Excel Versions

This document contains supplementary material to the book *Using Excel for Business Analysis: A Guide to Financial Modelling Fundamentals*. It compares the different versions of Excel that are currently being used by analysts in a Windows environment, as well as an overview of using Excel on a Mac.

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There are currently three different versions of Excel that modellers are likely to be using: Excel 2003, 2007, or 2010. Ordinarily, it would not be such a big deal but the differences between Excel 2003 were so great, it does have quite a big impact on heavy-duty Excel users such as financial modellers, and therefore we need to consider, the implications of the changes between the different versions in detail.

HISTORY OF EXCEL VERSIONS

Excel 2003 was released in November 2003, and there was not a huge change between this version and its predecessors, Excel 2002 (XP) and Excel 2000. However, in January 2007, Office 2007 was released, which was wildly different in terms of interface from anything users had even seen. The 2010 version was released in June 2010 which had a few changes, but nothing like the change between 2003 and 2007.

CURRENT EXCEL USAGE

When Excel 2007 was first released four years ago, it caused division amongst analysts and financial modellers, with many vowing to stay as far away from it as possible. The new ribbon layout has been described as chaotic, not intuitive, and as one poll respondent says: "it does my head in"! From a financial modelling perspective of course, model structure, layout, and best practice are far more important than the fancy new tools introduced by Excel 2007, and many modellers have shunned the new version for the past few years in favour of its more primitive predecessor. It can certainly take some getting used to, but there are many new features which make it worthwhile, such as new functions, increased file size, and additional charting options and tools.

These new features were added to even further with the introduction of Excel 2010. Not surprisingly, there has been a much greater take-up of this "new-fangled" version in the past few years; in fact the latest poll showed that 75% of users have migrated to 2007 or 2010, compared with a mere 29% as captured by a similar Plum Solutions survey conducted only two years prior. See Figures 1 and 2.

Key Poll Findings

The majority of Excel users are either on Excel 2010 or 2007. Even though Excel 2003 has not been available for purchase from Microsoft for quite some time, a Plum

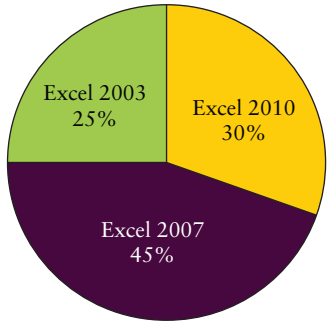


FIGURE 1 Pie Chart Showing Excel Version Usage

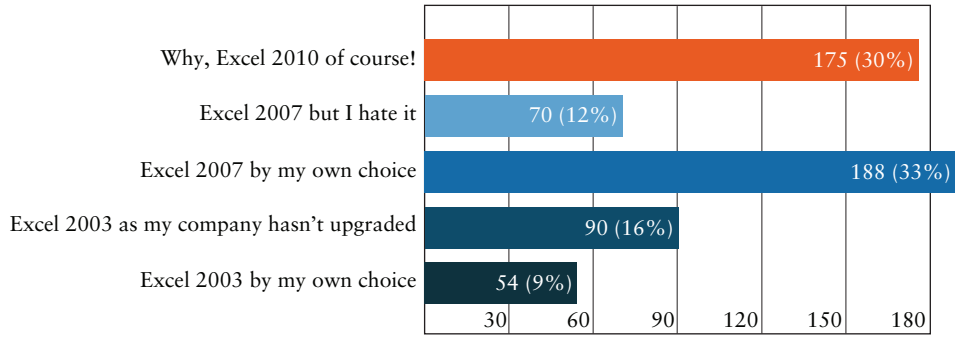


FIGURE 2 LinkedIn Excel Usage Poll Results

Solutions survey which was conducted in 2011 showed that 25% of Excel users were still on 2003—most of them because their company simply had not upgraded yet and so they had no option. Excel 2003 will eventually be phased out over the next few years, but until then, no matter which version of Excel you are using, financial modellers still need to be aware of the differences between the versions. This is particularly the case in terms of functionality, where if a function, tool, or colour, is created in 2010 or 2007, and then opened in 2003 it can lose functionality. At times, it can simply mean a slight difference in interface, but often, as with the example of new functions not available in 2003, it can cause errors to be displayed.

Many users accept Microsoft Excel's dominance in the marketplace and are keen to keep their skills up to date by voluntarily upgrading to the latest version. Less than 10% have remained on Excel 2003 through their own choice, an indication perhaps that most people are not resistant to change where their computer skills are concerned. Of those who dislike the newer versions, under-25s and over-54s did so in equal measure, reflecting perhaps that older and younger age groups are more resistant to change. A massive 33% of those who have embraced the new Excel 2010 are in the 30–36 year old age bracket.

The ribbon, which was new to Office 2007, is the source of most complaints, with comments such as "illogical layout", "why fix [the menu system] when it ain't broke?" and "hated ribbons initially, but getting used to it." However, a number of comments did welcome the ribbon—and one even trashed the old menu system.

WHICH VERSION AM I USING?

If you have got toolbars at the top of your screen which expand to drop-down menus, you are using what some call classic Excel: Excel 2003 or earlier. See Figure 3.

If your screen looks like Figure 4, with a Microsoft button in the top left-hand corner, and a ribbon instead of drop-down menus, you are using Excel 2007.

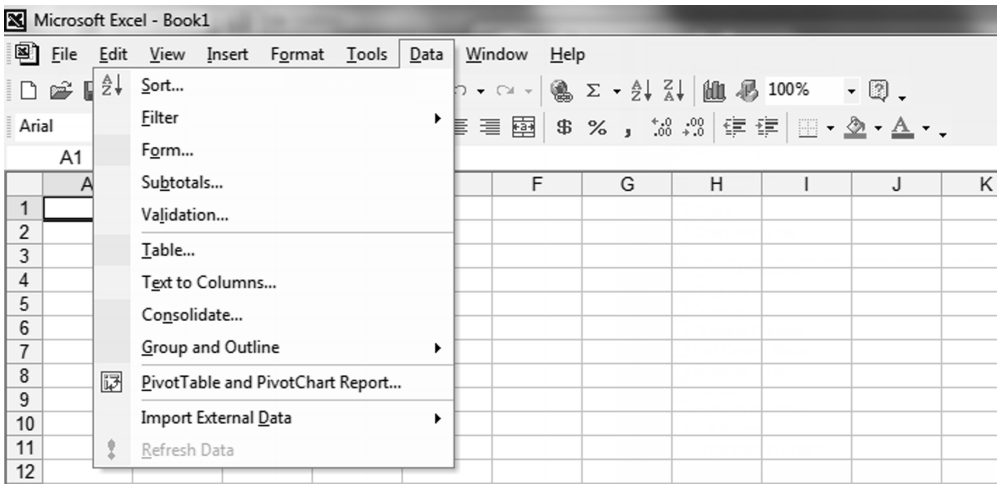


FIGURE 3 Classic Excel

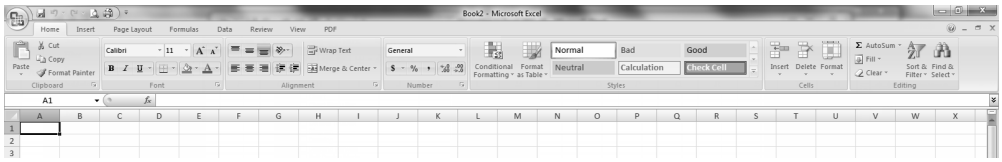


FIGURE 4 Excel 2007

If you have the ribbon, but a File tab instead of the Microsoft Button, you are using Excel 2010. See Figure 5.

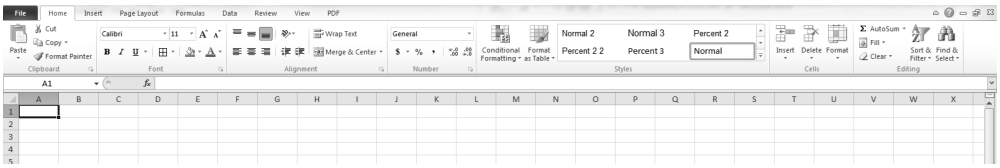


FIGURE 5 Excel 2010

The upgrade from Excel 2003 to Excel 2007, and migration to the ribbon layout, was probably one of the most significant changes for users yet. There are many new functions, most of which are an improvement to 2003, but they certainly did take some getting used to! One of the big issues many financial modellers face is dealing with multiple versions of Excel.

MAJOR CHANGES BETWEEN VERSIONS

The biggest change is the new ribbon format replacing the toolbars. It is now more task-orientated and things are easier to find so you'll probably find many features you never knew existed. It will take some time to get up to speed, however, and you will probably lose some productivity at first.

- The office assistant paper clip is gone for good!
- The colours and charting are much more professional looking in 2007. See Figure 6.
- Themes and styles have much more functionality.
- Live preview: When you move the mouse over the various formatting selections, your document takes on the formatting attributes of the current selection—just as a preview. So you can flit from one choice to another and try different formatting without actually applying it until you're ready.
- Conditional formatting is no longer limited to three conditions, and easier to use.
- It is possible to add comments to named ranges.
- The formula bar is resizable so you can write even longer formulas (not always a good thing!)
- As with 2003, you can edit named ranges, but the tool for this is now called the Name Manager. Except for the new name, it's pretty much the same as it was

FIGURE 6 Styles in Excel 2007/10

before, although you can now delete multiple names at once and assign comments to each name.
- The size of each worksheet has expanded from 65,000 to over 1 million rows!
- It now remembers up to fifty recently used files instead of nine.
- There are more options in the right-click menu.
- Sort and Filter are now together, so you can sort from the filter drop-down list.
- Sorting limits have increased from three to 64 levels and you can even sort by colour! (This feature is activated when at least one cell contains a fill or font colour.)
- It has a new file format which facilitates integration with external data sources, and also offers reduced file sizes and improved data recovery. In Excel 2007, the default format for an Excel workbook is the XML-based file format (.xlsx). If the file contains macros, the format will need to be .xlsm.
- On Demand ribbons, which only appear when required for less used tools like pivot tables, charts, etc. Although many new users hate the ribbon, the On Demand feature is much better than the old Excel 2003, which clutter up your screen, sometimes do not load when you open Excel, and remain floating after you don't need them anymore.
- Pivot tables and charting do not use wizards anymore, and are completely different.

Completely New in 2007

- Many previously custom functions are now standard, including: IFERROR, EOMONTH, SUMIFS, COUNTIFS, AVERAGEIFS, XNPV, and XIRR.
- Data bars in conditional formatting will show dynamic bar relative to the size of the value in the cell.
- Remove duplicates tool. (Very useful!)

TIP

Press the Alt key, and the ribbon shortcut keys will appear as shown in Figure 7.

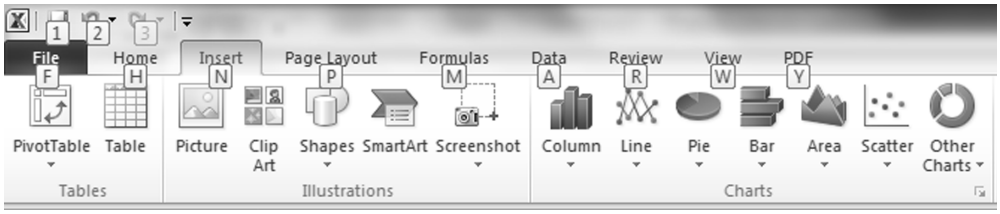


FIGURE 7 Shortcut Keys Excel 2007/10

If you really hate the ribbons in Excel 2007 but are stuck with it, you can also purchase add-in software that installs the classic menu for Excel 2007 or 2010, which looks like Figure 8.

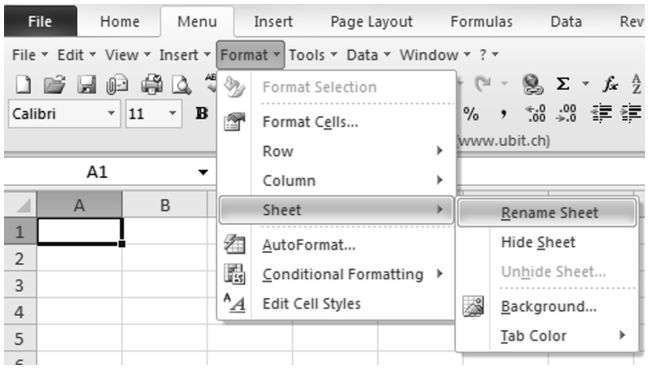


FIGURE 8 Classic Menu in Excel 2007/10

EXCEL 2007--2010 COMPATIBILITY

Until everyone has upgraded to the new version, compatibility will remain the biggest challenge for Excel 2007 users, especially if others need to open the model in 2003. There are a number of new functions in 2007/10 which are not available in 2003. If you are the only person using 2007/10 and everyone in your office or your clients are still on 2003, you will have to make sure you do not use the new functions, otherwise you will have compatibility issues. Note that all the great graphics and colours still look fine when you open the model in 2003, as long as you do not use a formula not supported in 2003.

A compatibility checker tells you if your workbook contains features that previous versions of Excel will not support. But be careful—you will need to remember to save a

document in Excel 2003 format to maintain compatibility with other users until the new 2007 file format becomes the standard. While Microsoft has released a converter to read 2007 files in earlier versions, do not rely on your colleagues to have it installed.

If you use new functions not available in 2003, the compatibility checker will keep advising you to save a copy in 2003, which gets rather annoying after a while.

Upgrading from Excel 2007 to Excel 2010

The introduction of Office 2007 caused such an uproar that upgrade from Excel 2007 to Excel 2010 was completed very quickly. Most of the complaints were because the 2007 version had completely changed the menu navigation. While Microsoft attempted to simplify the navigation screens to market the product to a general public, the impact was felt across all professions. The Office 2010 environment was quickly scaled back and made more instinctual to the users that operate the system on a daily basis.

MAJOR CHANGES BETWEEN VERSIONS

The first major change to Office 2010 is the performance of the software. Included in the package, Microsoft offers Excel 2010 in the 64-bit format. This uses substantially more memory to maximise performance for calculating complex equations. Microsoft introduces High Performance Computing (HPC), which solves complex calculations using multiple computers. This allows Excel to offload complex calculations to other computers on the network. It allows the computer to calculate other parts in a workbook in parallel, increasing performance of the software.

The biggest change for Office 2010 is the move back to the classic format and navigation in the menu screens. The most noticeable change is that the Microsoft Office button is no longer present in the 2010 version.

One of the most powerful changes that were added to Excel 2010 is the ability to customise the ribbon and toolbars. In Excel 2003, the toolbar is very customisable. Users were accustomed to moving their menu bar around, and only showing the tools that they used frequently. This customisation ability was drastically reduced with the Excel 2007 ribbon, where there is very little freedom to change the menu. Excel 2010, however, allows you to create your own workspace environment. You can click on Excel Options as shown in Figure 9 and customise the ribbon to add menus, tabs, or functions any way you like.

The changes between Excel 2007 and 2010 are quite difficult to detect because the Home tabs are virtually identical. However, there are some significant improvements on the other tabs inside Excel.

Inside the Insert tab, the first noticeable difference between 2007 and 2010 is the Screenshot button. This function allows you to capture a screen anywhere on your desktop and import it into the office environment. See Figure 10.

The next noticeable improvement is the new feature called sparklines, which is great for inserting miniature charts into reports and dashboards. Sparklines are small mini-charts that can be plotted to enhance the visualisation of the tabular data. See Figure 11. This function enables you to insert a line, bar, or win/loss into a single cell. This will allow you to add enhanced visual data analysis functions into pivot tables and dashboards.

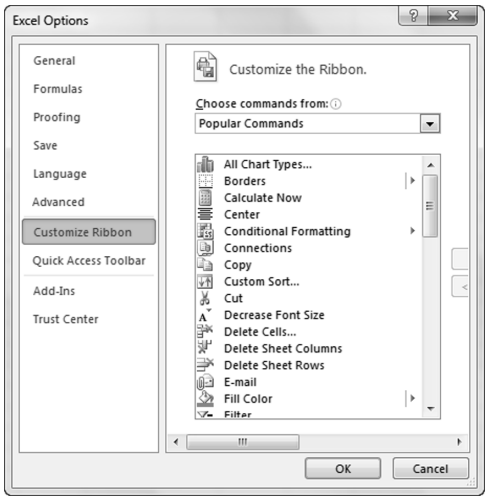


FIGURE 9 Customising the Ribbon in Excel 2010

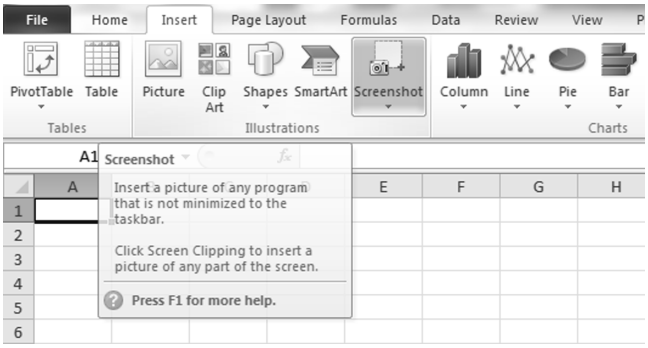


FIGURE 10 The Screenshot Button in Excel 2010

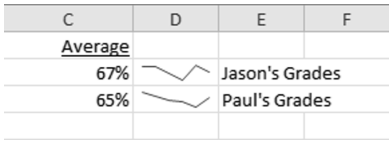


FIGURE 11 Sparklines in Excel 2010

Another function that has been added to the Excel 2010 is the slicer. Slicer is used to filter data inside a pivot table. See Figure 12. This function makes it quick and easy to sort and display the data inside the pivot table. For example, if you create a pivot table with students' grades, subjects, and total percentages, the slicer can sort out each individual student or subject in the table.

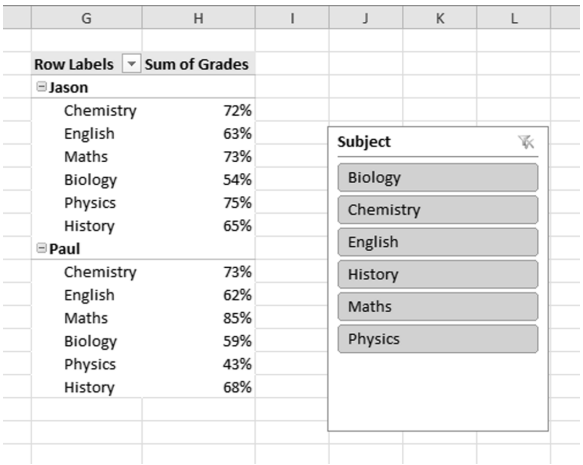


FIGURE 12 Pivot Table Using Slicer in Excel 2010

Excel 2010 has improved the tab under Pivot Table by adding a Show Values drop-down menu that allows you to quickly change how to show the information in the table. You can also change the values inside the table by using the drop-down menu: Summarise values by.

Excel 2010 also adds a new feature into the Paste function. The Paste function now has previews built in, so when you copy and right-hand click, you can see each specialty you can use and what it looks like before you select it. See Figure 13.

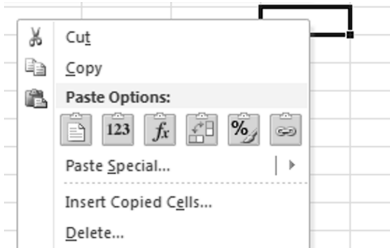


FIGURE 13 Paste Options in Excel 2010

Excel 2007 had made substantial improvements to the conditional formatting function inside Excel. It is much easier to fill cells based on a value or rules inside it, and the visual displays such as data bars, colour scales, and icon sets are very easy to use, and visually appealing. See Figures 14–16. Excel 2010 has added a little bit of additional functionality such as data bars with solid fill instead of a gradient. The data visualisation gurus were not very happy about a bar chart without solid comparison lines!

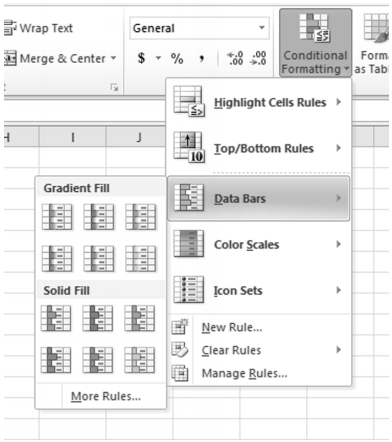


FIGURE 14 Data Bar Tool in Excel 2010

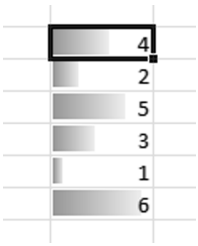


FIGURE 15 Data Bars in Excel 2007

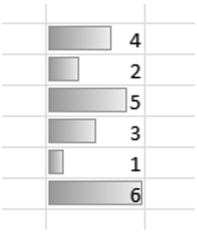


FIGURE 16 Data Bars in Excel 2010

IMPROVEMENTS TO THE CHARTS BETWEEN VERSIONS

Microsoft made some significant changes to the chart features inside Excel 2010. This has improved Excel's graphing and charting functionalities.

- Excel 2010 has enhanced the chart capability by supporting macro recording to record format changes to the charts. The Excel 2007 version did not produce macro code when creating format changes with recording.

- The Excel 2007 version only allowed up to 32,000 points in a data series on the 2-D charts. Excel 2010 fixes this by allowing as many points as the memory in the computer will allow.
- Chart formatting has been improved: Double click any chart element, and a format bar will appear, or you can right click on the chart element to get a mini-format selector.
- Excel 2010 has brought back the chart pattern fill that was not available on the 2007 version. (I doubt this feature was missed by many!)

NEW CALCULATION AND FUNCTION FEATURES

Listed below are some of the new calculation and function features not available in previous versions.

- The conditional sum wizard and lookup wizard used in Excel 2007 have now been replaced with a function wizard.
- Some of the statistical functions have been improved for better accuracy, such as Poisson distribution (POISSON) and Normal distribution (NORMDIST).
- Excel 2010 is able to handle an increased range of input variables into the functions. This allows Excel to return a broad range of results from the improved math functions.

ADDITIONAL CHANGES MADE TO EXCEL 2010

The Microsoft button encountered quite a bit of resistance from users, and in the 2010 version, Microsoft returned to using a File button. In addition to returning to the File button, under the same ribbon the developers added extra tools into the Backstage view. In the backstage view, you are able to perform several additional functions, summarised below. See Figure 17.

- A **Recent tab** allows you to view all the docs you have saved and worked on. This keep track of where each workbook is located and allows quick access to it.
- The **New tab** lets you create a new workbook with additional templates from Office.
- The **Info tab** makes it easier to navigate tasks including information on the file, protecting the workbook, assign security permissions, and check for compatibility.
- The **Print tab** allows easier navigation through the print options including fitting to page, portrait or landscape, paper size, and margins. In the print tab you are able to preview the workbook before sending to the print or file destination.
- The **Save and Send tab** enables you to send the document straight to a PDF conversion, to the web, or to a SharePoint center for file sharing online. You can also save as a different file version or change the file type.

Filter Options

When you run an Autofilter in Excel 2010, you have a nice feature that allows you to search inside the Autofilter. This can be a very useful function when sorting large sets of data.

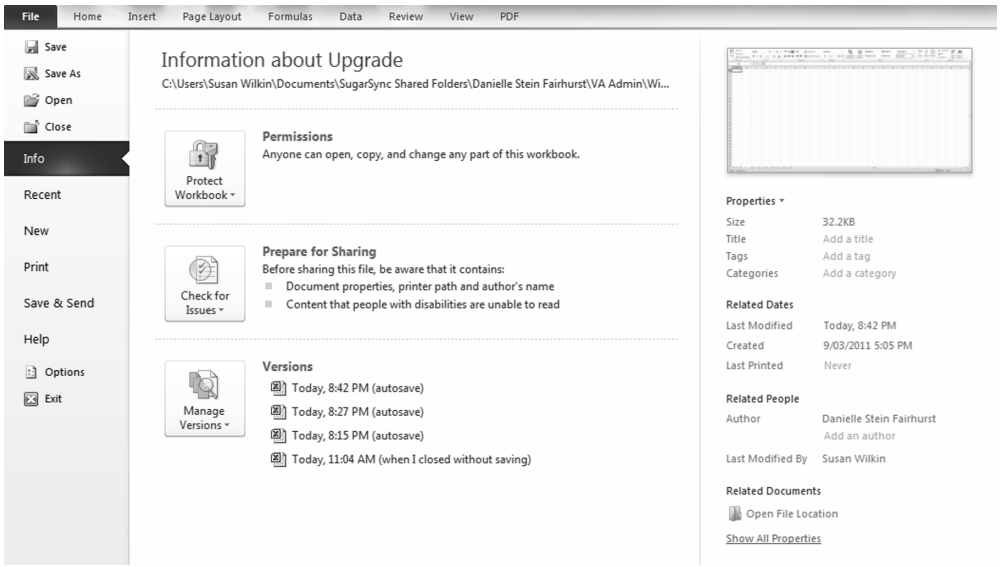


FIGURE 17 Backstage View in Excel 2010

When you have data on a table, the filter and sort will stay in the column heading, even when you scroll down. This is very convenient because you can always tell what the column content is without having to scroll to the top.

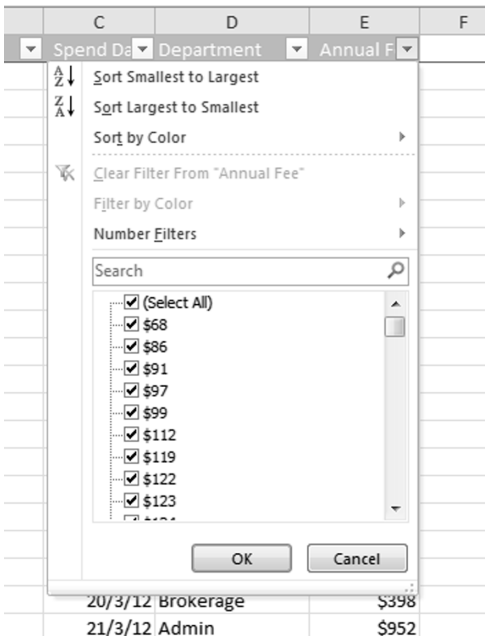


FIGURE 18 Autofilter in Excel 2010

Should You Upgrade?

According to the Plum Solutions survey, in 2011, 25% of Excel users were still using Excel 2003 or earlier. If you plan to look for work soon, and you wonder which version of Excel future employers will want to see on your resume, Excel 2010 is a must. But having familiarity with both versions will certainly improve your marketability.

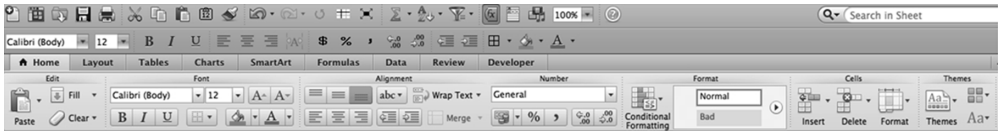
If the updated features such as new functions and increased capacity are not enough to tempt you, there are many reasons to upgrade—by remaining on classic Excel you are really just delaying the inevitable. Excel 2003 is out of date: The old Office platform was built on what are now antiquated technologies. The leap to Office 2007 represents a clean break in platform design.

The main reason many companies upgrade is because they are working with clients or external parties using the later versions, and it's just easier if you are using the same version. They often also upgrade to obtain some of the new features, in particularly the improved file format which has much greater capacity.

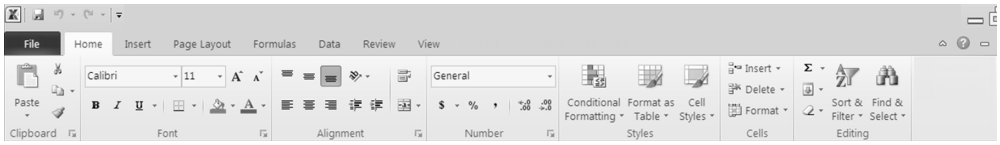
USING EXCEL ON A MAC

Using Excel on a Mac for financial modelling has only recently become a viable option. Although Microsoft has been releasing versions of Excel for Mac since 1985, only recently has the Mac version of the program been nearly as robust as its Windows counterpart. Given the preference of many computer users for the Mac platform, and the plethora of options for automation that Mac's OSX provides (Automator, Applescript, etc.), the inadequacies of Microsoft's previous Mac releases were severely criticised.

The Excel for Mac 2011 user interface closely resembles that of Windows Excel 2010. Excel 2011 doesn't rely as heavily on the toolbox as previous versions of the software; instead, commands are arranged on menus and a ribbon. The ribbon is similar to that of its Windows counterpart, although it is not identical across platforms as seen in the images below.



Excel 2011 (Mac)



Excel 2010 (Windows)

Because of differences in underlying technologies, the user experience and functionality cannot be fully replicated from one platform to the other. For example the ribbon interface found in the Windows version of the software is available in the Mac

version of the software too. However, because of Apple technologies, menus are still available and several tools can still be accessed using the toolbox.

The ribbon is not identical across platforms, which may lead to confusion for users working in both environments, and will cause slight variations in instructions for different tasks.

Excel for Mac 2008

Excel for Mac 2008 is the equivalent of Windows Excel 2007. One of the most noticeably absent features of Excel for Mac 2008 was the lack of VBA (Visual Basic for Applications) support; for this reason, it was not often used by serious analysts and modellers. VBA was removed from Office 2008, as it was feared that it would be too unstable to run natively on Mac's OSX.

This caused no small amount of problems for business users who had created highly sophisticated spreadsheets in previous versions of Excel, which included VBA macros. Critical add-ins, such as Solver, were also not supported.

Excel for Mac 2008 also did not include Microsoft Office's new Ribbon GUI, which had been released for Windows in 2007.

Excel for Mac 2011

With the release of Excel for Mac 2011, serious Excel users finally have the option of using Excel on the Mac platform. Excel's powerful VBA scripting language has been natively integrated into Mac's Cocoa development platform. The customisable Ribbon GUI has also been integrated, though the menu groupings differ slightly in name from time to time.

With the release of Excel 2011, Excel for Mac became a possible competitor to Windows Excel. As you will see in this book, only very rarely does one find a function or feature available in the Windows version of Excel that is not available in the Mac version.

Automating Repetitive Tasks

One key benefit of working with Excel for Mac (as opposed to the alternative presented below) is the ability to automate repetitive tasks with Mac's Automator application and Applescript scripting language. Using the powerful combination of VBA and Applescript, one might, for instance, write an application that asks Excel for a name from a column called Company Name, run a web search for that company name, navigate to the first page returned from the search, parse all contact information from that page, and pass the contact information back to Excel for population of pre-defined fields.

Run Excel for Windows from a Mac

Even though one still might not want to use Excel for Mac, it is still possible to use Excel *on* a Mac using software that allows one to install the Windows operating system on a Mac. Several software options are available.

- **Parallels:** Parallels partitions a part of the user's hard drive, enabling the user to run a virtual copy of Windows on Mac hardware. In Parallels, the virtual copy of Windows is run like any other program on Mac. In this way, the user can run Excel in Windows, but still switch back to the Mac environment whenever needed.
- **Boot Camp:** Boot Camp is Apple's official software to enable users to run other operating systems on their Mac, in similar fashion as Parallels, described above. The key weakness of Boot Camp, however, is that the end user must choose at startup which operating system to boot. Thus, the end user is unable to switch from his or her activities in Windows to other activities in Mac without completely rebooting his or her computer. This makes the use of Boot Camp for modelling impractical.

Running Excel in a virtual Windows environment is very similar to running Excel on an actual Windows computer. The only noticeable differences will be:

- **Speed:** Attempting to run Windows and Excel on an older or slower Mac will result in a noticeable lag in performance.
- **Keyboard Shortcuts:** The user may desire to reroute various keyboard shortcuts on the Mac to enable use of familiar keyboard shortcuts in the Windows environment.
- **VBA:** Some high-level functions (mainly those that interact with system hardware) in VBA may be restricted.
- **No Right Click:** All Macs can use a two button mouse, but the recent Macs come with one- or a no-button mouse, which detects right-side or left-side pushes.
- **Keys:** The F-keys don't work, and you will need to edit or enable the button when switching to Mac, especially the shortcut or even the common keys; keys you are used to usually has a shortcut assigned to it already. Also there is no Delete or End key!

Compatibility

With the release of Excel for Mac 2011, cross-operating system compatibility is almost completely guaranteed. While all of the compatibility considerations mentioned above with regards to older versions of Excel still need to be thought through, the latest version of Excel for Mac has nearly eliminated the gap between versions created on different operating systems.