Security and Collaboration in Excel 2010/2016

Securing documents and collaborating with others are mandatory techniques for success in today's environment. Fortunately, Excel provides a number of powerful options for each of these two activities, and most of these options are available on the **Review** tab of the Ribbon. On the Review tab, you will find multiple options for securing your Excel documents and also for sharing and working with others in real-time on the same Excel workbook. In this chapter, you will learn how to work more effectively with Excel's primary security and collaboration tools.

Securing Excel in the Trust Center

Excel 2007 and newer offer improved security and privacy controls over previous versions of Excel. Security and privacy settings for Excel workbooks have been centralized in the **Trust Center**. From the Trust Center, you can 1) enable or disable ActiveX controls, 2) enable or disable add-ins, 3) enable or disable macros, 4) enable or disable security alerts on the Message Bar, 5) remove or view trusted publishers, 6) block or unblock external content, and 7) create, remove, or change trusted file locations. Note that Excel's default settings will more than likely suit the security and privacy needs of most users.

The Trust Center is accessible from the **File** tab of the Ribbon (the **Office Button** in Excel 2007) by selecting **Options, Trust Center,** and, finally, **Trust Center Settings**. **Figure 1** shows the setting pane for macro execution.
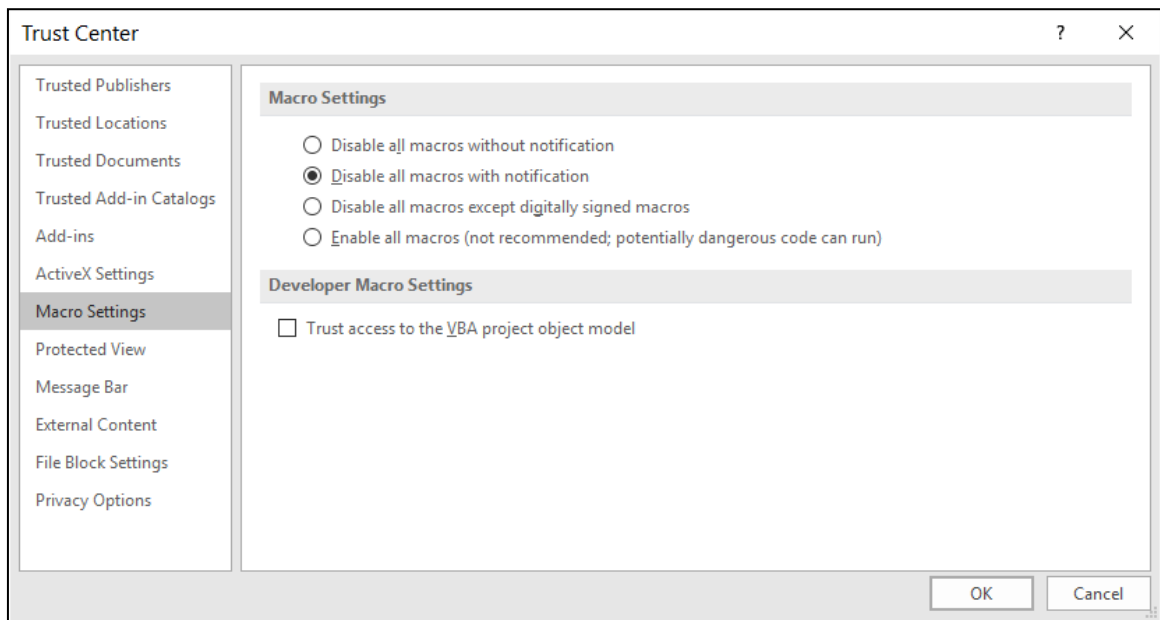

Figure 1 - Accessing the Trust Center to Modify Security and Privacy Settings

Note that in default, macros are *disabled with notification*. Whenever a workbook that contains a macro is opened, users will be able to choose whether to enable the macros as shown in **Figure 2**.
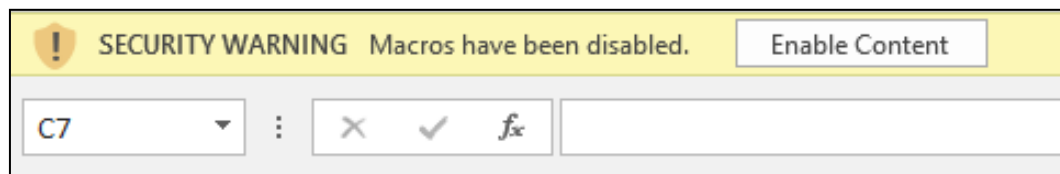

Figure 2 - Enabling Macros in a Workbook

Securing Documents

All of the capabilities for directly securing workbooks are accessible from the **File** tab of the Ribbon (the **Office Button** in Excel 2007). Click on the **File** tab and then select **Info**. Upon doing so, you will see four buttons: 1) **Protect Workbook**, 2) **Inspect Workbook**, 3) **Manage Workbook**, and 4) **Browser View Options**.

After clicking the **Protect Workbook** button, you may 1) mark a workbook as final, 2) encrypt a workbook with a password, 3) protect the current worksheet, 4) protect the workbook for structure, 5) restrict access using **Information Rights**

Management (IRM), and 6) add a digital signature to a workbook. Clicking the **Check for Issues** button enables users to 1) inspect the workbook's properties, 2) check the accessibility of the workbook by those who might find it difficult to read, and 3) check compatibility with prior versions of Excel. Clicking the **Manage Versions** button allows you to manage prior versions of the workbook. Finally, selecting Browser View Options allows you to pick what others can see when they view the workbook on the Web.

Excel provides several levels of protection for workbooks and workbook content. From an accountant's perspective, these protection options are important in that they provide necessary tools to prevent unauthorized changes to financial statements, transaction journals, and other significant documents; they also prevent unauthorized access to these documents. The following list summarizes the levels of protection offered by Excel.

1. **Encrypted workbook with password protection** – The workbook is encrypted with 128-bit AES encryption, and Excel requires a password to open the workbook.

2. **Encrypted workbook with IRM protection** – The workbook is encrypted with 128- bit AES encryption, and you must authenticate to a Rights Management Server to open, modify, copy, print, or distribute the workbook.

3. **Unencrypted workbook with modification protection** – The workbook is not encrypted, and anyone may open it; however, the workbook is protected from modification unless you enter the password to modify at the time the workbook is opened. If the password is not entered, the workbook is opened in read-only mode.

4. **Workbook structure or windows protection** – The workbook is not encrypted, and anyone may open it; however, certain elements of the workbook are protected from modification. Workbook protection may be enabled with or without a password.

5. **User-specified worksheet element protection** – The workbook is not encrypted, and anyone may open it; however, user-specified elements of a worksheet are protected from modification on a worksheet-by-worksheet basis. Worksheet protection may be enabled with or without a password.

6. **Shared workbook protection** – The workbook is not encrypted, and anyone may open it; however, a shared workbook may not be un-shared, and the number of days maintained in the change history cannot be modified. Shared workbook

protection may be enabled with or without a password.

The workbook and worksheet protection options can be used together. For example, to protect and secure a workbook fully from unauthorized access and unwanted modification, you may protect specific worksheet elements, then protect the workbook, and finally encrypt the workbook using a password.

Encrypting Documents

Excel allows you to *encrypt* and password-protect workbooks. Click **File, Info, Protect Workbook** and select **Encrypt with Password** as shown in **Figure 3**. For those using Excel 2007, click the **Office Button**, select **Prepare,** and then click **Encrypt Document.**
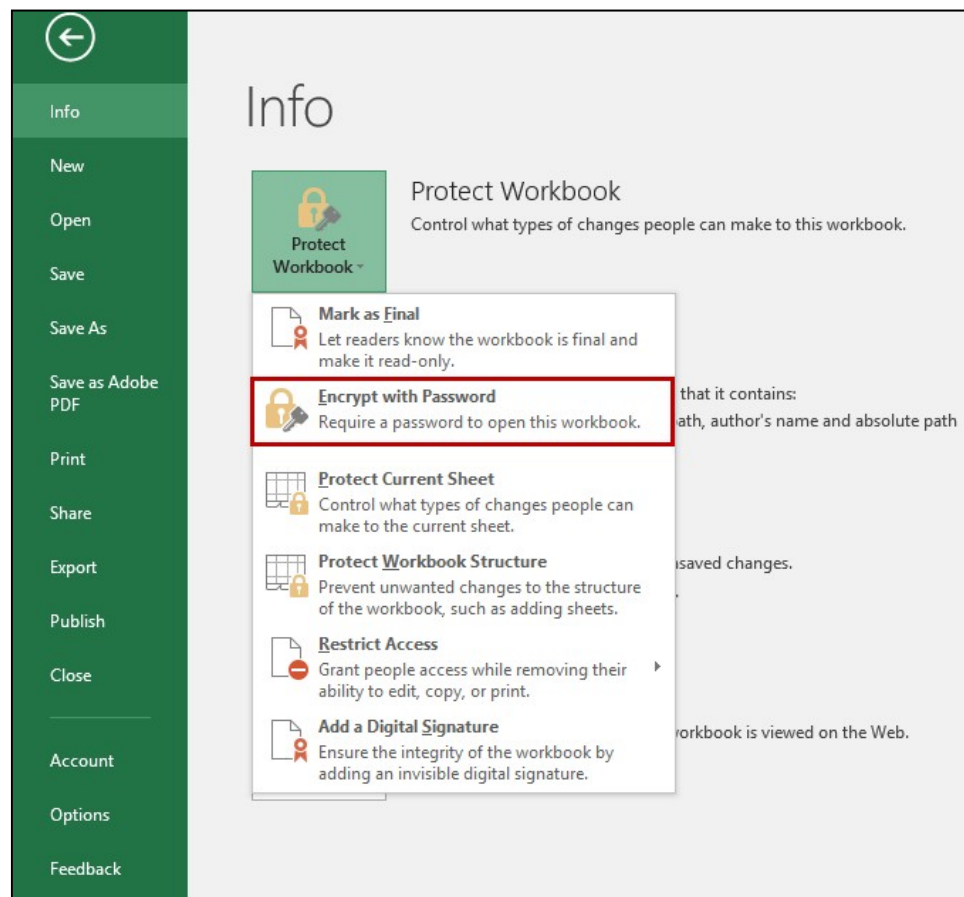

Figure 3 - Encrypting a Workbook

In the **Encrypt Document** dialog box, type a strong password and click **OK**. Confirm the password and click **OK** again to complete the process. In default, Excel 2007 and newer, Excel encrypts workbooks using 128-bit AES encryption. These passwords are not likely to be broken. Of course, you should make sure to record the password in a secure place. Documents saved as Office 97-2003 compatible files are encrypted using 40-bit encryption, which is weak by today's standards. These 40-bit passwords can be easily broken using any of the available online password cracking services like those listed below.

- www.decryptum.com

- www.lostpassword.com

- www.elcomsoft.com

- www.accessdata.com

Workbook and Worksheet Protection

Workbooks or individual worksheets within a workbook can be protected. To protect individual sheets, first _unlock_ any cells or objects that users should be able to change. To unlock cells, highlight the cells to be unlocked and then right-click and select **Format Cells** on the context-sensitive menu. On the **Protection** tab of the **Format Cells** dialog box, uncheck **Locked**. Then, select **Protect Sheet** on the **Review** tab of the Ribbon to open the **Protect Sheet** dialog box as shown in **Figure 4**. In the **Allow all users of this worksheet to** list, check the objects upon which users are _allowed_ to act, then enter a password, and click **OK**. Confirm the password and then click **OK** again to protect the sheet. The password prevents users who do not know the password from un-protecting the worksheet. Repeat these steps for every worksheet that must be protected.
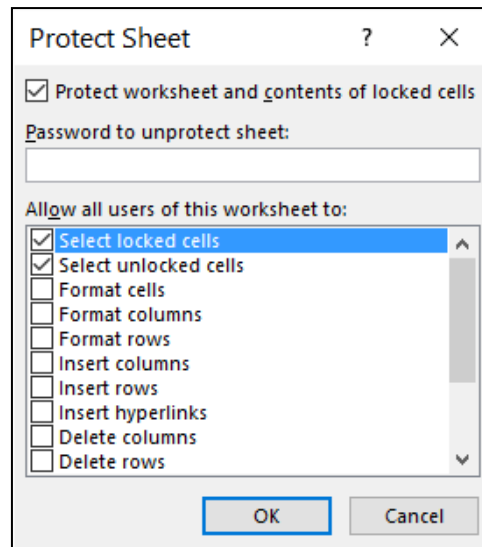

Figure 4 - Protecting an Individual Worksheet

To protect a workbook, select **Protect Workbook, Protect Structure and Windows** on the
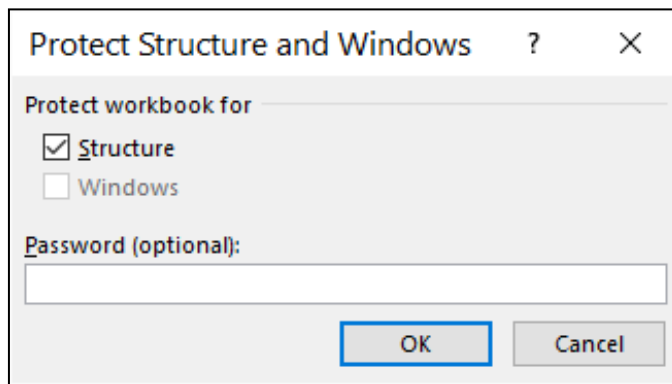**Review** tab of the Ribbon to open the dialog box shown in **Figure 5**.

Figure 5 - Protecting a Workbook in Excel

Select the options desired, enter a password, and click **OK**. Confirm the password and click **OK** again. Note that checking **Structure** *prevents* users from taking the following actions:

- Viewing worksheets that are hidden;

- Moving, deleting, hiding, or changing the names of worksheets;

- Inserting new worksheets or chart sheets;

- Moving or copying worksheets to another workbook;

- Displaying the source data for a cell in the data area or displaying report filter pages on separate worksheets in PivotTable reports;

- Creating a scenario summary report for scenarios; and

- Using the analysis tools from the Analysis ToolPak that place results on a new worksheet.

  With Excel 2010 and prior, you can also check **Windows** to *prevent* users from taking the following actions:

- Changing the size and position of the windows for the workbook when the workbook is opened and

- Moving, resizing, or closing a window.

te that using passwords to restrict the modification of worksheets or workbooks does _not_ encrypt the workbooks. Passwords that restrict modifications (formatting and editing, etc.) are weak passwords that can be easily broken by online password cracking services.

our business or enterprise uses Windows Server 2003 or newer for domain control, Windows user authentication can be used as an alternative to using passwords. This method encrypts the document, but only specified authenticated users will have access. Note that this method of securing a document cannot be used _across_ multiple businesses or enterprises because not all users will be authenticated on the same network.

As mentioned previously and as shown in Figure 5, users of Excel 2010 or newer can also access both worksheet and workbook protection settings by selecting **File**, **Info**, and **Protect Workbook**.

Removing Hidden Data

With Excel versions 2007 and newer, you have the ability to remove hidden data using the **Document Inspector** feature. The Document Inspector examines a document and removes hidden metadata, personal information, or content that is otherwise saved with the document. Examples of data that the Document Inspector removes include comments, versions, tracked changes, annotations, properties, and hidden text. From a security and confidentiality standpoint, these types of data could prove to be harmful if exposed. Under these circumstances, these types of data should be removed before the document is distributed electronically.

To take advantage of this new feature, click **File**, **Info**, **Check for Issues**, and **Inspect Document** to open the **Document Inspector** dialog box shown in **Figure 7;** users of Excel 2007 access the Document Inspector dialog box by clicking the **Office Button** and then selecting **Prepare, Inspect Document**. In the **Document Inspector**, indicate the types of data for which the Document Inspector should look and then click **Inspect** to begin the process of finding and removing the hidden data.
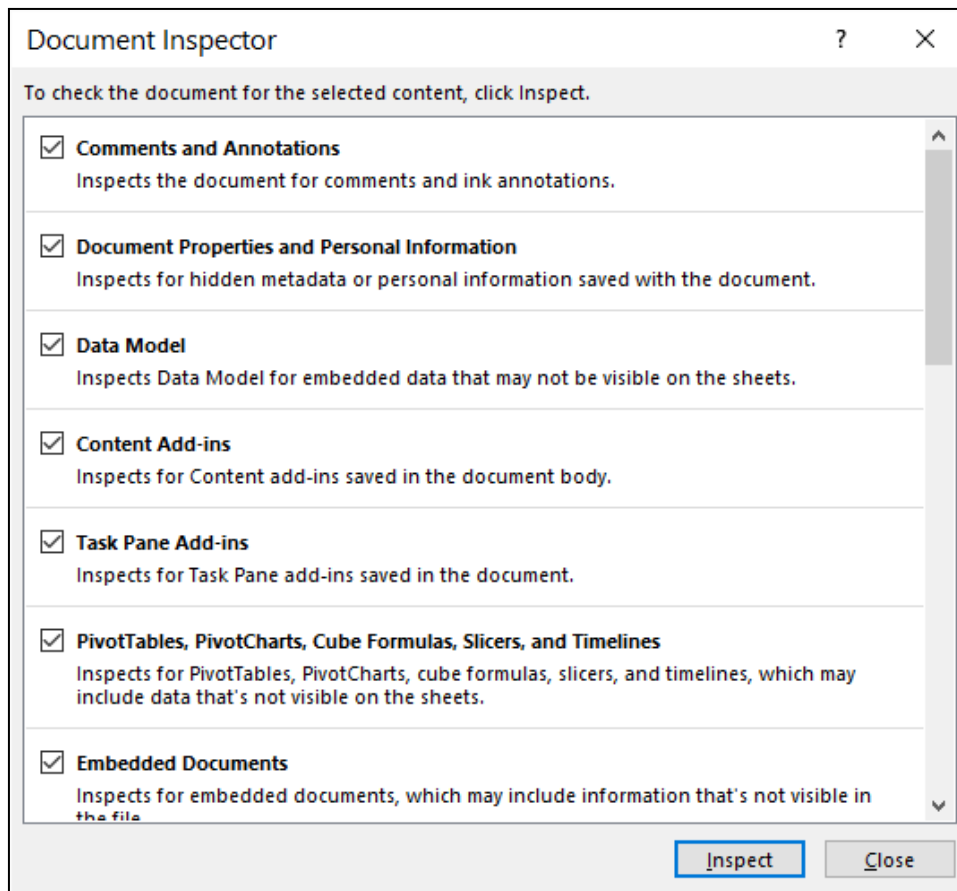
Figure 7 - Document Inspector Window

The Document Inspector displays the results of the inspection in a separate window shown in **Figure 8**. There, users can choose whether the data found should be removed or remain with the document.
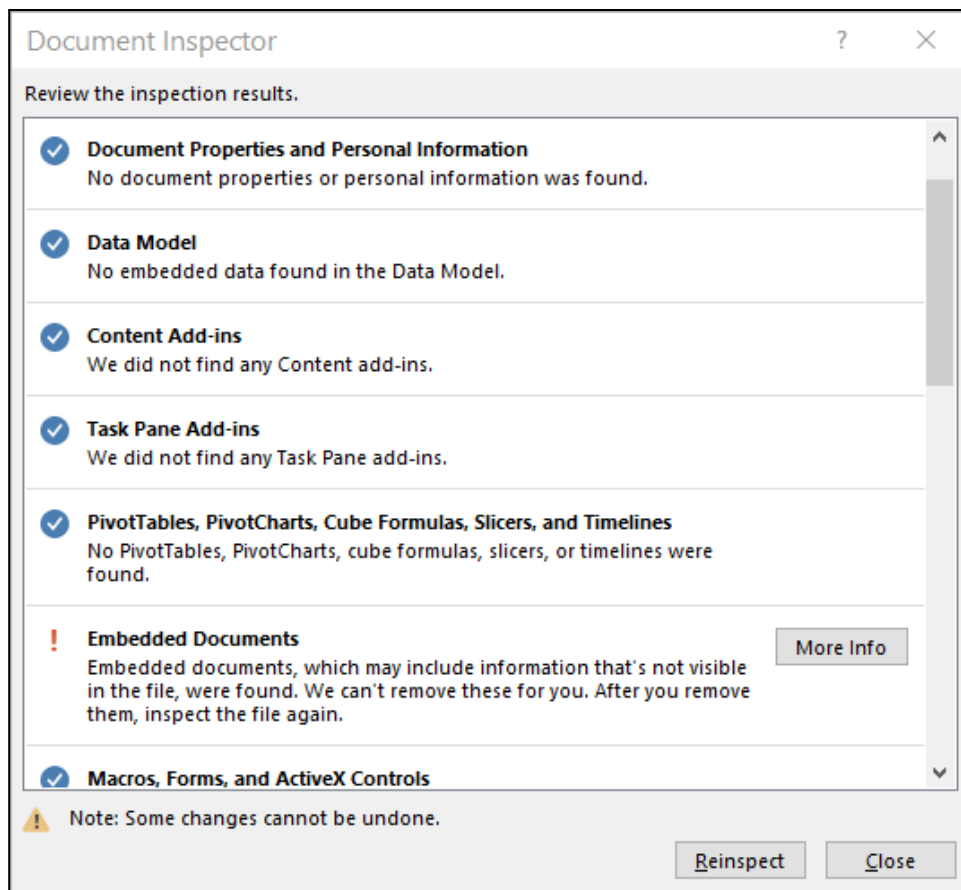
Figure 8 - Results of Document Inspector Examination

In instances where Excel documents undergo numerous revisions and iterating before being "finalized," the Document Inspector tool provides much-needed functionality to ensure that document "history" does not remain with the workbook.

Preventing Changes to Documents

One of the more significant of Excel's newer features is that of marking a document *Final*. When a document – such as a set of financial statements – has been marked final, Excel disallows future changes to that document as long as the document retains its *final* status. While **Mark as Final** is a welcome feature, users should rely on it only to prevent accidental or inadvertent changes to a document. Mark as Final should not be considered a true security feature, because users can easily remove the final status from a document and, once that has been removed, edit the document.

To add the *final* status to a document, click **File**, **Info**, **Protect Workbook**, and **Mark as Final** as shown in **Figure 9**; Excel 2007 users should click the **Office Button** and select **Prepare, Mark as Final**. This makes the document read-only and prevents changes to the document as long as it retains this status. To remove the final status from a document, repeat the steps outlined, and the document will return to an editable status.
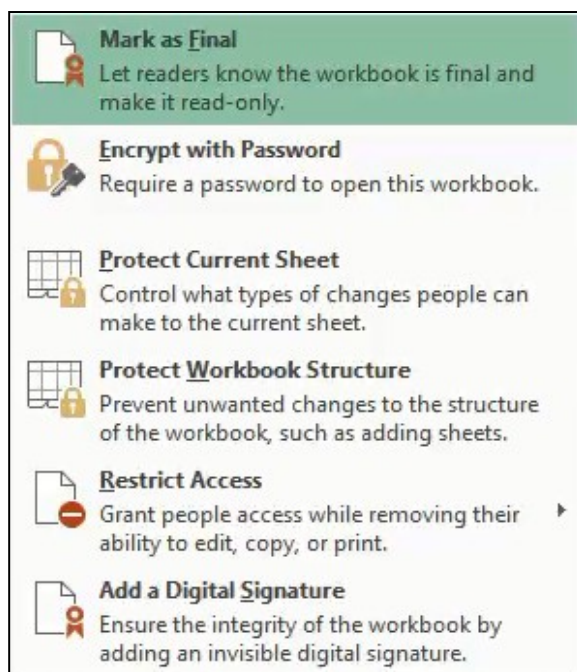
Figure 9 - Marking a Document as Final

Collaborating with Excel

For many business professionals today, collaborating on documents – including spreadsheets – is a necessity. Being able to share documents with other users in real-time or near real-time and to facilitate multi-party input allows today's busy professional to work at the increasing speed of business. Fortunately, Excel supports collaboration through a number of techniques.

Sending Workbooks Via Email

The most common means of collaboration among users is by email. You can send workbooks as attachments to email messages to other users for their input, revision, or review; Excel makes this easier by automating the process. To send a workbook to other users by email, select **File**, **Share, Email**, and **Send as Attachment** as shown in **Figure 10**. If you are using Excel 2007, you perform this function by clicking **Send, Email** from the **Office Button**. Note also that workbooks can also be sent as PDF or XPS attachments or via an Internet-based fax service.
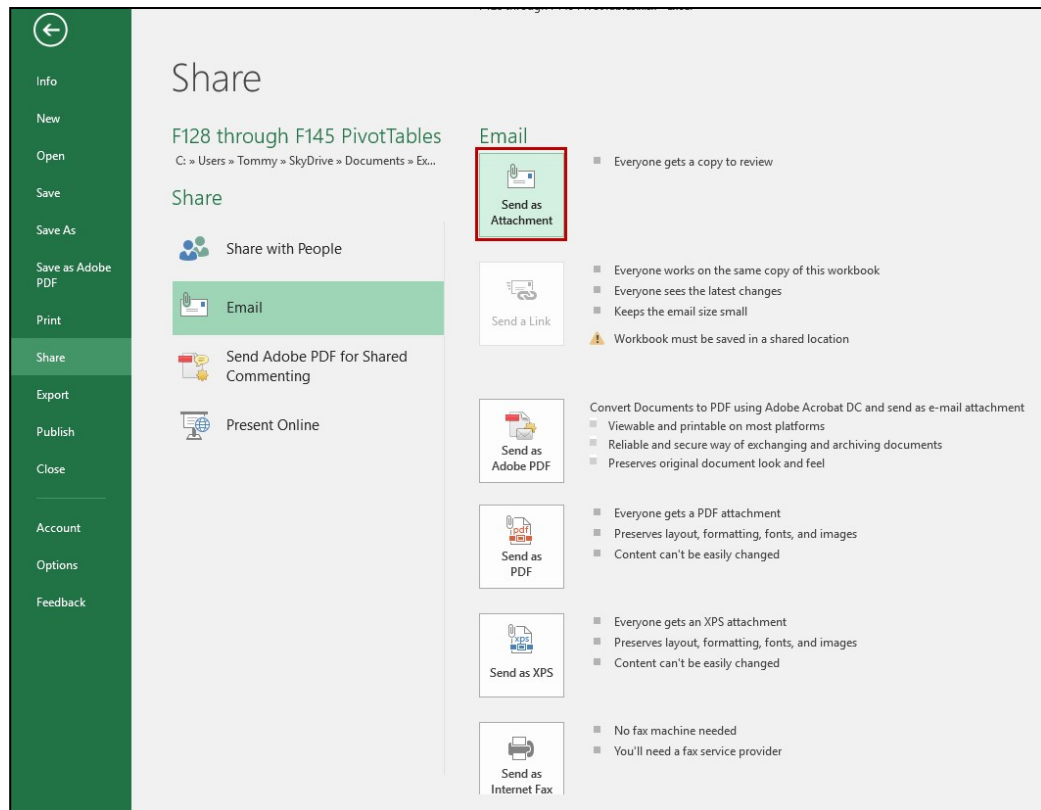
Figure 10 - Sending a Workbook as an Attachment

In addition, depending upon what version of Excel you are running and whether you store your documents in a cloud-based repository such as OneDrive for Business, you may also be able to send a link to your document by choosing the **Send a Link** option in Figure 15. Sending a link can facilitate real-time collaboration as all users of the link will access and edit the same workbook in real-time.

Excel Workbooks and Excel Online

Another means of sharing Excel workbooks is via an Office 2010 and newer feature entitled **Excel Online**. Excel Online allows users to share Excel documents over the Internet. Additionally, similar apps exist for Word, PowerPoint, and OneNote. Remote users can access and edit the documents, and these edits can be performed collaboratively and in real time. Thus, the author of an Excel workbook which is used to calculate the tax accrual for a large corporation could share that workbook through Excel Online so that the accountant in public practice could review and edit the workbook in real time with the author.

To access documents using Excel Online, you must store your document in a cloud-based location such as OneDrive, OneDrive for Business, or SharePoint Online. After you do so, you and other users can simply open the document from that cloud-based storage location and begin collaborating in real time. As shown in **Figure 11**, Excel Online does not offer all the features the desktop version of Excel offers. Nevertheless,

Excel Online provides – for many, if not all, users – a superior option for collaborating compared to emailing workbooks to multiple

recipients. Further, if you need access to a feature not provided in Excel Online, you can open the cloud-based workbook with the desktop version of Excel, perform any necessary edits, and then save the document back to the cloud.

Figure 11 - Editing an Excel Workbook in Excel Online