

Microsoft Excel 2016: Beginners and Intermediate Training



Introduction to Excel's Basic Features

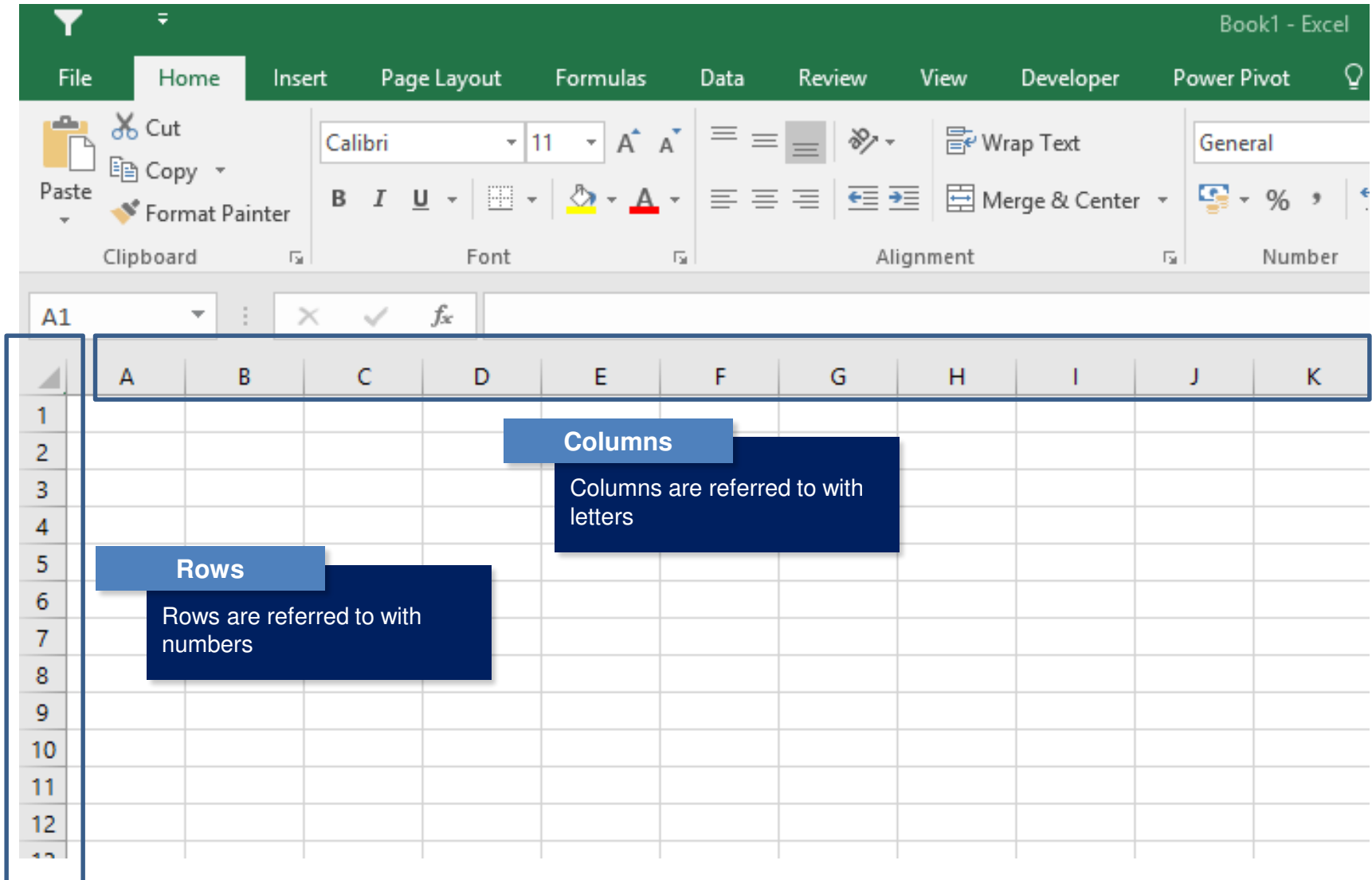
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Column and Row references



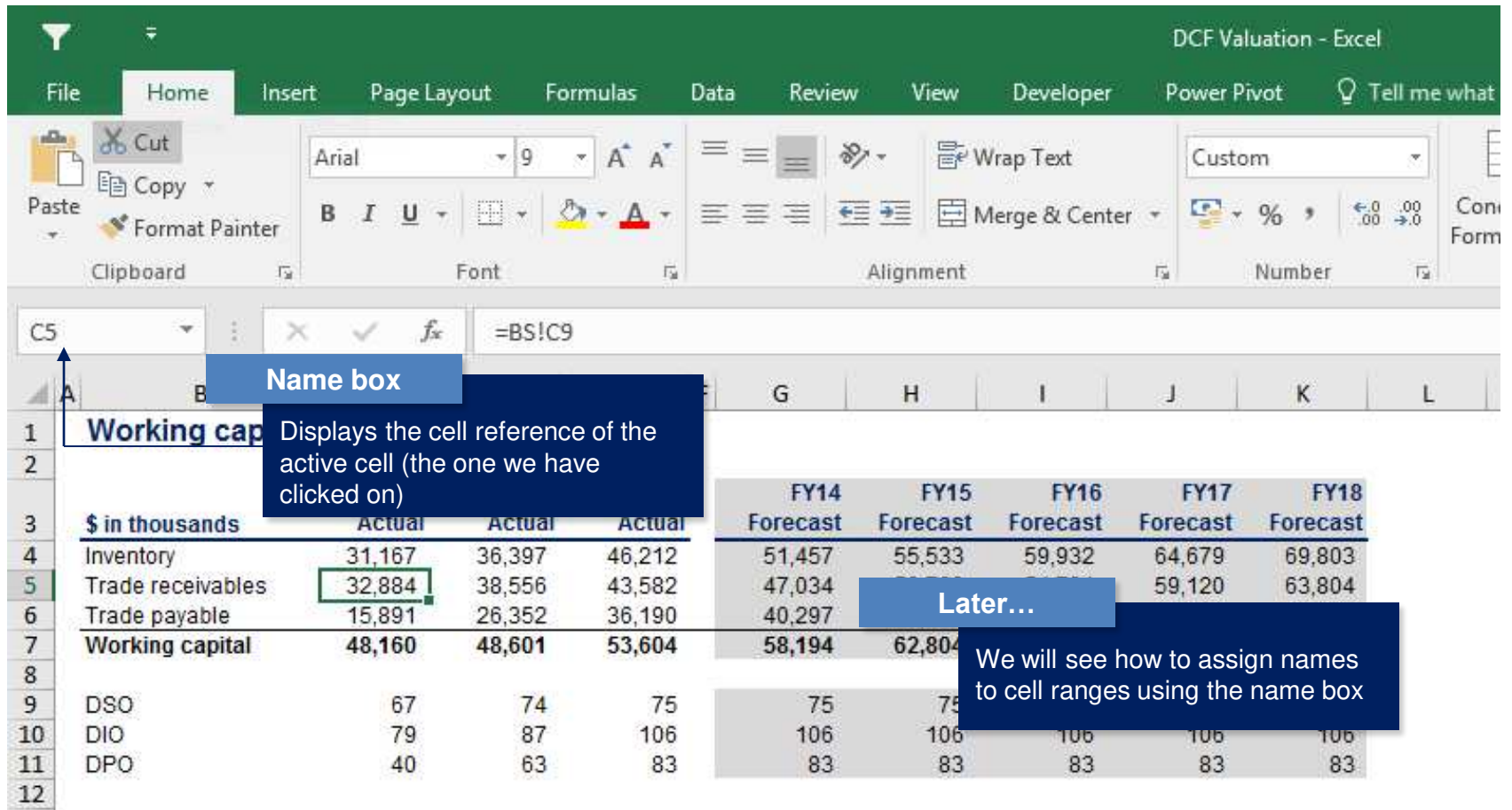
The image shows the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The Home tab is active, showing groups for Clipboard, Font, Alignment, and Number. Below the ribbon, the formula bar shows 'A1'. The grid below has columns labeled A through K and rows numbered 1 through 12. Two callout boxes are present: one labeled 'Columns' with the text 'Columns are referred to with letters' pointing to the column headers, and another labeled 'Rows' with the text 'Rows are referred to with numbers' pointing to the row numbers.

Columns
Columns are referred to with letters

Rows
Rows are referred to with numbers

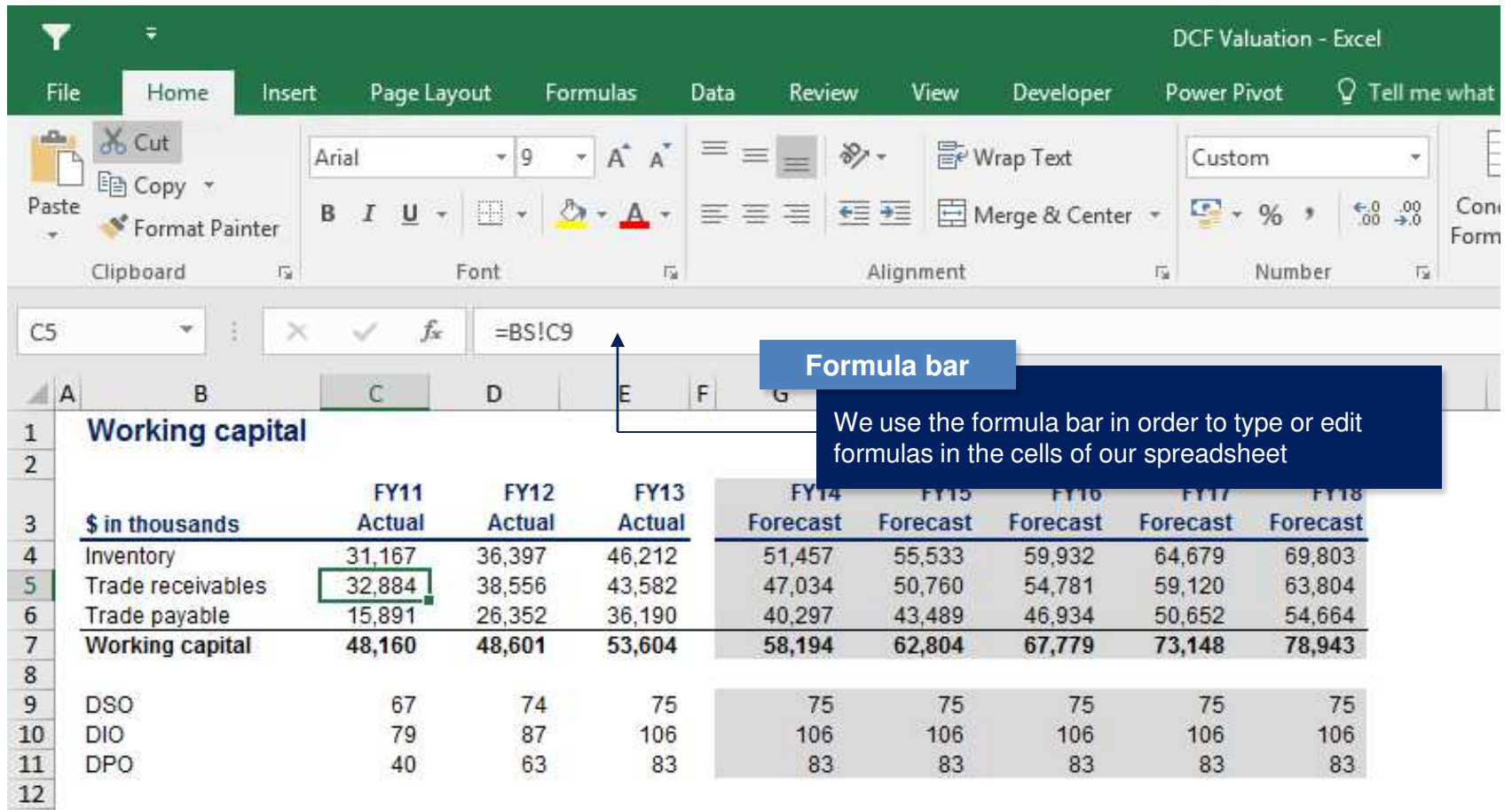
Column and Row references

The image shows the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, and Power Pivot. The 'Home' tab is active, showing groups for Clipboard (Cut, Copy, Paste, Format Painter), Font (Calibri, size 11, bold, italic, underline, text color, background color), Alignment (text alignment, orientation, merge & center), and Number (number format, percentage, decimal places). The formula bar shows 'A1' in the name box and is empty in the entry box. The grid below has columns labeled A through K and rows numbered 1 through 12. Cell A1 is highlighted with a blue border and a diagonal line pattern. A blue callout box with the text 'A1' points to cell A1. A dark blue text box explains: 'For example A1 refers to the cell at the intersection of column A and row 1'.



The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The Name box at the top left of the worksheet area displays 'C5', indicating the active cell. A blue callout box points to the Name box with the text: 'Name box Displays the cell reference of the active cell (the one we have clicked on)'. The worksheet contains a financial model with columns for 'Actual' and 'Forecast' data across years FY14 to FY18. The 'Working capital' row is highlighted in blue. A blue callout box points to the 'Working capital' cell with the text: 'Later... We will see how to assign names to cell ranges using the name box'.

		FY14	FY15	FY16	FY17	FY18
		Forecast	Forecast	Forecast	Forecast	Forecast
Inventory	31,167	51,457	55,533	59,932	64,679	69,803
Trade receivables	32,884	47,034			59,120	63,804
Trade payable	15,891	40,297				
Working capital	48,160	58,194	62,804			
DSO	67	75	75			
DIO	79	106	106	106	106	106
DPO	40	83	83	83	83	83



DCF Valuation - Excel

File Home Insert Page Layout Formulas Data Review View Developer Power Pivot Tell me what

Cut Copy Paste Format Painter Clipboard

Arial 9 A A Font

B I U Bold Italic Underline

Alignment Merge & Center

Number %

C5 X ✓ fx =BS!C9

Formula bar

We use the formula bar in order to type or edit formulas in the cells of our spreadsheet

		FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
1	Working capital								
2									
3	\$ in thousands								
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83
12									

DCF Valuation - Excel

Page Layout Formulas Data Review View Developer Power Pivot Tell me what you want to do

Font Alignment Number Styles Cells

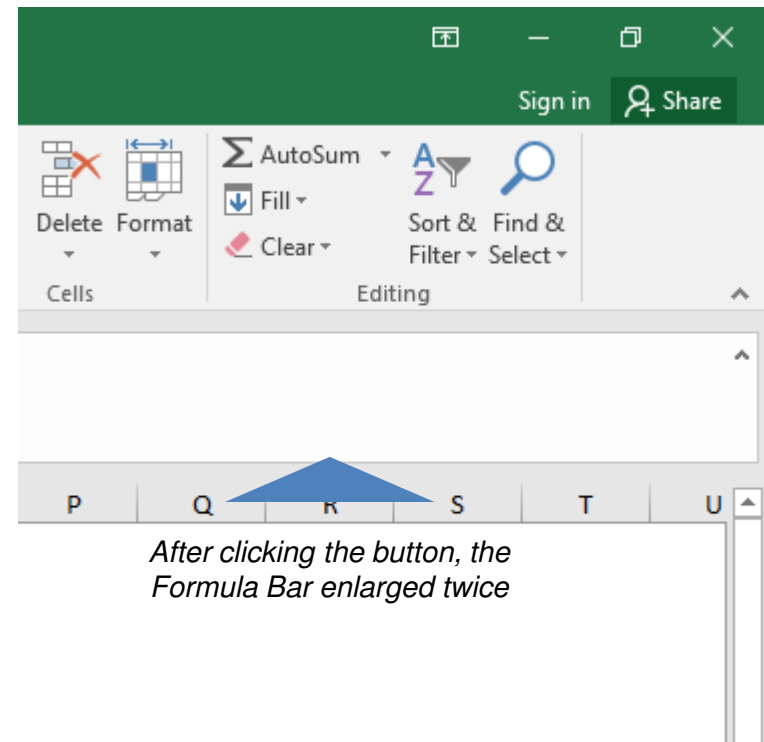
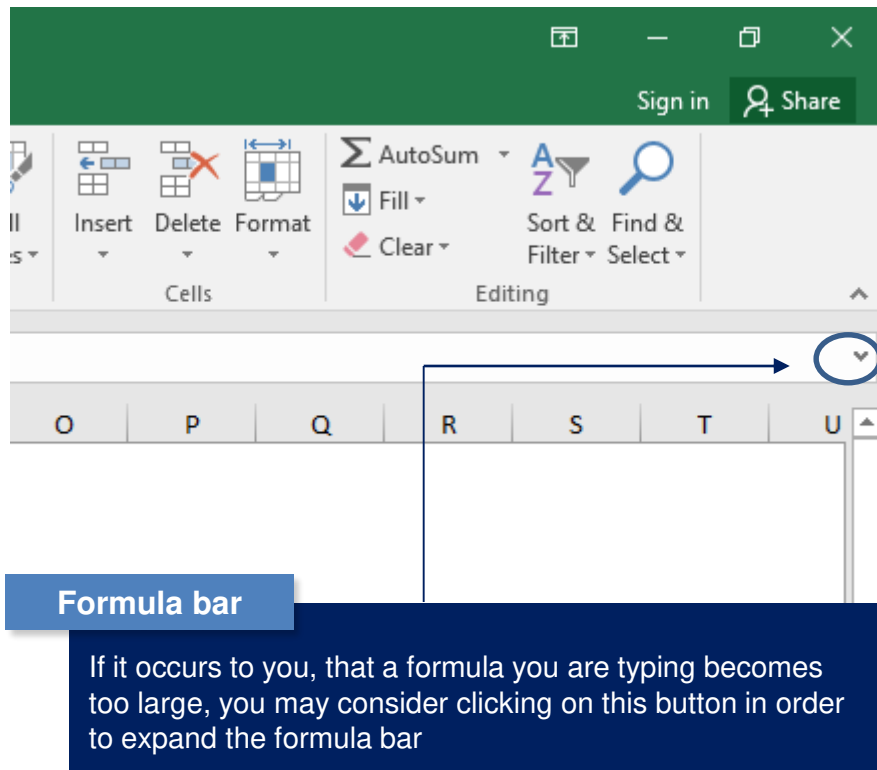
Formula bar: =SUMI

Formula bar suggestions: SUMIF, SUMIFS

Formula bar description: Once you start typing, the formula bar would provide suggestions for the formula that you might be looking for. It will also display the necessary arguments of the formula once you select it

FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
160	48,601	53,604	58,194	62,804	67,779	=SUMI	78,943
67	74	75	75	75	75	75	75
79	87	106	106	106	106	106	106
40	63	83	83	83	83	83	83

Expanding the formula bar



	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
3									
4	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
8									
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83

FY11-FY18: Working capital development



3.Charts -->

Revenues&Ebitda

Cash flows

Ebitda bridge

Working capital

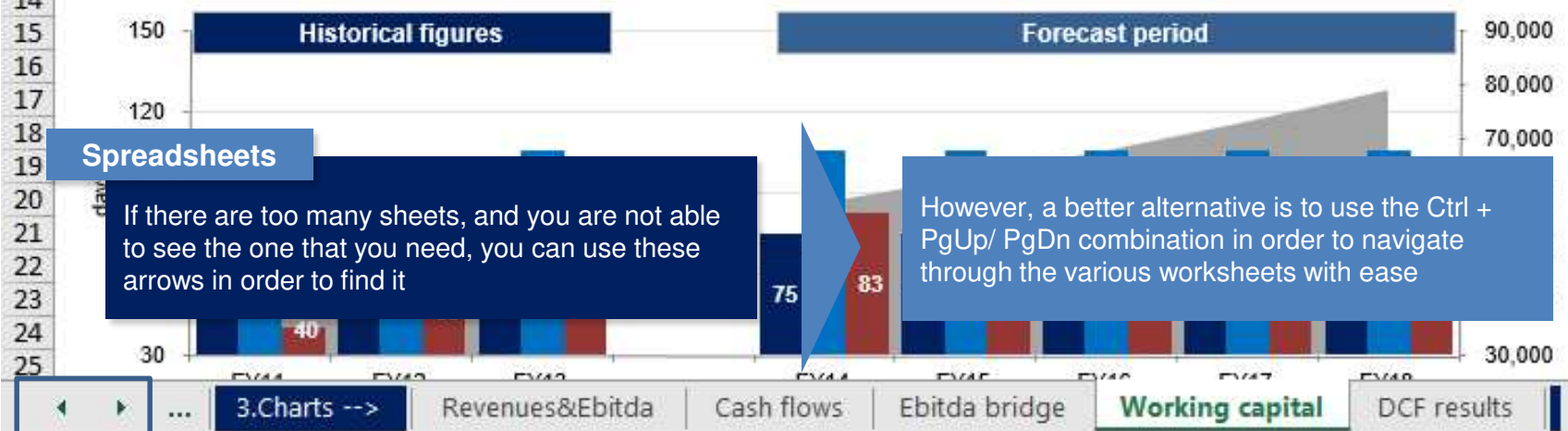
DCF results

Ready



		FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
3	Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
5	Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
6	Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
7	Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
9	DSO	67	74	75	75	75	75	75	75
10	DIO	79	87	106	106	106	106	106	106
11	DPO	40	63	83	83	83	83	83	83

FY11-FY18: Working capital development



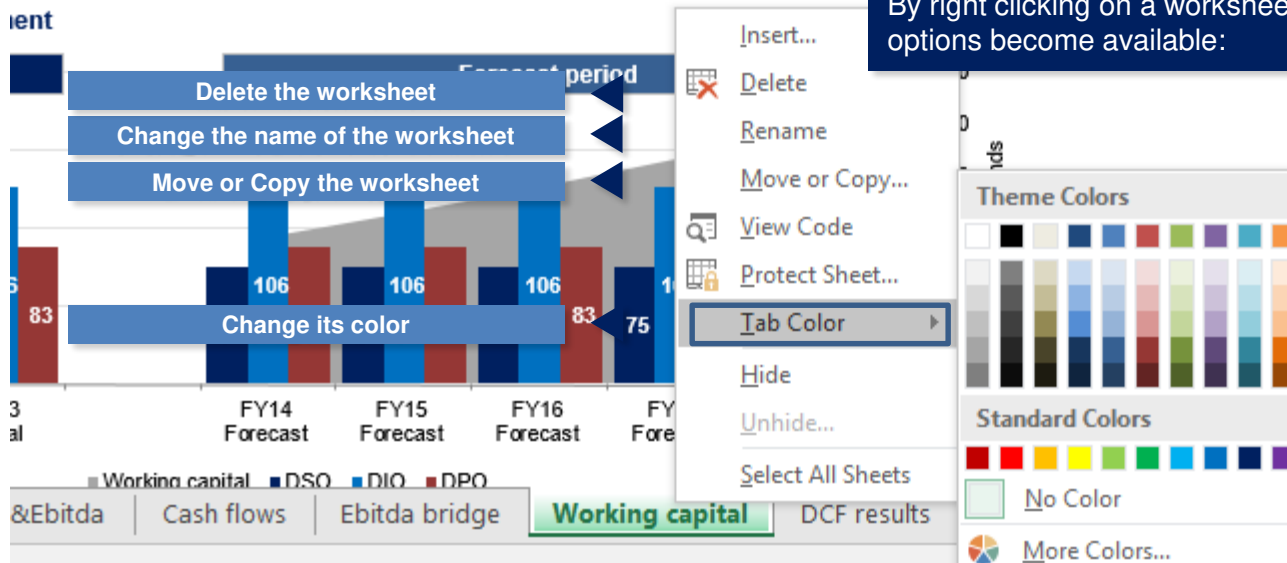
	E	F	G	H	I	J	K	L	M	N	O	P	Q
--	---	---	---	---	---	---	---	---	---	---	---	---	---

FY12 ctual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
,397	46,212	51,457	55,533	59,932	64,679	69,803
,556	43,582	47,034	50,760	54,781	59,120	63,804
,352	36,190	40,297	43,489	46,934	50,652	54,664
,601	53,604	58,194	62,804	67,779	73,148	78,943

74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

Spreadsheets

By right clicking on a worksheet, several formatting options become available:



The screenshot shows a bar chart with data series for FY14, FY15, FY16, and FY17. A right-click context menu is open over the chart, displaying various options. Callouts point to specific menu items:

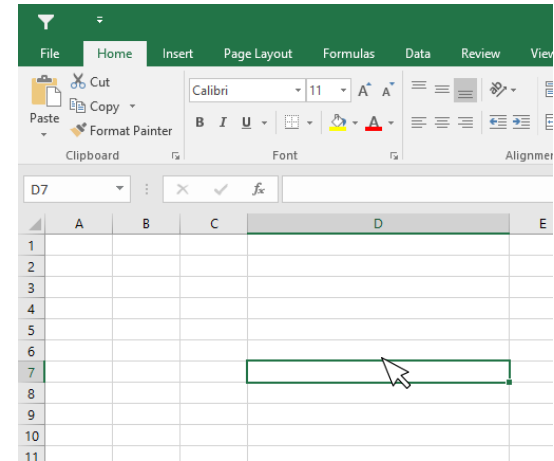
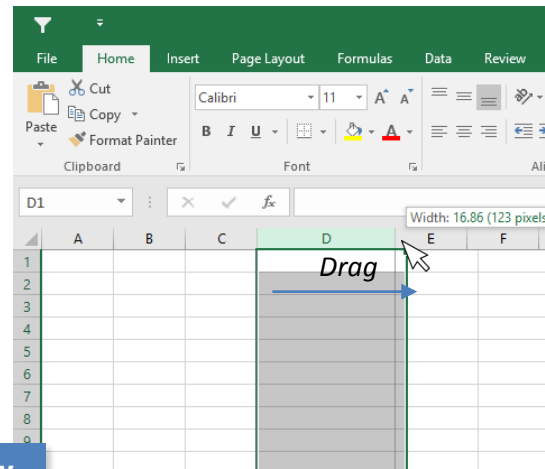
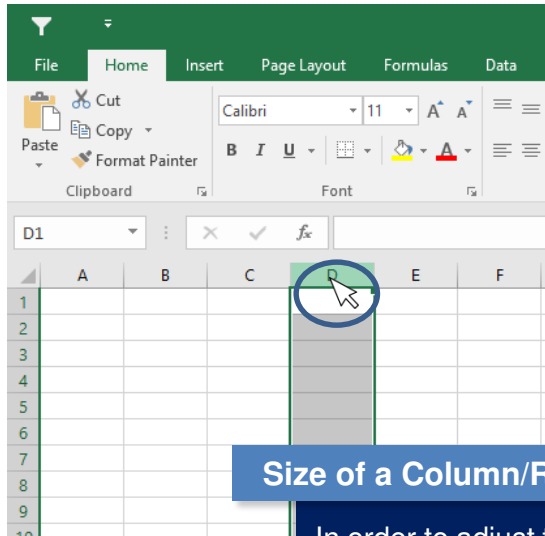
- Delete the worksheet
- Change the name of the worksheet
- Move or Copy the worksheet
- Change its color

The context menu options include:

- Insert...
- Delete
- Rename
- Move or Copy...
- View Code
- Protect Sheet...
- Tab Color
- Hide
- Unhide...
- Select All Sheets

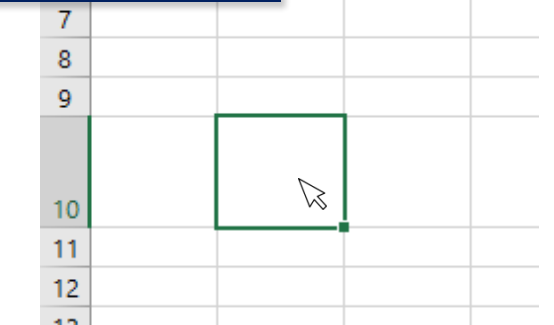
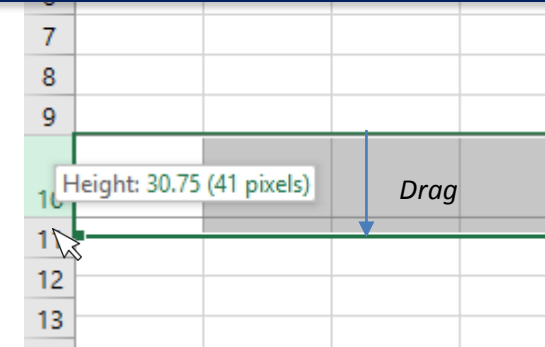
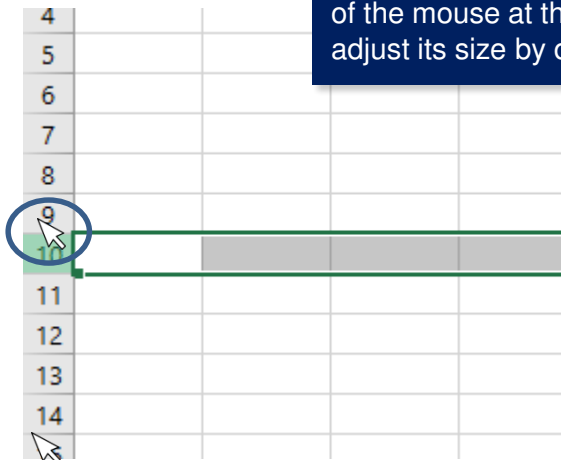
The 'Tab Color' option is highlighted, and a color palette is visible on the right side of the menu.

Adjusting the size of a column/row manually

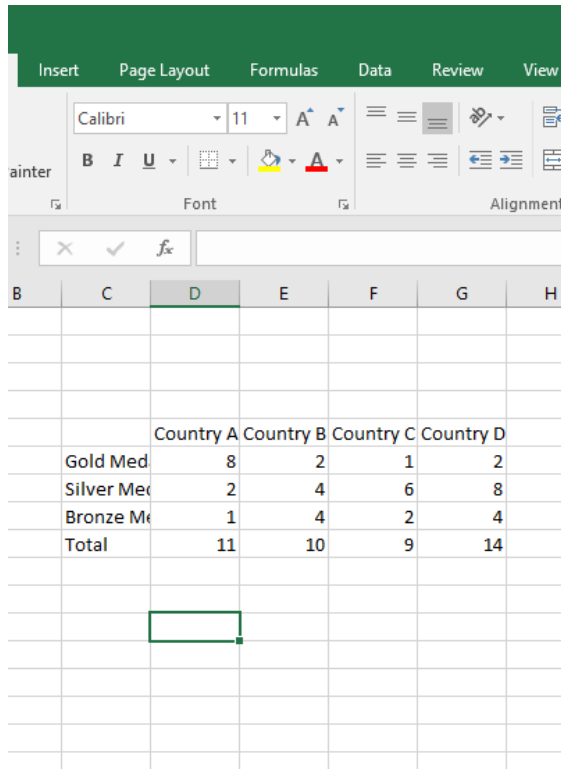


Size of a Column/Row

In order to adjust the size of a column (or a row) manually, click with the left button of the mouse at the beginning of the column (row) as shown above (below). You can adjust its size by dragging the it

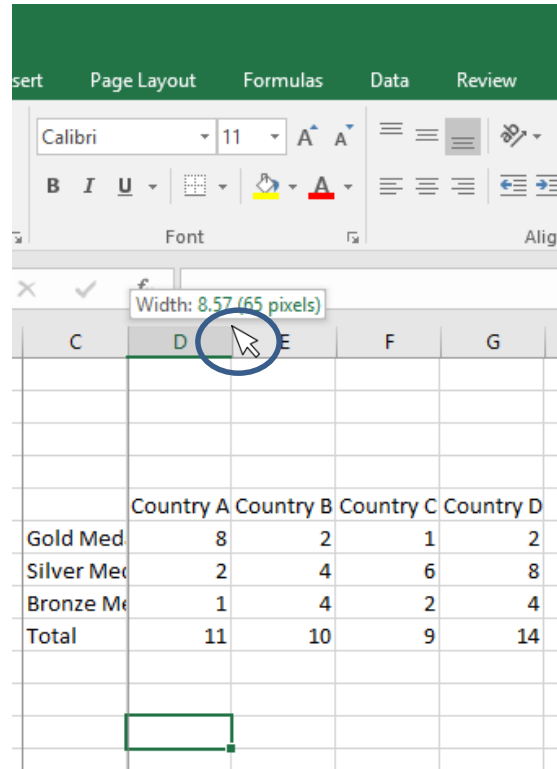


Adjusting the size of a column automatically



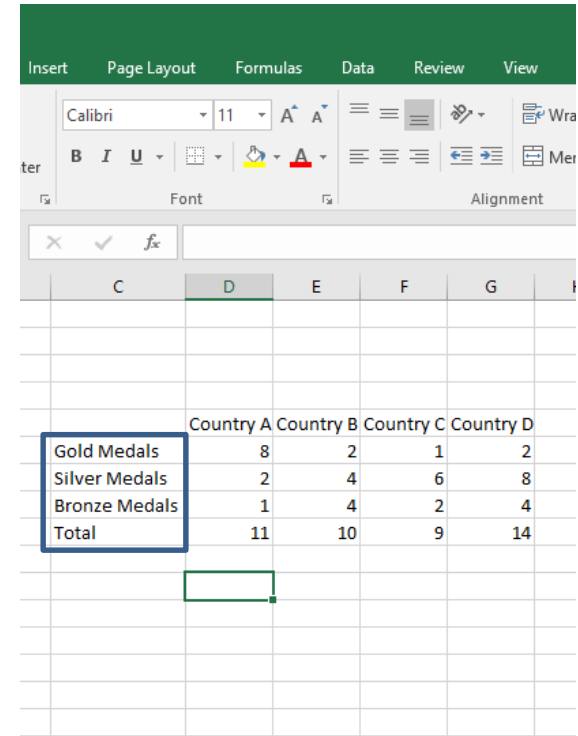
	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

If the content of some of the cells within a column does not fit its size (as shown above), you can do the following:



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Double-click with the left mouse button and adjust the column's size



	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

The column would automatically fit the cells' size

Selecting a row/column with the keyboard

Home Insert Page Layout Formulas Data Review View Developer

Cut Copy Format Painter Font: Calibri 11 Bold Italic Underline Paragraph: Bullets, Numbering, Indentation Alignment: Left, Center, Right, Justify, Merge & Center

Select a column

The shortcut for selecting a column is Ctrl + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Insert Page Layout Formulas Data Review View

Font: Calibri 11 Bold Italic Underline Paragraph: Bullets, Numbering, Indentation Alignment: Left, Center, Right, Justify, Merge & Center

=SUM(E6:E8)

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Select a row

The shortcut for selecting a row is Shift + Space

	Country A	Country B	Country C	Country D
Gold Medals	8	2	1	2
Silver Medals	2	4	6	8
Bronze Medals	1	4	2	4
Total	11	10	9	14

Inserting a row/column

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. The data in the worksheet is as follows:

	A	B	C	D	E
1					
2					
3					
4					
5				Country A	Country B
6			Gold Medals	8	2
7			Silver Medals	2	4
8			Bronze Medals	1	4
9			Total	11	10

Insert a column

If you want to insert an empty column in a sheet, select the column before which you would like to insert a new column, right-click with the mouse and choose "Insert", or just use "Ctrl ,Shift and +".

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. A right-click context menu is open over column D, showing options like Cut, Copy, Paste Options, Insert, Delete, Clear Contents, Format Cells..., Column Width..., Hide, and Unhide. The data in the worksheet is as follows:

	C	D	E	F	G	H
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, column D is highlighted in green. The data in the worksheet is as follows:

	C	D	E	F	G	H
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, row 9 is highlighted in green. The data in the worksheet is as follows:

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Insert a row

If you want to insert an empty row in a sheet, select the row before which you would like to insert a new row, right-click with the mouse and choose "Insert", or just use "Ctrl ,Shift and +".

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, row 9 is highlighted in green. A right-click context menu is open over row 9, showing options like Cut, Copy, Paste Options, Insert, Delete, Clear Contents, Format Cells..., Column Width..., Hide, and Unhide. The data in the worksheet is as follows:

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Font' group is visible. In the worksheet, row 9 is highlighted in green. The data in the worksheet is as follows:

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

Deleting a row/column

Delete a column

If you want to delete a column in a sheet, select the column, right-click with the mouse and choose "Delete", or just use Ctrl and -

	C	D	E	F	G	H	I
Gold Medals			Country A	Country B	Country C	Country D	
Silver Medals			8	2	1	2	
Bronze Medals			2	4	6	8	
			1	4	2	4	
Total			11	10	9	14	

	C	D	E	F	G	H
Gold Medals			Country C	Country D		
Silver Medals			2	1	2	
Bronze Medals			4	6	8	
			4	2	4	
Total			0	9	14	

	C	D	E	F	G
Gold Medals			Country A	Country B	Country C
Silver Medals			8	2	1
Bronze Medals			2	4	6
			1	4	2
Total			11	10	9

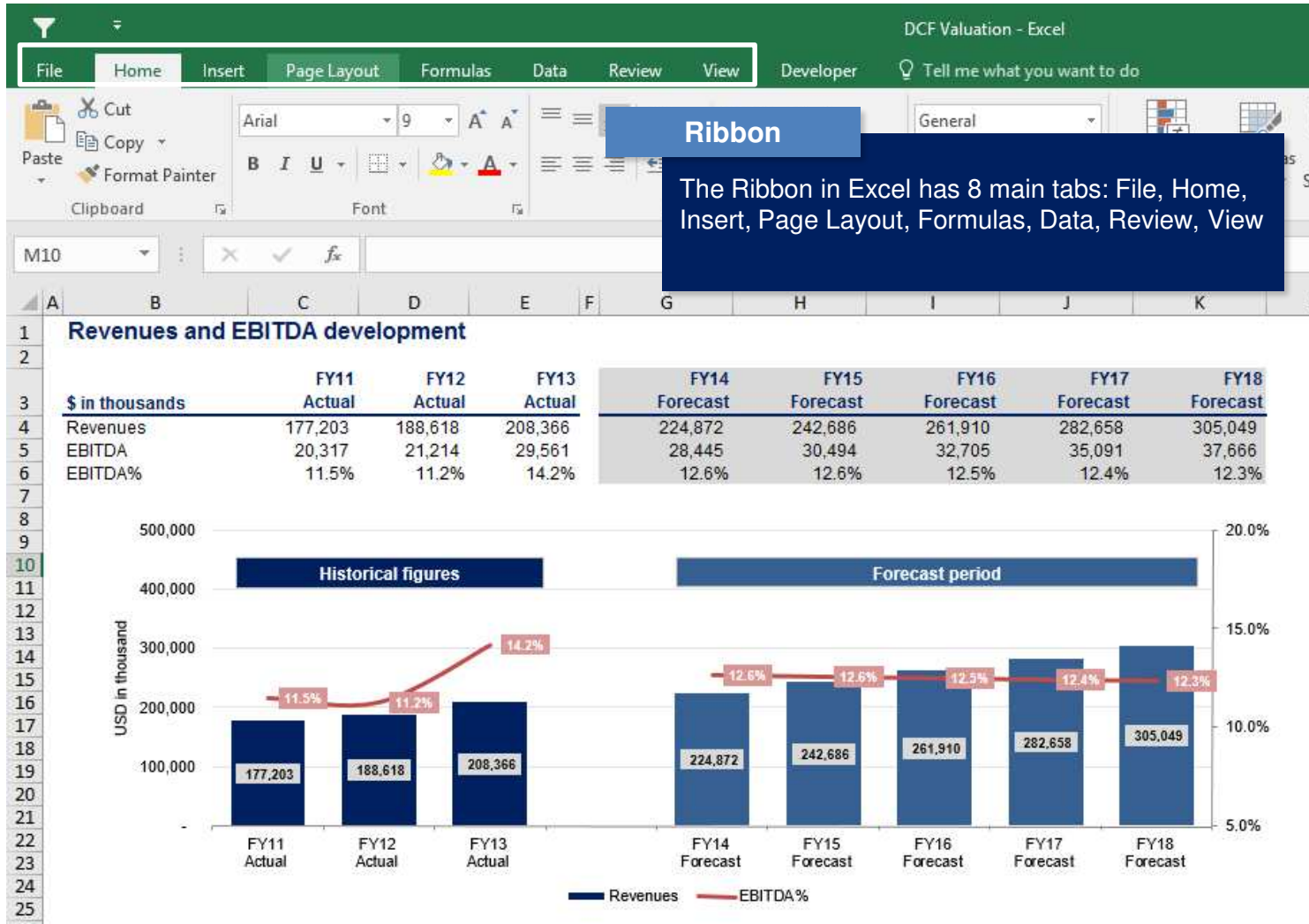
Delete a row

If you want to delete a row in a sheet, select the row, right-click with the mouse and choose "Delete", or just use Ctrl and -

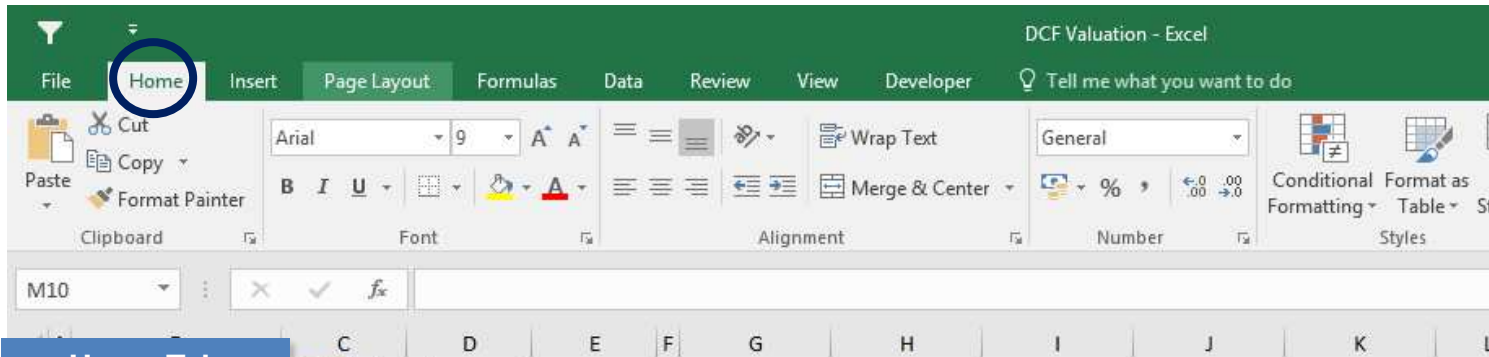
	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

	A	B	C	D	E
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					



Explore the Ribbon Tabs: Home

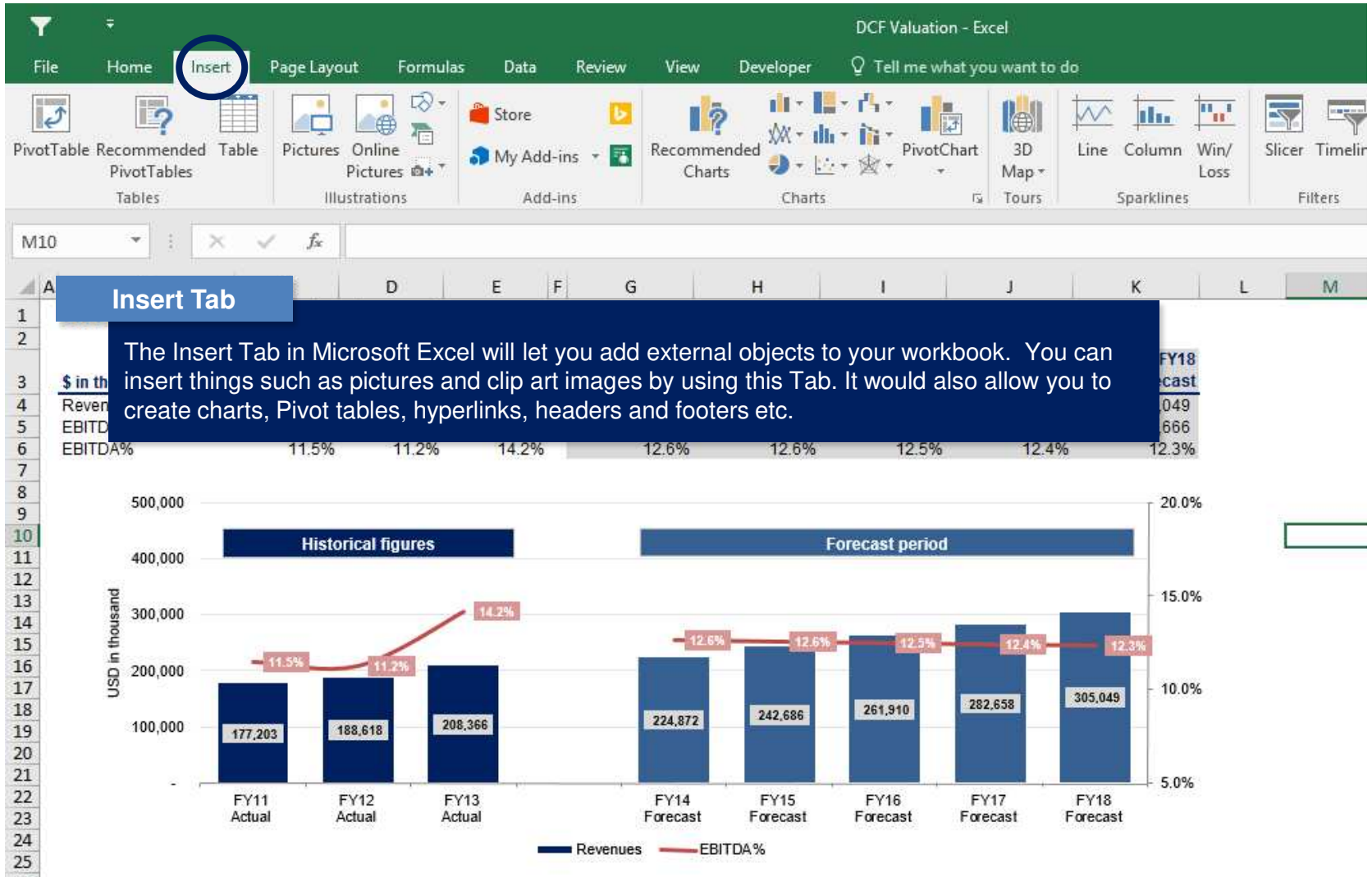


Home Tab

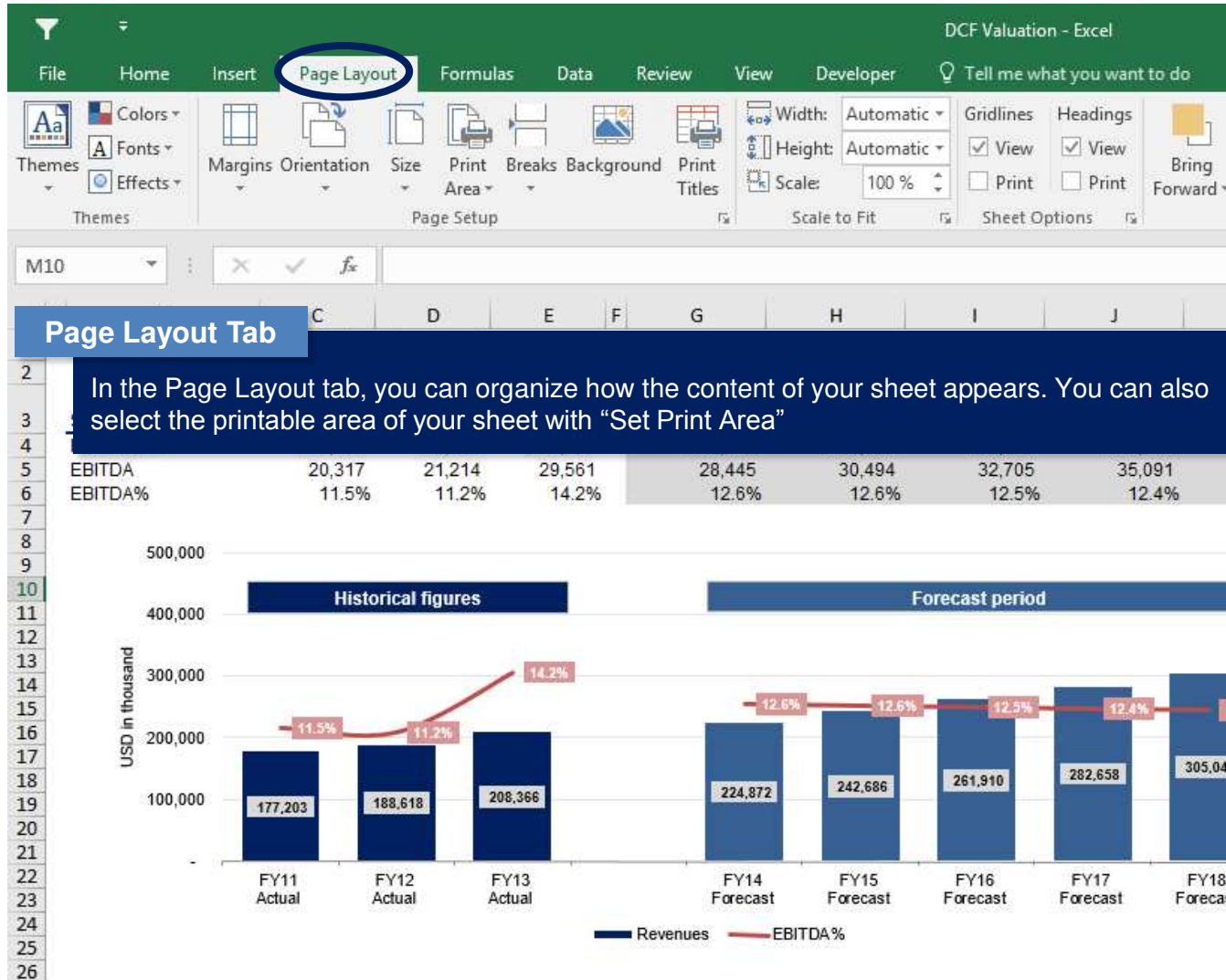
The Home tab contains some of the most frequently used properties. It includes buttons such as Cut, Copy and Paste which can transfer text, data or objects within your files. Most of the formatting options are included here as well. You will find features such as Font, Font Size, Borders of cells, Text color, Alignment etc. Within the Home tab, we can find also the “Find & Select” tool, which is very useful in certain situations



Explore the Ribbon Tabs: Insert

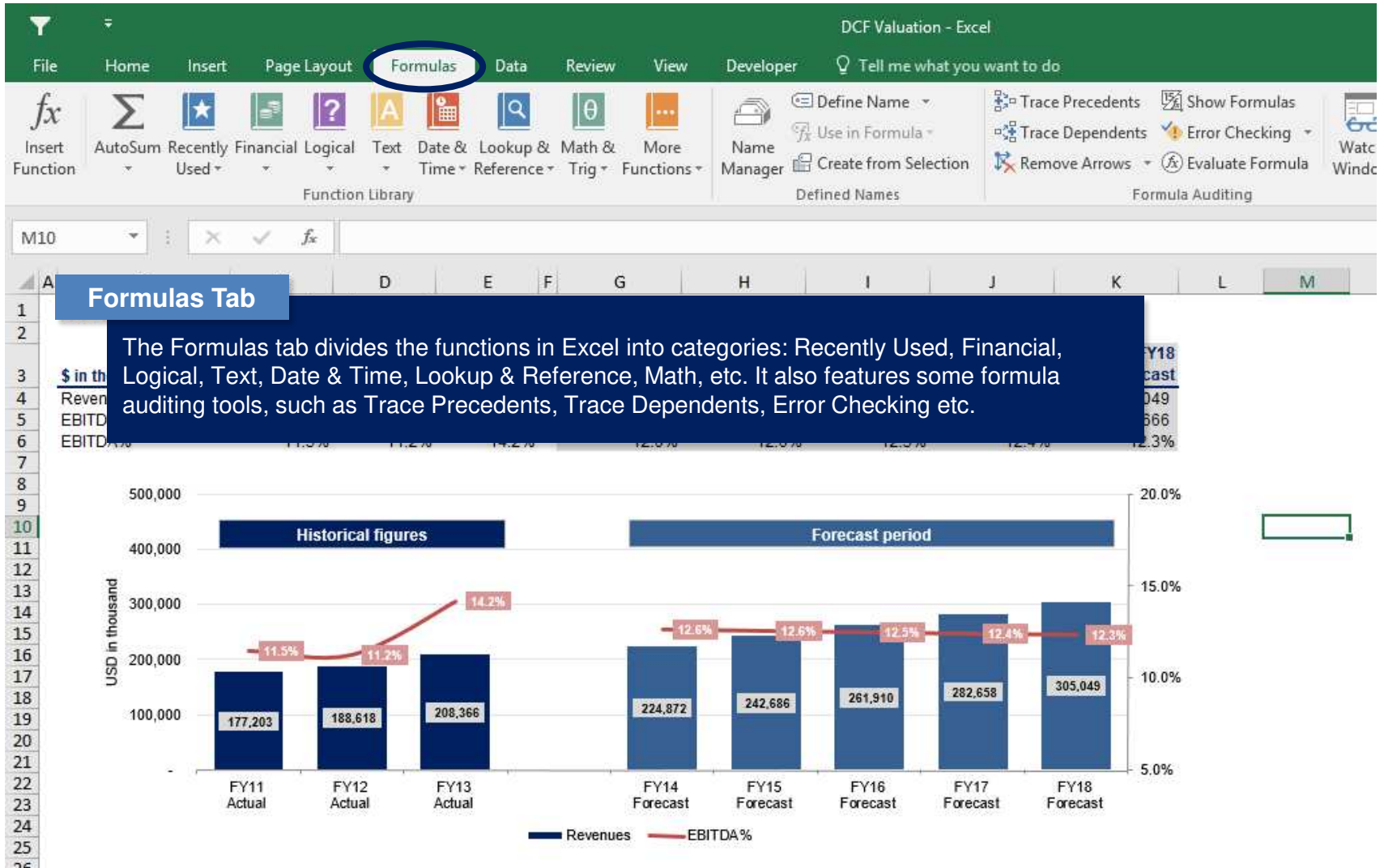


Explore the Ribbon Tabs: Page Layout



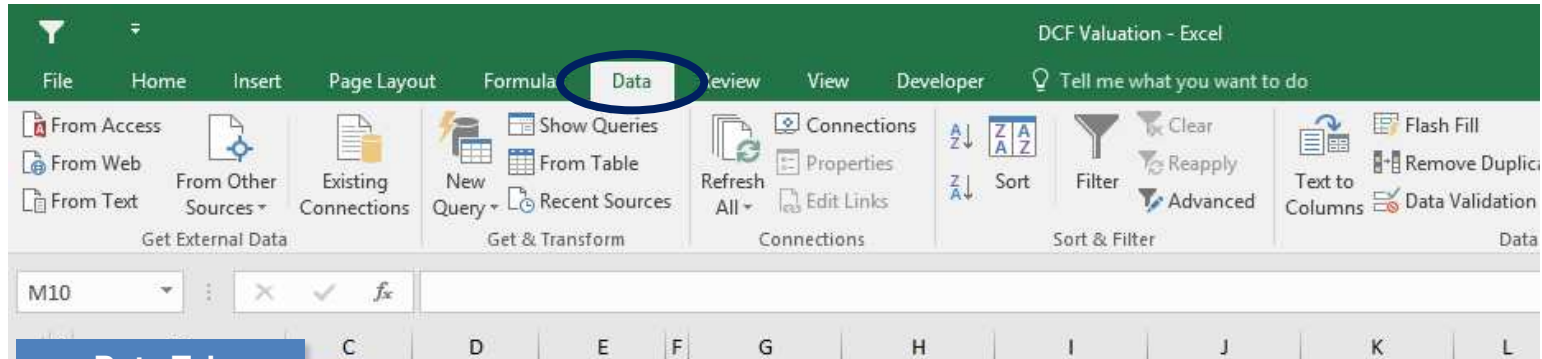
Explore the Ribbon Tabs: Formulas

365  Careers



Explore the Ribbon Tabs: Data

365  Careers

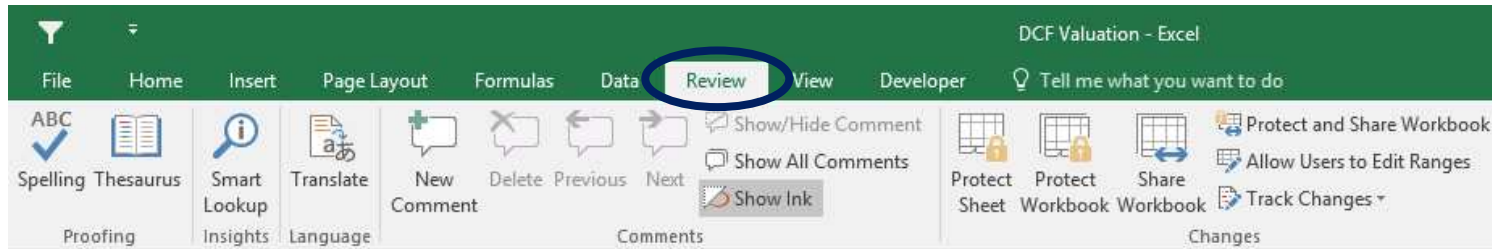


Data Tab

This is where we can find the commands for working with lists and groups of data. Here we have a number of useful applications such as “Remove Duplicates”, “Text to Columns”, “Data Validation”, “What-if analysis” – all of which we will see in detail later in this course. This is also where we find some of the common data management tools such as cell grouping and data sorting



Explore the Ribbon Tabs: Review

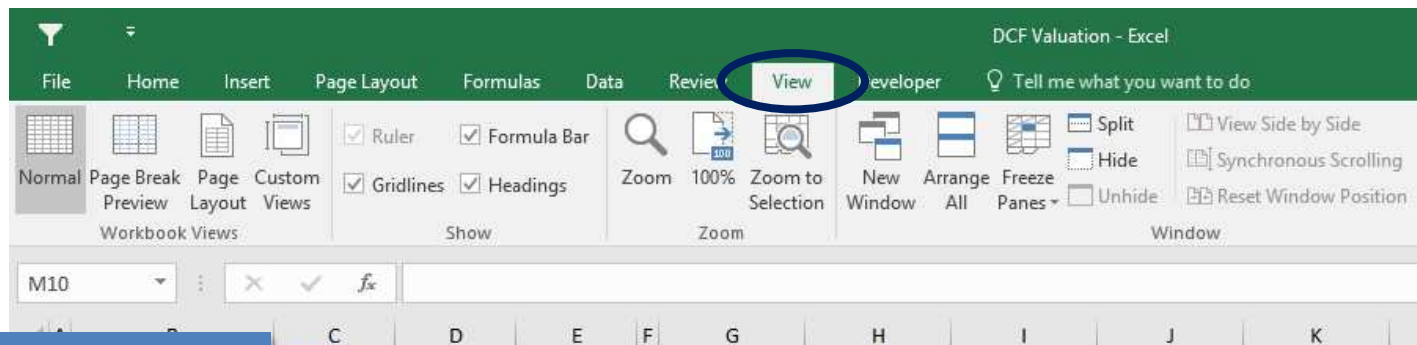


Review Tab

This tab furnishes the instruments which allow you to proofread your Excel files. In addition to that, it enables some protection options as well



Explore the Ribbon Tabs: View



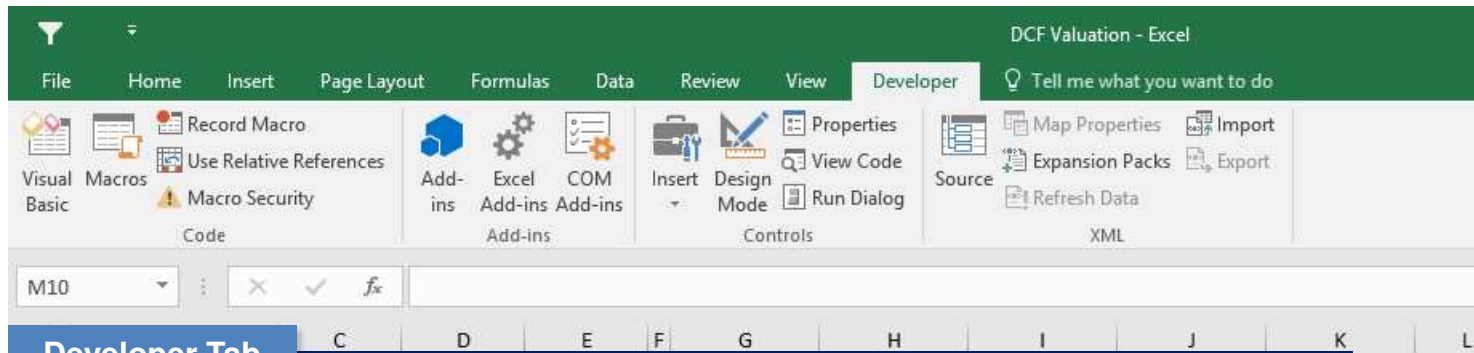
View Tab

The View Tab allows you to customize the way you see your spreadsheet: you can select among different Workbook View options, Zoom options etc.



Explore the Ribbon Tabs: Developer

365  Careers



Developer Tab

Click on the Developer Tab in order to record, run, write and in general operate with Macros

	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
Revenues	177,203	188,618	208,366	224,872	242,686	261,910	282,658	305,049
EBITDA	20,317	21,214	29,561	28,445	30,494	32,705	35,091	37,666
EBITDA%	11.5%	11.2%	14.2%	12.6%	12.6%	12.5%	12.4%	12.3%



Right-click on a cell

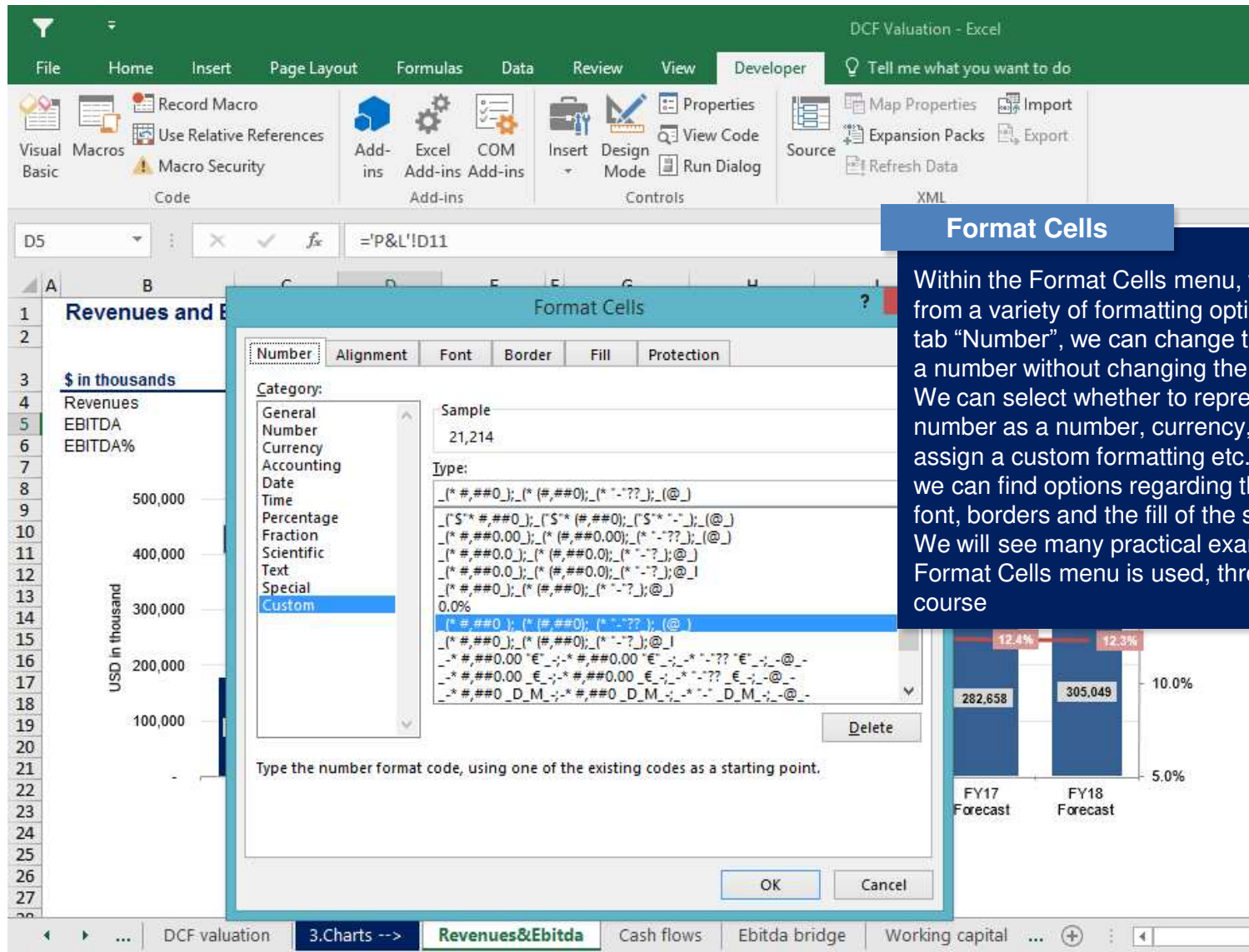
Right-click on a cell

A number of options are available when you right-click on a cell. You can copy its content, paste the content of a previously copied cell, shift its position (insert or delete), format the cell etc.

The screenshot displays an Excel spreadsheet titled "DCF Valuation - Excel". The active cell is D5, containing the formula `=P&L!D11`. A right-click context menu is open over cell D5, showing various options. The background data is as follows:

	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Actual	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
Revenues	177,203	188,618	208,368	224,872	242,686	261,910	282,658	305,049
EBITDA	20,317	21,500	22,500	23,500	30,494	32,705	35,091	37,666
EBITDA%	11.5%	11.2%	11.0%	10.5%	12.6%	12.5%	12.4%	12.3%

Two bar charts are visible: "Historical figures" for FY11 and FY12, and "Forecast period" for FY14 through FY18. The EBITDA% is shown as a line chart with markers above the bars.



Format Cells

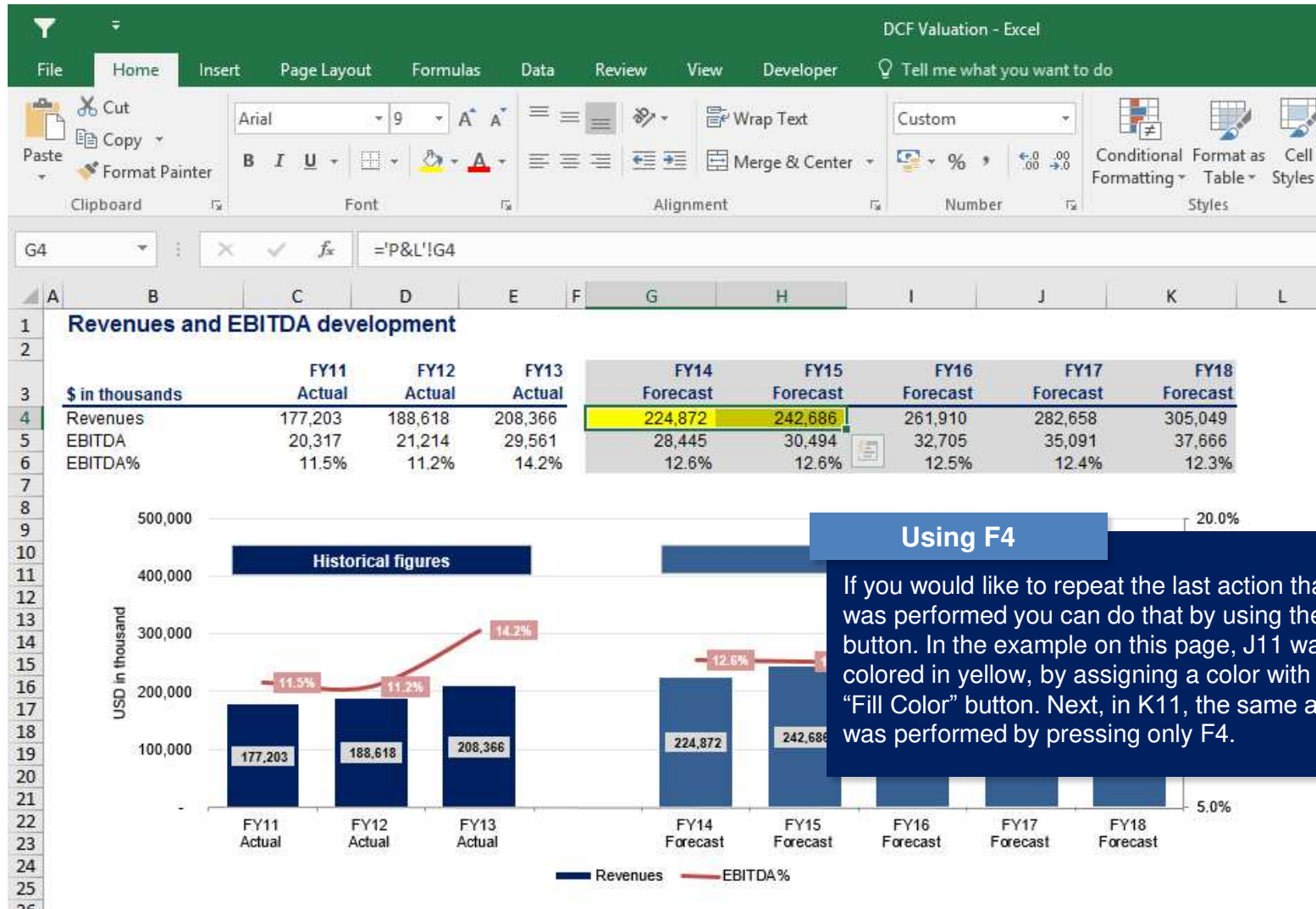
Within the Format Cells menu, we can select from a variety of formatting options. In the first tab "Number", we can change the appearance of a number without changing the number itself. We can select whether to represent a certain number as a number, currency, text, date, assign a custom formatting etc. In the other tabs we can find options regarding the alignment, font, borders and the fill of the selected cell/cells. We will see many practical examples of how the Format Cells menu is used, throughout the course

Category	Type
General	Sample: 21,214
Number	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Currency	_(" \$ " * #,##0);_(" £ " * #,##0);_(" € " * #,##0);_(@_)
Accounting	_(* #,##0.00);_(* (#,##0.00);_(* "-??");_(@_)
Date	_(* #,##0.0);_(* (#,##0.0);_(* "-??");_(@_)
Time	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Percentage	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Fraction	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Scientific	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Text	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Special	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)
Custom	_(* #,##0);_(* (#,##0);_(* "-??");_(@_)

Type the number format code, using one of the existing codes as a starting point.

OK Cancel

Repeat the last action (F4)



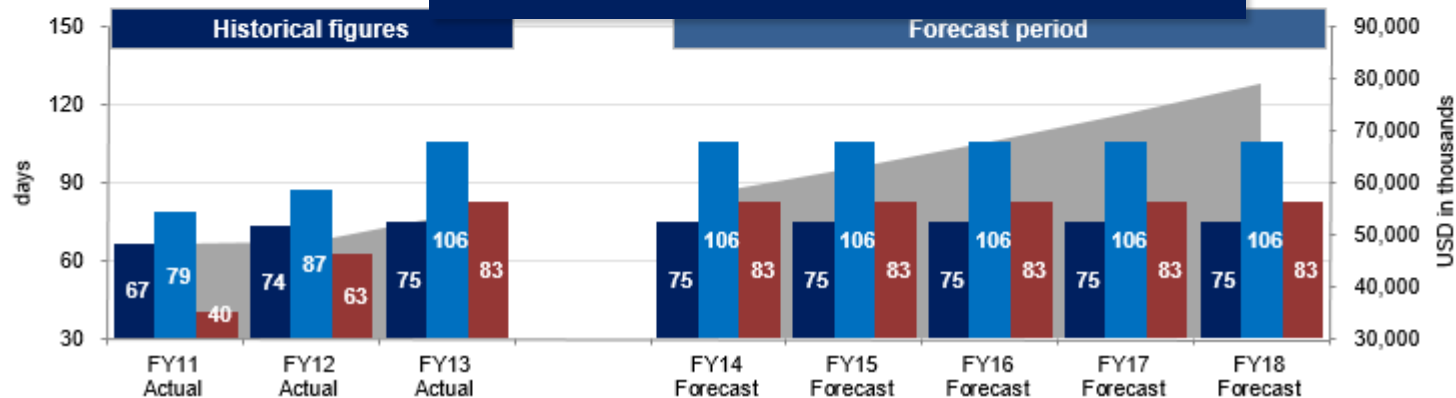
Editing a cell's content

	A	B	C	D	E	F	G	H	I	J	K	L
1		Working capital										
2												
3												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												

Editing with F2

You can edit the content of a cell by selecting it and then clicking F2. Performing such an action would allow you to start typing directly in the Formula Bar

FY11-FY18: Working capital development



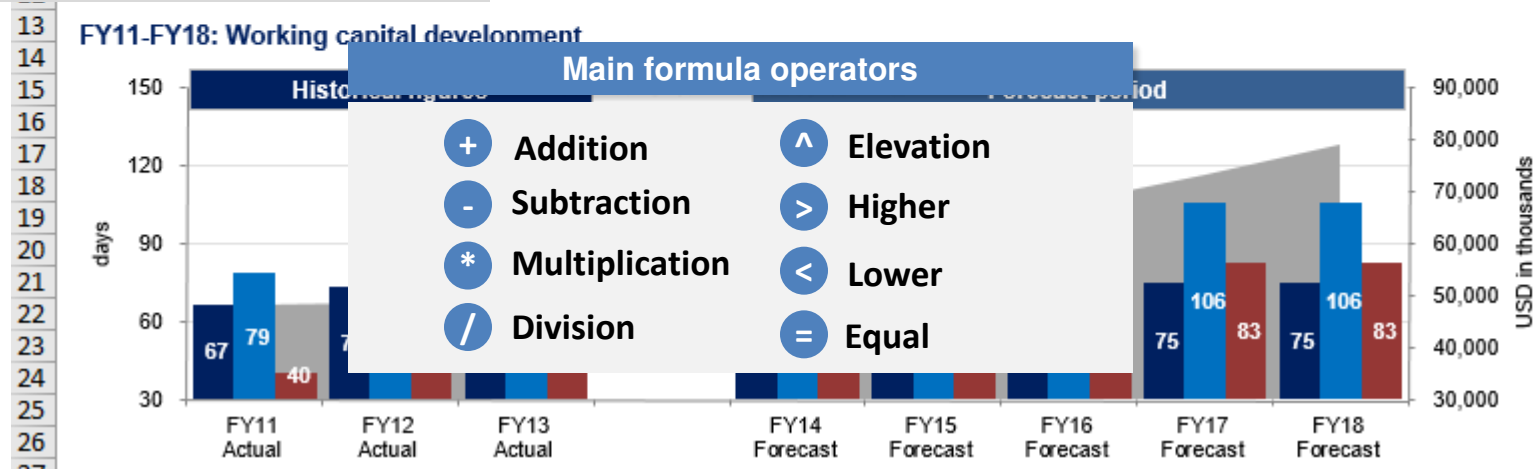
Creating an Excel formula

	A	B	C	D	E	F	G	H	I	J	K	L
1		Working capital										
2												
3			FY11	FY12	FY13		FY14	FY15	FY16	FY17	FY18	
4		\$ in thousands	Actual	Actual	Actual		Forecast	Forecast	Forecast	Forecast	Forecast	
5		Inventory	31,167	36,397	46,212		51,457	55,533	59,932	64,679	69,803	
6		Trade receivables	32,884	38,556	43,582		47,034	50,760	54,781	59,120	63,804	
7		Trade payable	15,891					43,489	46,934	50,652	54,664	
8		Working capital	48,160							73,148	78,943	

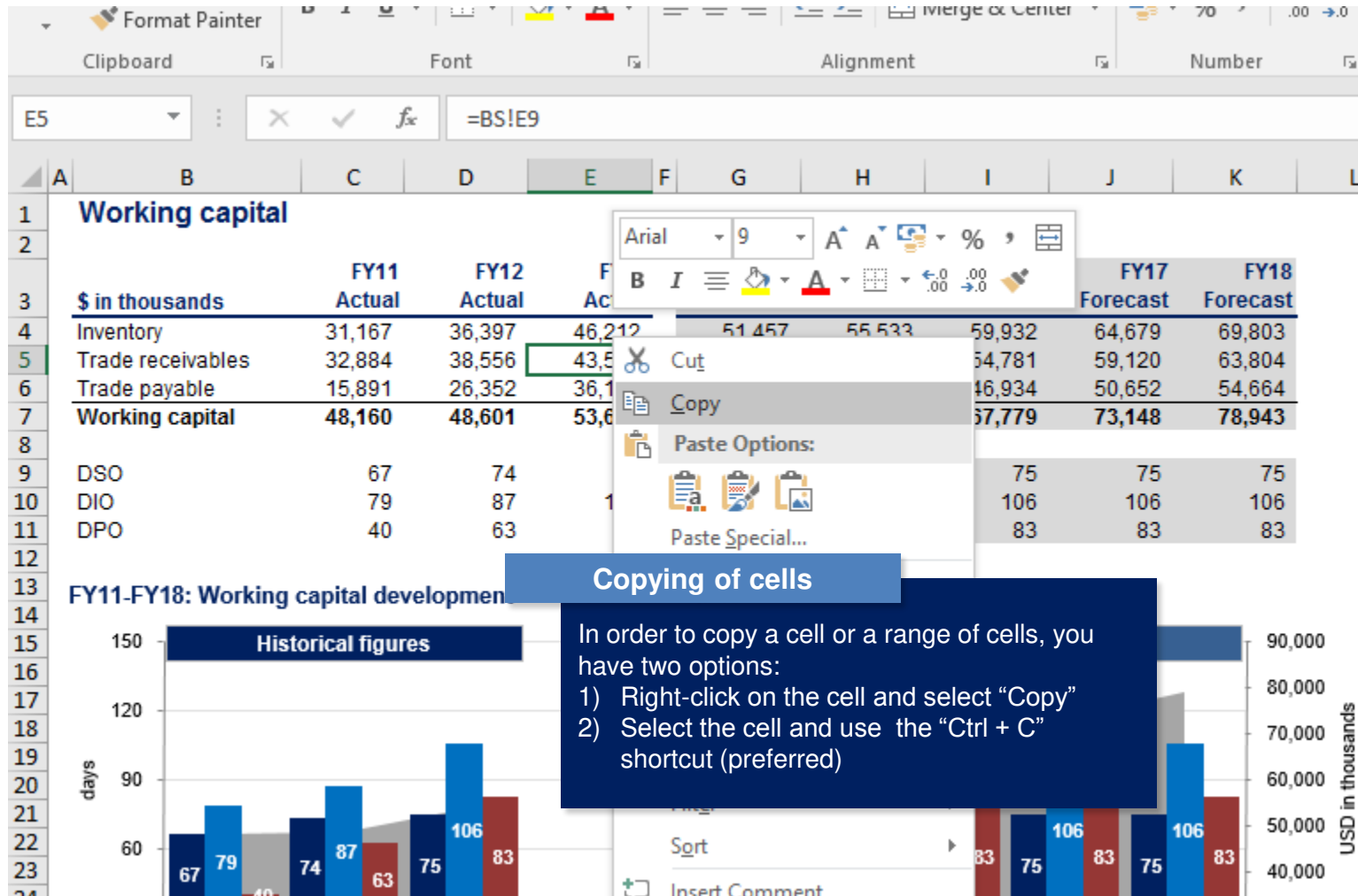
Create an Excel formula

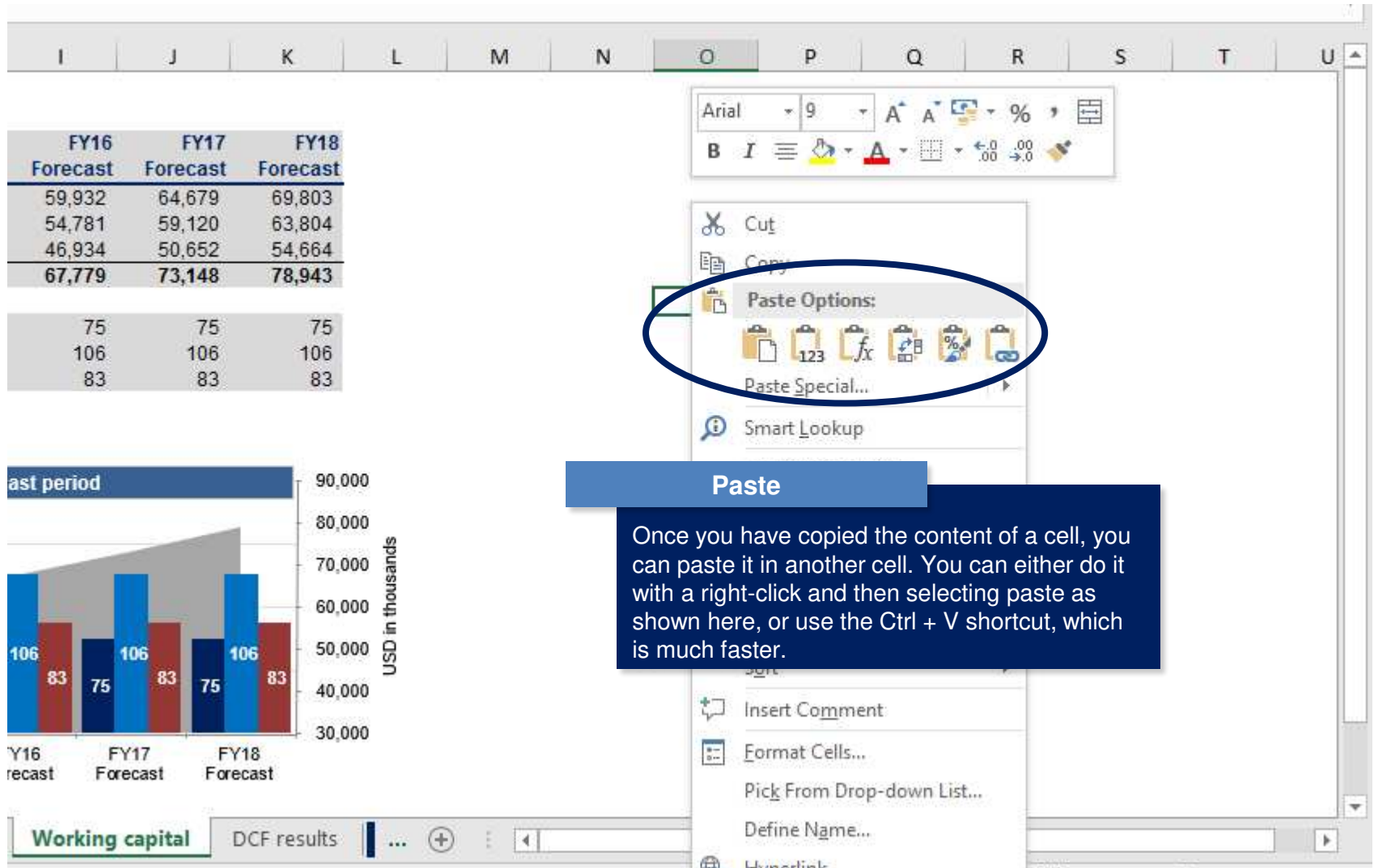
Type equal ("="), select the cells for which you would like to carry out the operations, and introduce the necessary operators (in this example "+")

Type "=" or "+" at the beginning of your formula. By doing this, Excel understands that you would like to create a formula and not just type text



Copying of cells





The screenshot shows an Excel spreadsheet with columns I through U. A table of financial data is visible in the upper left, and a bar chart is in the lower left. The 'Paste' context menu is open, highlighting the 'Paste Options' section. The options include icons for Paste (all), Paste Values (123), Paste Formulas (fx), Paste Formats (A), Paste All Formats (A with a checkmark), Paste Hyperlinks (chain link), and Paste Comments (comment icon). Below the menu, a blue box contains the text: 'Paste. Once you have copied the content of a cell, you can paste it in another cell. You can either do it with a right-click and then selecting paste as shown here, or use the Ctrl + V shortcut, which is much faster.'

	FY16 Forecast	FY17 Forecast	FY18 Forecast
	59,932	64,679	69,803
	54,781	59,120	63,804
	46,934	50,652	54,664
	67,779	73,148	78,943
	75	75	75
	106	106	106
	83	83	83

Bar chart data (USD in thousands):

Period	Y16 recast	FY17 Forecast	FY18 Forecast
106	106	106	106
83	83	83	83
75	75	75	75

Working capital | DCF results

	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

FY12	FY13	FY14	FY15	FY16	FY17	FY18
Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
397	46,212	51,457	55,533	59,932	64,679	69,803
556	43,582	47,034	50,760	54,781	59,120	63,804
352	36,190	40,297	43,489	46,934	50,652	54,664
601	53,604	58,194	62,804	67,779	73,148	78,943
74	75	75	75	75	75	75
87	106	106	106	106	106	106
63	83	83	83	83	83	83

ient

Paste Special (Alt + E + S)

The Paste Special dialog box (which you can open by using the “Alt + E + S” shortcut) provides many pasting options. For example, you can choose to paste only the formulas of the copied cells, paste the values of the copied cells, or paste only the format of the copied cells etc.

USD in thousands

Paste Special

Paste

☒ All
 ☐ Formulas
 ☐ Values
 ☐ Formats
 ☐ Comments
 ☐ Validation

☐ All using Source theme
 ☐ All except borders
 ☐ Column widths
 ☐ Formulas and number formats
 ☐ Values and number formats
 ☐ All merging conditional formats

Operation

☒ None
 ☐ Add
 ☐ Subtract

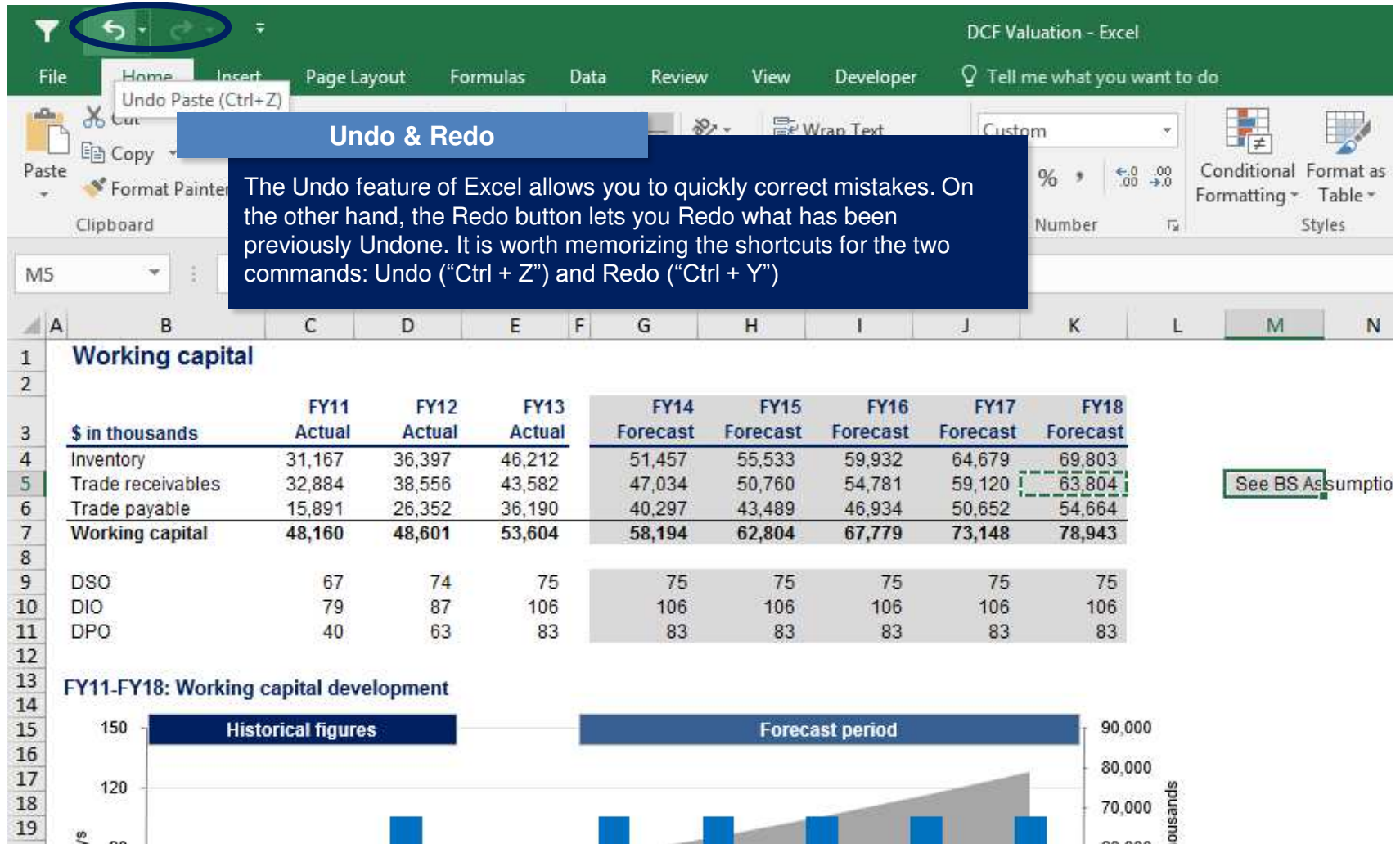
☐ Multiply
 ☐ Divide

☐ Skip blanks
 ☐ Transpose

Paste Link

OK

Cancel



Undo & Redo

The Undo feature of Excel allows you to quickly correct mistakes. On the other hand, the Redo button lets you Redo what has been previously Undone. It is worth memorizing the shortcuts for the two commands: Undo ("Ctrl + Z") and Redo ("Ctrl + Y")

	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
Inventory	31,167	36,397	46,212	51,457	55,533	59,932	64,679	69,803
Trade receivables	32,884	38,556	43,582	47,034	50,760	54,781	59,120	63,804
Trade payable	15,891	26,352	36,190	40,297	43,489	46,934	50,652	54,664
Working capital	48,160	48,601	53,604	58,194	62,804	67,779	73,148	78,943
DSO	67	74	75	75	75	75	75	75
DIO	79	87	106	106	106	106	106	106
DPO	40	63	83	83	83	83	83	83

FY11-FY18: Working capital development

The chart shows historical figures (FY11-FY13) and forecast period (FY14-FY18). The y-axis represents values in thousands, ranging from 60,000 to 150,000. The historical figures are shown as blue bars, and the forecast period is shown as a grey area chart.

See BS Assumption

Select an area of cells

