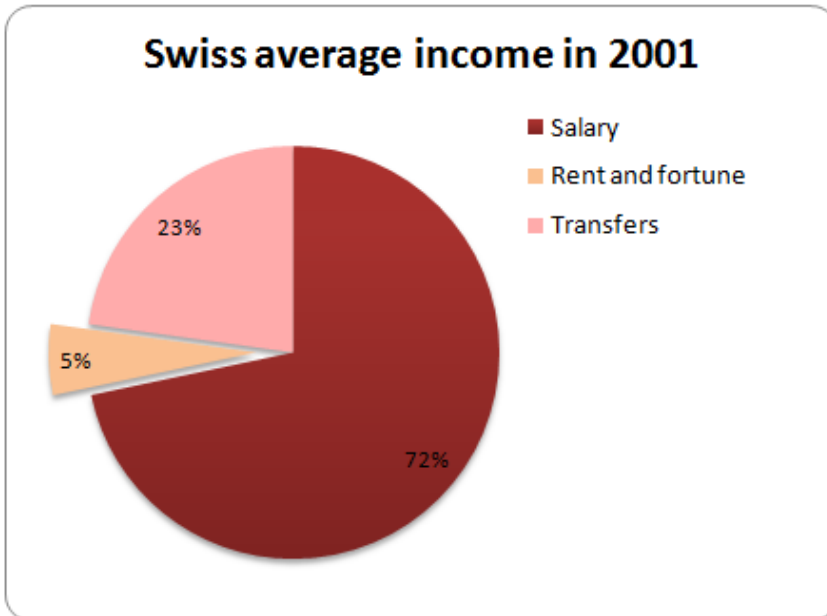
4.4 Pie charts : particularities

Pie charts show the size of items in *one data series*, proportional to the sum of the items. This is why if you select more than one series, you can create a pie chart but it will display the items proportionally to the *total sum (and not series by series)*.

2 **2001 : Average income for a standard**
 3 **Swiss family - main items**

5	Average income in SFrs	SFr.	8'797.00
7	Composition	in %	
8	Salary		71.70%
9	Rent and fortune		5.50%
10	Transfers		22.80%

11
 12 **Rent and fortune** = interests and rent of properties
 13 **Transfers** = AVS/AI and caisses de pension rents



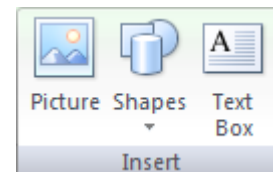
Pulling out slices

All slices : select the chart and drag the mouse outside
One slice : select the required data point and drag it outside

4.5 Inserting pictures or shapes

The buttons from the INSERT group

Really these items have nothing to do with charts but are often added to them.



Particularities to mention

When you insert a picture or a shape the ribbon automatically displays the FORMAT Tab (from the PICTURE TOOLS if you have inserted a picture and from the DRAWING TOOLS if you have inserted a shape). The options are similar to those of the FORMAT Tab for charts.

Other particularities

Picture

Caution : you will have the impression that you do not insert a picture inside the chart but that you replace the chart with a picture. And if you try to size the picture, you actually size the chart

Solution : double-click the picture and set its size manually (PICTURE TOOLS - FORMAT Tab – SIZE Group)

Shapes and text boxes

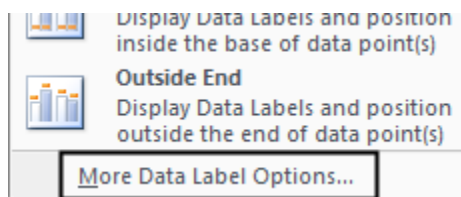
What you have selected before is most important :

You have selected the chart : the shape belongs to the chart. If you move the chart, the shape automatically comes along.

You have selected a cell on the sheet : the shape belongs to the worksheet. If you move the chart, the shape will not move.

5 LAYOUT Tab - II : working more specifically on given items

Display the dialog box generated by the MORE XXX OPTIONS ... command, at the bottom of the previous drop-down lists – such as this one :



Other possible access :

1. Right click the item and choose the *Format ...* option
2. LAYOUT Tab - CURRENT SELECTION Group - FORMAT SELECTION Button

In the dialog box : real-time preview only when you modify a given setting and then switch to another one.

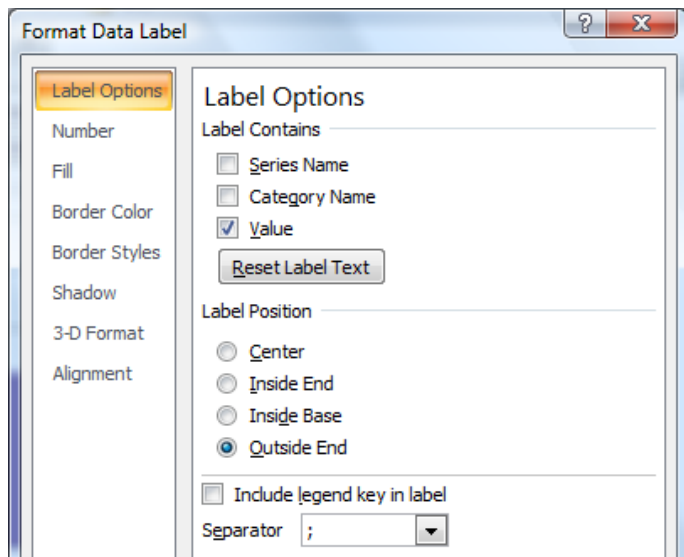
Comment : it is important to mention that when you combine several options, the result will depend on the type of chart. If the type is not the appropriate one, you will have the impression that "it does nothing" or "the result is strange".

5.1 Options for the titles, the axes, the legend, the gridlines or the plot area

No options other than the standard formatting attributes such as border, fill or settings already present on the item drop-down list.

 *The plot area* : sizing it is handy because you can size the chart only rather than the chart object.

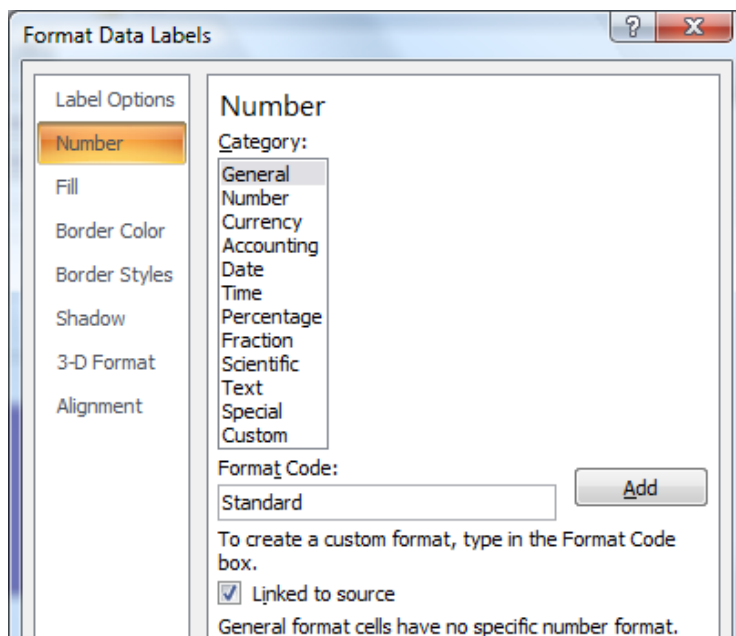
5.2 Options for data labels



The *Label Contains* group will let you choose which kind of information you need to display

The *Label Position* group corresponds to the drop-down list of options of the DATA LABELS button.

Activate *Include legend key in label* to add the legend symbol (square in the series color).



Category

The standard number formats.

Linked to source

On by default as the source number format is automatically applied to the axes labels (X and Y).

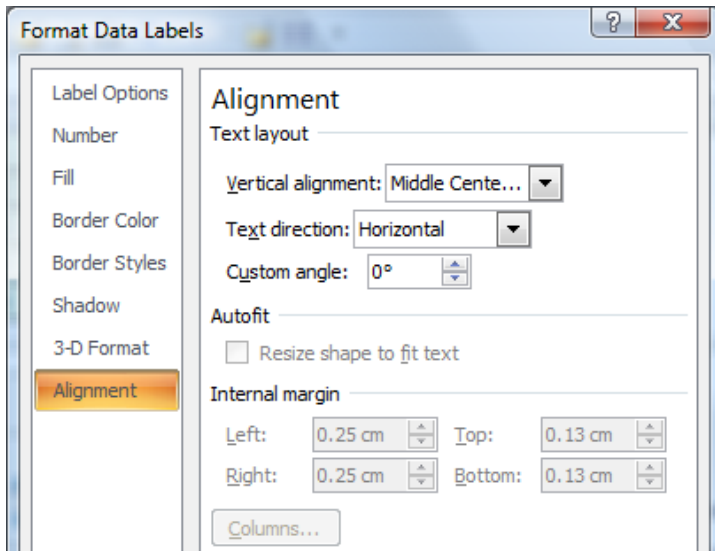
Turning off this option implies that you will use a *custom* format (independent and applied only to the axis labels)

List of categories : Custom

When you click on this option, the right part of the dialog box displays the codes to create formats. Make sure you click on the ADD button to memorize your new format. It will be added to the list and can be used later on for the data labels of another series or for another chart. But please note that this custom format is not added to the custom formats of the *current worksheet*.

The *Linked to source* option is automatically turned off because custom formats are not linked to source data.

To revert to the default format, simply click again on the *Linked to source* option.



Position of the data labels : horizontal alignment and orientation.

Sample :



For this data label the choice was :

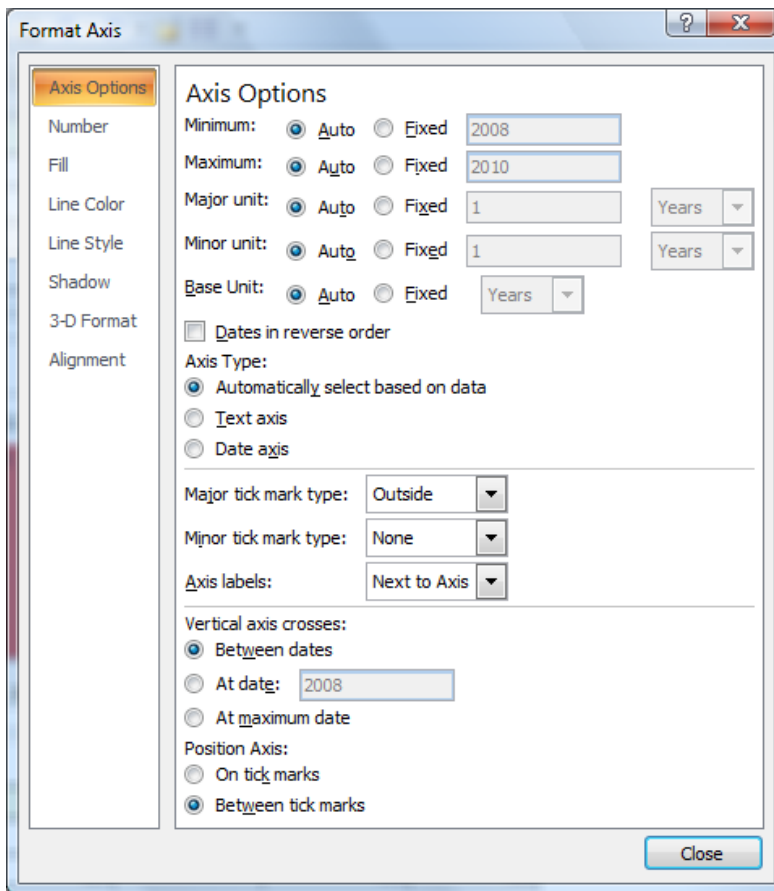
Label Options :

Label contains : *Value* and Label position : *Center*

Alignment :

Text layout : *Middle Center and Rotate all text 270° + a white fill*

5.3 Options for the X horizontal axis



Axis Options

The options can vary according to whether the categories are texts or dates

The axes options will let you set the start/end of the categories and the interval between. Choosing other intervals means that you will display only 1 label out of 2 or 3 ...

Dates in reverse order (if there are no dates, Excel will replace dates with categories)

The order is reverse. *For instance, a column chart will be represented from right to left, including axes.*

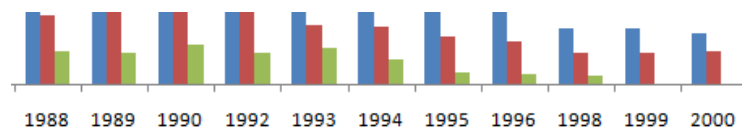
Label distance from axis (available only when categories are not dates)

A value from 0 to 1000. *Caution, the figure is significant but the actual distance isn't.*

Axis Type

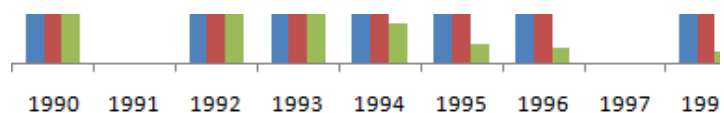
Excel automatically applies the type of axis that is appropriate to the nature of your data. Usually it is satisfactory. But sometimes, changing the type can be interesting.

Usual case : you have typed years but Excel did not manage to recognize them as "dates" (you may have simply typed 1985, 1986 ...). Moreover, the interval is not equal. Therefore Excel automatically applies a "text" axis as shown below ::



The interval between 1990 and 1992 is the same as between 1989 and 1990, which is not correct.

One solution would be to change the type of chart and switch to a scatter XY type but then the data will be represented by dots or lines, no other choice. If you want to keep the column chart, you can set the axis on « date » and Excel will take into account the years timeline :



Major tick mark type
Minor tick mark type

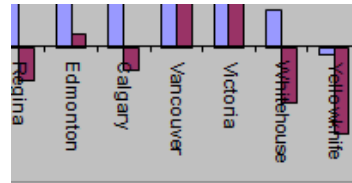
Position of the graduation mark on the axis line

Axis labels

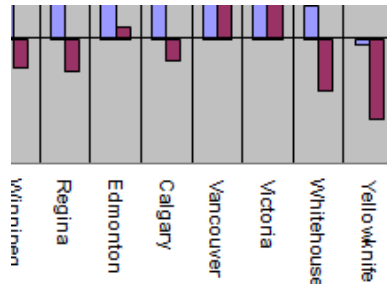
Position of the labels on the axis.

Low : a usual case : a column chart with negative values for some series.

Normal namely *Next to Axis*



Low



Vertical axis crosses

To change where the X and Y axis crosses.

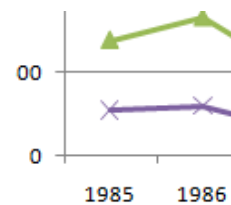
Caution, labels for the axis and for series may overlap.

Position Axis

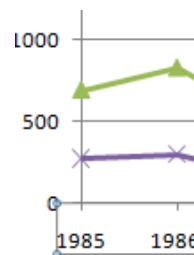
For 2D area, column and line charts.

Position of the data points and the axis labels versus the graduation marks. *Particularly interesting with lines. It will make the line «touch » the axis (at both ends).*

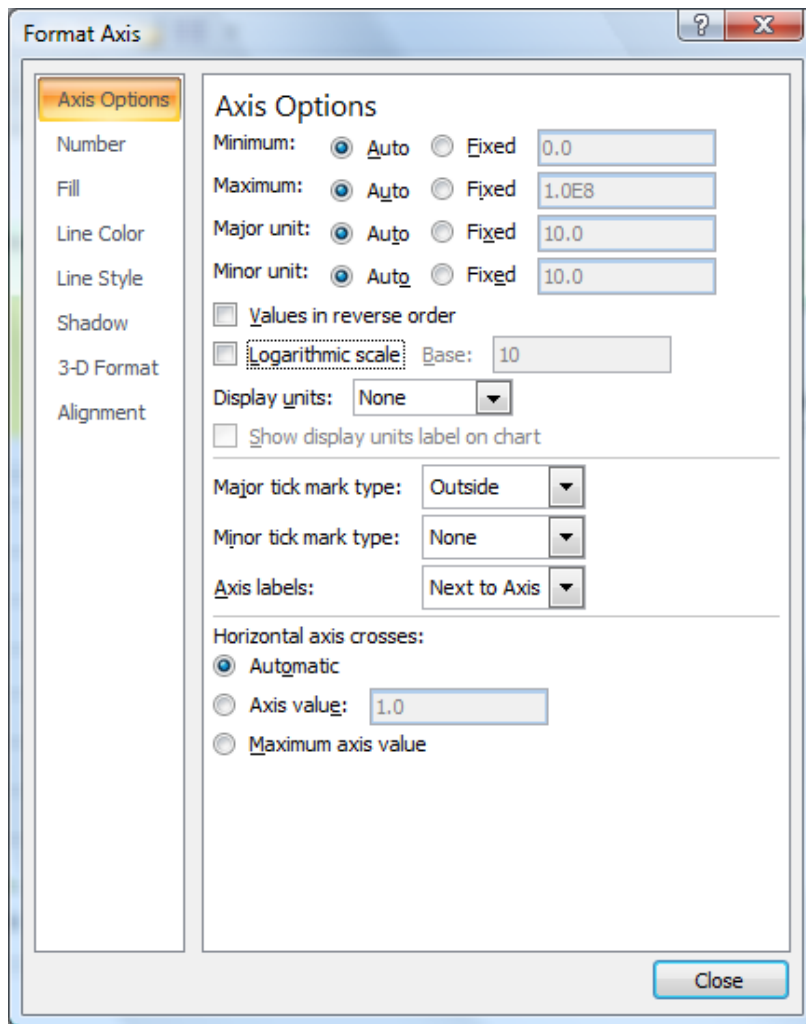
Between tick marks



On tick marks



5.4 Options for the Y vertical axis



Axis Options

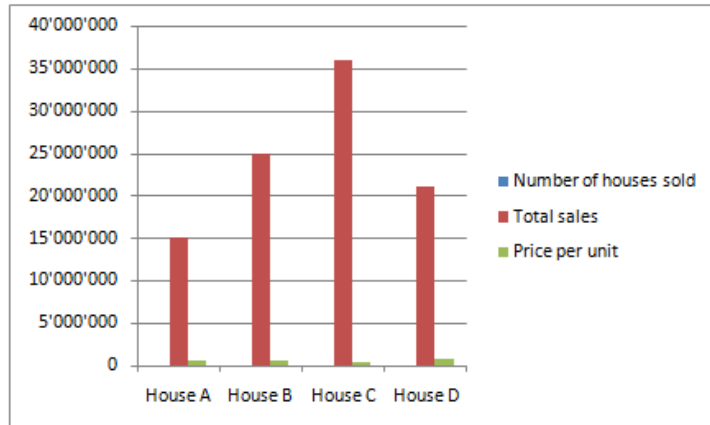
Start/end values and intervals

Values in reverse order

Caution : the result might surprise you. The X axis will automatically be placed at the top of the chart. The Y axis will have to be read from top to bottom.

Logarithmic scale

Usual case : the series figures are in total disproportion (hundreds and millions for example). With a "standard" chart the « small » series are on the « floor », hardly visible

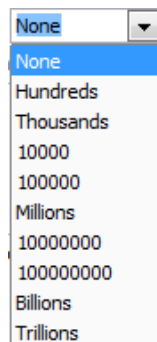


The same chart but with a logarithmic scale – basis 10 :



You can also add a secondary axis. See chapter on the subject.

Display units



Very handy when the figures are high and use up too much space next to the axis.

As soon as you choose a type of unit, a little informative text box will be displayed next to the axis.

Major / Minor tick mark type

Position of the graduation mark on the axis line.

Axis labels

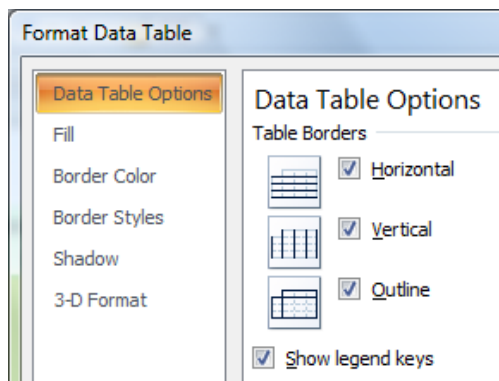
Position of the labels related to the axis. The result will depend on the type of chart. For a column chart, *High* will display them at the right of the chart

Horizontal axis crosses


Make your choice. Caution, if you cross at a higher value than the automatic one will show the figures below this crossing value as « negatives ». Series then overlap the category labels which is not very esthetic unless you set these labels as *Low*.
(screen capture on page 20)

5.5 Data table options

The data table will let you insert the source data directly inside the chart.
Advice : add the data table to a full page chart rather than to an object chart..



As you can notice : no many options
You can only work on the table borders and the legend keys.

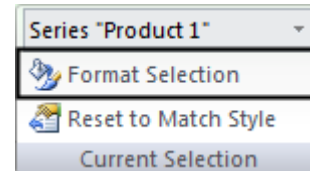
 Adding the data table is only possible for column, bar, line, area and stock charts. It is not possible for pie, scatter, radar, surface and bubble charts.

5.6 Options for series

Access

Select the required series
LAYOUT Tab – CURRENT SELECTION Group

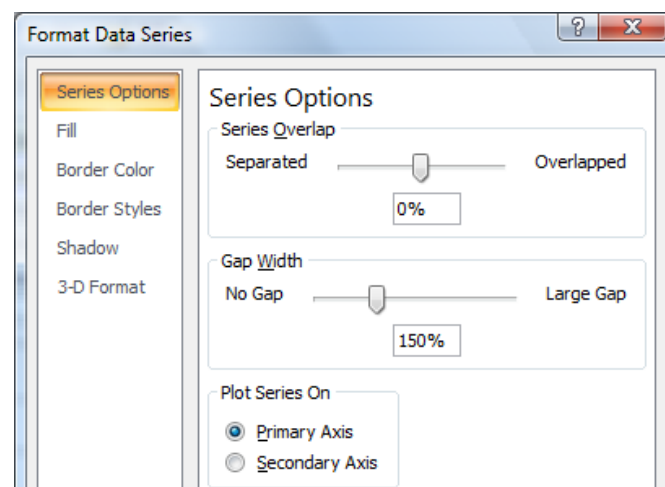
Reminder :you may also make no selection and click on the drop-down list of items, located above the bordered command.



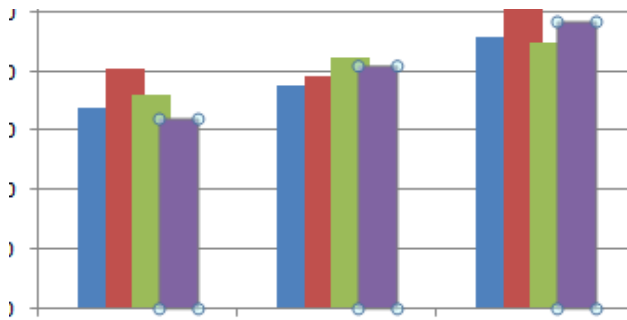
5.6.1 General options

They often depend on the type of chart. Here below two examples :

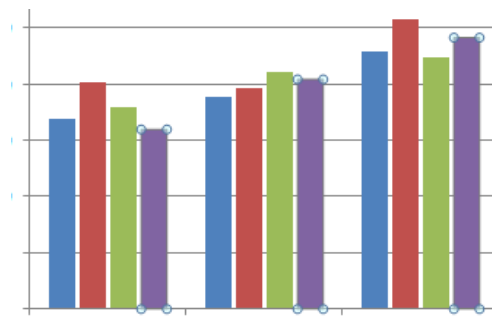
Column chart



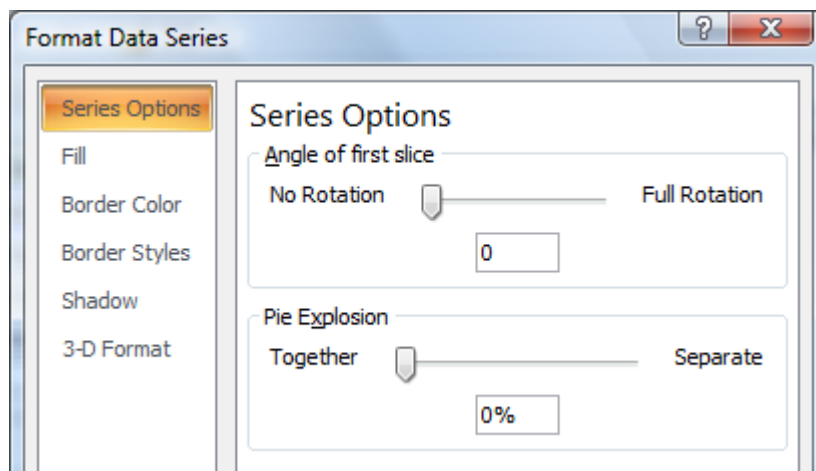
Example with 30% and 200%



Example with -10% and 150%

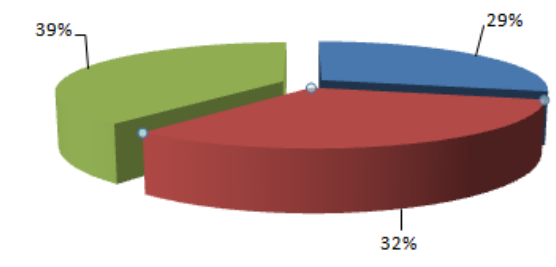


3D pie chart



Setting a rotation value for the *Angle of the first slice* will « move » the selected slice in front of you.

Example with 10% for *Pie Explosion*



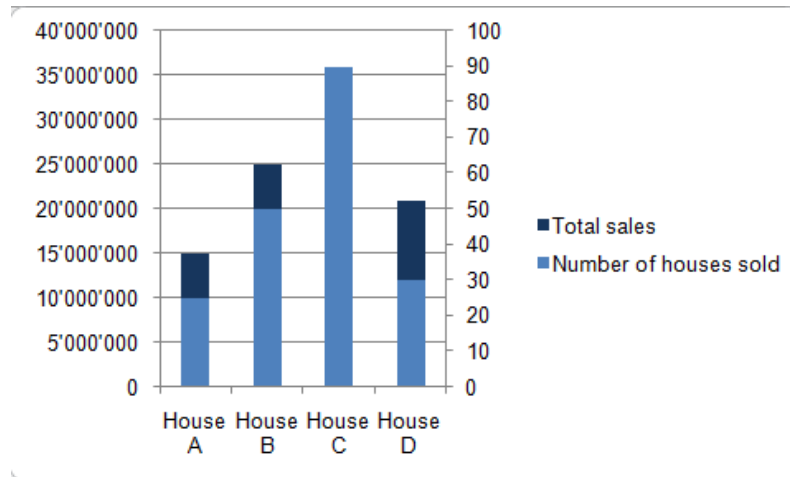
5.6.2 Secondary axis (available for many types of charts but particularly common for column charts)

You can add a secondary axis when series figures are in total disproportion (hundreds or thousands versus millions for example). The series with the « small » figures are often invisible or at best « on the floor ». As previously explained, it is possible to work with a logarithmic scale but another alternative is to add a secondary axis to the required series.

Select the « small » series and click on the **FORMAT SELECTION** Button
Turn on the **SECONDARY AXIS** Option

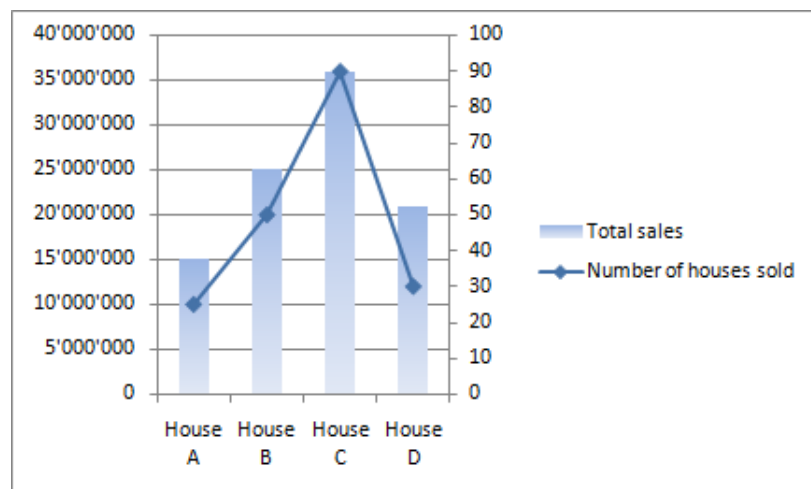
After having added the axis

The automatic result is a stacked column



The stacked series was modified into a line for a better readability.

(+ changing the colors)



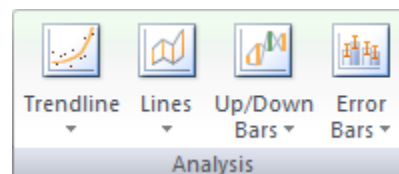
Other options from the dialog box

As you can notice the dialog box displays other general formatting options (border, fill ...).

These options are explained later on.

5.7 Analysis tools : lines, bars, error bars and trendline

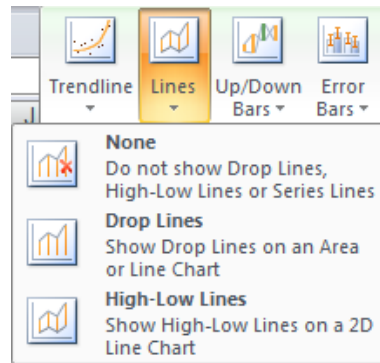
The ANALYSIS Group :



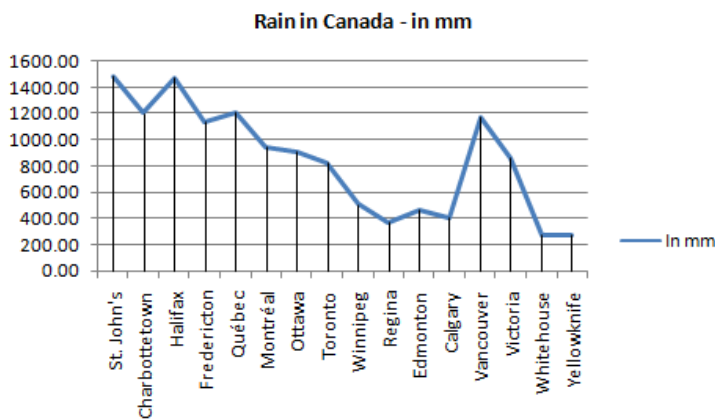
5.7.1 Adding projection lines to a chart (line type)

The buttons are not available if the chart type is different.

The lines drop-down list :



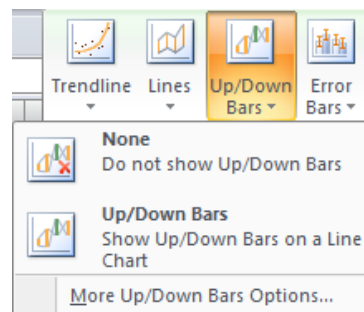
Example



Analysis or simple visual effect ?

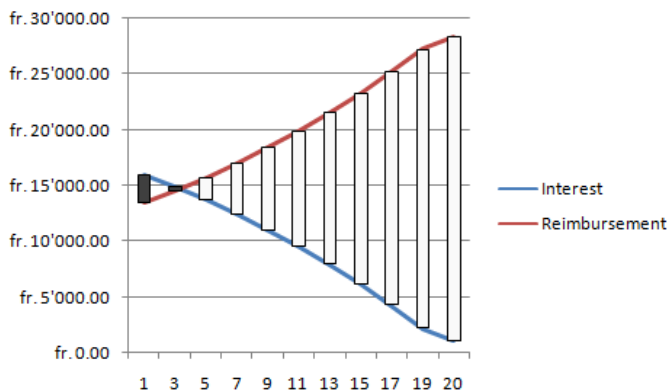
In the previous versions, projection lines belonged to the series options, now Microsoft considers them as an *analysis* tool.

The bars drop-down list :



Other options = formatting

Example



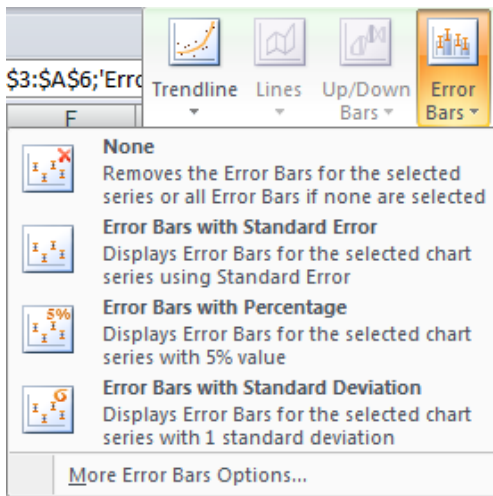
Analysis or simple visual effect ?

Once again, Microsoft considers them as an *analysis* tool.

Remove : click on the lines or bas and press the DEL key

5.7.2 Adding error bars

Error bars are a visual hint given to the chart reader that the series *actual* figures could fluctuate. Here below the possibilities :



Standard Error

Variation of *n units* from the data point. Default variation = 10

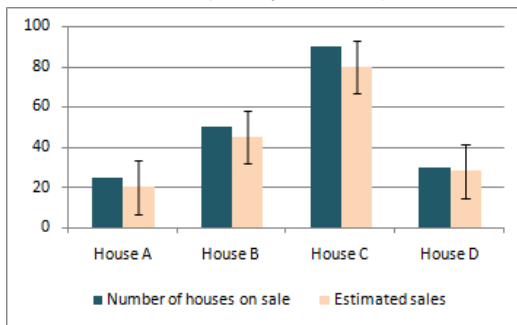
Percentage

Variation of 5% from the data point.

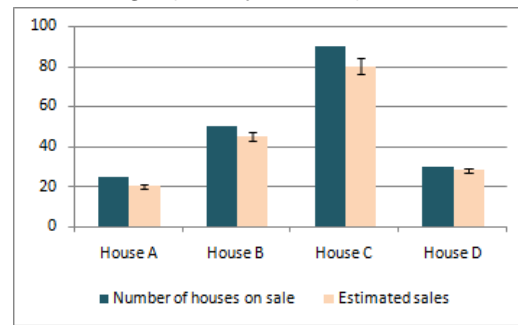
Standard Deviation

For stats

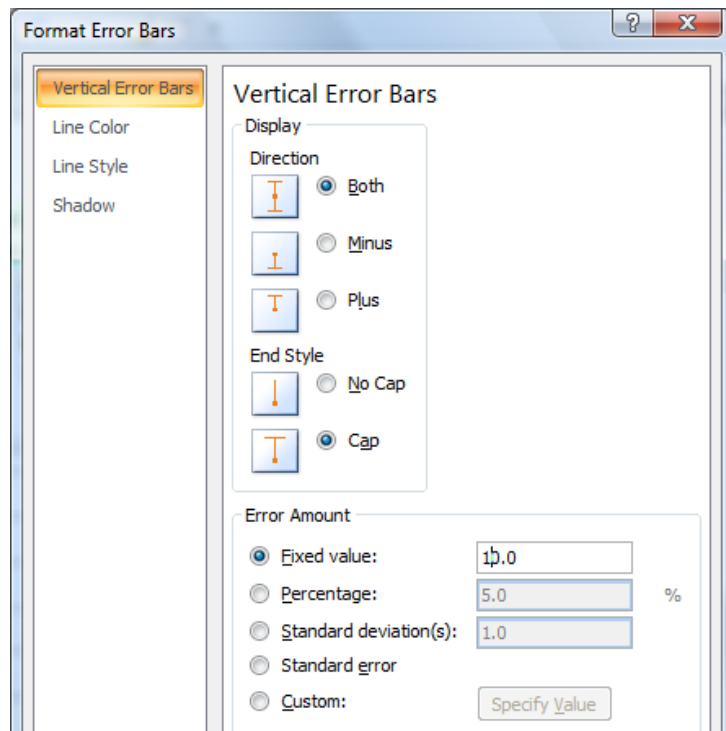
Standard Error (10 by default)



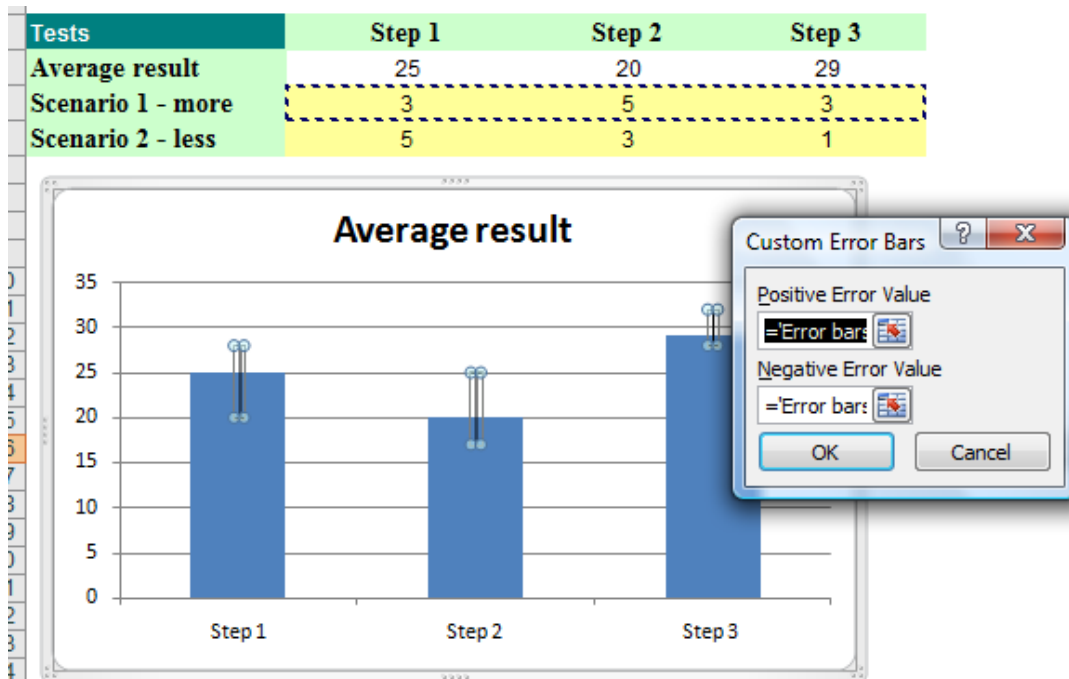
Percentage (5% by default)



The default values can be modified by clicking on the MORE ERROR BARS OPTIONS at the bottom of the drop-down list :



The bars can be customized : activate the CUSTOM option and click on the SPECIFY VALUE button :

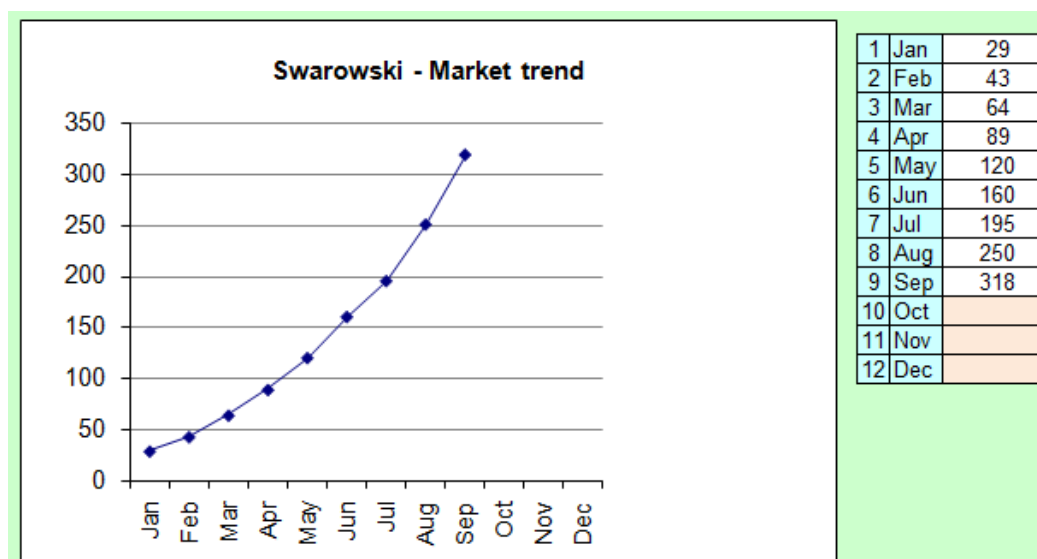


Remove : click one bar and press the DEL key

5.7.3 Adding a trend line

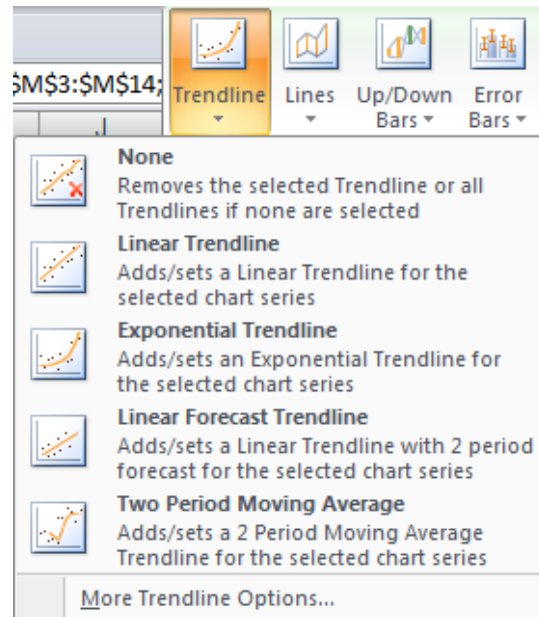
Let's state from the very beginning that trend lines are on the math side and are used in specific cases only. Here after a "simple" explanation : a trend line is used to depict trends in your existing data or forecasts of future data. You can extend a trend line in a chart beyond the actual data to predict future values (the current figures are used to calculate the future "missing" values).

Here below an article whose sales are subject to market trends :

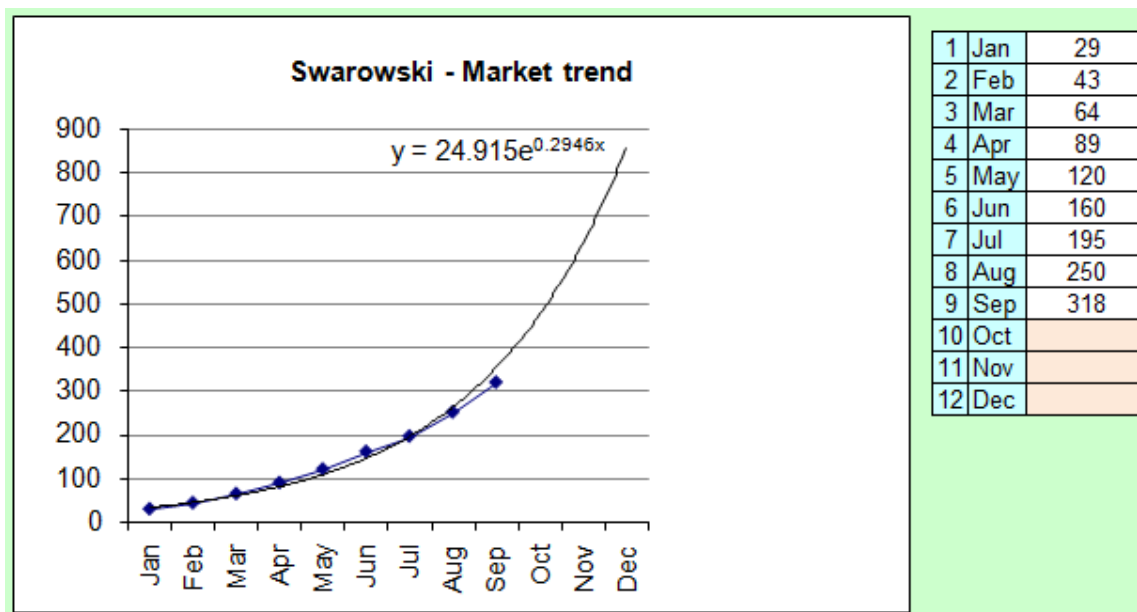


Provided the "fashion" lasts, what will be our next 3 months sales ?

Here after the drop-down list of the TRENDLINE button :



Here below our sales – we have chosen *Exponential*



As you can see, the trend line can display the corresponding mathematical equation (one setting of the MORE TRENDLINE OPTIONS command)

The classical question from people not too familiar with maths : why does the trend omit to display the figures ? Answer : the figures have to be calculated using the equation !

Here after an equation for a linear trend line.
Are you good at algebra ?

$$y = 0.170x + 0.875$$

$$R^2 = 0.980$$

Remove : click on the trend line and press the DEL key

6 FORMAT Tab : working on the item format

Because each item in the chart is a *graphic object*, it can be formatted using the various tools related to shapes or drawings etc ... That is why both tabs (CHART TOOLS - FORMAT and DRAWING TOOLS – FORMAT) are practically identical.

6.1 FORMAT Tab or FORMAT dialog box ?

2 possibilities to access the formatting options :

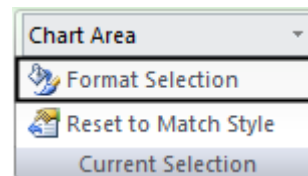
- The FORMAT Tab and its groups, buttons, galleries etc ... *or*
- The FORMAT xxx dialog box and its options. Usually the options are the same + some additional special options.

In both cases the result is previewed in real-time.

(real-time preview in the dialog box : only when you switch to another setting without closing the box)

Accessing the FORMAT xxx dialog box :

1. Select the item and click on the FORMAT SELECTION button

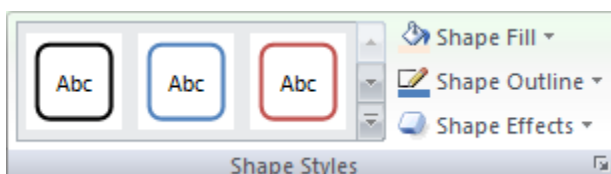


2. No special selection but use the drop-down list just above the previous command to select the required item. Then click on the FORMAT SELECTION command.

 To mention : the CURRENT SELECTION group is found in the LAYOUT Tab and in the FORMAT Tabs. But logically it belongs more to the concept of *format* than *layout*.

3. Select the item and according to its nature : click on the dialog box launcher of either the SHAPE STYLES Group or the WORDART STYLES Group (FORMAT Tab)
4. Click on the MORE XXX OPTIONS command at the bottom of the gallery, drop-down list of one of the buttons on the DESIGN Tab.

6.2 The SHAPE STYLES Group : fill, border, outline ...

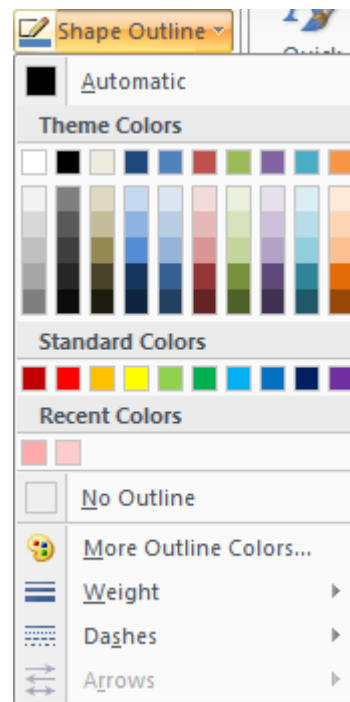
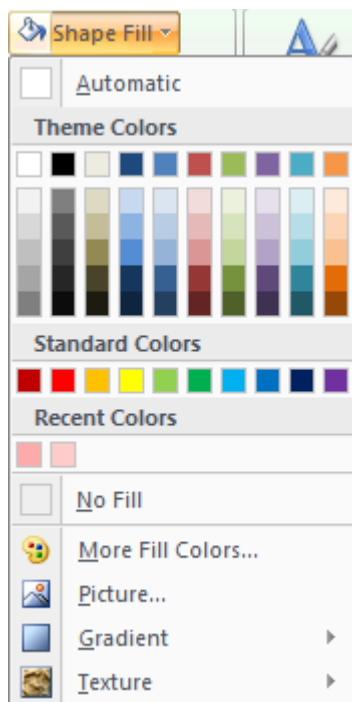


The first gallery :



Make your choice. The colors come from the current theme.

The SHAPE FILL and SHAPE OUTLINE buttons display similar drop-down lists



Theme Colors

The colors are « dynamic ». if you apply another theme, the colors will be automatically adapted.

Standard Colors

Basic and « non dynamic » colors. They are not affected by a change of theme.

No Fill

The background become « transparent ». You see what is underneath.

More Fill Colors

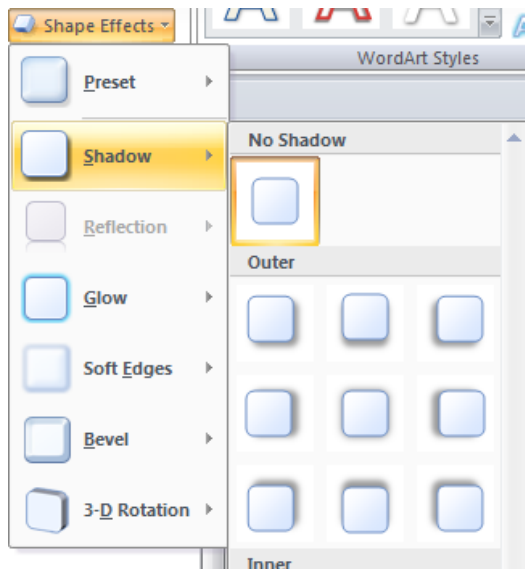
Access to the colors dialog box and its two tabs. STANDARD displays the usual colors hexagon and CUSTOM gives access to the RGB (red-green-blue) boxes to create a custom color.

The other commands

They depend on the nature of the item.

You will be able to insert a picture, add an arrow to a straight line, select its width Usually each command displays a gallery of predefined choices. At the bottom of those galleries you will find the FORMAT XXX option and its dialog box.

The effects gallery

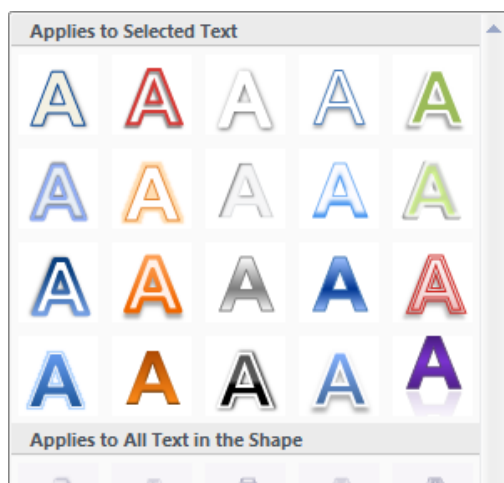


As you can see : a very wide choice of effects ...

6.3 The WORDART STYLES group : when the item contains text



The first gallery



Users of previous versions : lots of changes. Microsoft has opted for smarter and more « professional » looking shapes.

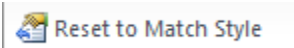
The three other buttons



Drop-down lists similar to those of the previous group.

6.4 Resetting the original style after modifications

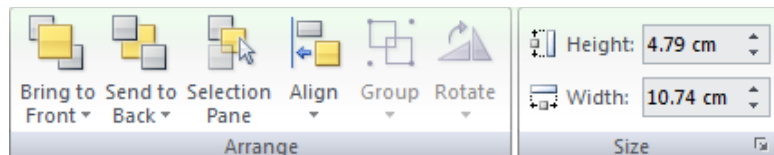
Simply click on the following button :



6.5 Foreground and background, selection pane, alignment, size and chart properties

6.5.1 Arrange group

The ARRANGE and SIZE groups



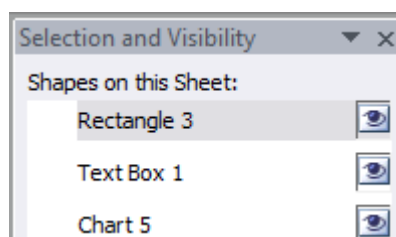
Bring to Front **Sent to Back**

To set the chart position when they are other « floating » objects on the worksheet

Selection Pane

Caution : it affect the chart but also any other graphic object on the worksheet.

A selection pane is displayed on the right of the Excel window and the eye button hides or shows the selected item.



Caution : hiding/showing also affect the printing.

Drop-down list of Align

Usually the commands of this list are related to drawn shapes. That is why most options are not available. Except SNAP TO GRID and SNAP TO SHAPE (not on by default).

Note : when you turn on the SNAP TO SHAPE option, you also automatically activate the SNAP TO GRID option.

The grid is an invisible network of lines that covers the screen. As you draw objects, their corners align on the nearest intersection of the grid. Although you cannot see the grid, it automatically helps align objects. If you release the mouse button and the shape, chart ... automatically « jumps » one or two millimeters it means that the grid is active.

Snap to shape means that the shape sides become slightly attractive to help you align a drawing on the vertical or horizontal lines of another drawing.

6.5.2 Size group

Size in cm

Indicate the height and width in cm. As it is not a picture, there is no proportionality issue, so you can work height and width separately.

Dialog box launcher

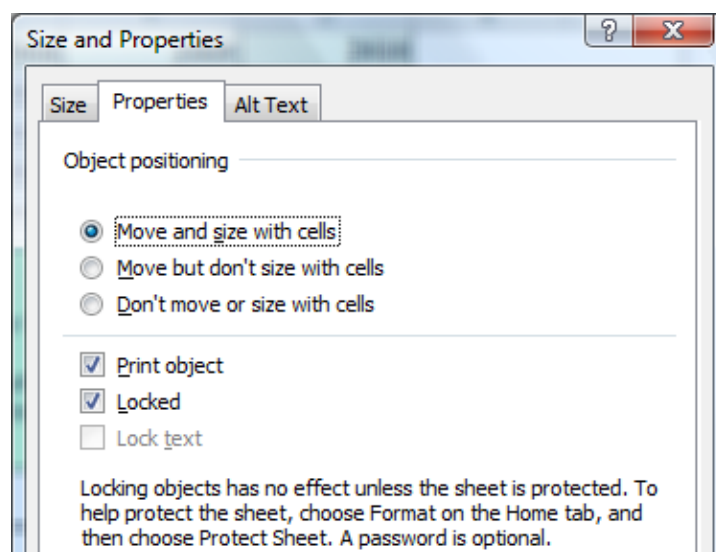
The *Size and Properties* dialog box is displayed

SIZE Tab

Width and height in cm. Scale in percentage.

The other options are not related to charts. They will be either unavailable or with no effect.

PROPERTIES Tab



Object positioning

The three possibilities will let you set what will happen to the chart size when the width of an underlying row/col is modified.

Print Object

The chart will be displayed on the sheet but will not be printed. Unusual for charts but quite common for buttons calling macros or hyperlinks.

Locked (on by default)

Related to protection. If the chart is not locked, it will remain free to modify even though the worksheet itself might be protected.

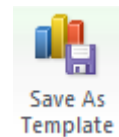
ALT TEXT Tab

Relates to Internet. If the browser does not display the chart, the alt text will be the *alternative text* displayed by the browser.

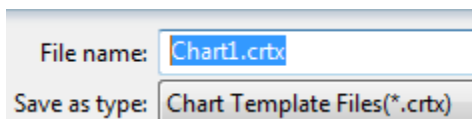
7 Creating a template (customization)

7.1 Saving a chart as a template

- Set the chart as required
- DESIGN Tab – TYPE Group – Following button :



- A dialog box like a standard File-Open will be displayed
- Give a name to your template

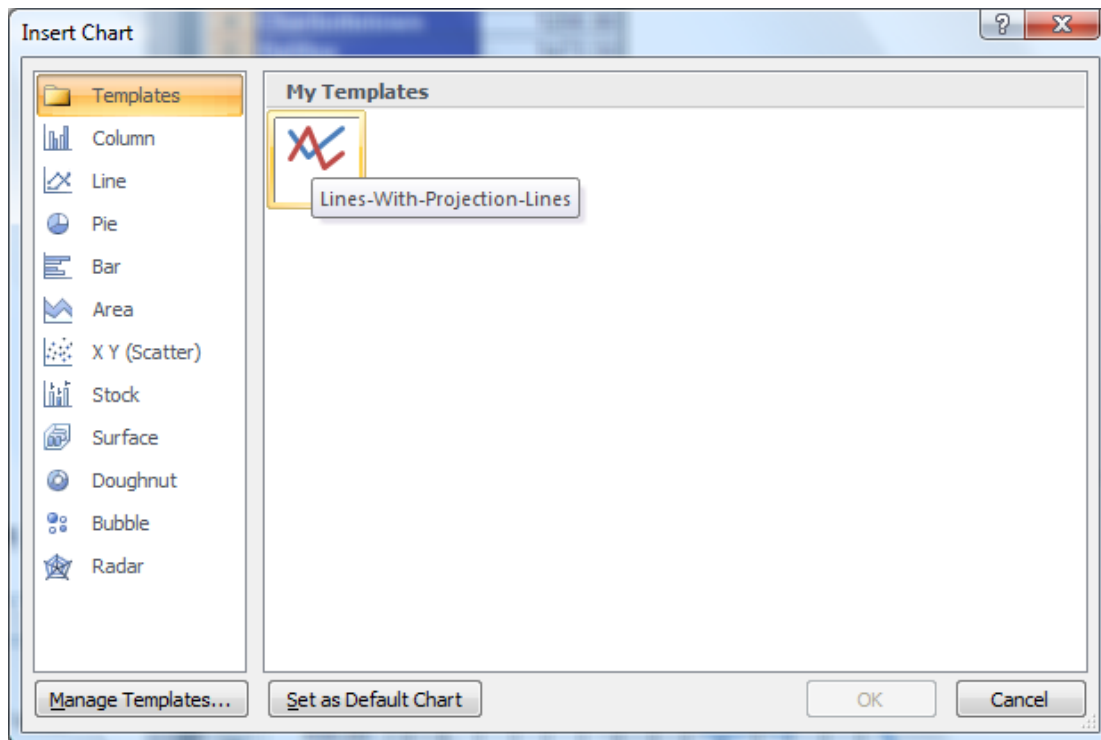
The image is a screenshot of the 'Save As Template' dialog box. It has two input fields. The first is labeled 'File name:' and contains the text 'Chart1.crtx'. The second is labeled 'Save as type:' and contains the text 'Chart Template Files (*.crtx)'. The dialog box has a light blue header and a white body.

The default path = C:\Users\Your identity\AppData\Roaming\Microsoft\Templates\Charts

What will be saved : the type of chart, the colors, whether there are titles, axes, a legend ...

7.2 Creating a chart based onto a template

- Select the data
- INSERT Tab – CHARTS Group – dialog box launcher
- Category TEMPLATES



7.3 Managing templates

- MANAGE TEMPLATES button in the previous dialog box
- The dialog box that you used to save the chart template will be displayed and you can rename the template, delete it ...

7.4 Setting a chart as default chart

A special type, one of your templates ... can be set by default if you use it very often

- SET AS DEFAULT CHART Button

8 Printing the chart

Your selection = any cell on the current worksheet

You will print *the worksheet* and consequently its chart object.

Setup values as usual

Your selection = the chart **or a full page chart**

You will print the *chart* only and it will cover an entire page.

9 Less common chart types : examples

9.1 Bar chart

2 Part of active population (25-34) with no diploma of secondary cycle.

3

4

5 In %	Men	Women
6 Portugal	72	63
7 Italy	45	40
8 Spain	45	41
9 Luxembourg	38	43
10 Greece	31	24
11 United Kingdom	30	35
12 Ireland	29	24
13 Netherlands	27	25
14 Belgium	26	23
15 France	22	22
16 Finland	16	10
17 Denmark	15	13
18 Austria	14	19
19 Germany	13	16
20 Sweden	10	9

21

22 Hints

23 Add data labels (Outside End)

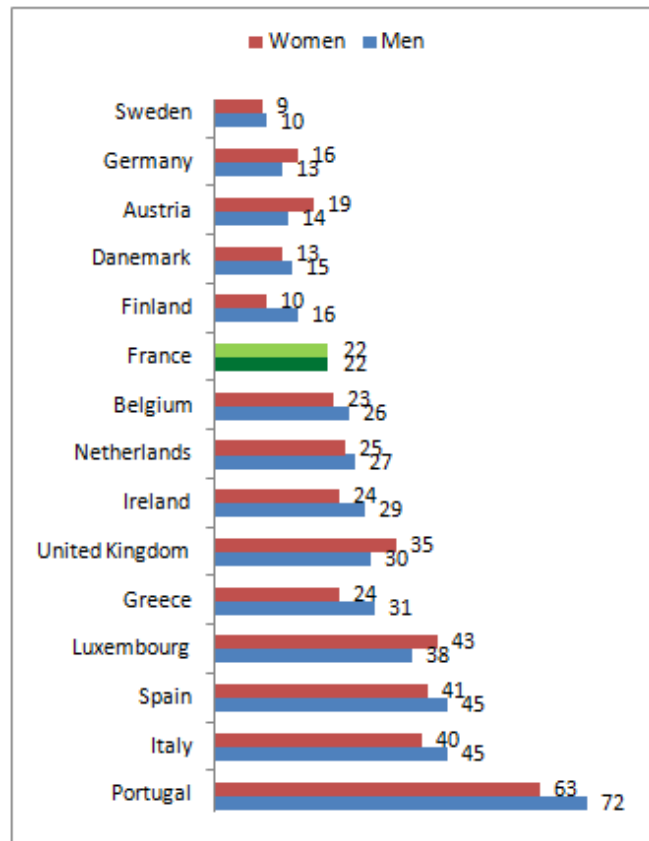
24 Remove gridlines (click and DEL)

25 Remove horizontal axis (click and DEL)

26 Apply special colors to France

27 I have added 2 rectangles at top and bottom of Y axis

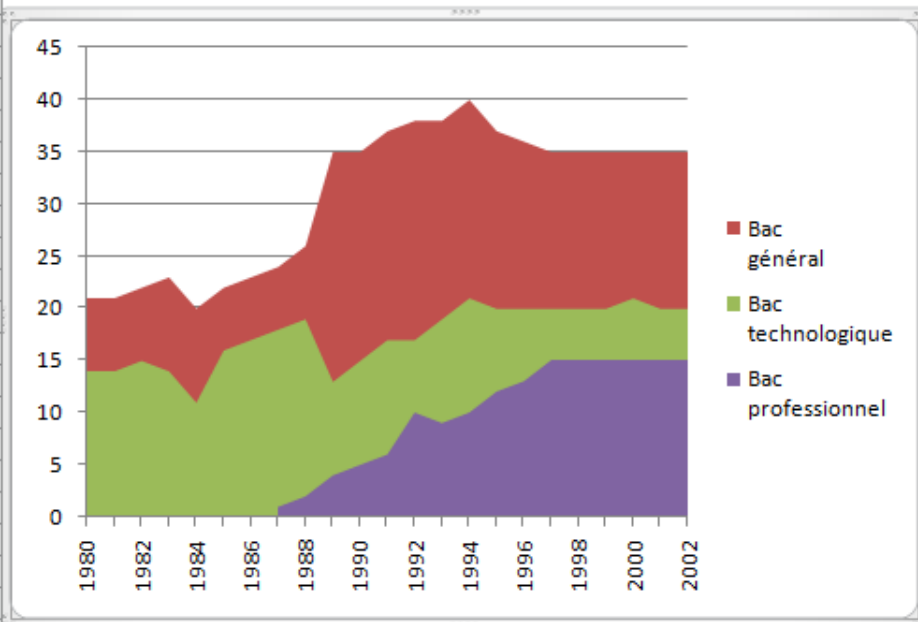
28 to hide the graduation line



9.2 Area chart

2 **Evolution from 1980 to 2002 of access to IV cycle in France**

3		Bac général	Bac technologique	Bac professionnel
4	In %			
5	1980	21	14	
6	1981	21	14	
7	1982	22	15	
8	1983	23	14	
9	1984	20	11	
10	1985	22	16	
11	1986	23	17	
12	1987	24	18	1
13	1988	26	19	2
14	1989	35	13	4
15	1990	35	15	5
16	1991	37	17	6
17	1992	38	17	10
18	1993	38	19	9
19	1994	40	21	10
20	1995	37	20	12
21	1996	36	20	13
22	1997	35	20	15
23	1998	35	20	15
24	1999	35	20	15
25	2000	35	21	15
26	2001	35	20	15
27	2002	35	20	15



49 Hints

50 Area (preferably no 2)

51 Button SELECT DATA

52 - remove extra series created for "In %"

53 - select the correct source range of cells for the years

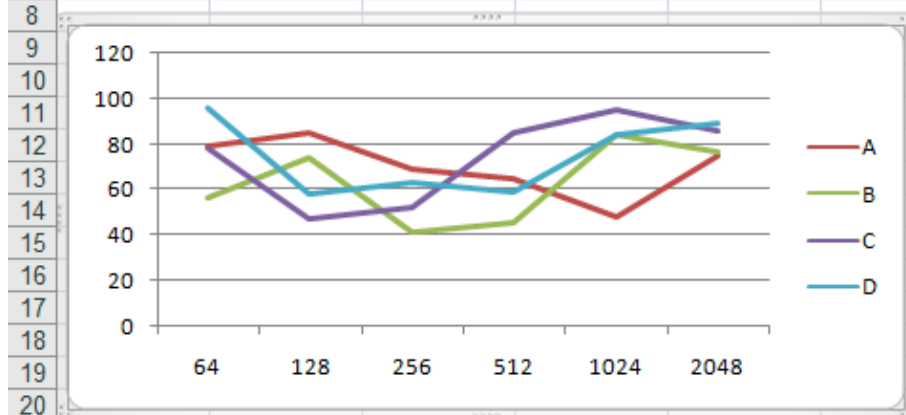
54 Horizontal axis : labels to align vertically

9.3 Scatter chart

Mainly used when the values of the category axis (X) are not *linear* (interval is not always 1 unit).

	A	B	C	D	E	F	G
1	Profitability	64	128	256	512	1024	2048
2	A	79	85	69	65	48	75
3	B	56	74	41	45	84	76
4	C	78	47	52	85	95	86
5	D	96	58	63	59	84	89

7 Usual chart - X data is understood as linear values : FALSE !!!

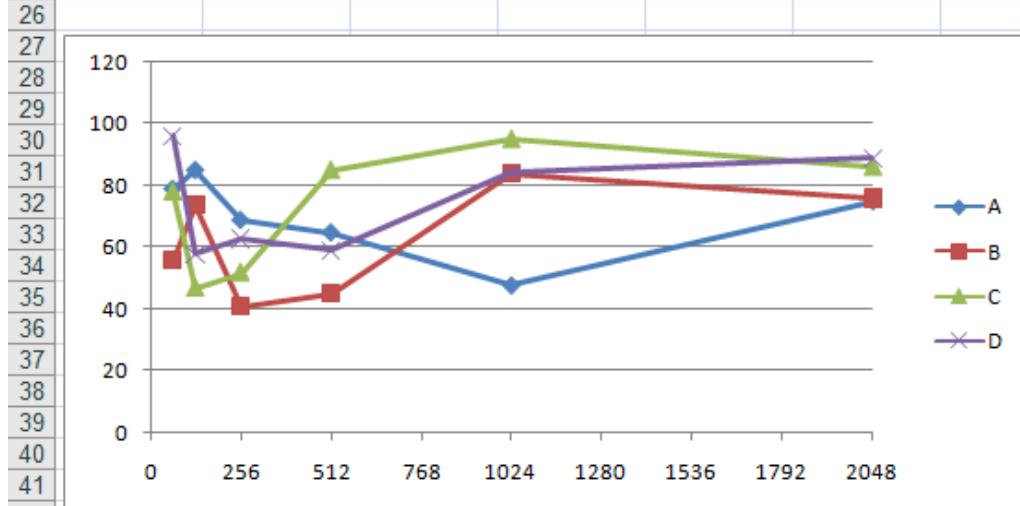


21 Caution

22 Excel understands PROFITABILITY as a series (remove it)

23 Category (X) axis labels are not read properly

25 Chart type SCATTER - X values are understood as logarithmic - OK ...



44 Caution

45 Choose type number 2 or 4 (to automatically add Smooth / Straight Line and Markers)

46 Work on the horizontal axis : max 2048 - major unit 256 (to show multiple of 64)

47 *Caution : never type 64K - 256K ... in source data or the axis will be standard whatever the type of chart*

9.4 Radar chart

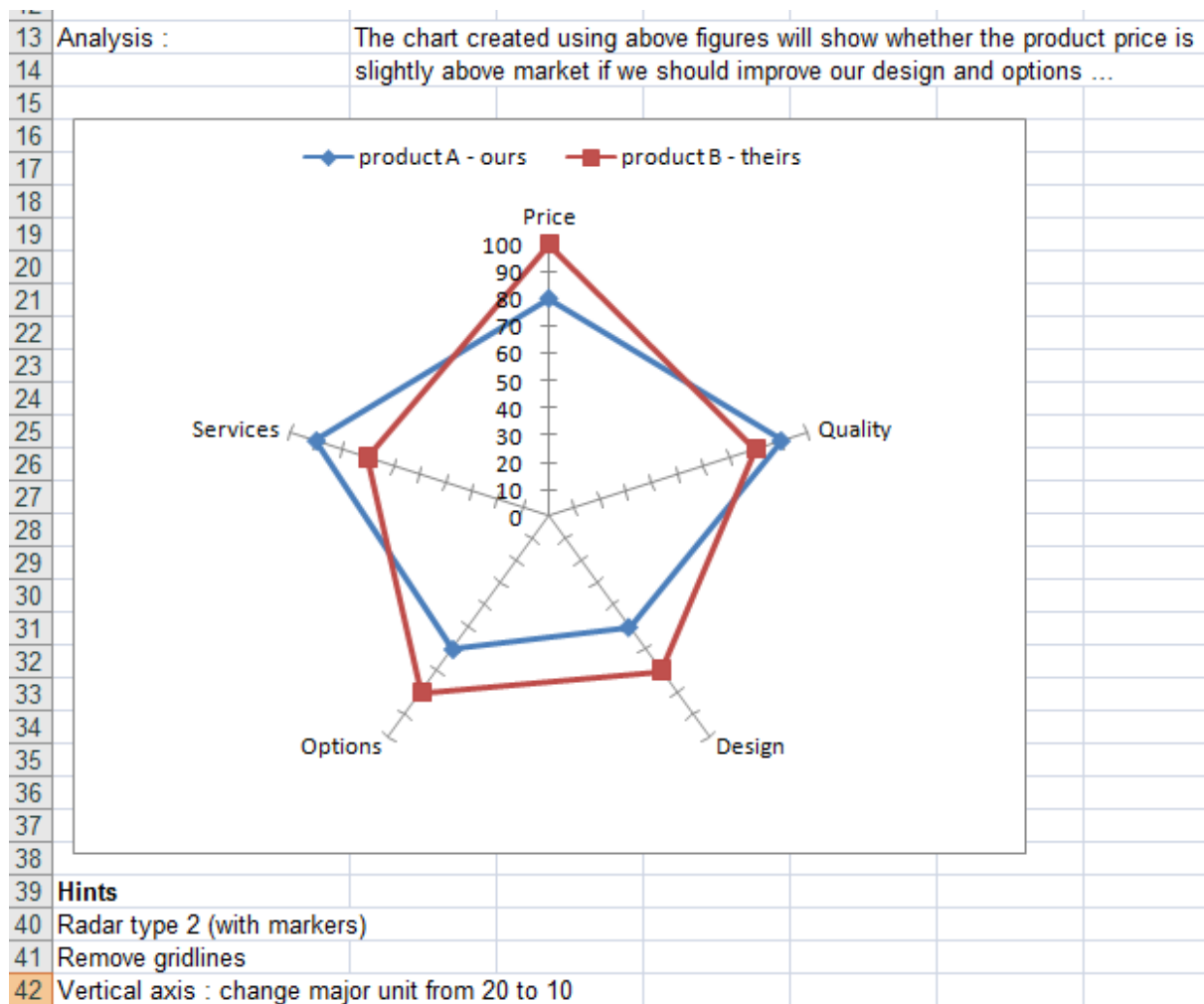
Used to compare data

Here below the data :

Comparative analysis	Price	Quality	Design	Options	Services
product A - ours	80	90	50	60	90
product B - theirs	100	80	70	80	70

The figures can come from internal tests, evaluation questions to clients and so on...
The answers have been added and converted into percentages
Note : the same type of chart could be used for analysing people : work, adaptability, QI, performances ...

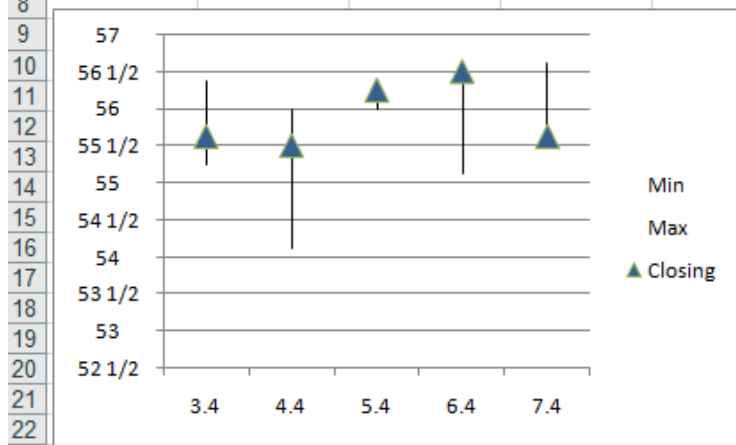
Here below the chart :



9.5 Stock chart

When data correspond to min-max-average values. Therefore not only for Stock Exchange values. Here after two examples :

	Date	Min	Max	Closing
2				
3	3.4	55 1/4	56 3/8	55 5/8
4	4.4	54 1/8	56	55 1/2
5	5.4	56	56 3/8	56 1/4
6	6.4	55 1/8	56 3/8	56 1/2
7	7.4	56	56 5/8	55 5/8

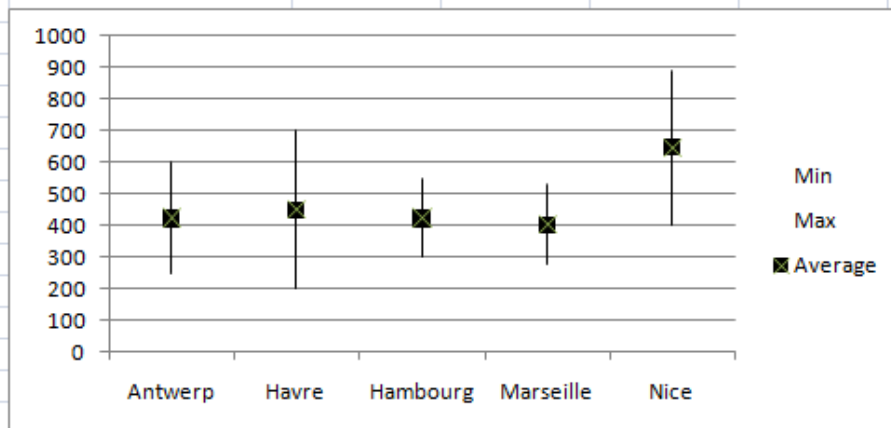


Caution : if Excel displays a message warning you about the order of the data, this means that your data do not correspond to the type of stock chart you have chosen. If you click on the OK button, no chart will be created. It is for instance the case if you select the chart type number 2 for the data of the screen capture. It has to be the number 1 type.

The marks for the Closing series are be default small and squares. They have been modified (shape and size)

Port productivity			
Containers movements	Min	Max	Average
Antwerp	250	600	425
Havre	200	700	450
Hambourg	300	550	425
Marseille	280	530	405
Nice	400	890	645

= Uploading /
Downloading / per hour

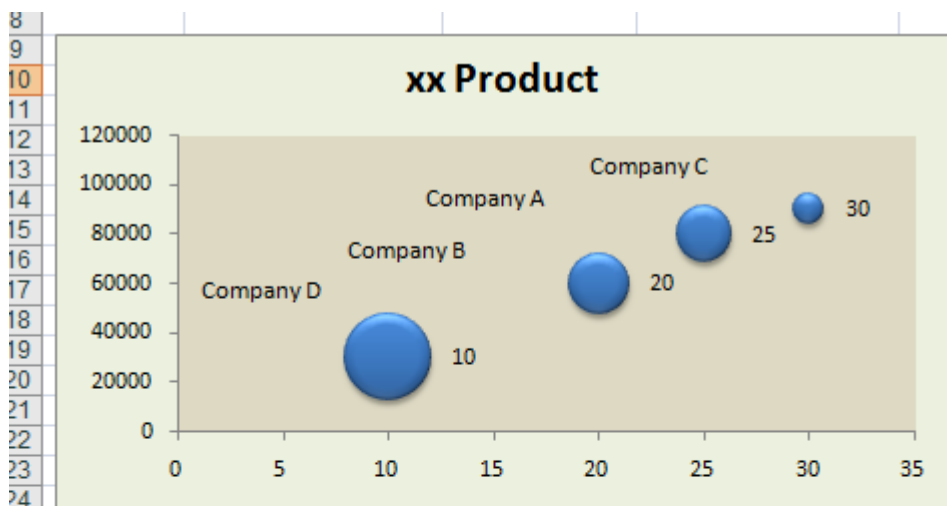


9.6 Bubble chart

Used to represent a series using 3 dimensions instead of 2.

Here below an example :

	Affiliate	Number of products	Sales	Market position
4	A	10	80000	25
5	B	12	60000	20
6	C	3	90000	30
7	D	25	30000	10
8		size	y	x



The chart clearly shows that the D Affiliate offers a fair number of products but does not really conquer the market in terms of sales or market position.

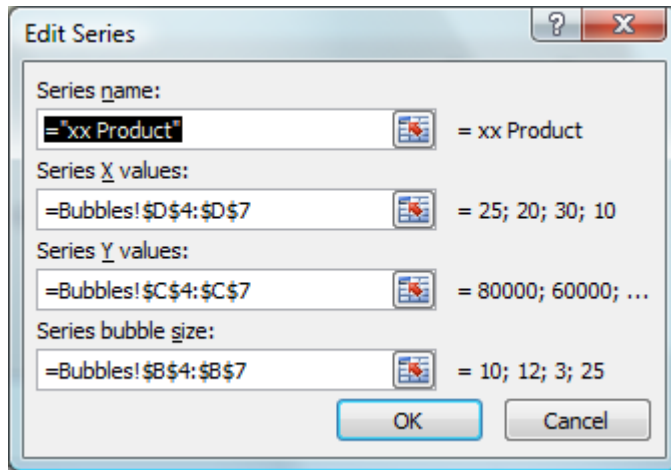
On the other hand, the chart indicates that the C Affiliate has limited its offer to fewer products and shows the best performance in terms of sales and market position.

Advice : to make sure the chart can be easily read and understood it is advisable to name all axes (here *Number of products for X and Sales for Y*), to add labels (here *the bubble size*) and finally to add free text (here *the Affiliates*).

Caution

Building the chart goes *reverse*
Do not select anything because Excel will be lost anyway

You choose to create a bubble chart with no selection and you will get an empty chart frame.
DESIGN – SELECT DATA Button – ADD Button
Build the series values (**there is one series with three values**)



It is up to you to decide what value will build the axes.
Here our choice was the following : X (market position), valeurs Y (sales), taille (number of products).

The rest is formatting and adding text boxes ...