The Power Modeling Bootcamp: Course Notes

365 Careers

Tips and Tricks

Ctrl + Brackets

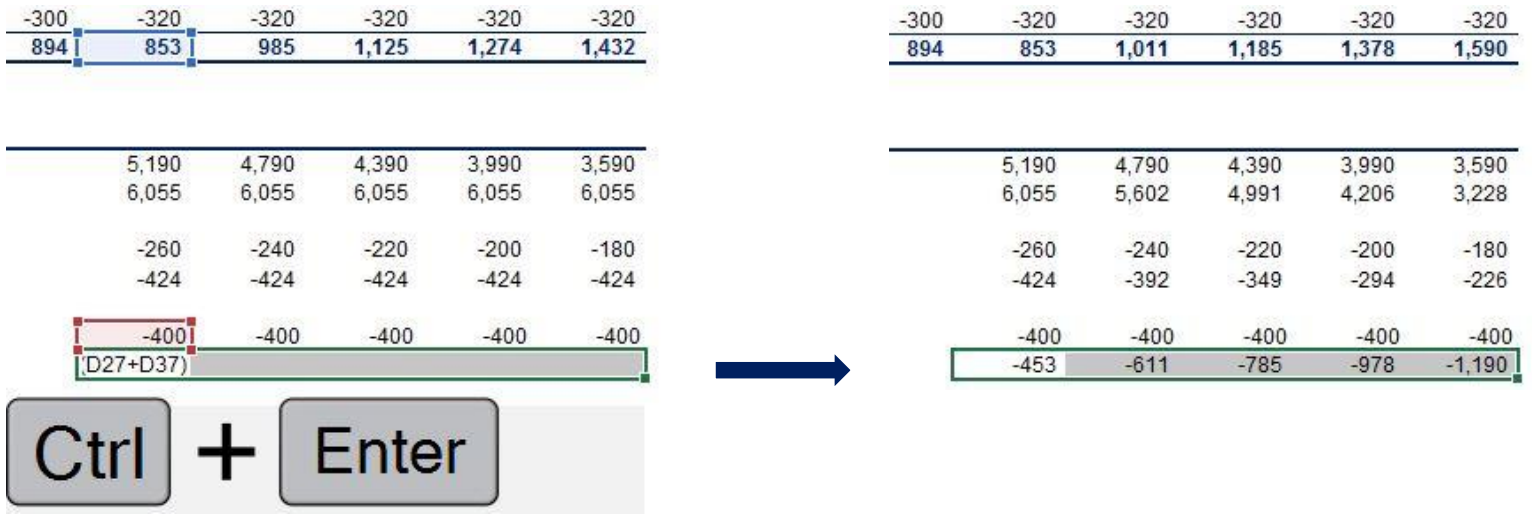
-23%	-21%	-21%	-21%	-21%	-21%
45%	49%	49%	49%	49%	49%
944	812	967	1,138	1,327	1,536
300	320	320	320	320	320
-50	41	44	47	50	54
-300	-320	-320	-320	-320	-320
894	**853**	**1,011**	**1,185**	**1,378**	**1,590**
	5,190	4,790	4,390	3,990	3,590
	6,055	5,602	4,991	4,206	3,228

	Interest rate
Term A	5%
Term B	7%
Financial Sponsors	
Acquisition premium	30%
Equity Value with premium	9,555
Enterprise Value at acquisition	14,675
Maximum amount of debt:	
Term A	5,190
Term B	6,055
Total Debt	**11,245**
Equity needed	**3,430**

It takes concentration to locate the right cells included in the formulas within a spreadsheet.

By holding the Ctrl key and pressing the brackets, you could explore the interactions between cells and the formulas in Excel sheets.

Ctrl + Enter

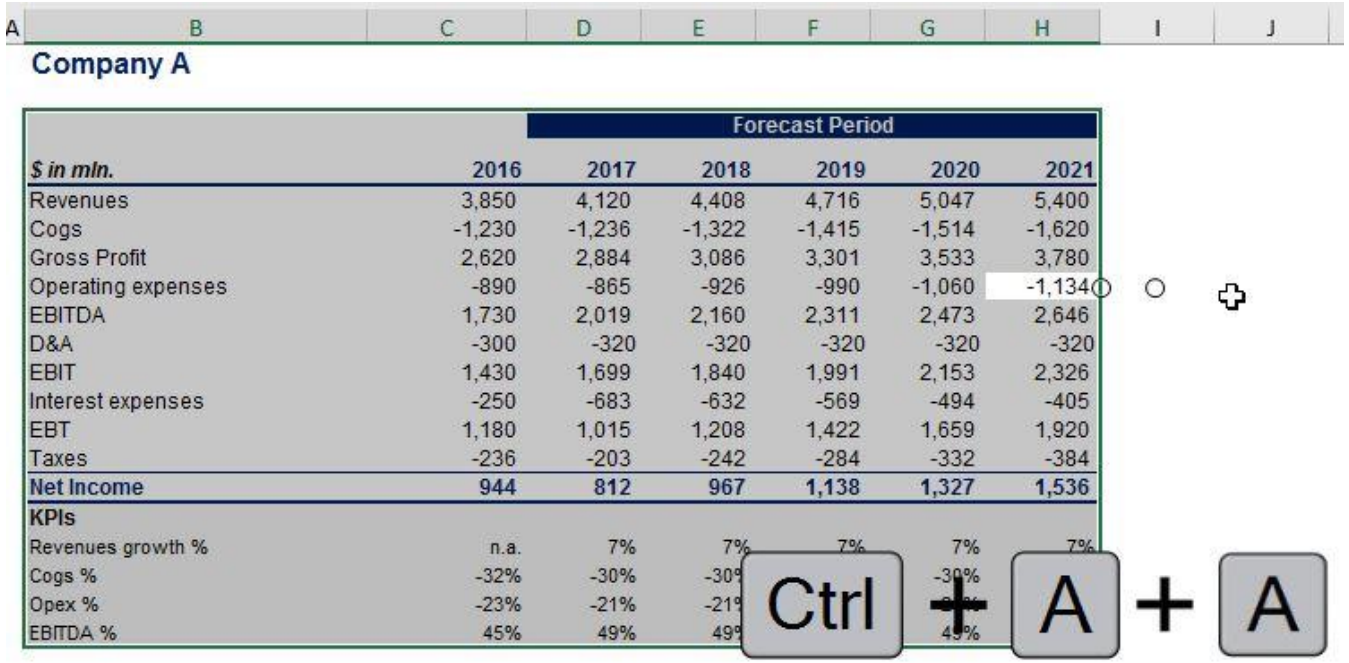


This shortcut is going to speed-up the process of copying cells

Select all the cells in which you will use the formula, and type it as if you were writing the formula only for the first of the five cells. Here is the trick: Instead of pressing Enter, hold the Ctrl key first, and then, press Enter.

Consider that Excel transposes the reference cells to the right correctly; it does this automatically for you.

Remember the logic – for more than one cell – hold the ctrl key before pressing Enter!



Every time you press A while holding the Ctrl button, a bigger area is selected. If the selected cell is within a table, the ***Ctrl and A*** command will select the whole table, but not the entire sheet. You need to press A a second time to select the whole table.

Often, you won't be able to fit everything you have in one sheet on the screen. But if you press ***Ctrl and F1***, the ribbon will disappear. And this opens some space.

Well, if you hold both the Ctrl and the Shift keys and then press F1, you can hide the menu bar, too! And this will free up even more space!

To get back to the previous situation, repeat the combinations: Ctrl plus Shift plus F1 for the menu bar, and Ctrl and F1 for the ribbon.

Drag with Shift

Financial Sponsors	
Acquisition premium	30%
Equity Value with premium	9,555
Enterprise Value at acquisition	14,675
Maximum amount of debt:	
Term A	5,190
Term B	6,055
Total Debt	**11,245**

Debt Facilities	
	EBITDA multiple
Term A	3.0
Term B	3.5
	Interest rate
Term A	5%
Term B	7%
Equity needed	**3,430**

L31:M38

Debt Facilities	
	EBITDA multiple
Term A	3.0
Term B	3.5
	Interest rate
Term A	5%
Term B	7%

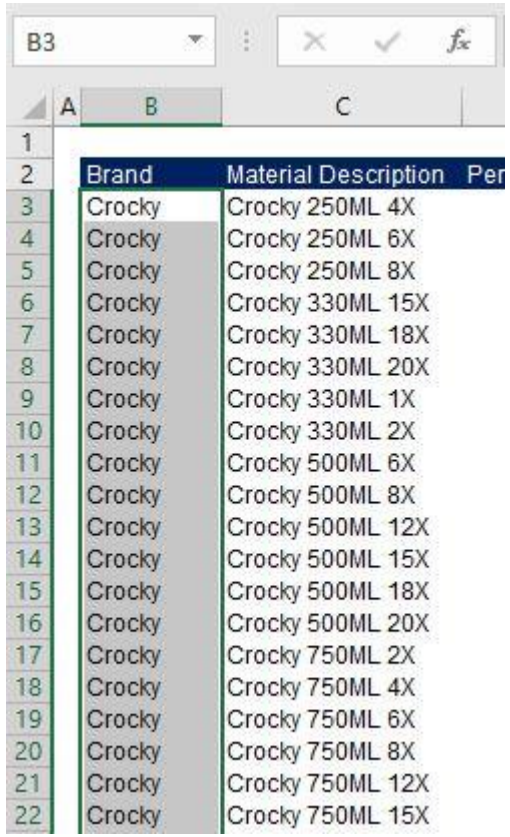
Financial Sponsors	
Acquisition premium	30%
Equity Value with premium	9,555
Enterprise Value at acquisition	14,675
Maximum amount of debt:	
Term A	5,190
Term B	6,055
Total Debt	**11,245**

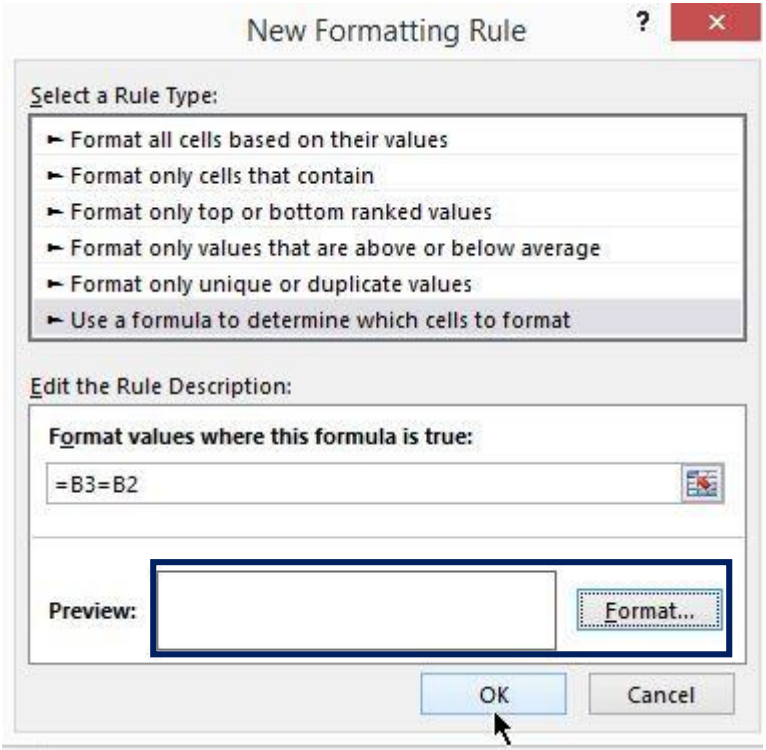
Equity needed	**3,430**

Imagine you wanted to switch the two tables you see here - Debt Facilities and Financial Sponsors.

Select the Financial Sponsors table, ***hold the Shift key***. Then “grab” the table and drag it to the place you would like it to be in. The thick green line that appears indicates where the table would be positioned. Once you’ve found the right place, release the left mouse button. In addition, all the calculations in the sheet will remain intact!

Hide Repeating Column Titles





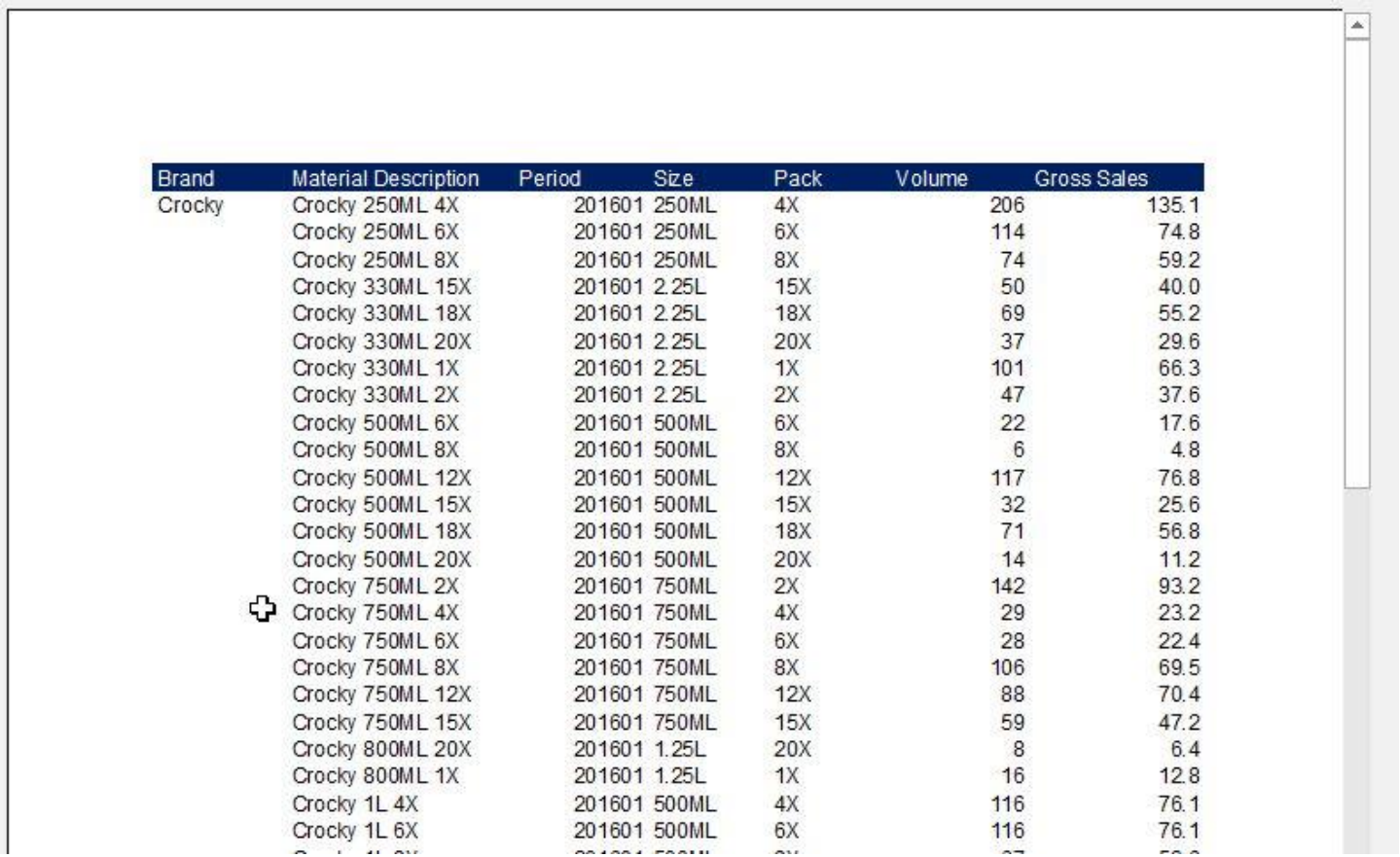
The letters could be made appear white, so they will not be visible on the printed white paper!

If you think some names in the first column are redundant, here's what you can do.

The trick is to apply a specific conditional formatting.

Create a new rule, but this time, focus on using a formula that determines which cells to format. The formula should start with "equals B3", which is the first cell in the range. Next, type "equals B2". That is, formatting to be applied only if the information in a given cell coincides with the information in the cell above.

Hide Repeating Column Titles

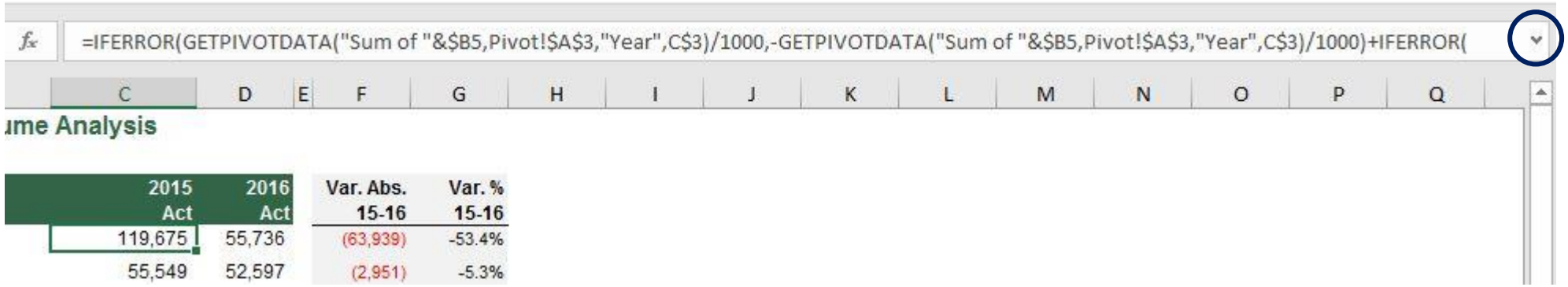


Brand	Material Description	Period	Size	Pack	Volume	Gross Sales
Crocky	Crocky 250ML 4X	201601	250ML	4X	206	135.1
	Crocky 250ML 6X	201601	250ML	6X	114	74.8
	Crocky 250ML 8X	201601	250ML	8X	74	59.2
	Crocky 330ML 15X	201601	2.25L	15X	50	40.0
	Crocky 330ML 18X	201601	2.25L	18X	69	55.2
	Crocky 330ML 20X	201601	2.25L	20X	37	29.6
	Crocky 330ML 1X	201601	2.25L	1X	101	66.3
	Crocky 330ML 2X	201601	2.25L	2X	47	37.6
	Crocky 500ML 6X	201601	500ML	6X	22	17.6
	Crocky 500ML 8X	201601	500ML	8X	6	4.8
	Crocky 500ML 12X	201601	500ML	12X	117	76.8
	Crocky 500ML 15X	201601	500ML	15X	32	25.6
	Crocky 500ML 18X	201601	500ML	18X	71	56.8
	Crocky 500ML 20X	201601	500ML	20X	14	11.2
	Crocky 750ML 2X	201601	750ML	2X	142	93.2
	Crocky 750ML 4X	201601	750ML	4X	29	23.2
	Crocky 750ML 6X	201601	750ML	6X	28	22.4
	Crocky 750ML 8X	201601	750ML	8X	106	69.5
	Crocky 750ML 12X	201601	750ML	12X	88	70.4
	Crocky 750ML 15X	201601	750ML	15X	59	47.2
	Crocky 800ML 20X	201601	1.25L	20X	8	6.4
	Crocky 800ML 1X	201601	1.25L	1X	16	12.8
	Crocky 1L 4X	201601	500ML	4X	116	76.1
	Crocky 1L 6X	201601	500ML	6X	116	76.1

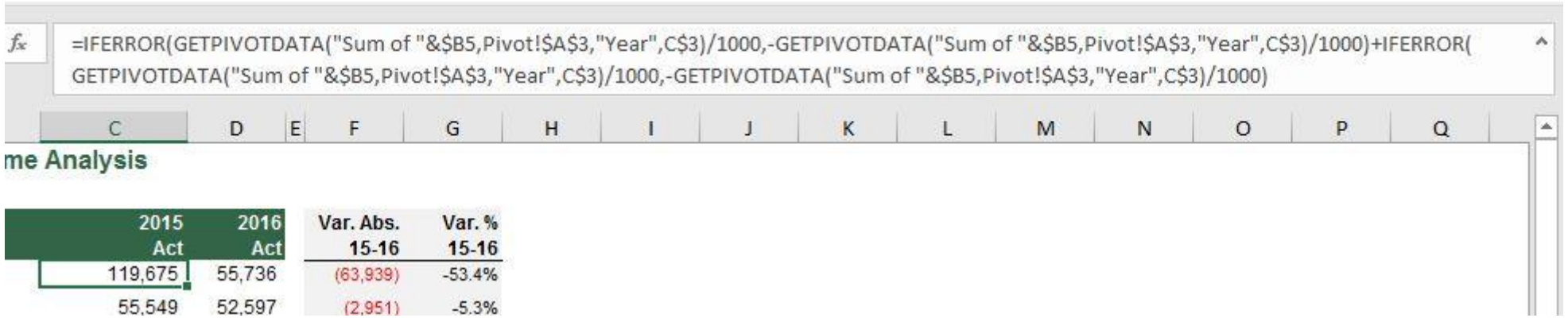
Make a quick check in the print menu.

To undo the whole trick, simply clear the rule.

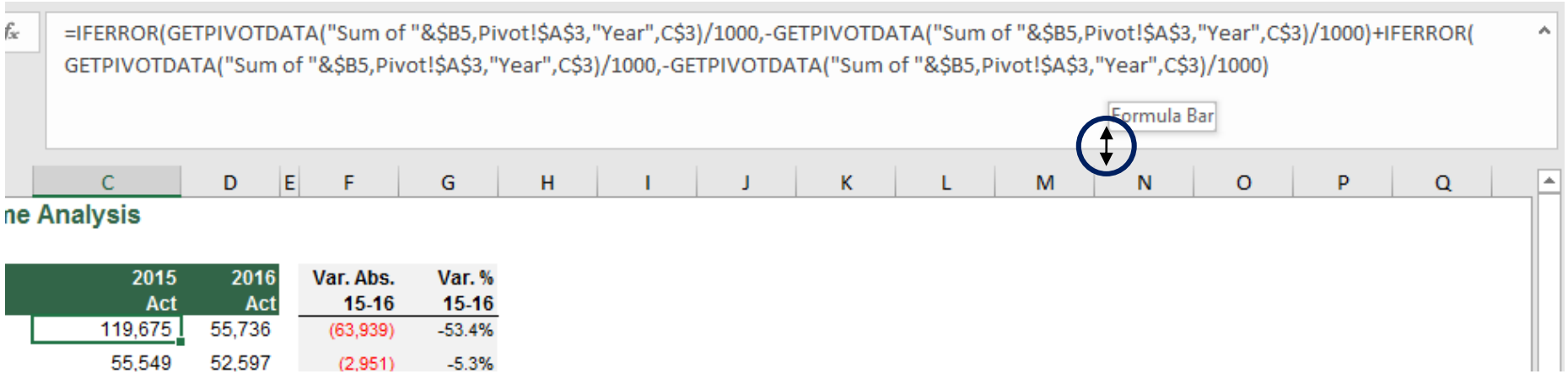
Formula Bar



At times, formulas can get really long, and after a while, a part of them can be hidden, as in this case. The formula bar can be expanded by clicking on this tiny arrow on the right.



Formula Bar



You could drag its lower border down if you would like to extend it even more. To get it back to its previous dimensions, either drag it back… or close it by pressing the tiny arrow again.

Select special

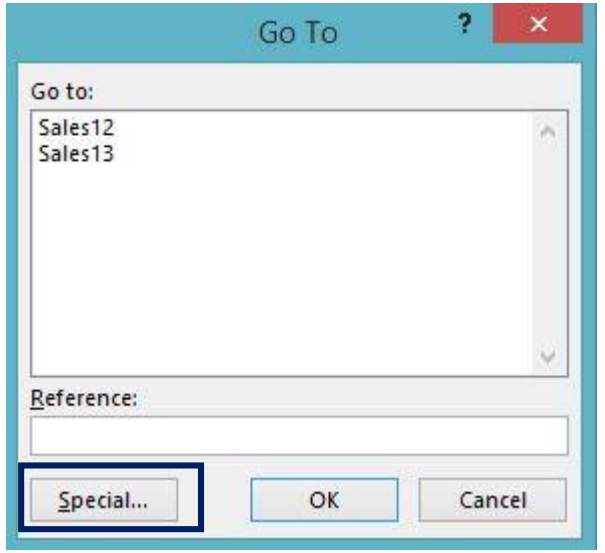
Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	|13/12/38|	420	6.0	8.4
2011	Convenience stores	Meat	J&F	|13/13/98|	480	6.1	7.4
2011	Convenience stores	Meat		|13/13/99|			
2011	Convenience stores	Coffee	J&F	|13/01/01|	4836	0.74	0.96
2011	Convenience stores	Coffee	n.a.	|13/01/01a|	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	|13/01/02|	5712	0.89	0.97
2011	Convenience stores	Coffee		|13/01/03|			
2011	Convenience stores	Coffee	J&F	|13/01/04|	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	|13/01/05|	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	|13/01/06|	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	|13/01/07|	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	|13/01/30|	8556	0.99	1.1

Select Special allows users to select a range of cells simultaneously based on a specific criterion.

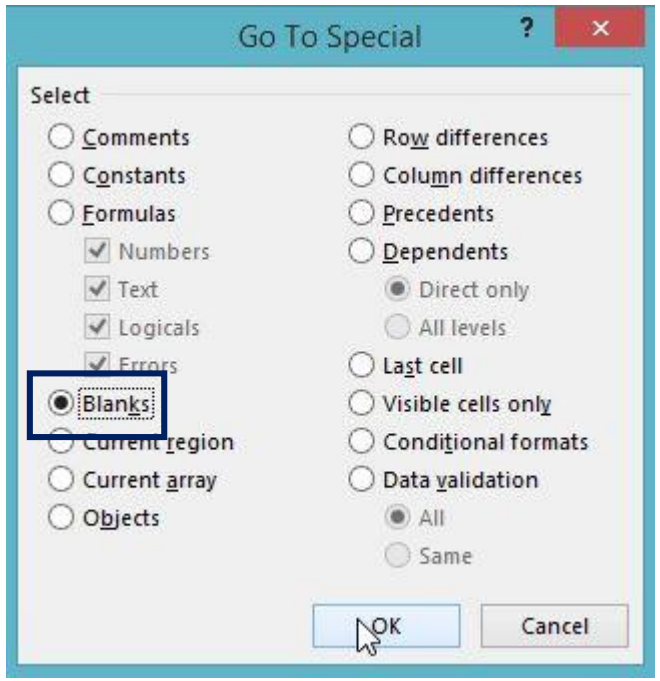
Select special

Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	|13/12/38|	420	6.0	8.4
2011	Convenience stores	Meat	J&F	|13/13/98|	480	6.1	7.4
2011	Convenience stores	Meat		|13/13/99|			
2011	Convenience stores	Coffee	J&F	|13/01/01|	4836	0.74	0.96
2011	Convenience stores	Coffee	n.a.	|13/01/01a|	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	|13/01/02|	5712	0.89	0.97
2011	Convenience stores	Coffee		|13/01/03|			
2011	Convenience stores	Coffee	J&F	|13/01/04|	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	|13/01/05|	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	|13/01/06|	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	|13/01/07|	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	|13/01/30|	8556	0.99	1.1

F5



You select a range of cells, click F5 and select the “Special” button.



Select special

Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	|13/12/38|	420	6.0	8.4
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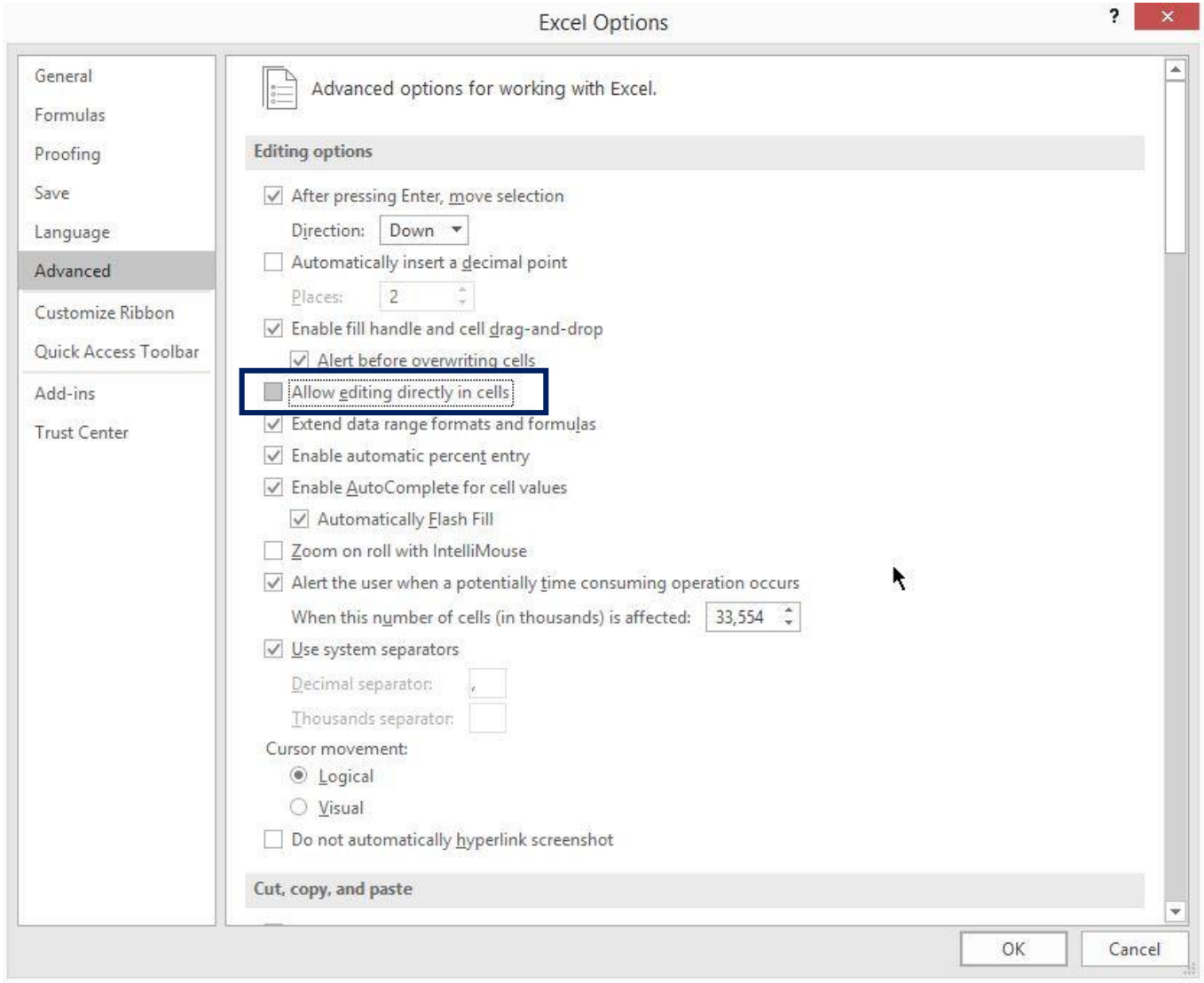
2011	Convenience stores	Meat		|13/13/99|			
2011	Convenience stores	Coffee	J&F	|13/01/01|	4836	0.74	0.96
2011	Convenience stores	Coffee	n.a.	|13/01/01a|	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	|13/01/02|	5712	0.89	0.97
2011	Convenience stores	Coffee		|13/01/03|			
2011	Convenience stores	Coffee	J&F	|13/01/04|	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	|13/01/05|	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	|13/01/06|	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	|13/01/07|	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	|13/01/30|	8556	0.99	1.1

Choose the criterion according to which you would like to select some of the cells within the range. For example, select the blank cells in our table. Click on blanks, and all blank cells in the table will be selected. You can do the same thing for cells containing formulas, constants, comments, etc.

Double-Click and Go Back (F5)



First, you must make an adjustment to the default options in Excel. After you open the ***Options*** window, select the ***Advanced*** tab and make sure the "*Allow editing directly in cells*" box is unticked.

By doing this, you are telling Excel you don't want to edit cells when you double-click on them. Instead, it will do something much more useful – take you to the source cell, even if it is in a different sheet.

Double-Click and Go Back (F5)

Company A

Cash Flow Calculation

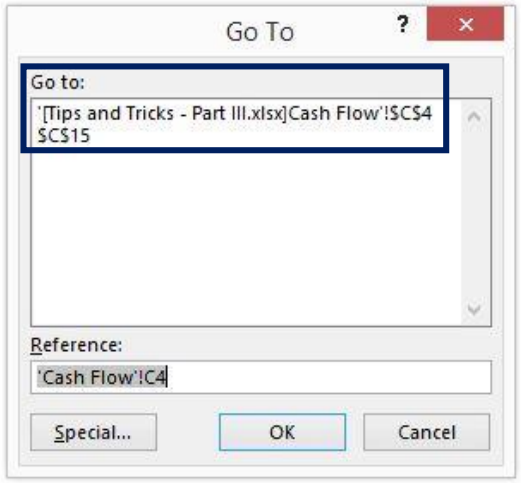
Net Income	944	812	967	1,138	1,327	1,536
Add-back D&A	300	320	320	320	320	320
Change in Working Capital	-50	41	44	47	50	54
CAPEX				0	-320	-320
Cash avialble for reimbursen				5	1,378	1,590

Double-click

The roundtrip is completed by using the double click of the mouse and the Go To command, that is, pressing the F5 key.

Company A

	Forecast Period					
$ in mln.	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Revenues	3,850	4,120	4,408	4,716	5,047	5,400
Cogs	-1,230	-1,236	-1,322	-1,415	-1,514	-1,620
Gross Profit	2,620	2,884	3,086	3,301	3,533	3,780
Operating expenses	-890	-865	-926	-990	-1,060	-1,134
EBITDA	1,730	2,019	2,160	2,311	2,473	2,646
D&A	-300	-320	-320	-320	-320	-320
EBIT	1,430	1,699	1,840	1,991	2,153	2,326
Interest expenses	-250	-683	-632	-569	-494	-405
EBT	1,180	1,015	1,208	1,422	1,659	1,920
Taxes	-236	-203	-242	-284	-332	-384
Net Income	**944**	**812**	**967**	**1,138**	**1,327**	**1,536**
KPIs						
Revenues growth %	n.a.	7%	7%	7%	7%	7%
Cogs %	-32%	-30%	-30%	-30%	-30%	-30%
Opex %	-23%	-21%	-21%	-21%	-21%	-21%
EBITDA %	45%	49%	49%	49%	49%	49%
Debt structure						
Term A Outstanding		5,190	4,790	4,390	3,990	3,590
Term B Outstanding		6,055	5,602	4,991	4,206	3,228

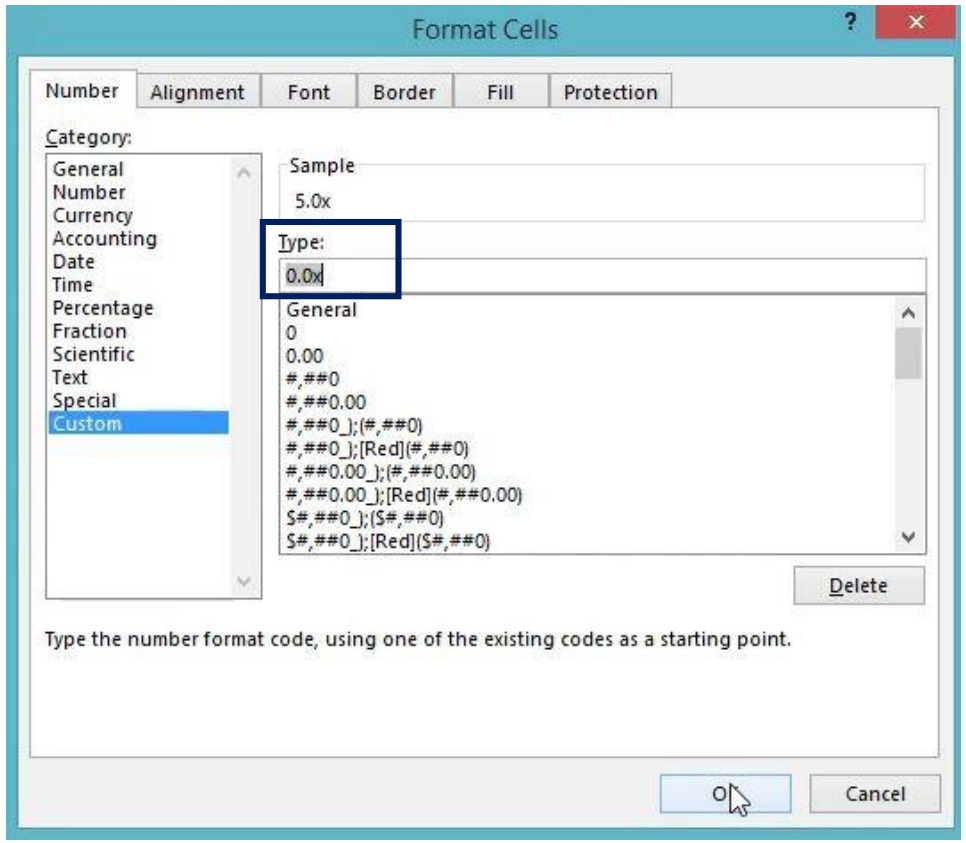


F5

Press the F5 button. The Go To window opens, and you can just press ***Enter*** to go back to the previous sheet. The last cell you used is always placed on top of this list.

Custom Formatting

Very often in your models you will need to represent numbers with a specific formatting.

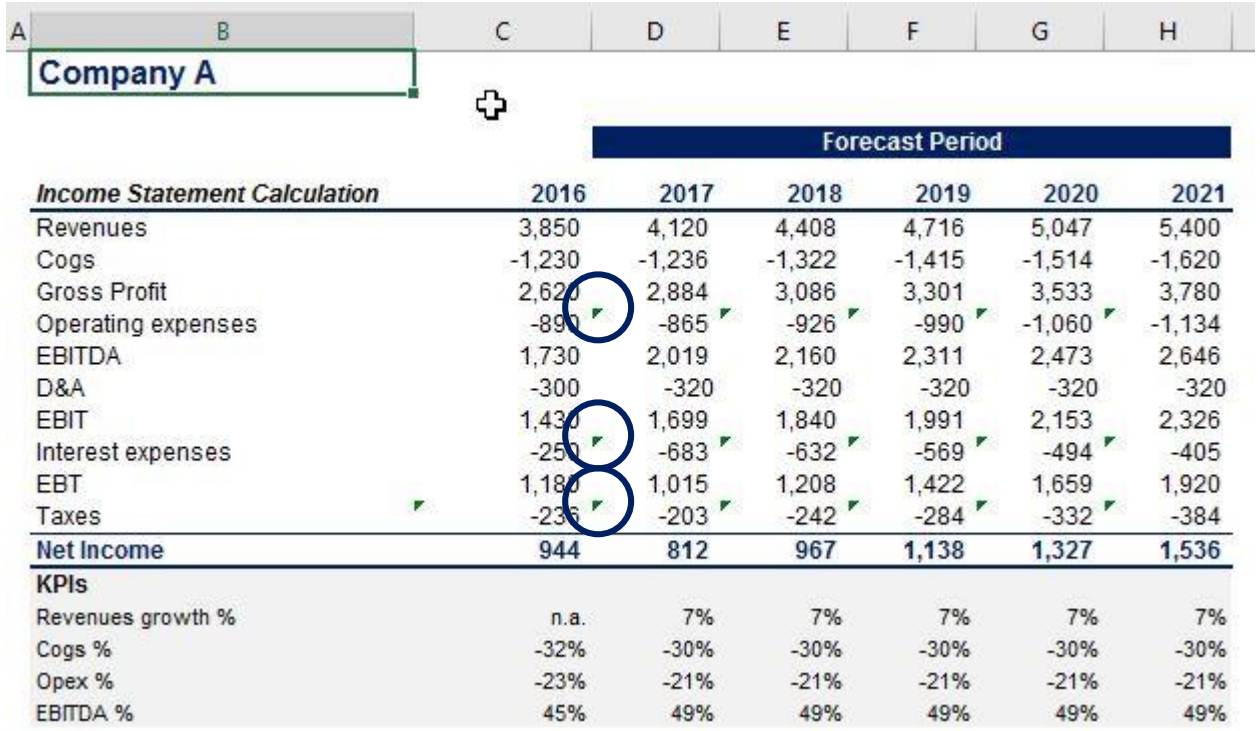


The proper way to do this is to assign a custom formatting to the cell while it is a number. You need to right-click on the cell and select “Format Cells”, once you are there you have to pick “***Custom***” which is on the bottom of the page. Here, you can type any type of format.

If you need a format for a multiple, you’ll have zero point zero X, which results in the required multiple format.

For example, if you multiply the formatted cell by 2, you’ll obtain 10.

Error Checking



Company A

Income Statement Calculation	2016	2017	2018	2019	2020	2021
		Forecast Period				
Revenues	3,850	4,120	4,408	4,716	5,047	5,400
Cogs	-1,230	-1,236	-1,322	-1,415	-1,514	-1,620
Gross Profit	2,620	2,884	3,086	3,301	3,533	3,780
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Taxes	-236	-203	-242	-284	-332	-384
Net Income	**944**	**812**	**967**	**1,138**	**1,327**	**1,536**
KPIs						
Revenues growth %	n.a.	7%	7%	7%	7%	7%
Cogs %	-32%	-30%	-30%	-30%	-30%	-30%
Opex %	-23%	-21%	-21%	-21%	-21%	-21%
EBITDA %	45%	49%	49%	49%	49%	49%

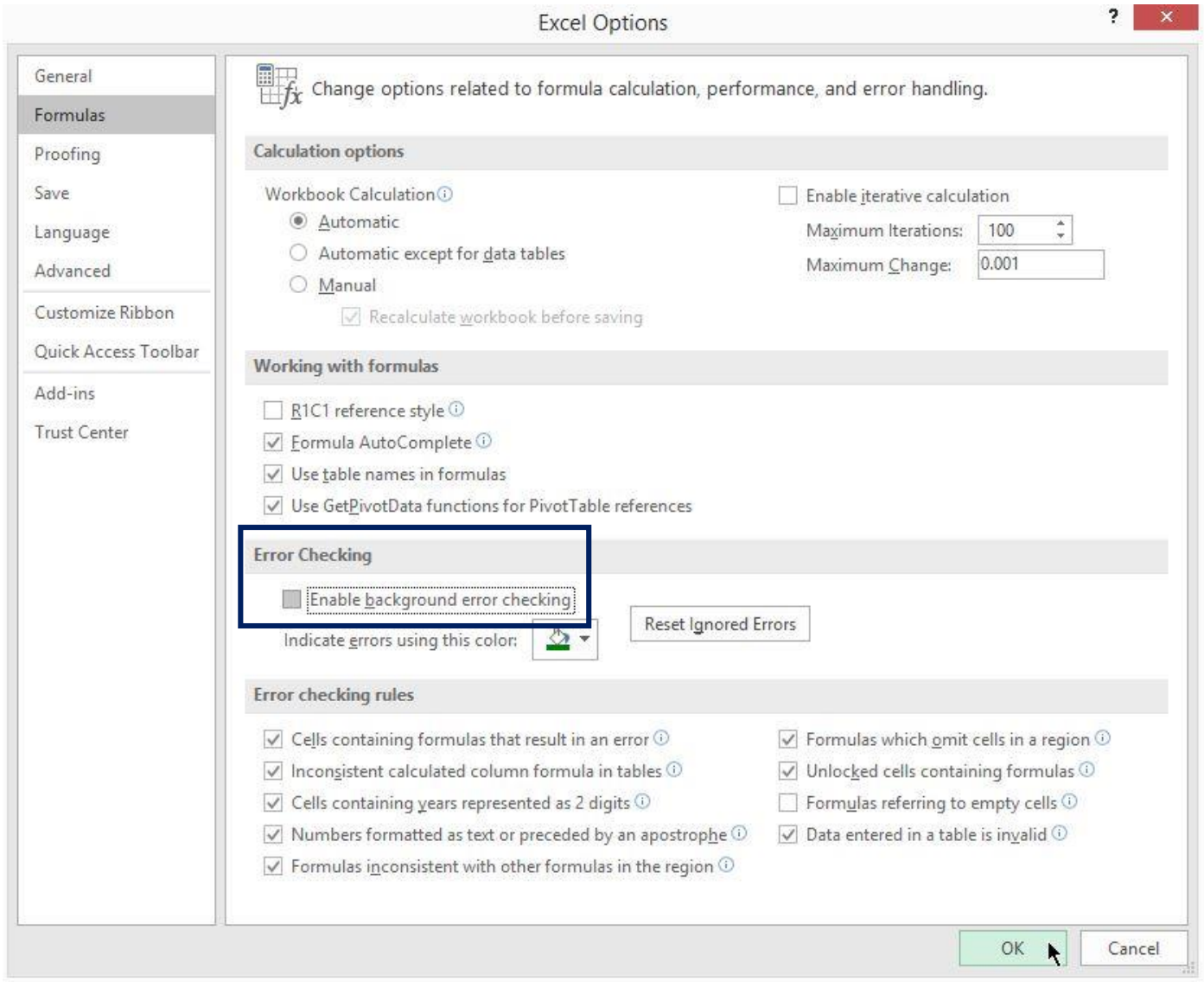
Sometimes, little triangles, or flags, that are supposed to be green by default will appear in the top part of some cells where you've written a formula.

These triangles say there is an error in this calculation. By default, Excel is programmed to conduct a background error check to find potential errors.

But given that you've verified there is no mistake here, these flags are useless.

it is considered unprofessional to leave these triangles on the worksheet

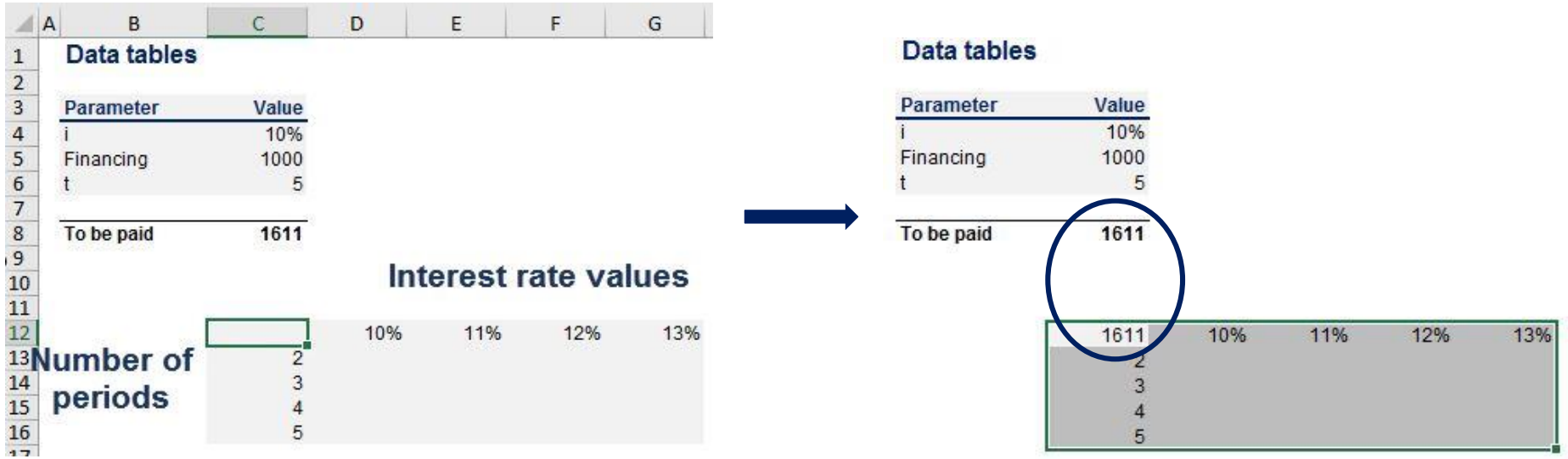
Error Checking



From the ***File*** tab menu, select ***Options***, and in the ***Formulas*** section, you have to untick the ***Enable background error checking*** functionality. Confirm by pressing “OK” … and enjoy a cleaner version of your sheets.

Company A

		Forecast Period				
Income Statement Calculation	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Revenues	3,850	4,120	4,408	4,716	5,047	5,400
Cogs	-1,230	-1,236	-1,322	-1,415	-1,514	-1,620
Gross Profit	2,620	2,884	3,086	3,301	3,533	3,780
Operating expenses	-890	-865	-926	-990	-1,060	-1,134
EBITDA	1,730	2,019	2,160	2,311	2,473	2,646
D&A	-300	-320	-320	-320	-320	-320
EBIT	1,430	1,699	1,840	1,991	2,153	2,326
Interest expenses	-250	-683	-632	-569	-494	-405
EBT	1,180	1,015	1,208	1,422	1,659	1,920
Taxes	-236	-203	-242	-284	-332	-384
Net Income	**944**	**812**	**967**	**1,138**	**1,327**	**1,536**
KPIs						
Revenues growth %	n.a.	7%	7%	7%	7%	7%
Cogs %	-32%	-30%	-30%	-30%	-30%	-30%
Opex %	-23%	-21%	-21%	-21%	-21%	-21%
EBITDA %	45%	49%	49%	49%	49%	49%



Data tables

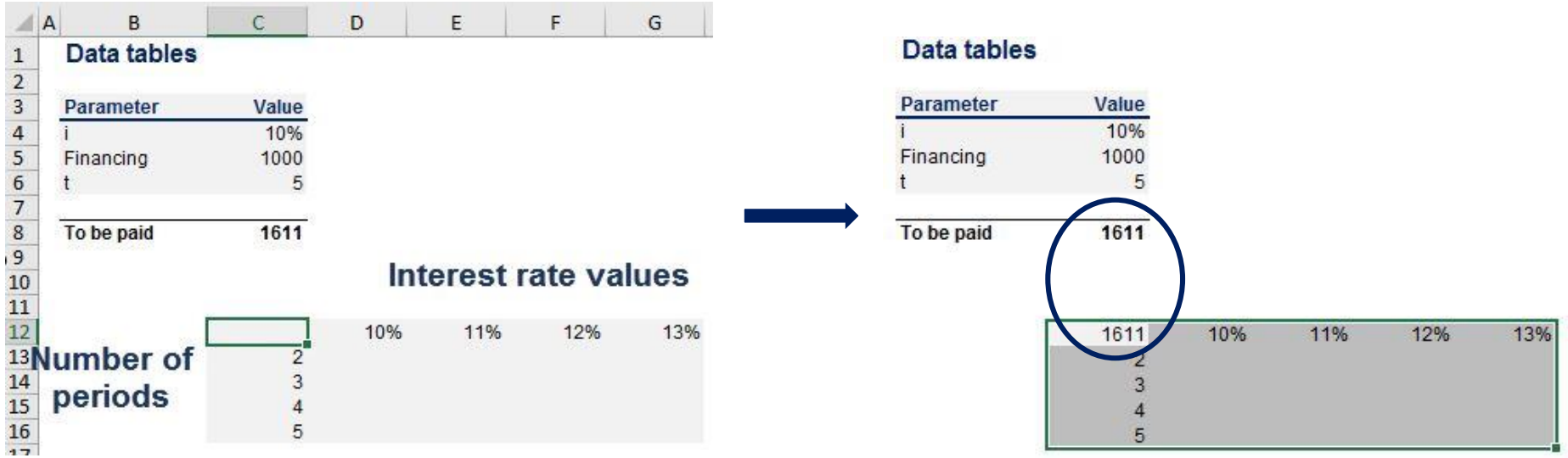
Parameter	Value
i	10%
Financing	1000
t	5
To be paid	1611

Interest rate values

Number of periods	10%	11%	12%	13%
2				
3				
4				
5				

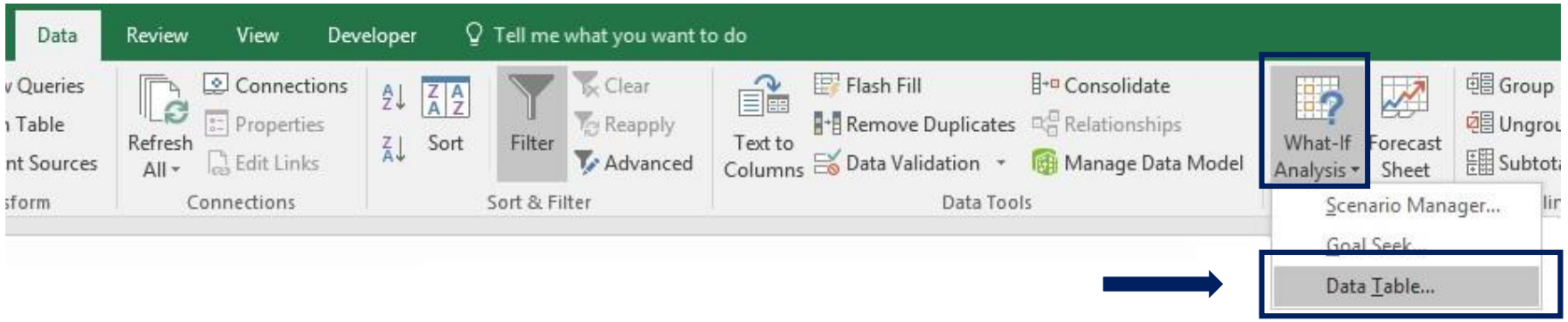
Wouldn't it be nice if we were able to see how the amount which has to be repaid varies if one or two of the inputs were different? For example, what if the interest rate was 11 or 12 percent? Or how much would the company have to pay if it had borrowed the money for four years?

Excel allows us to do that through the use of ***data tables***. Type a few possible values for the interest rate on one row (e.g. 10, 11, 12 and 13%). Type some values about the number of periods for which the company takes the money. Let's say 2, 3, 4 and 5. OK.

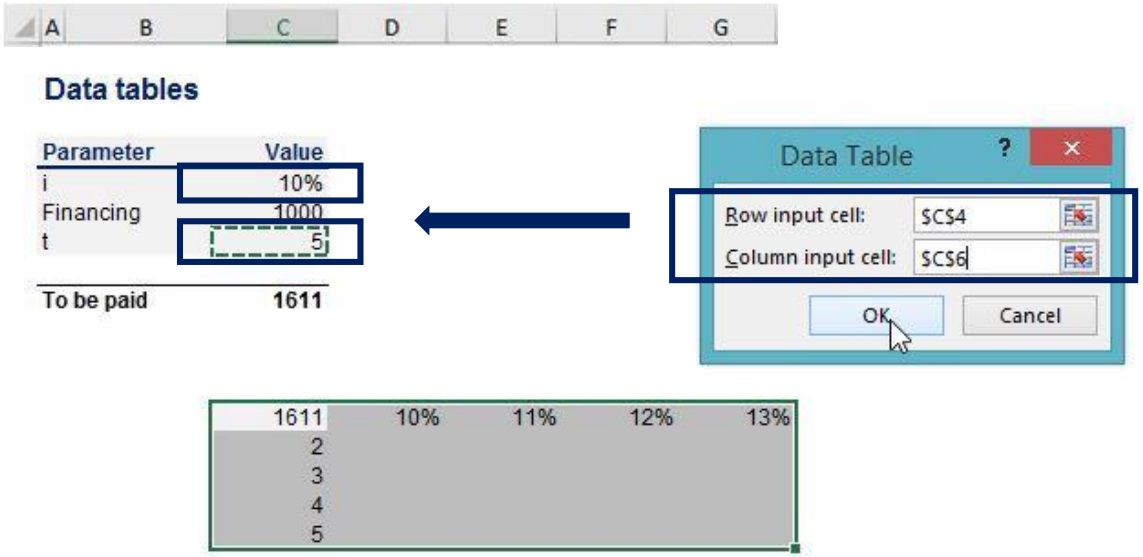


We left the intersection of the two sets of numbers empty as there you will put a reference to the formula calculating the amount to be repaid; it is in C8. I just need to type “Equal” and then select the cell C8.

Next, select the cells in the following way and go to the menu bar.

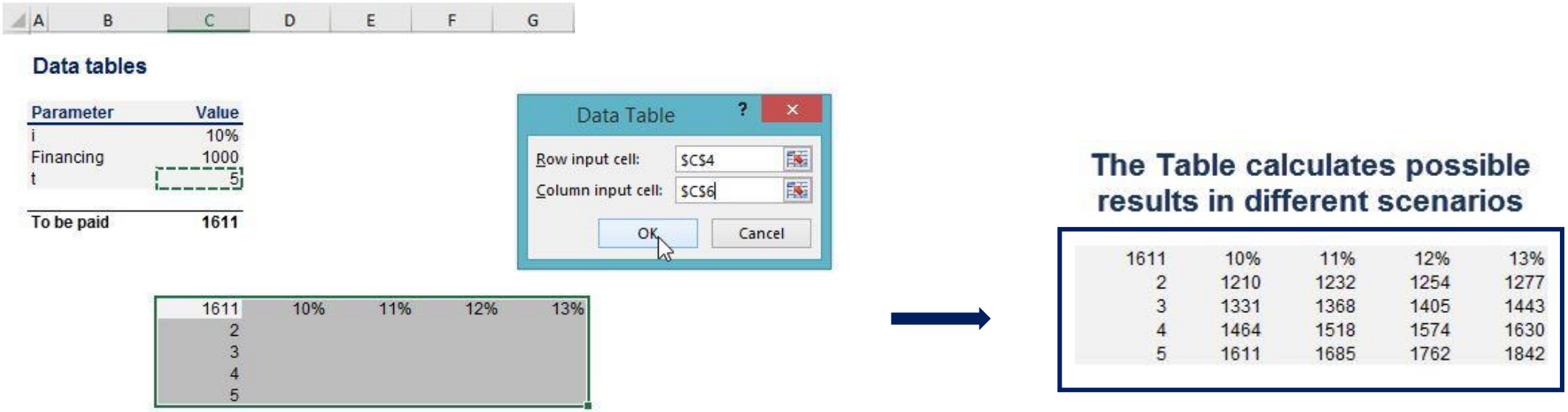


Select the ***Data*** tab, choose the ***What if Analysis*** button and pick ***Data Tables***.



The two parameters in the dialogue box are "Row Input" and "Column Input." They are the parameters which we typed within our selection.

So, for the row input we shall choose C4 – the interest rate. Note that this parameter is included in the calculation of the amount to be repaid. For the column input we shall choose C6 – the time parameter. It is another cell that is considered within the amount-to-be-repaid calculation.



The result which we obtain is a nice table with many values. These values show how changing the two parameters of our formula will affect the result.

The table contains many values. Each of these values shows the amount that needs to be repaid for a given combination of interest rate and borrowing period.

Data tables are quite useful when dealing with uncertainty. They are a preferred tool for many high-level decision-makers.