Where is SumProduct..?

SumProduct is based in Melbourne, Australia but most of our clients aren't. Recent work has seen us working with businesses in Germany, Hong Kong, Indonesia, Malaysia, Netherlands, New Zealand, Papua New Guinea, United Kingdom, United States and Vietnam, as well as Australia.

These days, financial modelling is a global skill and we ply our services and training around the world. No matter where you are, if you require modelling assistance, we'd be happy to help.

Thanks for tuning in to our fourth newsletter. This month, we look at PowerPivot, what version of Office 2013 is right for you and a simple way to derive worksheet names. Further, this newsletter achieves its first landmark – we received our first wholesale comments, primarily on last month's article on DATEDIF, so much so we have had to respond (please see below). Heartfelt thanks for that and I look forward to your continuing feedback and topic suggestions over the coming months.

*Liam Bastick,* Managing Director, SumProduct

Formulae not to be mentioned in polite conversation #3: applied XL4 macro functions

Those of you who read our first newsletter may remember the peculiar EVALUATE function. Some of you may have continued on to the website, http://www.sumproduct.com/thought/evaluating-evaluate, where it was explained that EVALUATE was actually an old xl4 macro function and that these type of functions can still be used in Excel – as long as you use them via range names.

This month, we are going to introduce two other xl4 macro functions to the fray, namely GET.WORKBOOK and GET.CELL. These must be used via range names too.

Sometimes, modellers require a method of referring to the sheet to the immediate left or right of the worksheet that contains the formula, even if the worksheets are moved. There is no Excel function to perform this calculation. Here, we present a non-VBA solution that involves the use of the aforementioned xl4 macro functions in defined names.

To get this to work, we need to define some range names (CTRL + F3, 'New…'):
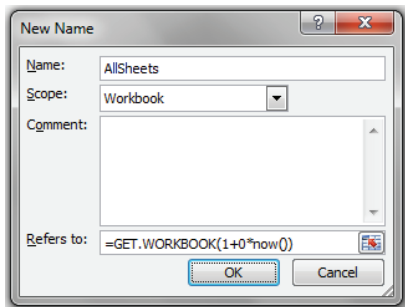
AllSheets
`=GET.WORKBOOK(1+0*NOW())`
Generates an array of all worksheets in the workbook

ThisSheet
`=GET.CELL(32+0*NOW(),INDIRECT("rc",FALSE))`
Produces the name of the current worksheet

PrevSheet
`=INDEX(AllSheets,MATCH(ThisSheet,AllSheets,0)-1+0*NOW())`
Gives the name of the preceding worksheet

NextSheet
`=INDEX(AllSheets,MATCH(ThisSheet,AllSheets,0)+1+0*NOW())`
Gives the name of the following worksheet

These formulae are quite involved. INDEX, MATCH and INDIRECT are all discussed at http://www.sumproduct.com/thought. Essentially, a list of all worksheets contained within the workbook is created and numbered with the first worksheet in the workbook numbered 1, the second numbered 2 and so on. The current sheet's number is then calculated and the previous sheet is the worksheet with the value of one less than this value. Similarly, the next sheet is the worksheet with the value of one more. This explains PrevSheet and NextSheet.

However, it is AllSheets and ThisSheet that use the xl4 macro functions GET.WORKBOOK and GET.CELL. GET.CELL is a particularly useful function as it returns various properties of a cell (e.g. colour, font) depending upon the value specified in the first argument of the function (here we use 32 to get the name of the worksheet).

Finally, note a trick that has been employed. 0*NOW() has been added so that the formula gets recalculated on every calculation of Excel. This functionality is known as volatility.

These range names can then be used in formulae in the usual way. Just watch out though: these functions are not fully compatible with Excel. Do not copy any cell that uses any of these defined names to another worksheet otherwise Excel may crash!

Have you considered PowerPivot?

Imagine analysing your monthly results in real time without an army of management accountants / consultants spending valuable time and money constructing delayed, unfathomable reports. Did we say "imagine"? You might be doing this already. How useful would it be for you and your colleagues to produce key analysis in seconds from automated reports talking to your existing management information systems?

First introduced as a free add-in in Excel 2010, and to be honest, slightly more difficult to find in Excel 2013, PowerPivot replaces and improves the SQL Server Analysis Services for Microsoft's Business Intelligence (BI) suite. Put simply, PowerPivot is PivotTables on steroids. It extends the capabilities of the PivotTable data summarisation and cross-tabulation feature by introducing the ability to import data from multiple sources. It will allow you to do things you couldn't do before.

As a self-service BI product PowerPivot is intended to allow users with no specialised BI or analytics training to develop data models and calculations, sharing them either directly or through SharePoint document libraries. But it doesn't end there. For more sophisticated users, PowerPivot can:

- create your own BI solutions without purchasing expensive software
- manipulate large data sets quickly, even if it consists of millions of rows (Excel can't do that!)
- construct complex what-if reporting systems with data modelling and Data Analysis Expressions (DAX)

SumProduct can provide training courses and / or PowerPivot consulting for all of your business needs. For more information, why not drop us a line at contact@sumproduct.com.
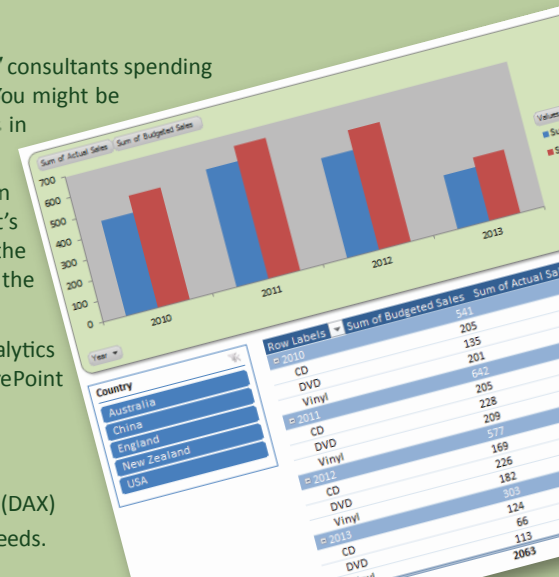
Which Office 2013?

If you're looking for PowerPivot (mentioned above) and its sister feature, Power View (see January's newsletter) in Excel 2013, be careful what version you buy. Picking at random, the chances Business Intelligence analysis will be severely restricted in your version of Excel if you don't watch out. In subscription form, you're going to need the Rolls Royce version, Microsoft Office Professional Plus, available at http://www.microsoft.com/en-us/office365/office-professional-plus.aspx.

For regular, non-subscription Office 2013 on the desktop you need the similarly-titled Microsoft Office Professional Plus to use the PowerPivot add-in or to use Power View in Excel. However, it's not quite as simple as that. This non-subscription version is only available via Open, Select or EA licensing. Excel 2013 Standalone (which we *think* has these functionalities) is only available via Open or Select licencing. Office RT, which runs on Windows RT, has several limitations on its BI functionality: there's no Power-Pivot or Power View or Excel Data Model, full stop.

In other words, there is presently no regular retail edition of Excel which includes PowerPivot or Power View, so it may be procured through a Volume License Agreement or Office 365 only.

N.B. The Excel Data Model (i.e. the PowerPivot "engine") is available in ALL desktop editions of Excel. Whilst it cannot be 'switched on' in other versions of Excel, it is believed it will assist ramping up of PivotTable capabilities in other versions of Excel.

Confused? So are we…
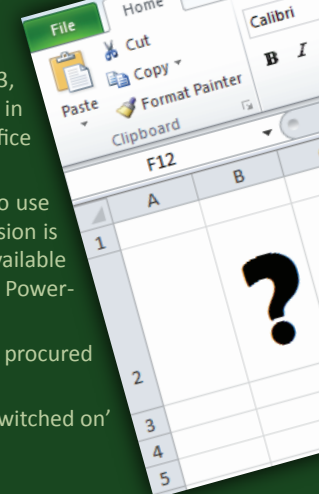
Who says Excel can't be fun..?

There are some seemingly pointless functions in Excel and perhaps ROMAN wins the award for Most Pointless. ROMAN converts integers between 0 and 3,999 only to Roman Numerals and even allows the user to specify one of five common Roman Numeral systems to employ. We think converting to Roman Numerals alone is probably sufficient:

This function probably works better than Excel's encryption algorithms…

	A	B	C
1		$	
2	Sales	MMMCMXCIX	
3	COGS	MDCCCXLVII	
4	**Gross Profit**	**MMCLII**	
5	Other Costs	DCCLVIII	
6	**Net Profit**	**MCCCXCIV**	
7			

Erratum: handle DATEDIF with care

Last month's newsletter was extolling the virtues of DATEDIF. However, one or two of you contacted us to explain why this function might have been swept under the carpet by Microsoft…

If you are using Excel 2007 and have incorporated Service Pack 2 (SP2) onwards, the following formula:

`=DATEDIF(DATE(2009,6,27),DATE(2012,1,5),"md")`

gives the wrong answer. It works in all other versions of Excel and even Excel 2007 with SP1. Absolutely bizarre, but true nonetheless. As a tip, for those of you with PowerPivot, the YEARFRAC function in PowerPivot does the same thing but allegedly handles the bug. Thanks for those that wrote in.

Key Strokes

Each newsletter, we'd like to introduce you to several useful keystrokes you may or may not be aware of. Whether you're an avid mouse user or a cool keyboard cat, these are suggested as useful Excel shortcuts. This month we focus on calculation:

Keystroke	What it does
F9	Calculate now (only recalculates changes made since last calculation)
SHIFT + F9	Calculate current worksheet only
CTRL + ALT + F9	Full recalculation (recalculates everything)
SHIFT + CTRL + ALT + F9	Forced recalculation (last resort: effectively rebuilds spreadsheet and recalculates, used when full recalculation stalls)

There are over 540 keyboard shortcuts in Excel. For a comprehensive list, please download our Excel file at http://www.sumproduct.com/thought/keyboard-shortcuts.

Training

SumProduct offers a wide range of training courses, aimed at finance professionals and budding Excel experts. Courses include Excel Tricks & Tips, Financial Modelling 101, Introduction to Forecasting and M&A Modelling.

Check out our more popular courses in our training brochure:

Email us at training@sumproduct.com for a copy or download it directly from: http://www.sumproduct.com/training.

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Watch out for our upcoming public training courses in:
Perth:
 M&A Modelling 8th - 11th April
Brisbane:
 Valuations Modelling 15th April;
 M&A Modelling 16th - 17th April
Sydney:
 Valuations Modelling 1st May;
 M&A Modelling 2nd – 3rd May
Melbourne:
 Valuations Modelling 3rd June;
 M&A Modelling 4th - 5th June
For more information on venues, competitive pricing, course content and bookings, please email training@sumproduct.com.

Our services

We have undertaken a vast array of assignments over the years, including:
- Business planning
- Building three-way integrated financial statement projections
- Independent expert reviews
- Key driver analysis
- Model reviews / audits for internal and external purposes
- M&A work
- Model scoping
- Project finance
- Real options analysis
- Refinancing / restructuring
- Strategic modelling
- Valuations
- Working capital management

If you require modelling assistance of any kind, please do not hesitate to contact us at contact@sumproduct.com.

Please forward!

These newsletters are not intended to be closely guarded secrets. Please feel free to forward this newsletter to anyone you think might be interested.

If you have received a forwarded newsletter and would like to receive future editions automatically, please subscribe by completing our newsletter registration process found at the foot of any http://www.sumproduct.com web page.

Any questions?

If you have any tips, comments or queries for future newsletters, we'd be delighted to hear from you. Please drop us a line at newsletter@sumproduct.com.