Excel as an Organizational & Litigation Tool

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Introduction

Spreadsheets can be valuable tool for all phases of litigation, from trial preparation, trial, to sentencing. Spreadsheets offer an easy way to track, organize, and search through discovery, witnesses, government exhibits, and more. Using a spreadsheet, you can quickly filter and sort information, hyperlink to documents stored elsewhere, or generate timelines and charts in PowerPoint. This paper outlines five ways to incorporate Excel, Microsoft's spreadsheet program, into your trial preparation, execution and presentation:[1]

- Making and using a **Discovery Log**. This section also covers the basics of creating and using a spreadsheet:

    o Copying from a PDF to a spreadsheet;

    o Exporting data to a spreadsheet;

    o Using the *sort* and *filter* function ins Excel; and

    o Multiple ways to search a spreadsheet.

- Using a spreadsheet to **Track Witnesses**;

- Preparing a hyperlinked version of the **Government's Exhibit List**;

- Tabulating **Sentencing Comparison** data for making a sentencing recommendation; and

- Turning data into charts to copy and paste into a **PowerPoint Presentation**.

Excel and other spreadsheet software beat tabulating data in word processing programs like Word or WordPerfect due to their breadth of function—spreadsheets and word processors alike let you make a grid and fill the boxes with data, but spreadsheets allow you to sort data and filter that data to isolate or group particular results. It's the difference between displaying and using data.

In most cases Excel also edges out other spreadsheet software through sheer ubiquity: you almost certainly have a copy of the program on your computer already, as does every colleague and technology service provider with whom you might have occasion to share data. Microsoft makes versions of Excel for both Windows and Mac operating systems. But if you've established a preference for other spreadsheet software, you can still deploy the techniques discussed in this paper with only minor adjustments.

All the example spreadsheets used in this paper can be stored as separate tabs on a single Excel document:

Figure 0-1: Example Spreadsheet Tabs

Discovery | Witness Information | Timeline | Gov. Exhibit List | Comparable Cases

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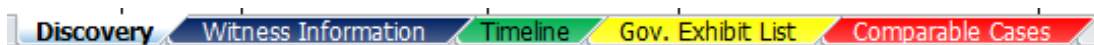
[1] Several of the suggestions in this paper involve tabulating data regarding discovery. If your case warrants the use of a discovery database, these tasks will likely duplicate the work involved in coding your database. Because a discovery database will offer vastly superior capabilities than Excel or other spreadsheet software, you should consider using the database for these tasks.

Discovery Log

Excel spreadsheets can be used to organize and track discovery in a discovery log. An Excel discovery log puts all the information from the government's discovery indices in one place, and serves as a consolidated index of all discovery received. This helps the defense team because critical information, such as when discovery was received, whom it was received from, and what the disclosure contained is all organized in one accessible document. You may also find it a useful cross-reference to include within the discovery log hyperlinks to PDFs of the cover letters accompanying each discovery production.

The initial information for the spreadsheet should come from the discovery indices provided by the government. Government discovery indices may contain the Bates number range, the date the discovery was received, form of the discovery, custodian (who the discovery was received from), and sometimes a description of the documents.

Figure 1-1 shows an excerpt from an example government index. To create the spreadsheet, start with the information in the discovery indices provided by the government. In the index below, there are only three columns.

Figure 1-1: Example Government Discovery Index

Beginning Bates Number	Ending Bates Number	Custodian/Location Records Obtained From
FBAR 000001	FBAR 000046	FBAR Transcripts (foreign bank accounts)
HRB000072	HRB 000084	Screen shots from H&R Block's Tax Preparation System
MLAT0001760	MLAT0001797	Documents pertaining to the Australian MLAT request
OR DMV 000001	OR DMV 000019	Documents from the Oregon DOT Driver & Motor Vehicle Services

Figure 1-2 shows an example discovery log within an Excel spreadsheet. The discovery log's column headings are similar to those in the government index, though *Custodian/Location Records Obtained From* has been split into *Custodian* and *Description*, and the beginning and ending Bates ranges have also been combined into one column.
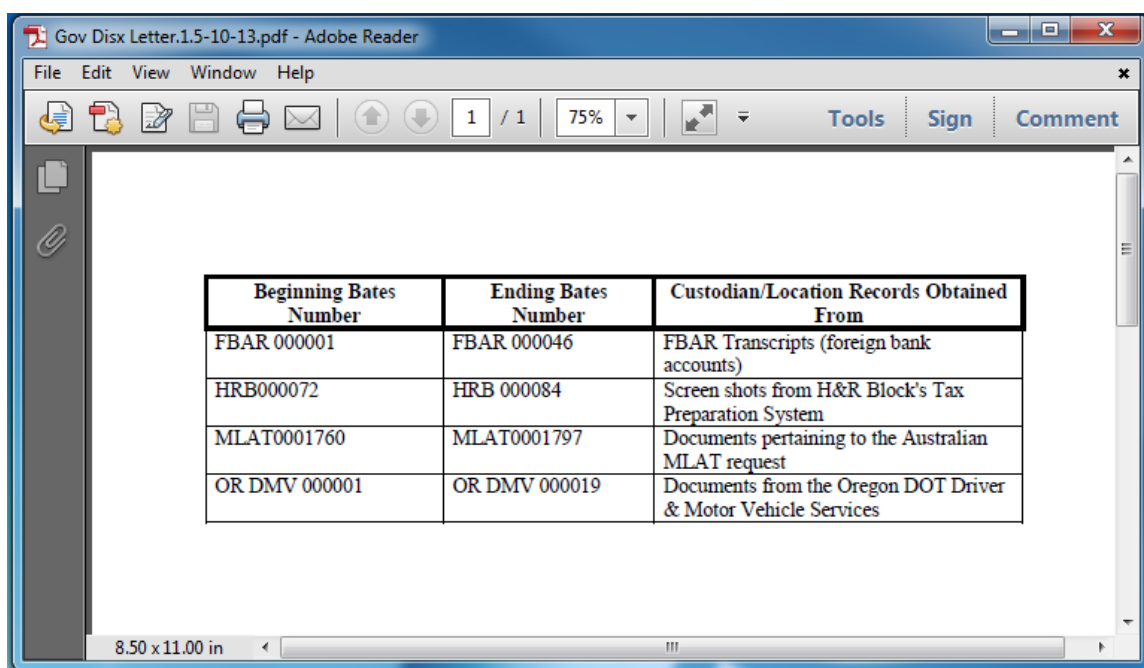
Figure 1-2: Example Discovery Log
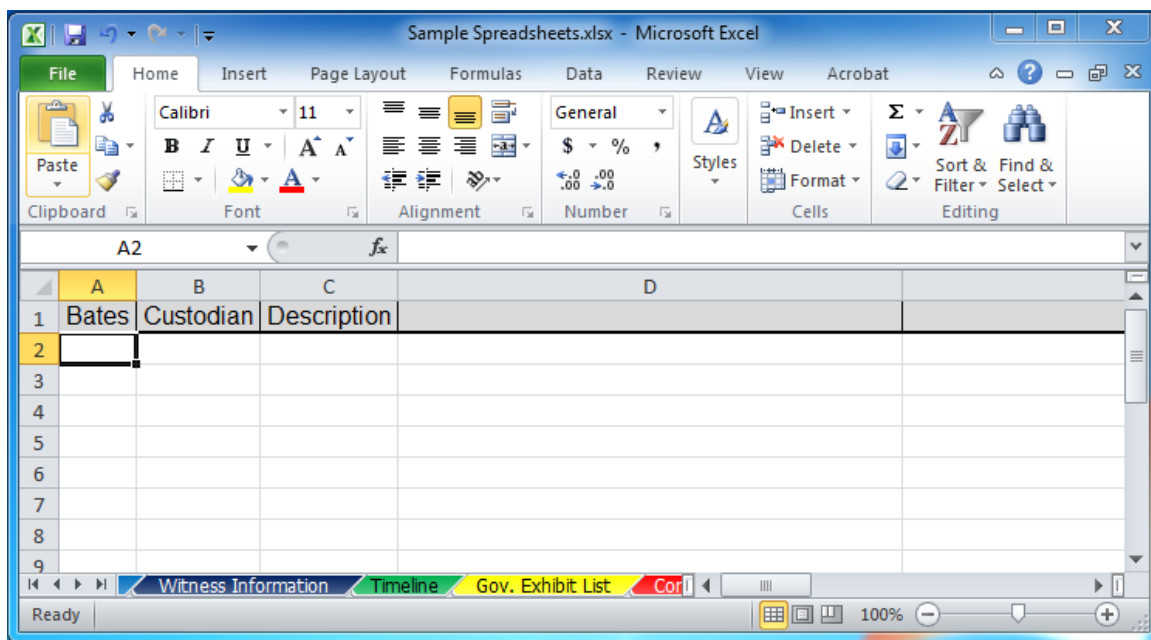
If you have searchable PDFs of the government's indices, you may be able to copy and paste the information into the discovery spreadsheet. When using the copy-and-paste-function, you may find differences in the quality of text copied from a computer-generated document compared with scanned paper that was made searchable with optical character recognition. Be sure to check the latter for errors.

To transfer the information, open the searchable PDF in an Adobe Acrobat program (Adobe Reader, Acrobat Standard, or Acrobat Pro).

Figure 1-3: Government Discovery Index Viewed in Adobe Reader

Beginning Bates Number	Ending Bates Number	Custodian/Location Records Obtained From
FBAR 000001	FBAR 000046	FBAR Transcripts (foreign bank accounts)
HRB000072	HRB 000084	Screen shots from H&R Block's Tax Preparation System
MLAT0001760	MLAT0001797	Documents pertaining to the Australian MLAT request
OR DMV 000001	OR DMV 000019	Documents from the Oregon DOT Driver & Motor Vehicle Services

Highlight the desired text with your cursor, then right-click on the highlighted text. A menu will open giving you the option to *Copy* the highlighted text. You can also press the *Ctrl* and *C* keys to copy the text (or *Command* (it has a ⌘ symbol) and *C* keys for Mac users).

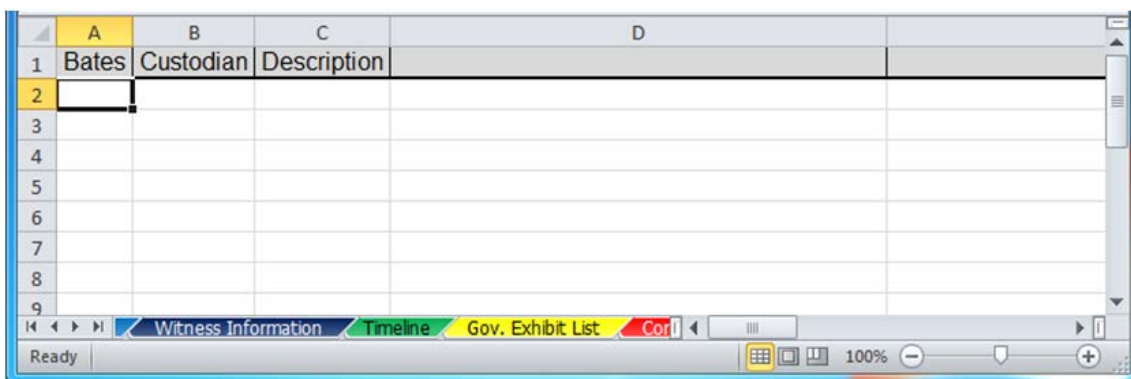*Figure 1-4a: Selecting and Copying Text from the Index*

Beginning Bates Number	Ending Bates Number	Custodian/Location Records Obtained From
FBAR 000001	FBAR 000046	FBAR Transcripts (foreign bank accounts)
HRB000072	HRB 000084	Screen shots from H&R Block's Tax Preparation System
MLAT0001760	MLAT0001797	Documents pertaining to the Australian MLAT request
OR DMV 000001	OR DMV 000019	Documents from the Oregon DOT Driver & Motor Vehicle Services

Figure 1-4b Right-Click Dialogue Box

| Beginning Bates Number	Ending Bates Number	Custodian/Location Records Obtained From
FBAR 000001 Copy Ctrl+C Highlight Text	FBAR 000046 HRB 000084	FBAR Transcripts (foreign bank accounts) Screen shots from H&R Block's Tax Preparation System
MLAT0001760	MLAT0001797	Documents pertaining to the Australian MLAT request
OR DMV 000001	OR DMV 000019	Documents from the Oregon DOT Driver & Motor Vehicle Services

Next, select the cell in your Excel spreadsheet where you want the data to be placed.

Figure 1-5: Selecting Destination Cell in Discovery Log

	A	B	C	D
1	Bates	Custodian	Description	
2				
3				
4				
5				
6				
7				
8				
9				

Witness Information   Timeline   Gov. Exhibit List   Cor

Ready   100%

Right click on the cell and select *Paste.* You can also press the *Ctrl* and *V* keys to paste into the cell.

*Figure 1-6: Pasting Data into Discovery Log*
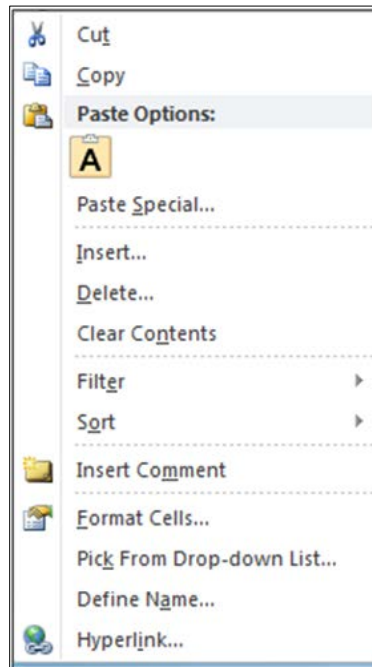
The information you copy and paste from the discovery indices will form the basis for your discovery spreadsheet. If you are using Adobe Reader, a free PDF viewer, you'll likely have to copy and paste each cell of information individually. Acrobat Standard and Acrobat Pro offer more functionality, allowing you to export text from PDF tables directly into a spreadsheet. Highlight the entire discovery index (use *Ctrl* and *A*, or use menu *Edit* and *Select All*), then right-click on the selection. Choose the menu item *Export Selection As…* to open a dialogue box where you'll choose the type of you want to save the selected text as.

Figure 1-7: Exporting Data in Acrobat Standard or Pro
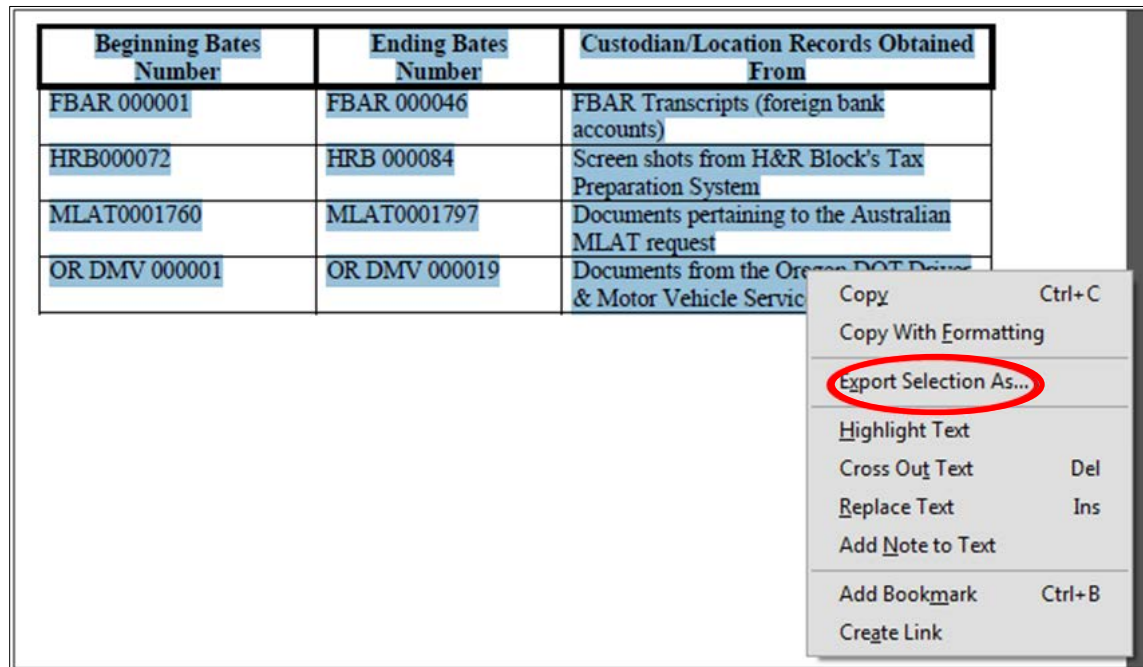
Among your file-type options will be *Microsoft Excel Workbook* (a workbook is an Excel spreadsheet). Choose that one.

Figure 1-8: Export Format Options
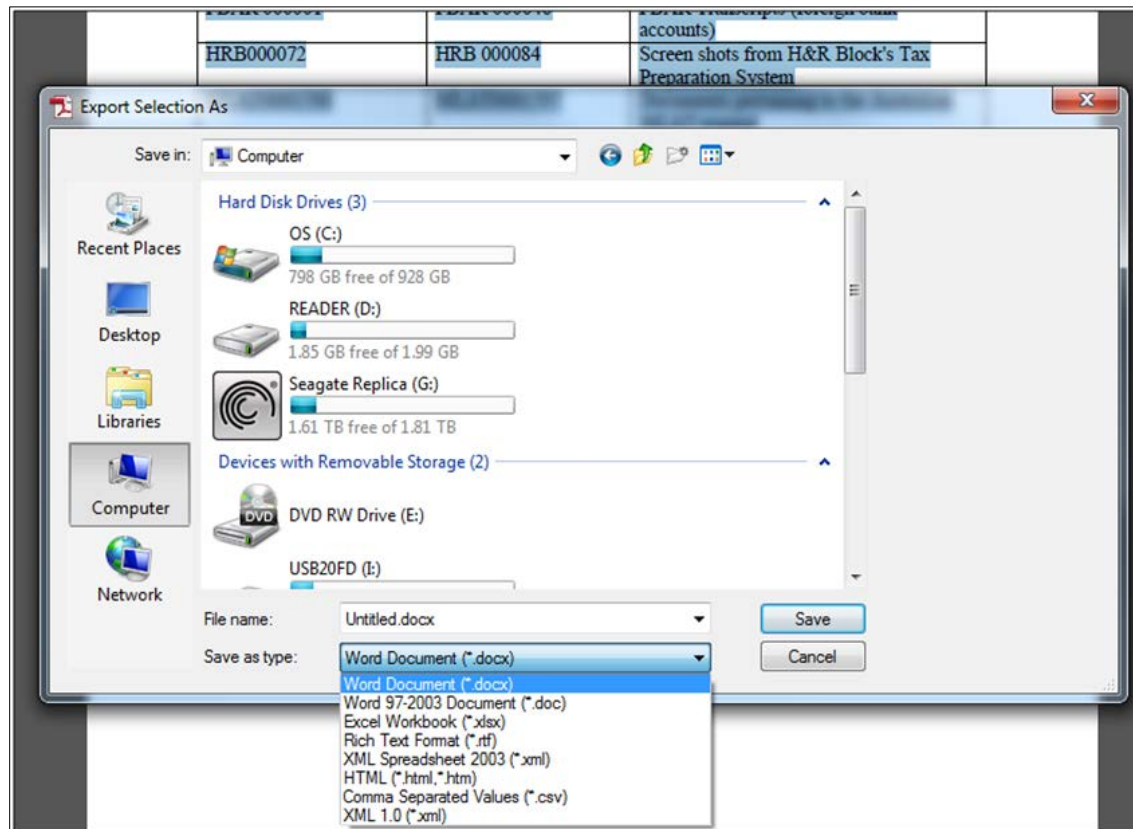
This exports the selection to Excel, creating a new spreadsheet mirroring the PDF discovery index:

Figure 1-9: Government Index Exported into an Excel Spreadsheet

Copy and paste the information in this new spreadsheet into your discovery log. Figure 1-10 shows a discovery log spreadsheet with all the information from the government's discovery index.

Figure 1-10: Discovery Log Populated with Information from Discovery Index

You can add columns for other useful information to your discovery log spreadsheet. A *Label* column, indicating the label on the disk used to produce discovery, helps you identify on which disk a specific document was produced without reading through all of the government's discovery indices. Other possible information columns include the

date you received the discovery, the media of production, and who provided the discovery (the government as opposed to previous counsel, for example). You will find most of this information in the discovery indices or from your personal experience. Some U.S. Attorney's Offices will also inform you of the custodian for each item of discovery; other times you can glean this from the discovery index. In Figure 1-10's example, the government identifies custodians in the description.

Figure 1-11 shows a discovery log with columns added for additional information regarding the manner of production.

Figure 1-11: Discovery Log with Additional Production Information

You can also use your discovery log to track information relevant to building a defense. Flesh out descriptions with these helpful details: rather than identifying the discovery as "bank records," it may be more helpful to know whether the bank records belong to a particular business, your client, or another defendant. Tracking what discovery has been sent to your client may also be a useful tool in your discovery log. Other columns will vary depending on the specific details of your case.

Figure 1-12: Discovery Log with Additional Defense Information

	A	B	C	D	E	F	G	H
1	Date Rec'd	Media	Label	Rec'd From	Bates	Custodian	Description	Sent to Client?
2	5/10/2013	CD	Production 1	Gov't	FBAR 000001-FBAR 000046	Bank of Russia	FBAR Transcripts (foreign bank accounts)	Yes; 5/13/2013
3	5/10/2013	CD	Production 1	Gov't	HRB000072-HRB 000084	H&R Block	Screen shots from H&R Block's Tax Preparation System	Yes; 5/13/2013
4	5/10/2013	CD	Production 1	Gov't	MLAT0001760-MLAT0001797	Bank of Australia	Documents pertaining to the Australian MLAT request	Yes; 5/13/2013
5	5/10/2013	CD	Production 1	Gov't	OR DMV 000001-OR DMV 000019	Oregon DOT	Documents from the Oregon DOT Driver & Motor Vehicle Services	Yes; 5/13/2013
6	6/14/2013	CD	Disx Produced 6/14/2013	Gov't	00065-000110	Washington SOC	Articles of Incorporation from Washington Secretary of State	Yes; 6/16/2013
7	6/14/2013	CD	Disx Produced 6/14/2013	Gov't	000111-000114	Costco	Company billing records for Costco account	Yes; 6/16/2013
8	6/14/2013	CD	Disx Produced 6/14/2013	Gov't	FEDDETCTR_000608-FEDDETCTR_001787	Gov't	FDC calls and emails of client from 5/10/2013-6/13/2013	Yes; 6/16/2013
9	6/15/2013	CD	Disx Produced 6/14/2013	Gov't	MLAT0001798-MLAT0001998	Bank of Australia	Documents pertaining to the Australian MLAT request	Yes; 6/16/2013
10	6/22/2013	PDF	n/a	Gov't	WITN_0004274-WITN_0004278	IRS	Agent notes from Interview of IRS employee J. Doe	Yes; 6/22/2013
11	7/1/2013	CD	Bank Records	Gov't	BC 000001-BC 000079	Bank of Centralia	Client's bank records	Yes; 7/6/2013
12	7/1/2013	CD	Bank Records	Gov't	USBANK 000001-USBANK 001913	US Bank	Client's bank records	Yes; 7/6/2013
13	7/1/2013	CD	Grand Jury Docs.	Gov't	WITN 0001166-WITN 0002150	Gov't	Grand Jury Transcripts of IRS Agent	Yes; 7/6/2013
14	9/2/2013	CD	MLAT0001–MLAT0239	Gov't	MLAT0001–MLAT0239	Bank of Germany	Documents from foreign bank account	Yes; 9/4/2013
15	9/3/2013	CD	WF0001–WF1879	Wells Fargo	WF0001–WF1879	Wells Fargo	Client's bank records	Yes; 9/6/2013
16	9/10/2013	PDF	n/a	Gov't	GJ0001-GJ0146	Gov't	Grand Jury Transcripts	Yes; 9/15/2013
17	10/10/2013	CD	MLAT0001999-MLAT0002356	Gov't	MLAT0001999-MLAT0002356	Bank of Australia	Documents pertaining to the Australian MLAT request	Yes; 10/13/2013

Discovery | Witness Information | Timeline | Gov. Exhibit List | Comparable Cases | Sheet1

Ready   100%

Note that if you'll be using a discovery database, you probably will want to skip the duplicative work of adding more detailed information to your discovery log.

The chief benefit of putting data into a spreadsheet is the ability to filter, search, and sort. This makes discovery easier to find and manage. To make a spreadsheet searchable and sortable, select the row with the column headings (column headings are labeled A, B, C, etc.; when you select a heading the entire column changes color). Then select the *Sort & Filter* button, in the upper-right corner of the menu.

Figure 1-13: Sort & Filter *Button*
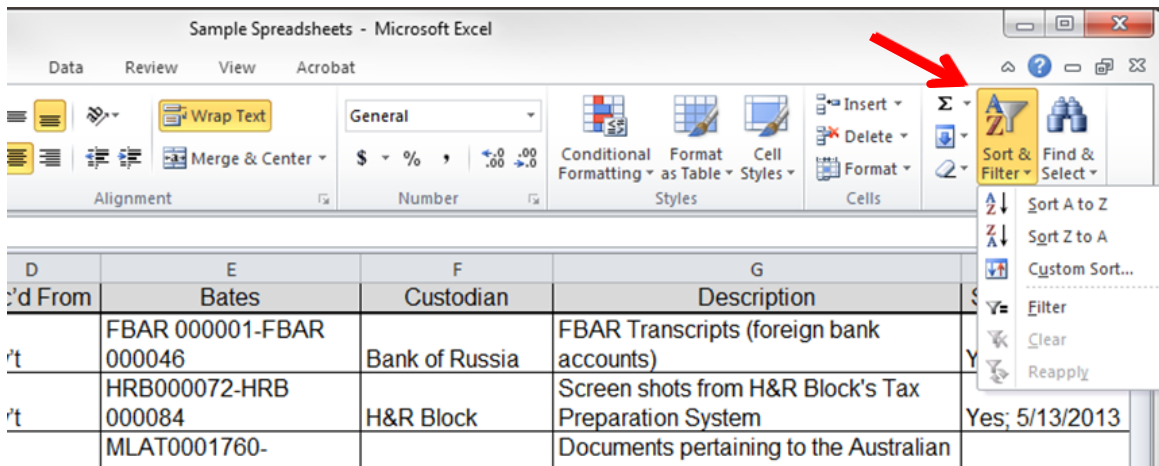
Select *Filter*. Boxes containing small downward-pointing arrows will appear at the top of each column. Click on these arrows to filter for specific information in a column. For example, to isolate discovery only from Bank of Australia, click on the arrow next to *Custodian* and then select *Bank of Australia* on the drop down menu.

Figure 1-14: Filtering by Information in the Custodian *Column*
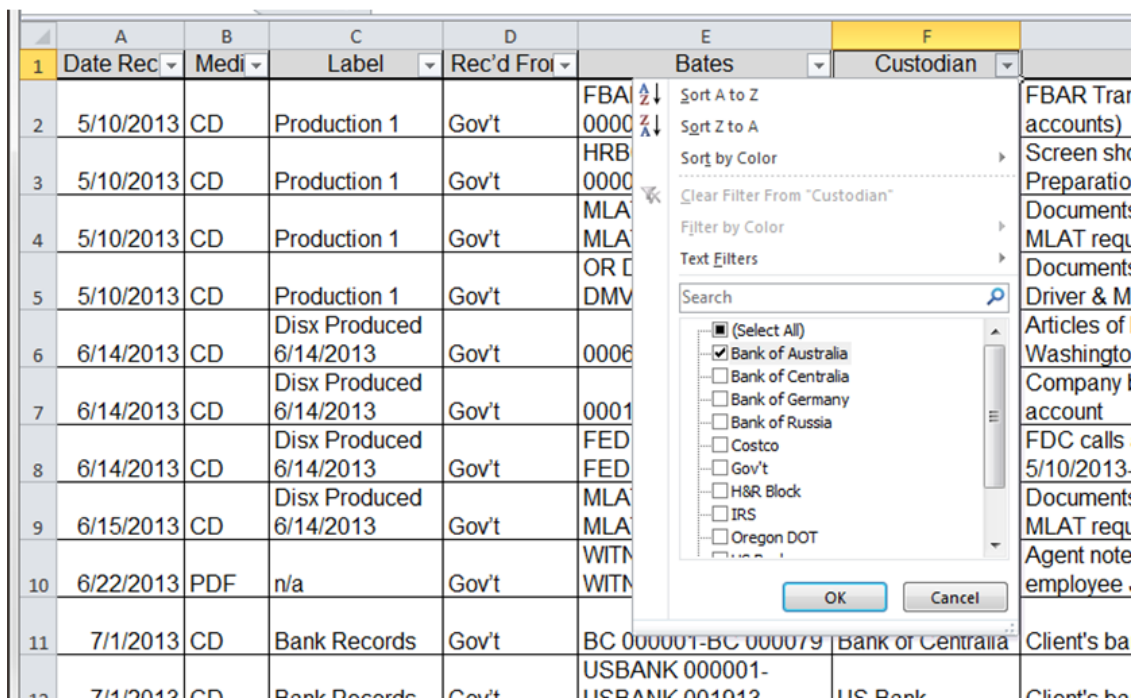
After clicking *OK*, all documents except those received from Bank of Australia will be hidden. A filter symbol will appear anytime the filter function is being used (you can see the hidden documents again by clicking on the filter icon, then un-checking the filter). Another way to tell if the documents are filtered is the row numbers on the far left are blue rather than black.

Figure 1-15: Indicia of Filtering—Blue Row Numbers and Filter *Icon*
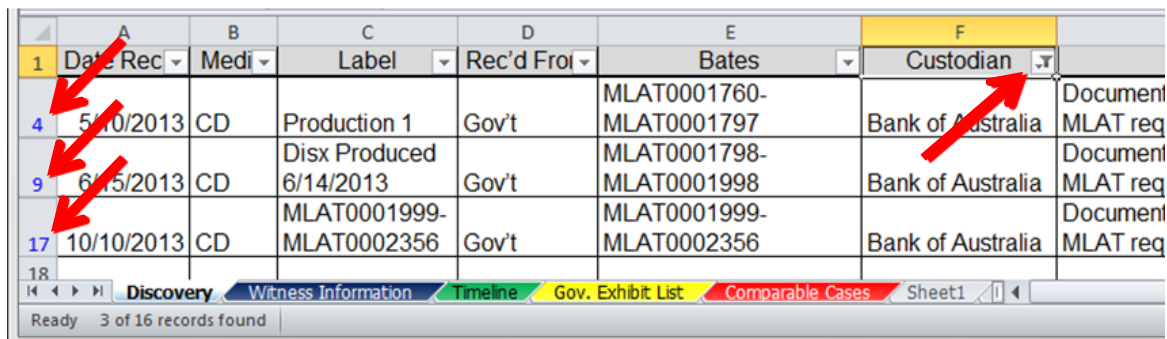
You can also search your spreadsheet for a specific term. Click on the arrow at the top of the column you want to search, type the desired term into the search box, and press *OK*. Figure 1-16 shows a search within the *Description* column for the term "bank."

Figure 1-16: Example Search

After searching using "bank," only records with the term "bank" in the description column remain visible.

Figure 1-17: Search Results

As with filtering, after using the search function a filter icon will appear in the column you searched.

You can find keywords within an entire spreadsheet (instead of a specific column) by using the *Find* function. Simultaneously press the *Ctrl* and *F* keys then enter a search term in the dialogue box.

Figure 1-18: Full-Document Search Dialogue Box
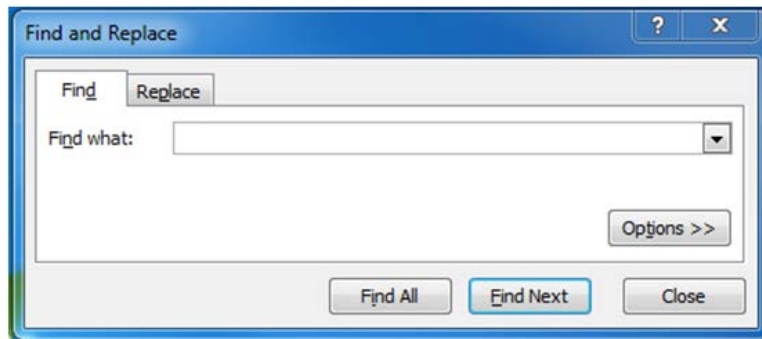
If you select *Find All*, a list will appear showing every instance of the search term in the spreadsheet. The *Value* column will display how the word was used so you can quickly determine if the result is relevant. Select any row in the results to access the corresponding cell in the spreadsheet. In Figure 1-19, we again searched for the term "bank," yielding fifteen results.

Figure 1-19: Full-Document Search Results

Book	Sheet	Name	Cell	Value	Formula
Sample Spreadsheets.xlsx	Discovery		F2	Bank of Russia	
Sample Spreadsheets.xlsx	Discovery		G2	FBAR Transcripts (foreign bank accounts)	
Sample Spreadsheets.xlsx	Discovery		F4	Bank of Australia	
Sample Spreadsheets.xlsx	Discovery		F9	Bank of Australia	
Sample Spreadsheets.xlsx	Discovery		C11	Bank Records	
Sample Spreadsheets.xlsx	Discovery		F11	Bank of Centralia	
Sample Spreadsheets.xlsx	Discovery		G11	Client's bank records	
Sample Spreadsheets.xlsx	Discovery		C12	Bank Records	
Sample Spreadsheets.xlsx	Discovery		E12	USBANK 000001-USBANK 001913	
Sample Spreadsheets.xlsx	Discovery		F12	US Bank	
Sample Spreadsheets.xlsx	Discovery		G12	Client's bank records	
Sample Spreadsheets.xlsx	Discovery		F14	Bank of Germany	
Sample Spreadsheets.xlsx	Discovery		G14	Documents from foreign bank account	
Sample Spreadsheets.xlsx	Discovery		G15	Client's bank records	
Sample Spreadsheets.xlsx	Discovery		F17	Bank of Australia	

15 cell(s) found

You can also review all of the cells where the search term was mentioned by selecting *Find Next*. Continuing to select this will allow you to review all of the responsive cells.

Track Witnesses

You can also use a spreadsheet to keep track of information about potential witnesses. This is especially helpful in a case with numerous witnesses. A witness information spreadsheet can tabulate information such as the witness' attorney, basic information regarding the witness, Bates number of witness statement, and whether the witness has been interviewed. You can also include all sorts of information (such as contact information), but for this example we will keep it more limited. Again, the ability to sort and filter data makes an Excel spreadsheet an especially useful.

Figure 2-1: Witness Information Spreadsheet Tab

The *Sort & Filter* function also enables you to quickly alphabetize a list. In the spreadsheet sample above, the witness names are not entered in alphabetical order. The spreadsheet allows you to quickly sort data from A to Z as shown in Figure 2-2.

Figure 2-2: A–Z Sorting

Excel can also filter columns to show only witnesses for the defense or prosecution:

Figure 2-3: Filtering for Defense Witnesses

Figure 2-4: Filter Results Showing Only Defense Witnesses

Just as with the discovery log shown above, you can search for information within a column of the witness spreadsheet. If, for example, you do not remember a witness' name but know they worked at US Bank, searching for "US Bank" in the *Information* column will limit the number of potential witnesses.

Government's Exhibit List

Excel can be used to create a hyperlinked spreadsheet for the government's exhibit list. Because the spreadsheet is both sortable and searchable, it allows for exhibits to be readily accessed during trial preparation and at trial.

The nature of the case will dictate the columns created in the spreadsheet. All exhibit list spreadsheets will likely include the following:

- The exhibit number;

- Document title;

- Bates number; and

- Hyperlink to electronic copy of the document.

Figure 3-1: Example Exhibit List

Depending on the case, you may also want to include a brief description of the document for context. For example, identifying the date, time, or other descriptive information may assist in more quickly accessing documents. You will be able to search for these terms in Excel. Columns can also be created to identify an exhibit's relevance to a particular count, codefendant, or event.

Excel features a simple process for hyperlinking documents into the spreadsheet. The important first step is to copy the spreadsheet and all the documents to a single location such as a folder on your computer, a thumb drive, or an external hard drive. This is necessary to maintain the hyperlinks' functionality. You may find it helpful to name the exhibits with either a descriptive title (for example, *Wire Transfer Form*) or by exhibit number. The sample below has the documents named by exhibit.

Click on the box in the *Hyperlink* column where you want to insert the document. Then select the *Insert* tab at the top of the screen (for Mac users, this will be a menu item at the top of your screen).

Figure 3-2: Hyperlinking to Exhibit PDFs
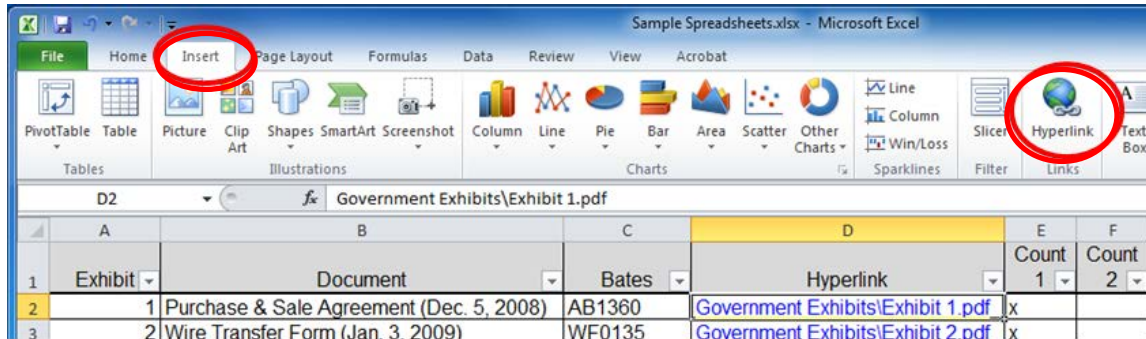
Next choose *Hyperlink*. A dialogue box will prompt you to select the document you would like to hyperlink. Select the exhibit you wish to insert, then click *OK*.

Figure 3-3: Hyperlink 3-3: Selecting Exhibit PDF
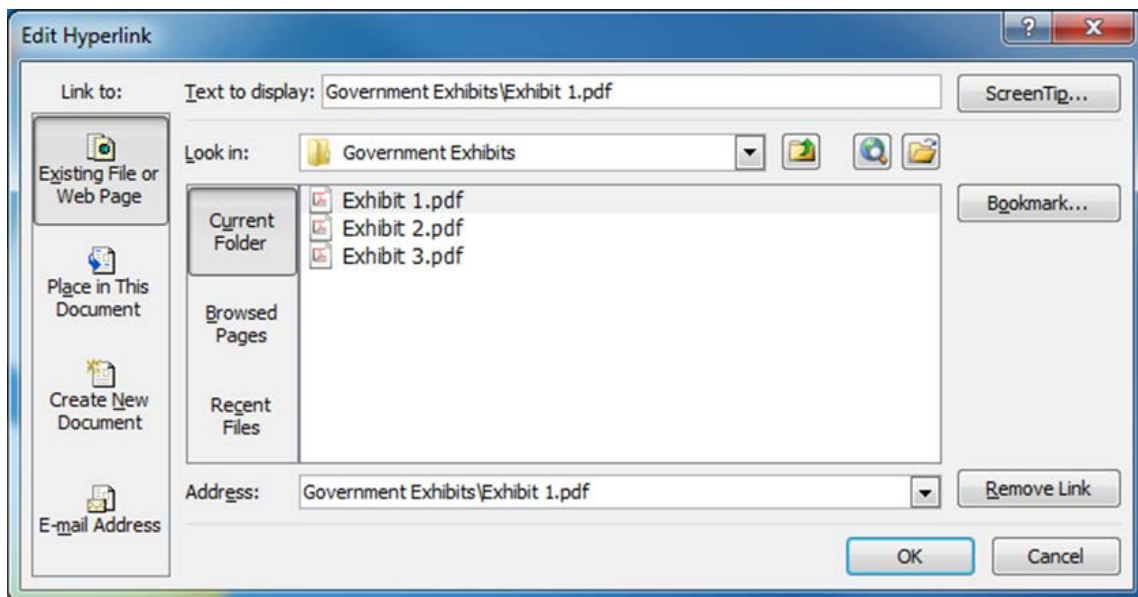
This will insert a hyperlink into the cell you selected. Repeat this process for the remaining cells.

Figure 3-4: Hyperlinked Exhibit List

You can also search and filter information in the spreadsheet, including the document title. Searching by document title will help locate a document quickly without reviewing all the documents. Select the arrow at the top of the column and type the desired term into the search box. For example, to locate all of the exhibits relating to a bank account ending in 6777, enter that number into the search field. Press *OK* and the documents will be narrowed to those containing "6777" in the title.

Figure 3-5: Exhibit Search by Document

Rather than reviewing the entire exhibit list or looking through each of the exhibits, this feature allows you to quickly identify relevant exhibits. This can be especially useful at trial, when (for example) unexpected testimony leaves you scrambling to find a half-remembered document for cross-examination.

Figure 3-6: Exhibit Search by Document Results

You can also use the filter function to isolate documents relevant to a specific count, codefendant, or other column. In Figure 3-7, the exhibits have been filtered to only those relevant to Defendant 2.
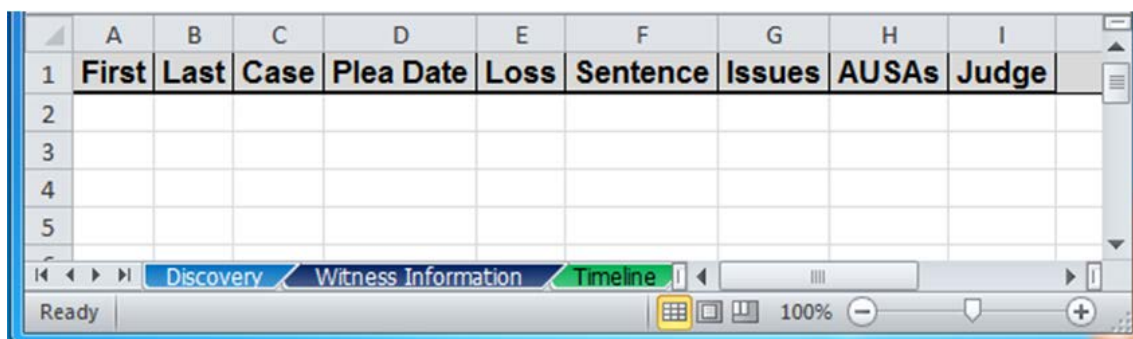
Figure 3-7: Exhibit Filter by Defendant

Sentencing Comparison

A valuable tool when preparing for the sentencing of a client is a spreadsheet comparing the sentences and facts of other defendants convicted of similar crimes. This can aid both in determining what an appropriate recommendation is for a client, and also in distinguishing the facts justifying the imposition of particularly high sentences in other cases. The columns you choose for your spreadsheet will vary depending on the nature of the offense, defendant, and information you find important. For example, the name of the U.S. Attorney and their sentencing recommendation may be useful if you are trying to foresee what sentence they might recommend. The name of the judge may be useful to determine if there is a pattern for sentencing certain types of crimes. If your client is very young or elderly, it may be helpful to know the age of other defendants who have been sentenced to see if age appears to be a factor. Below is an example of potential categories for a sentencing comparison chart.

Figure 4-1: Example Sentencing Comparison Spreadsheet

Next, find the information for the spreadsheet. Though the U.S. Sentencing Commission offers a useful online compendium of sentencing statistics,[2] a useful place to begin collecting facts about specific cases is your local U.S. Attorney's own press releases.

To begin, find the webpage for the U.S. Attorney's Office for your district. The Department of Justice has online listings for U.S. Attorneys;[3] each page has a link to that U.S. Attorney's Office's website. Individual USAO websites will likely have a header similar to the sample below.[4]

Figure 4-2: USAO Webpage Tabs

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[2] U.S. Sentencing Comm'n, INTERACTIVE SOURCEBOOK, http://isb.ussc.gov/USSC (visited Mar. 11, 2014).

[3] U.S. Dep't of Justice, OFFICES OF THE UNITED STATES ATTORNEYS, http://www.justice.gov/usao/about/usattorneys.html (visited Mar. 11, 2014).

[4] All examples in this section taken from the website of the U.S. Attorney for the Western District of Washington, http://www.justice.gov/usao/waw/ (visited Mar. 14, 2014).

Select *News.* This will bring up the *News And Press Releases* page. Some jurisdictions will provide subjects tags, as in Figure 4-3, so you can quickly identify articles regarding defendants who have been similarly charged and/or convicted.

Figure 4-3: USAO Press Release Subject Tags

Others may only have the headings of the most recent news releases.

Figure 4-4: USAO News Items

Either way, there should be a search box in the top right hand corner of the screen. If you cannot browse the press releases by subject matter, you can search for similar crimes. Below, the term "counterfeit" was used to find similarly convicted defendants.

Figure 4-5: USAO Website Search Tool
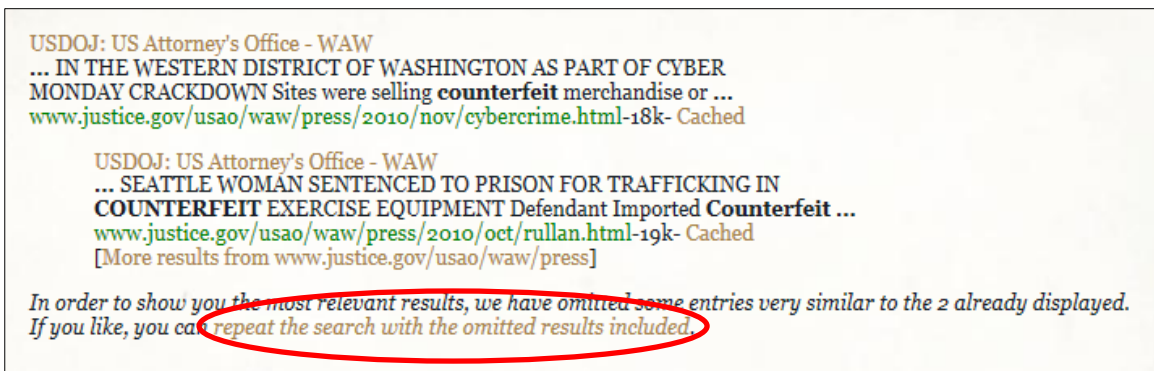
In this instance, only two results were returned at first, because the search had automatically filtered out similar results. However, because U.S. Attorney press releases are often repetitive, this filtering may hide useful results from different cases. If you do not have enough results returned, then you should opt to repeat the search. Using this option resulted in an additional 81 results.

Figure 4-5: USAO Website Search Including Omitted Results

Select cases that may be relevant. A new page will display containing a news release. These releases vary from perfunctory to thorough. Often most of the information you need will be found in the first paragraph.

Figure 4-5: Example USAO Press Release

GENEVIEVE RULLAN, 34, of Seattle, Washington was sentenced today in U.S. District Court in Seattle to 30 days in prison, 120 days of home confinement, 150 hours of community service, three years of supervised release and $64,500 in restitution for Trafficking in Counterfeit Goods. RULLAN pleaded guilty in June 2010, following an undercover investigation by U.S. Immigration and Customs Enforcement Homeland Security Investigations (HSI). RULLAN admitted she knowingly imported and sold counterfeit exercise equipment. In sentencing RULLAN to prison time, U.S. District Judge Ricardo S. Martinez noted that "there were many, many false statements to customs and to customers . . . there were many overt acts to keep this scheme going."

This information can be readily copied and pasted into your spreadsheet.

Figure 4-6: Sentencing Comparison Spreadsheet with USAO Information

An all-purpose column such as *Issues* may be helpful to limit the number of columns.

Figure 4-7: Issues Column

In this example, the spreadsheet only contains information gleaned from U.S. Attorney press releases. This should be enough to get a sense of each case's facts, but it is framed from DOJ's perspective. For a fuller—and less slanted—version of facts in cases that seem especially relevant to your own, retrieve defense and government sentencing memoranda from PACER. Additionally, you will likely need to review the sentencing memoranda (or, in some districts, the docket) to learn what offense level and criminal history category each sentencing court used to calculate the advisory sentencing range. These details, if retrieved, warrant their own columns on your spreadsheet.

As with prior examples, the sentencing comparison spreadsheet can be sorted, filtered, and searched. You may want to sort the spreadsheet by plea date to see if there have been any changes in sentencing trends.

Figure 4-8: Sorting by Plea Date

Limiting the results to sentences with prison sentences can be done by searching for "prison" in the filtering function.

Figure 4-9: Filtering for Sentences of Imprisonment
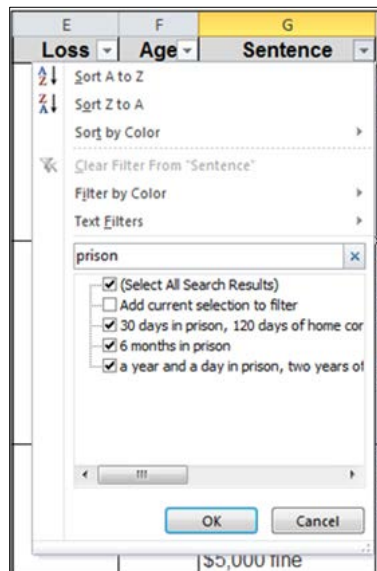
Excel enables you to quickly sort through large quantities of data and locate information most relevant to your case. This tool can be used to find similarly situated defendants, sentencing patterns, and sentencing anomalies.

Figure 4-10: Results of Filtering by "Prison"

	A	B	C	D	E	F	G	H	I	J
1	First	Last	Case	Plea Date	Loss	Age	Sentence	Issues	AUSAs	Judge
2	GENEVIEVE	RULLAN	Trafficking in Counterfeit Goods	6/1/2010	$64,500	34	30 days in prison, 120 days of home confinement, 150 hours of community service, three years of supervised release	imported and sold counterfeit exercise equipment	Matthew Diggs	Martinez
4	GREGORY JAMES	ARMSTRONG	selling and dispensing counterfeit drugs with the intent to mislead or defraud	10/21/2010		28	a year and a day in prison, two years of supervised release and a $5,000 fine	counterfeit erectile dysfunction drug Viagra and 260 pills of Cialis	Patricia Lally	Martinez
6	VITALIY	YAREMKIV	conspiracy to traffic in counterfeit goods	5/1/2013	137,243	25	6 months in prison	sold approximately 960 counterfeit vehicle airbags	Norman Barbosa	Leighton

PowerPoint Presentation

Turning to another ubiquitous Microsoft program, PowerPoint is useful for presenting visual information—a compelling and indispensable tool for advocacy. Excel complements PowerPoint: the information in an Excel document can quickly be turned into graphs and charts then exported into PowerPoint to tell a powerful story with data.

What story to tell depends on the case and what you want to advocate on behalf of your client. For illustration and inspiration, consider these two examples.

Example 1: Your client has suffered from bipolar disorder all her life, struggling through severe cycles of mania and depression. You need the jury to understand how disruptive and chaotic these swings have been for your client. One aspect of her life which demonstrates her mental illness is her ability to earn money: during manic episodes she works several jobs at the same time; during periods of depression she works little or not at all. These economic fluctuations bounce her above and below the poverty line over and again; and sketch a shorthand account of your client's struggles with mental illness.

Figure 5-1 shows a chart of your client's historical earning year-by-year plotted against the U.S. poverty line. The chart also discloses another wound inflicted by mental illness—in 1985 the poverty line applicable to your client changes from that of a family of a family of four to the level for a single individual, after a divorce and loss of custody over her two children.

Figure 5-1: Chart of Client's Earnings and the Poverty Line
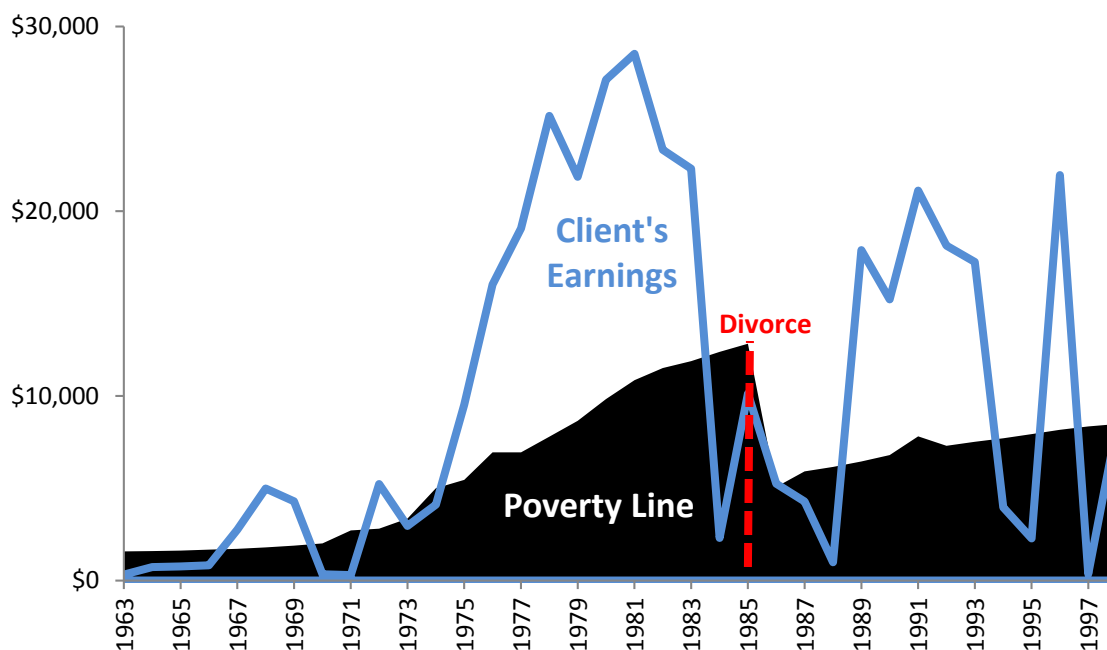
Example 2: The government has accused your client of defrauding investors in what it characterizes as a Ponzi scheme, and your client has accepted a hard-won plea deal in the face of overwhelming evidence. The government's calculations make it look as if your client began losing money in 2002, meaning that all repayments made to investors after that date were made with newer investor's funds. However, with the help of a

forensic accountant you have corrected the government's calculations and can demonstrate your client's business operated in the black through 2008. You want to show the sentencing judge that your client's business began as a sound venture, and continued as such until near the end.

Figure 5-2 shows a chart of your (corrected) calculations plotted against the government's numbers.

Figure 5-2: Client's Principal and Interest Collected versus Paid Out
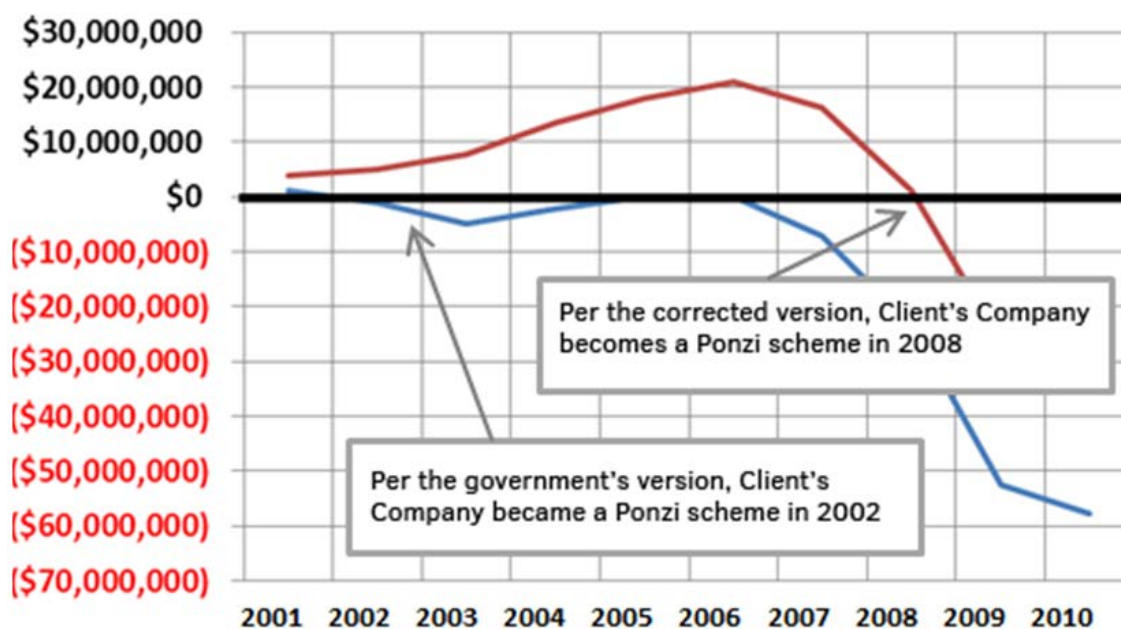
Both example charts were created in Excel, and use different formatting to help convey their respective messages. Walking through the steps involved in creating the first chart will serve as a primer on creating and tailoring a chart. Adapt the process to tell your client's story.

Figure 5-1 started as a simple Excel document with three columns of data:

Figure 5-3: Economic Data in Excel

	A	B	C	D
1		Poverty Line	Client's Earnings	
2	1963	1581	329	
3	1964	1601	731.54	
4	1965	1626	768	
5	1966	1674	826.1	
6	1967	1722	2763	
7	1968	1797	4984.17	
8	1969	1893	4290	
9	1970	2010	342	
10	1971	2716	297	
11	1972	2808	5224.83	
12	1973	3356	2958.64	
13	1974	5000	4107.45	

Create a chart by selecting a chart type from the *Insert* tab. The example uses an area chart (instead of a line chart) to emphasis the dark expanse below the poverty line with an all-black fill.

Figure 5-4: Selecting Chart Type
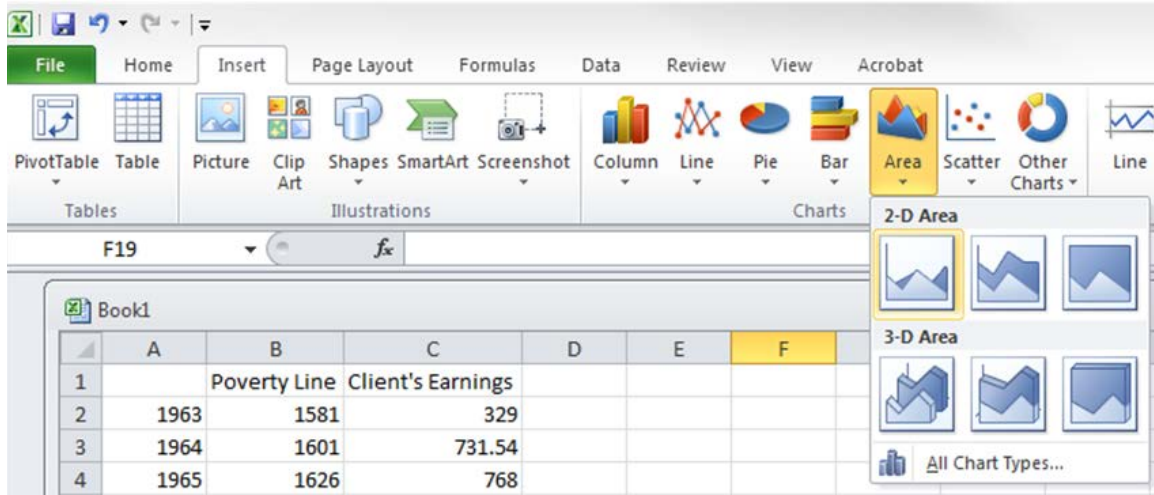
This creates a blank chart in your document, and a new set of menu tabs, *Design*, *Layout*, and *Format*, collectively under the heading *Chart Tools*. Click the *Select Data* button under the *Design* tab.

Figure 5-5: Blank Chart and Chart Tools *Tab*
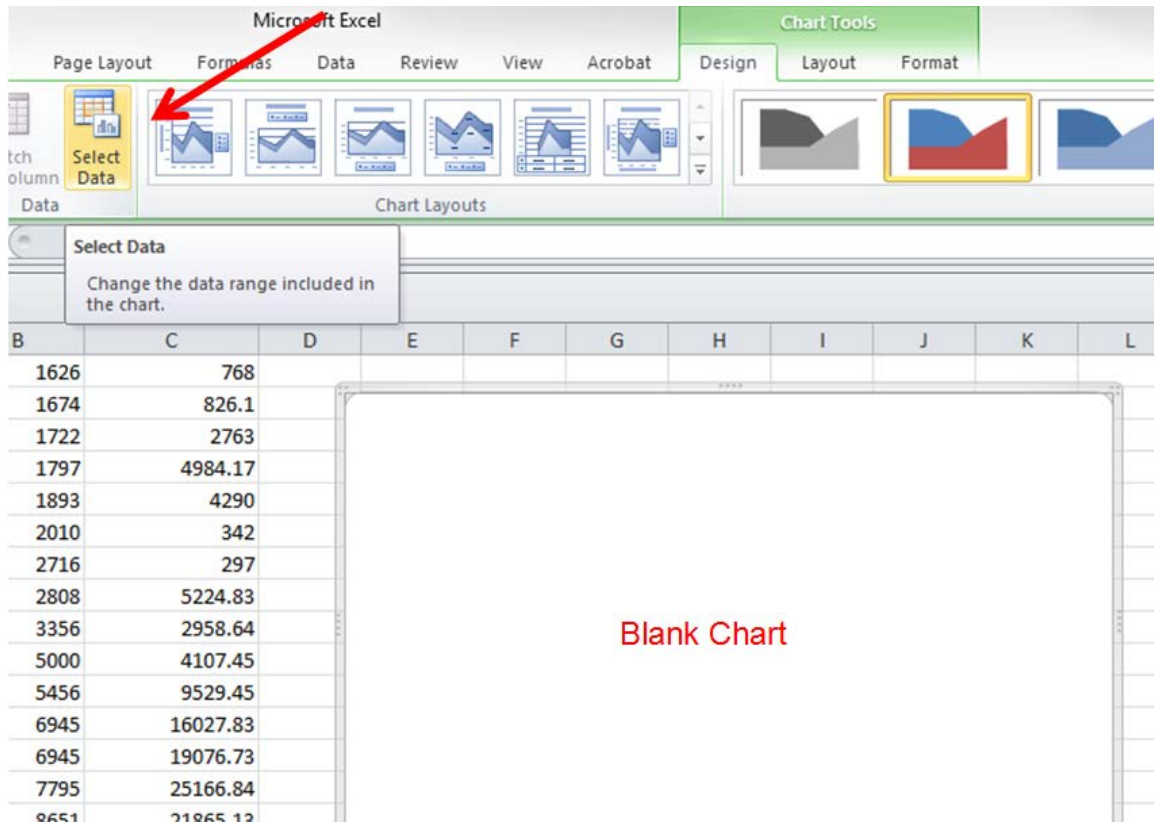
This opens a dialogue box prompting you to select a data range for your chart. Click and drag to select the cells with data you want to display. Here, that is the *Poverty Line* and *Client's Earnings* columns, but not the date range.

Figure 5-6: Selecting Data
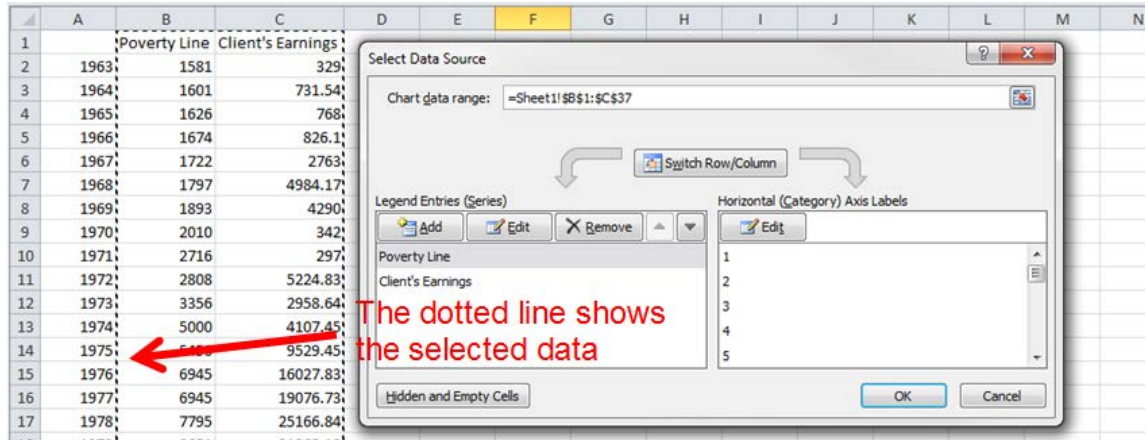
Before clicking *OK*, make sure your data labels are in order. Here, the data series labels have been automatically populated, but the horizontal axis still needs to be labelled by year. Click the *Edit* button under *Horizontal (Category) Axis Labels*, then click-and-drag your cursor over the cells containing years.

Figure 5-7a: Edit Axis Label

Figure 5-7b: Select Year Data for Axis Label

Click *OK* to close the *Axis Labels* dialogue box, and *OK* again on the *Select Data Source* box. This leaves you with the chart in Figure 5-7.

Figure 5-8: Initial Chart
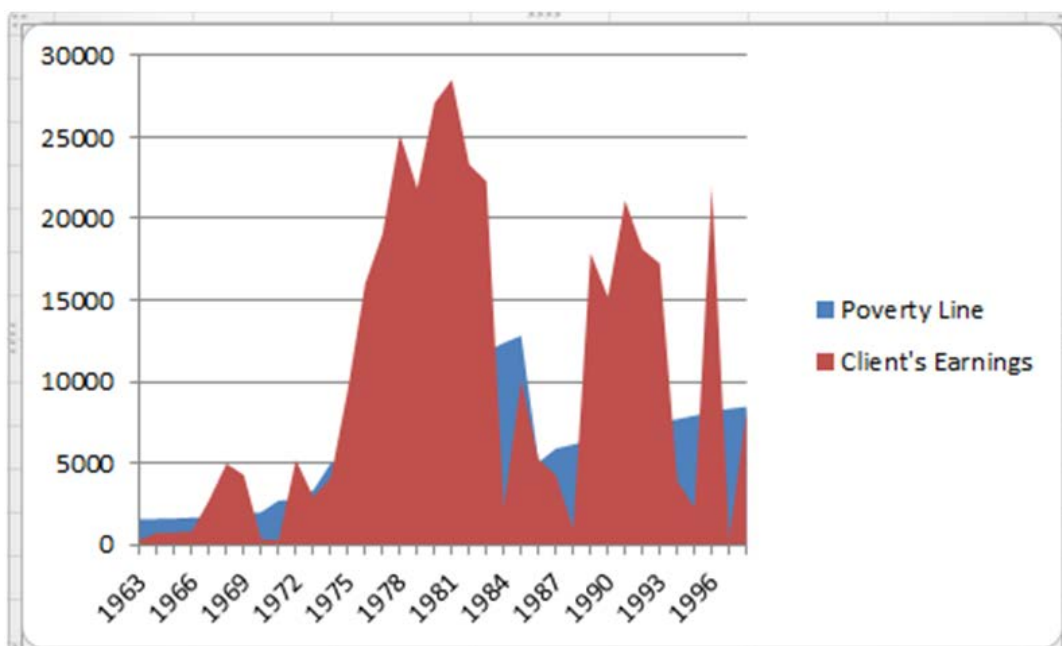
This needs work before it matches the example in Figure 5-1. What follows is a detailed walkthrough of the steps involved in formatting. These steps are poli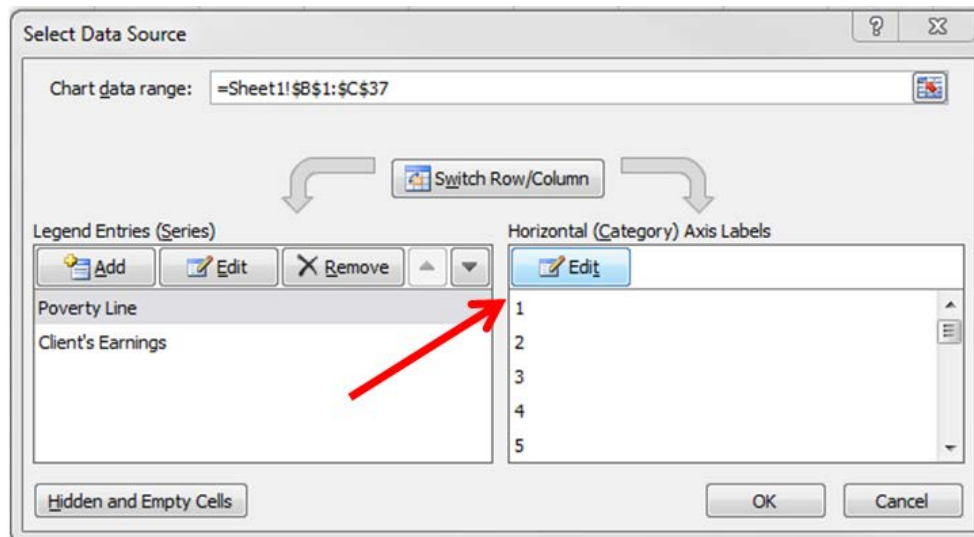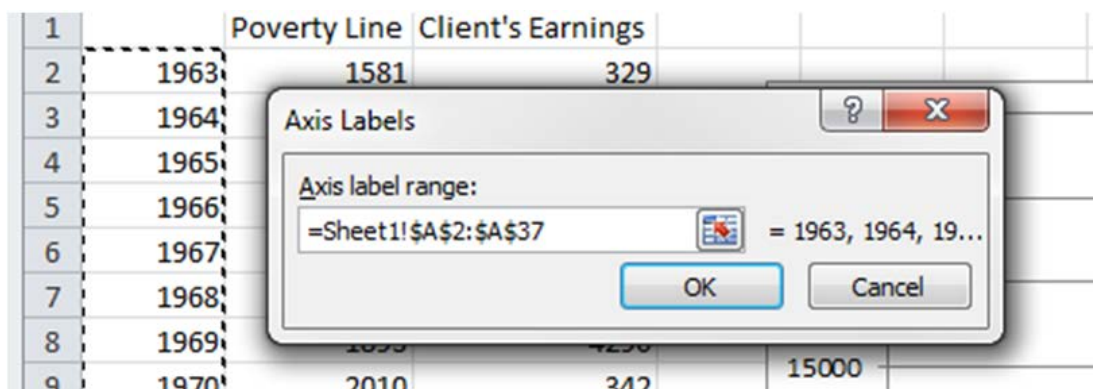shing the look and feel of your chart, and are not strictly necessary. If you want to use the default chart format, all that's left is to move the chart to PowerPoint—a simple matter of cutting (*Ctrl* and *C*) and pasting (*Ctrl* and *V*). (But if you want to use the default, for this example chart you should probably choose *Line* instead of *Area* when selecting a chart type.)

For those interested in additional ways to display the information, read on.

Because PowerPoint presentations are typically viewed from a distance, making small or dense data difficult to avoid, many of the changes eliminate excess information to make the final chart—and the message you want it to convey—clearer. We'll be changing the format of the vertical axis, the plotted data, the data labels, and adding an additional graphic not contained within the data itself.

First, format the vertical axis. In the *Layout* tab, click the *Axes* button, move your cursor over *Primary Vertical Axis*, then select *More Primary Vertical Axes Options…*

Figure 5-9a: Axis Title Options
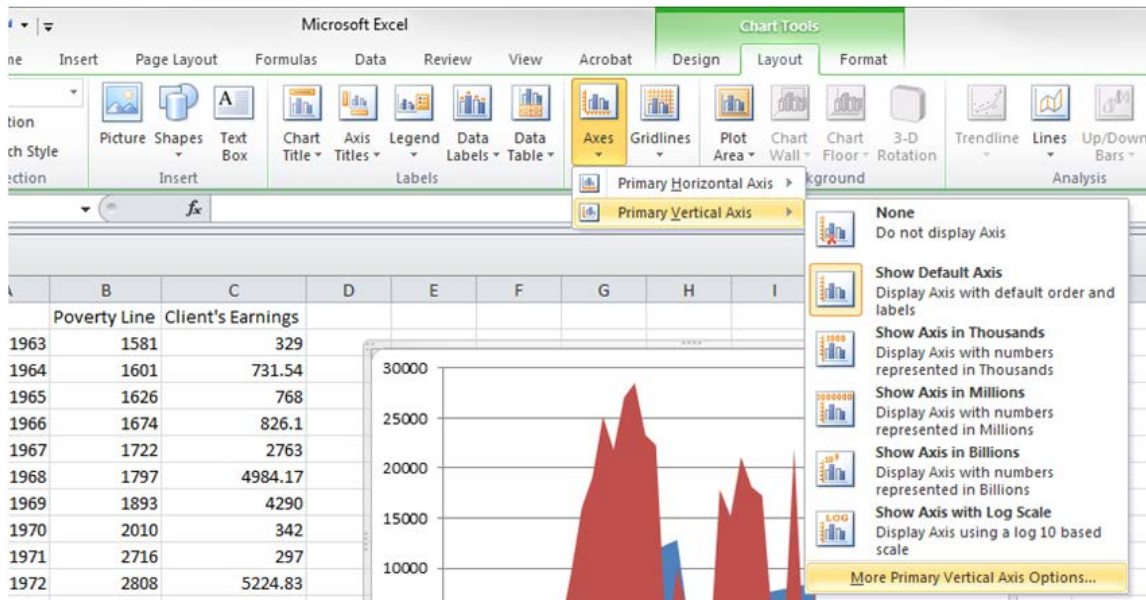
This opens the *Format Axis* dialogue box. Under the *Axis Options* tab (highlighted in yellow on the left of the dialogue box), toggle *Major Unit* from *Auto* to *Fixed*, then enter a value of "10000" (the default is 5000 for this data range). This will decrease the amount of text along the left side of the chart by two-thirds.

Figure 5-9b: Axis Units
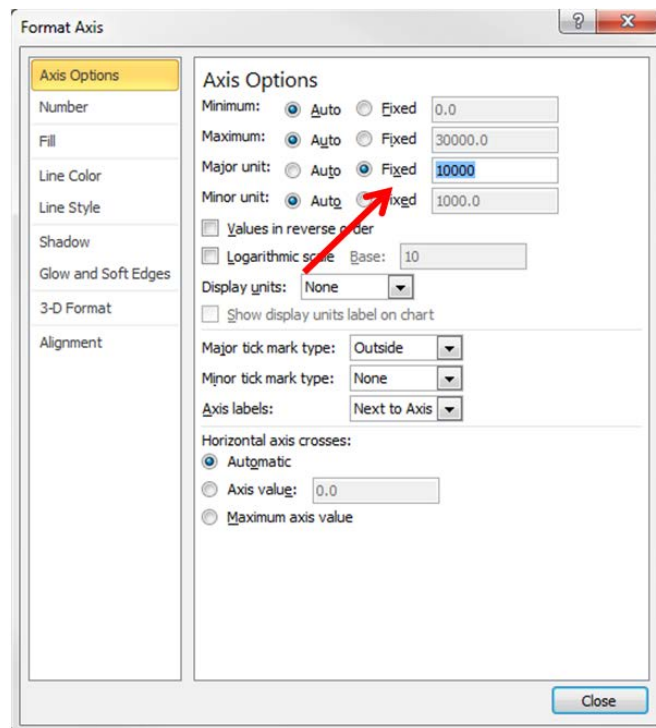
The axis should also make clear that the values it displays are dollars. Under the *Number* tab, select *Currency* from the list of categories. Also set the *Decimal places* value to zero—tabulating loose change would be unnecessary and distracting.

Figure 5-9c: Axis Number Format

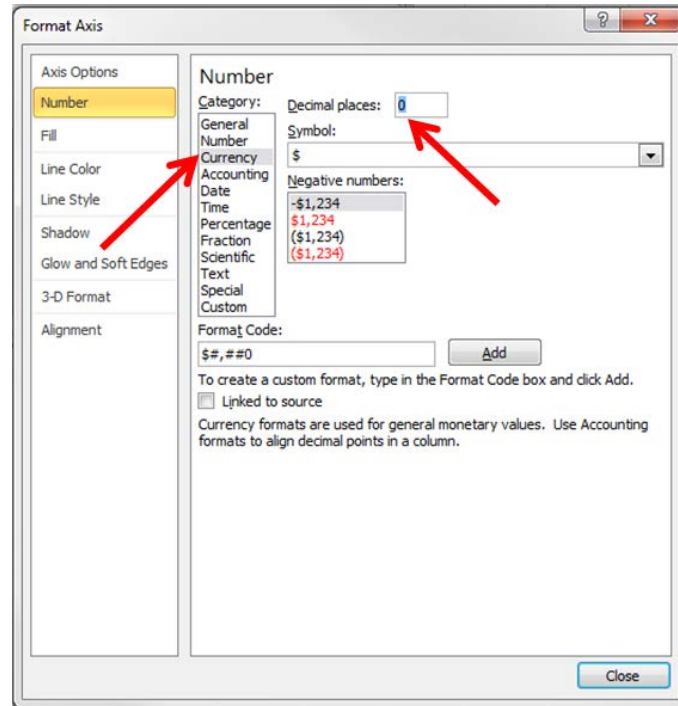The axis needs no further formatting; click *Close*. However, you may want to eliminate the horizontal lines—matching a point on the poverty line or your client's earning history is unimportant, and best practice is to cut unneeded data. Carefully click on one of the horizontal lines—small circles will appear at the ends of each line to show they have been selected—then press *Delete*.

Figure 5-10: Chart with Formatted Axis and Horizontal Lines Selected
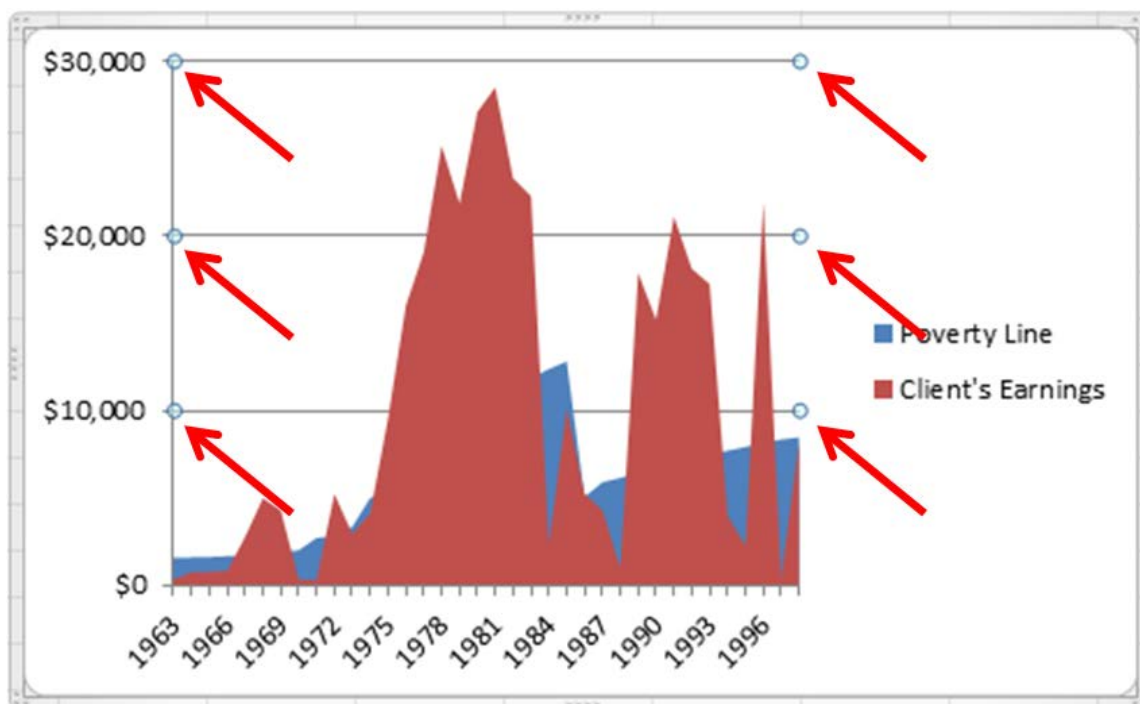
The *Client's Earnings* data also needs to be changed from a red solid to a blue line. Under the *Format* tab, click the *Chart Area* drop-down menu and select *Series "Client's Earnings."*

Figure 5-11a: Selecting Data Series to Format
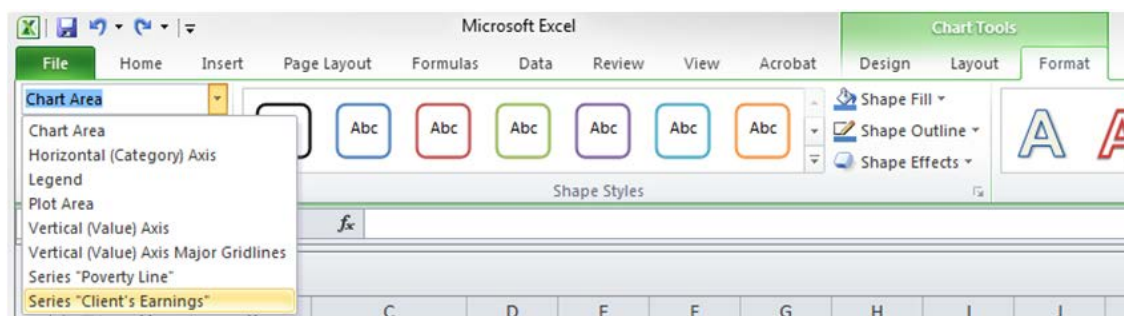

Small circles will appear along the corners of the data to show it has been selected. Still under the *Format* tab, click *Shape Outline,* and select a color for the outline (instead of the default no outline). Here, the example uses a slate blue that will contrast against the eventually black *Poverty Line.*

Figure 5-11b: Changing Selected Data Series' Outline Color and Weight
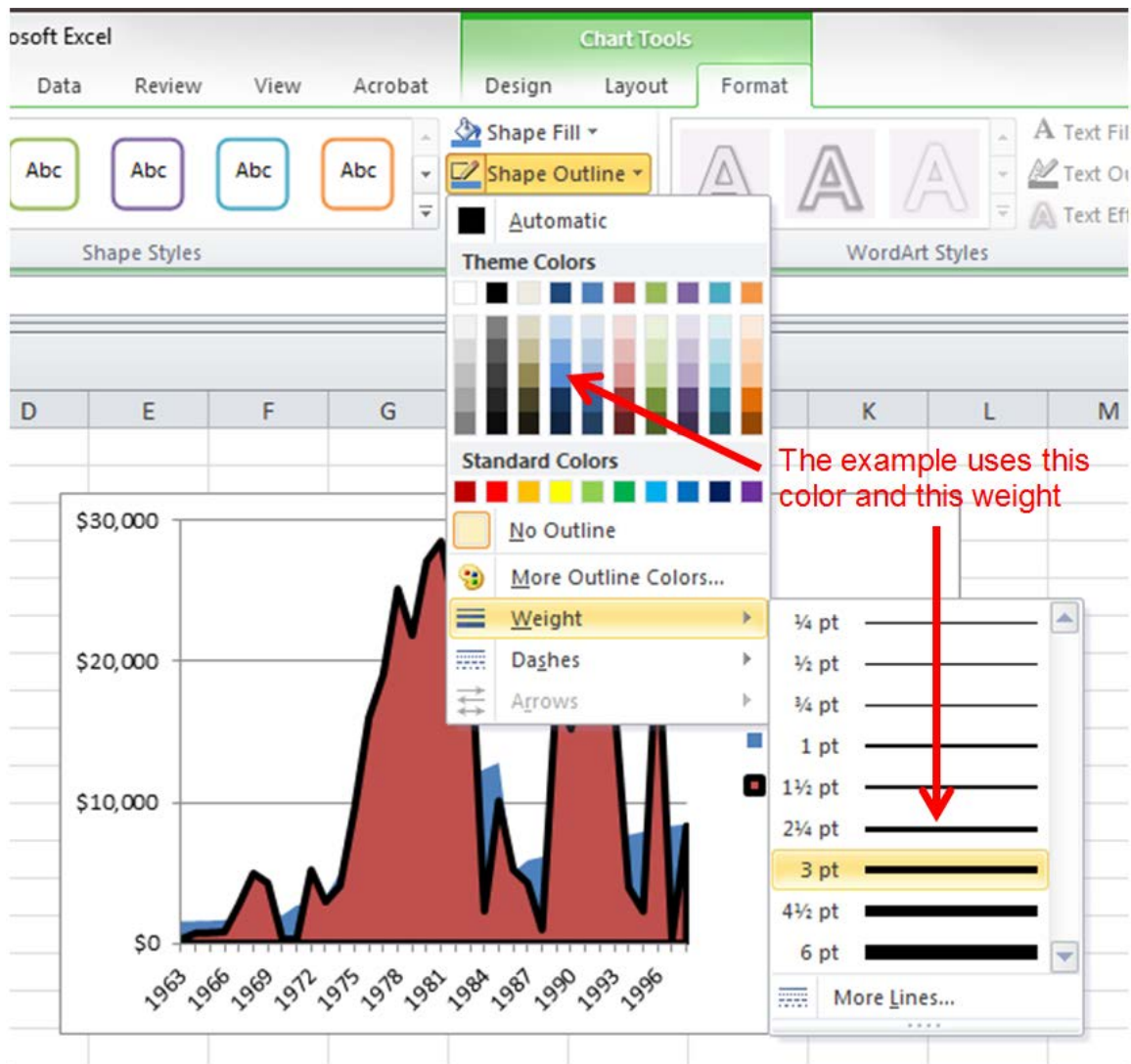
The default outline is thin and will lack emphasis when displayed in PowerPoint. From the *Shape Outline* menu, select *Weight*, then choose *3 pt*.

To eliminate the solid red fill, which you will need to do to superimpose *Client Earnings* data over the poverty line, under *Format* click *Shape Fill*. Select *No Fill*.

Figure 5-11c: Changing Selected Data Series' Fill
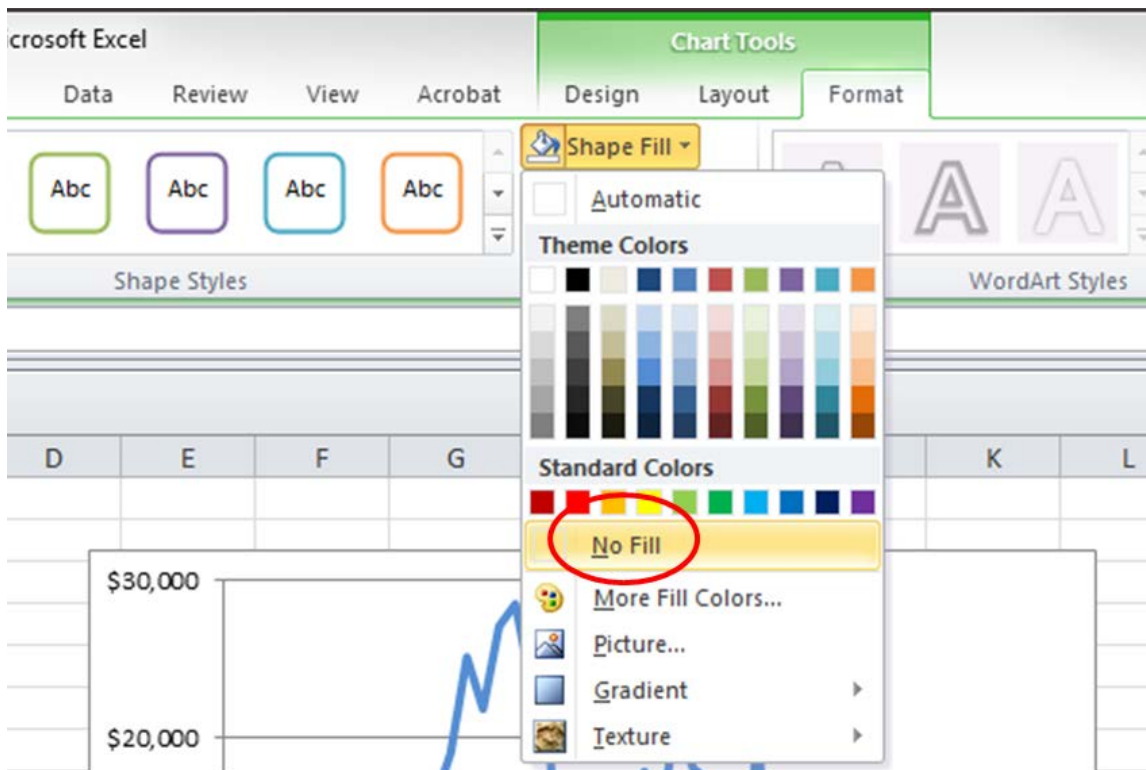
Reformat the *Poverty Line* data in similar fashion. Under the *Format* tab, choose *Series "Poverty Line"* from the *Chart Area* drip-down menu, then click the *Shape Fill* button, and select a new color—black. This mostly reproduces the chart in Figure 5-11 (note the circles showing that the *Poverty Line* data is still selected):

Figure 5-12: Chart with Formatted Data Series
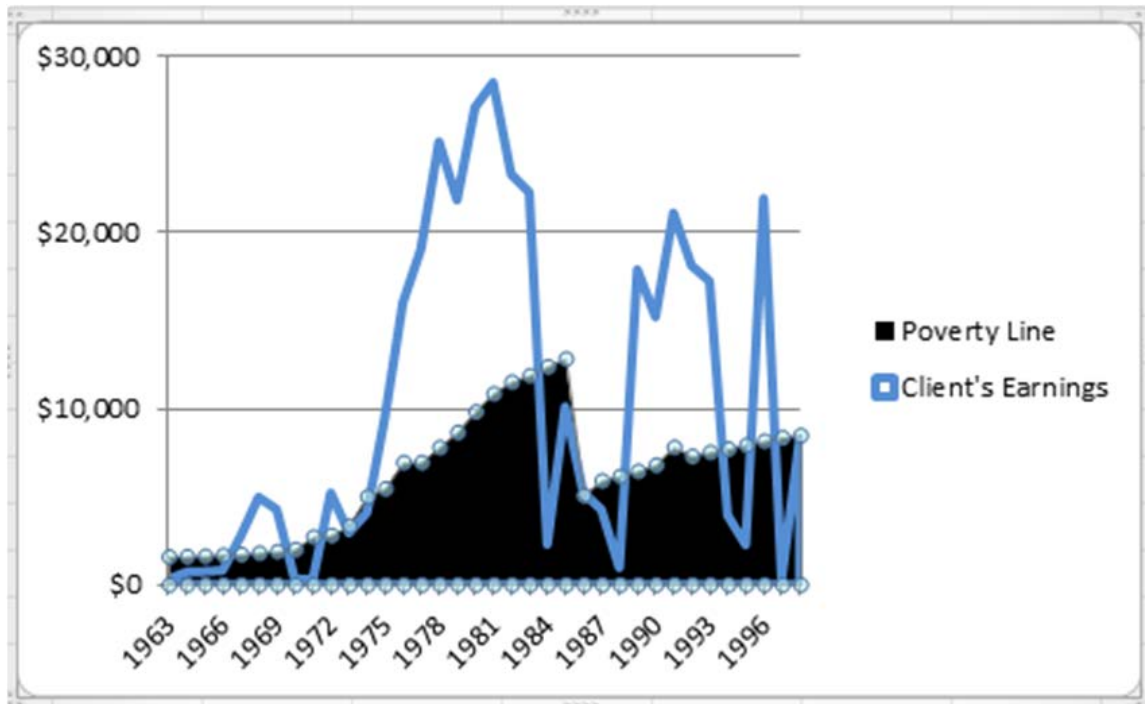
Superimposing the data labels on the data itself gives the chart more breathing room—note how, in Figure 5-11, the legend on the right takes up nearly a third of the visual real-estate. Eliminate the legend. Under the *Format* tab, choose *Legend* from the *Chart Area* drop-down menu, and press *Delete*.

You'll need a new way to let your viewer know what the chart shows: data labels. Format a data label for each series; start with *Client's Earnings*. Under the *Layout* tab (just as under the *Format* tab in the earlier steps), select the data series by clicking the *Chart Area* drop-down menu and choosing *Series "Client Earnings."* Then, click the *Data Labels* button and choose *More Data Labels Options*.

Figure 5-13a: Data Label Options
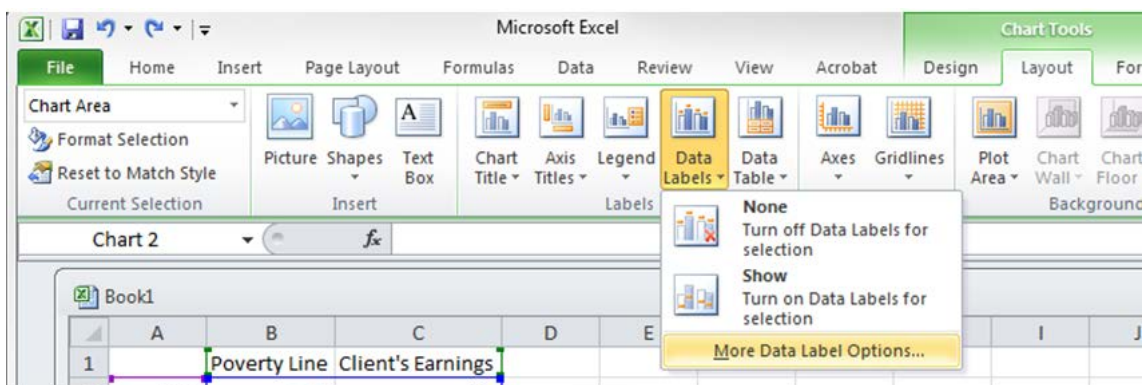
Under the *Label Options* tab, uncheck the *Value* box and check the *Series Name* box. Click *Close*.

Figure 5-13b: Adding a Data Label for Series Name
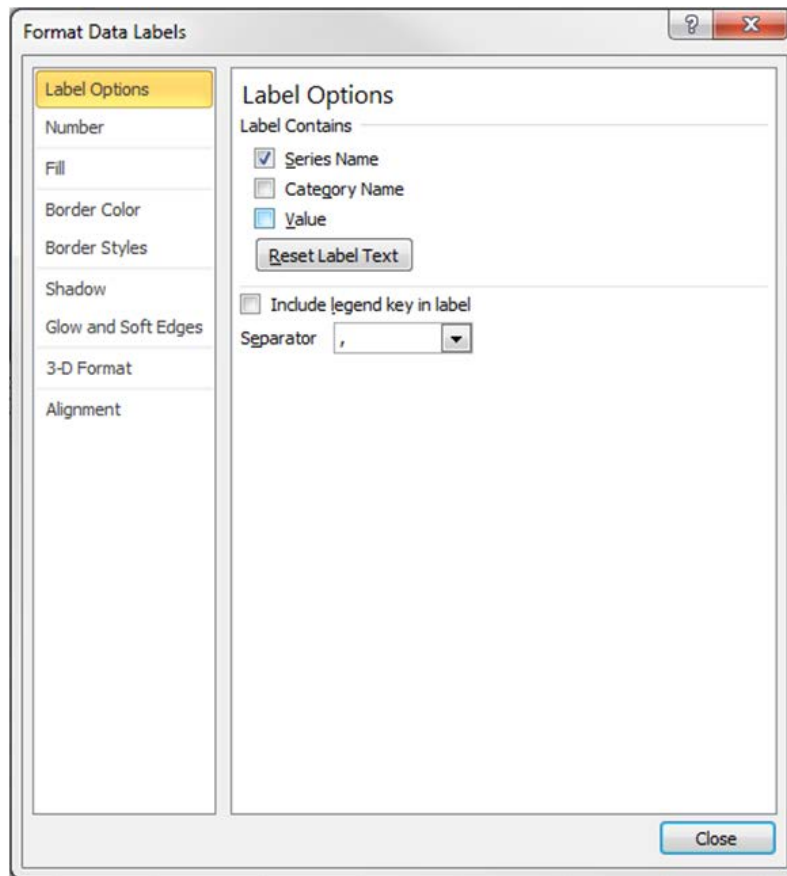
This gives you a data label displaying *Poverty Line* which, in this example, is black text on top of a black solid and therefore invisible. Change the text color to white. Under the *Layout* tab, choose *Series "Poverty Line" Data Labels* from the *Chart Area* drop-down menu. This selects the label.

Figure 5-13c: Selecting the Data Label
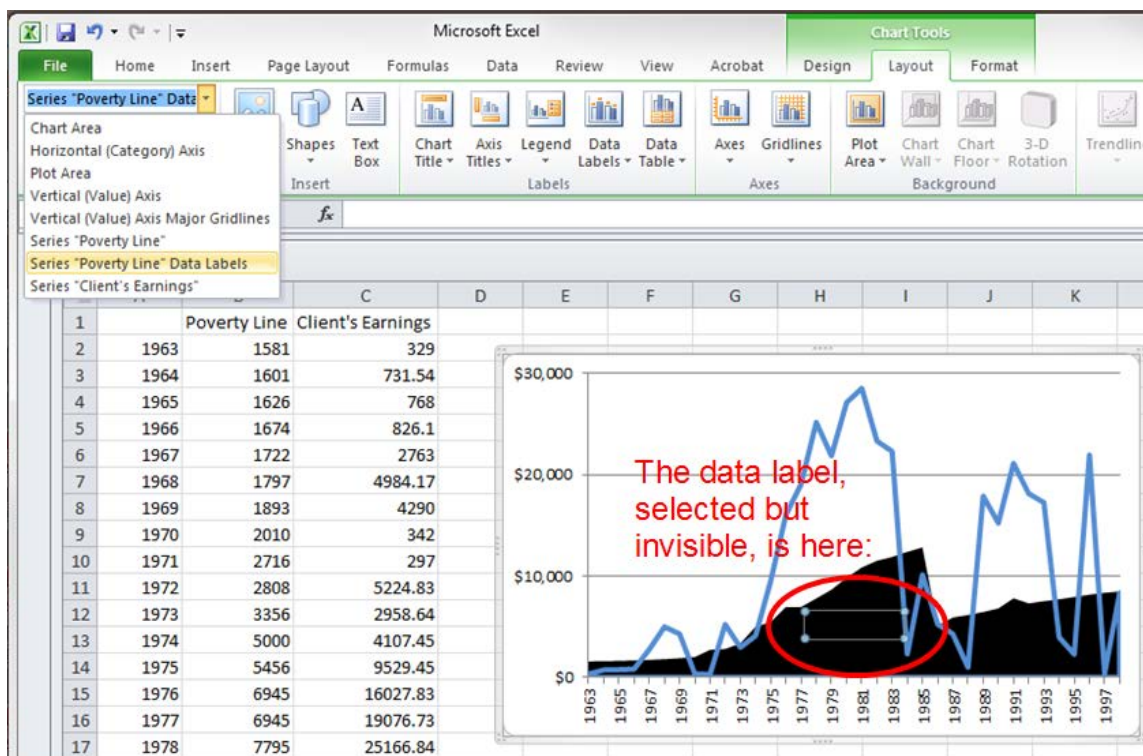
Go to the *Home* tab (or right-click on the selected label), click the *Text Color* button, and choose white.

Figure 5-13d: Changing Data Label Text Color
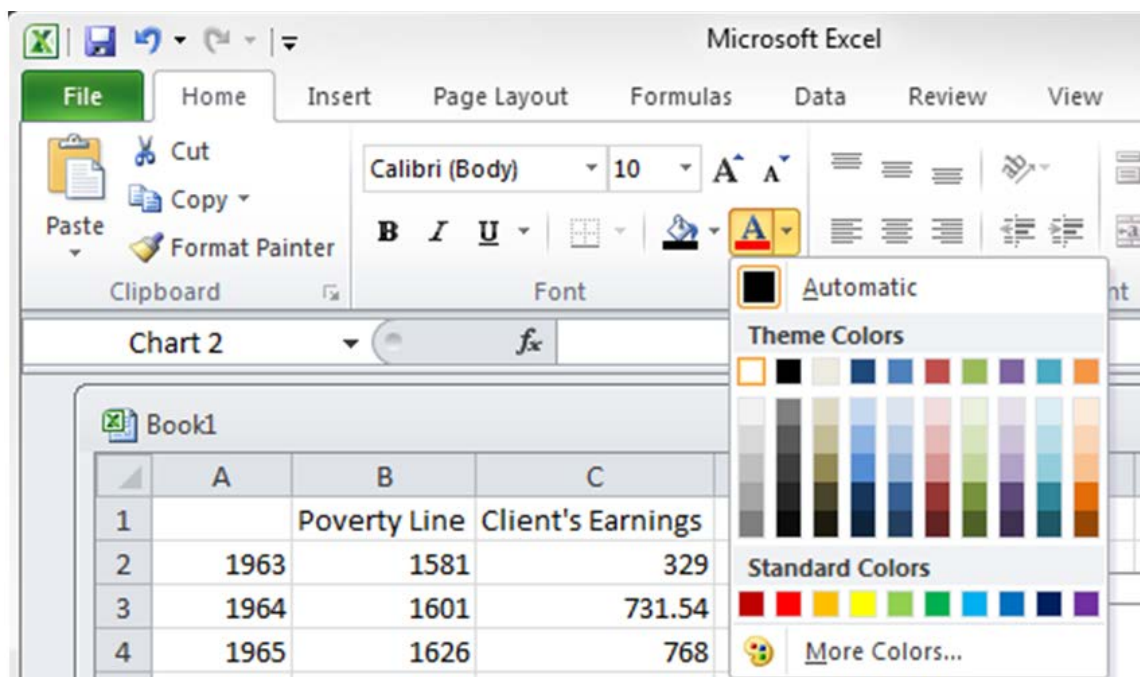
Still on the *Home* tab, make the text to 14-point and boldface so it will stand out. Click and drag the now-visible label to a visually pleasing spot on the chart.

Figure 5-13e: Formatted and Positioned Data Label
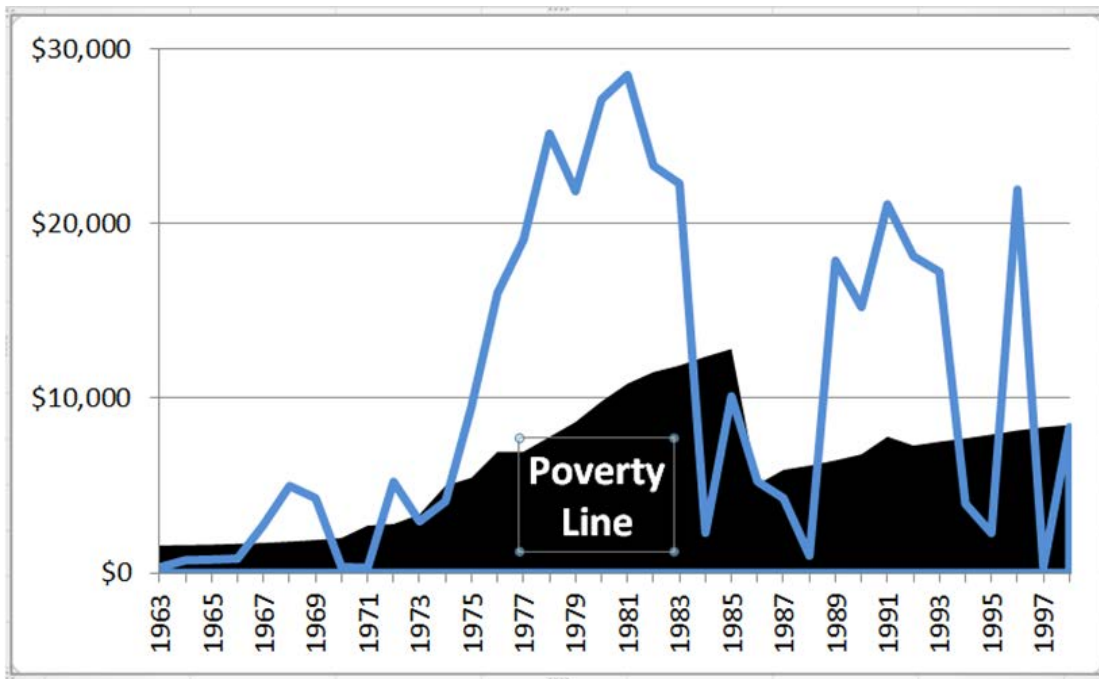
Similarly create and format a data label for client earnings. The example chart sets the text of this data label in the same blue as the data series line.

Figure 5-13f: Chart with Formatted Data Labels

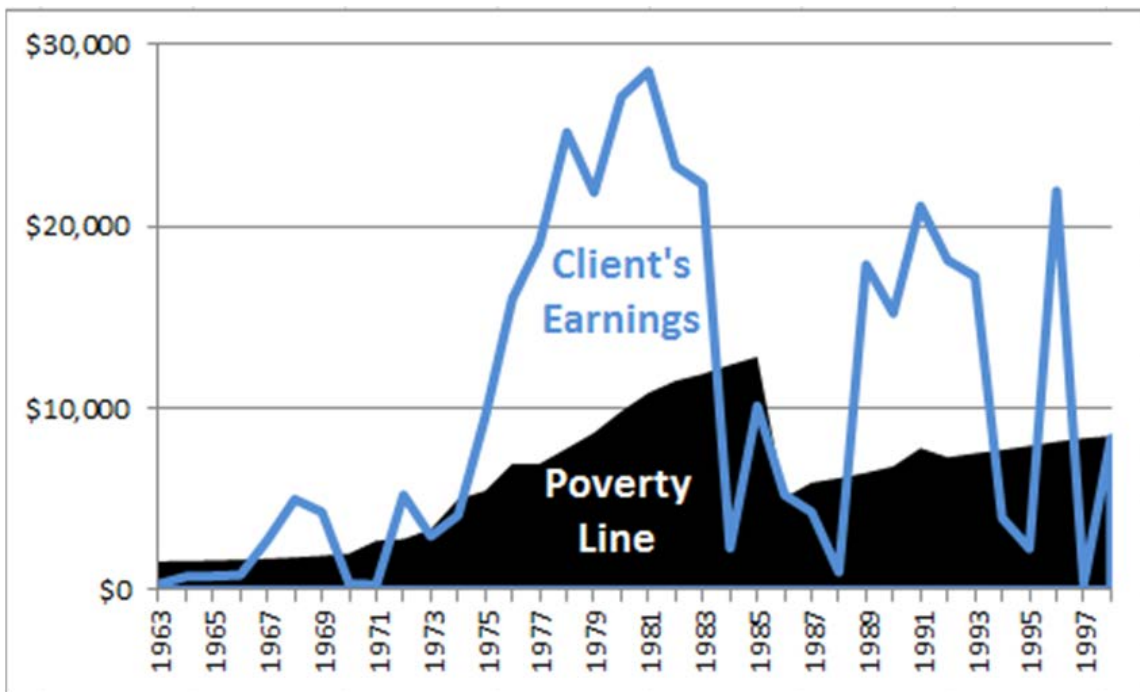All that remains is to demark the divorce. Under the *Layout* tab, click the *Shapes* button, then choose the straight line option.

Figure 5-14a: Choosing a Shape to Insert Into the Chart
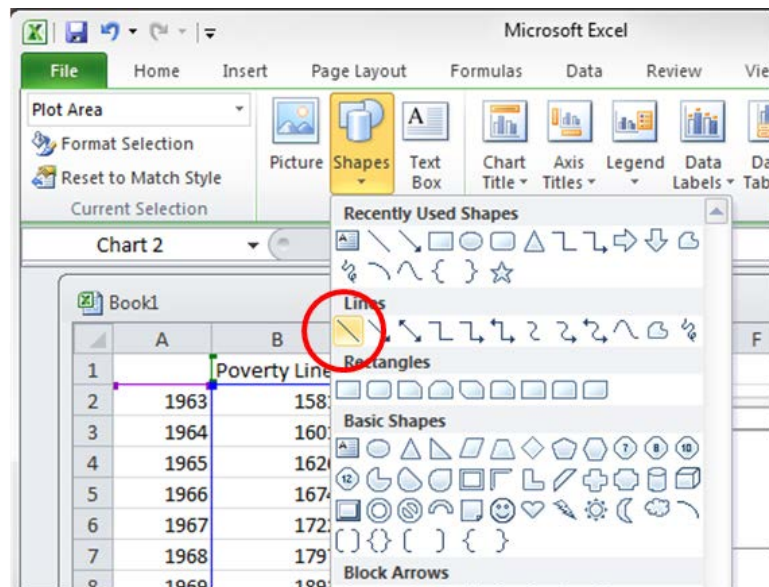
Click and drag your cursor to draw the line. Press *Shift* before you first click to keep the line at 90°. The default line will be thin, blue, and selected (as shown be circles at either end).

Figure 5-14b: Selected Line Shape

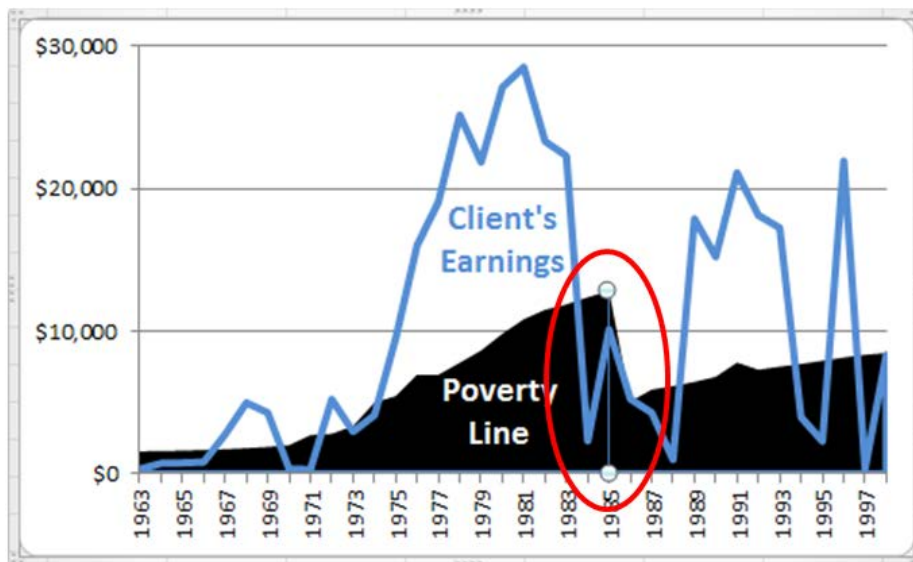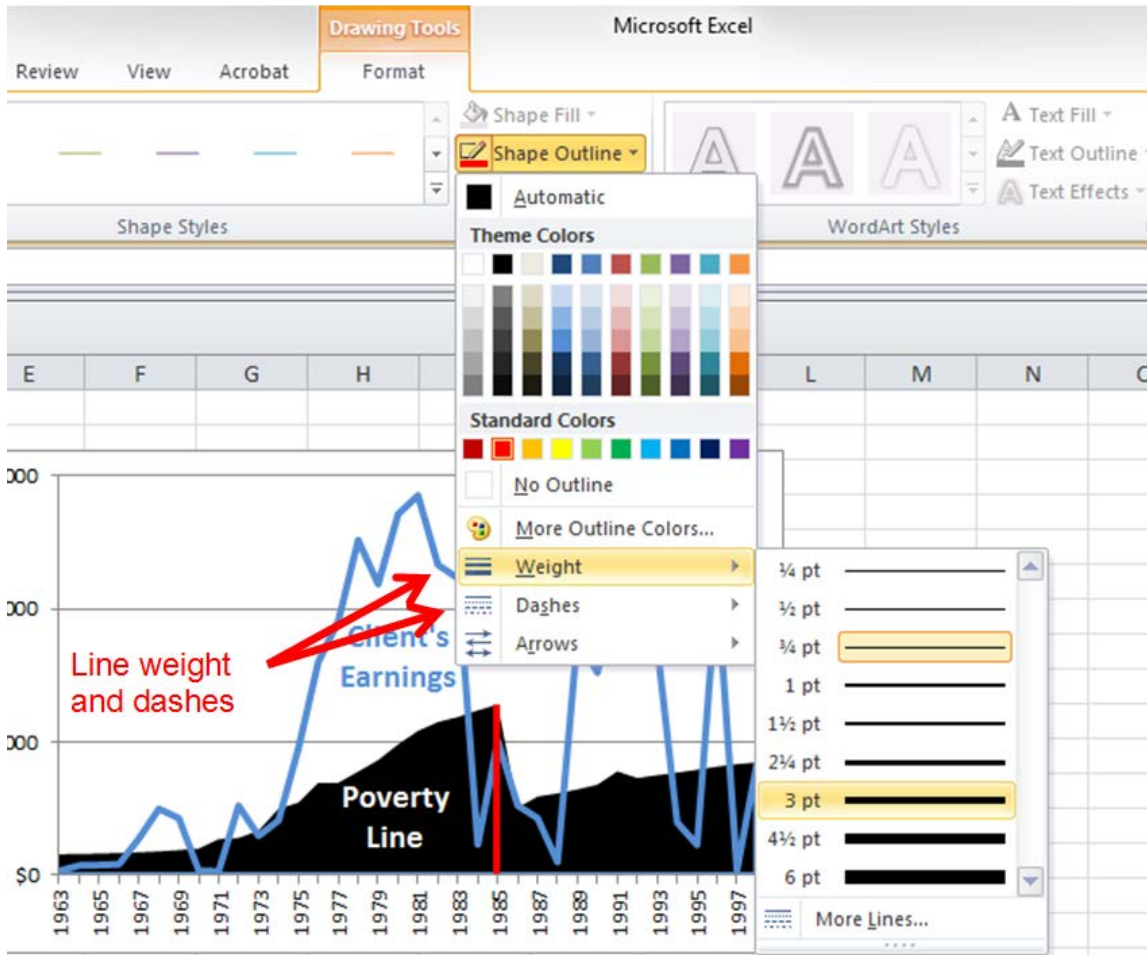While the line is still selected, under the *Drawing Tools: Format* tab click the *Shape Outline* button. Make the line red and change the weight to 3-point. To make a dashed (instead of continuous) line, after clicking *Shape Outline* choose *Dashes* and then your style of choice.

Figure 5-14c: Changing Line Format

To label the line, insert a text box. From the *Layout* tab, click *Text Box* (next to the *Shapes* button), and click-and-drag your cursor in the area you want to write in.

Figure 5-15a: Text Box
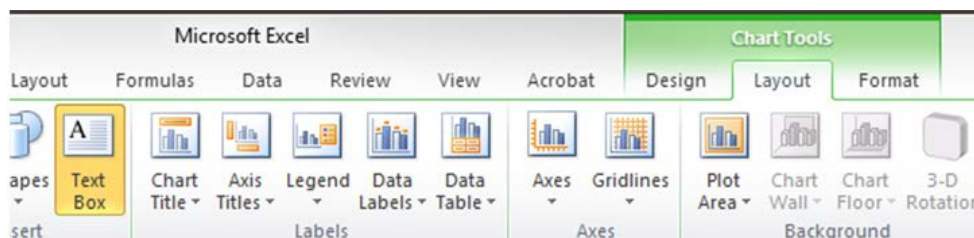
Before typing, format the text. Under the *Drawing Tools: Format* tab, make the text red and boldface. The divorce is a subsidiary facet of this chart, so the text size need not be increased. Type "Divorce" into the text box, then click-and-drag the text into an appropriate location.

Figure 5-15b: Typing in the Text Box

The chart is now finished (or at least the match of Figure 5-1). Having come this far, exporting the chart to PowerPoint is trivial. Click on the chart in Excel and copy it by pressing the *Ctrl* and *C* keys or by right-clicking and selecting *Copy*. Open PowerPoint, and either create a new slideshow or add a slide to one already begun. Paste the chart by pressing the *Ctrl* and *V* keys or right-clicking and selecting *Paste*.

Figure 5-16: PowerPoint Slide with Chart
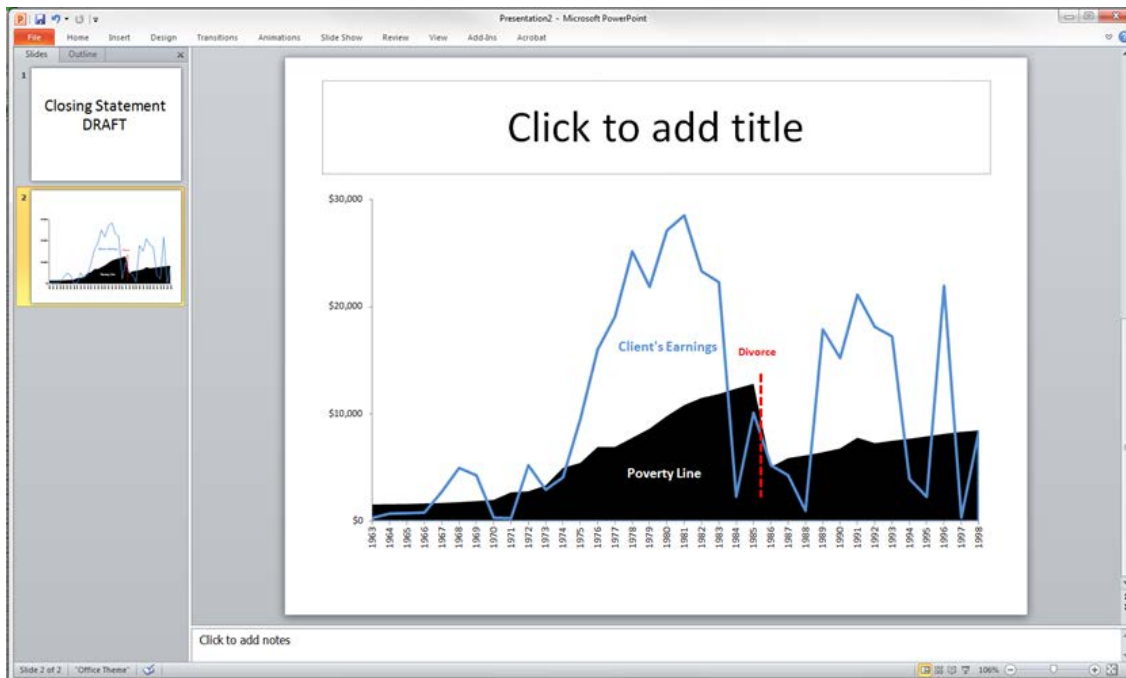
Moving a chart from Excel to PowerPoint sometimes alters the formatting. Note that in Figure 5-16, the red *Divorce* line has shifted slightly to the left, and the text size appears smaller throughout. Make sure to fine-tune the format before using the slide. Use the steps already outlined, as formatting tools and options are similar across Microsoft Office software such as Excel and PowerPoint. If you receive new data, it is easy to update the information in Excel and adjust the chart immediately.

Conclusion

These five examples demonstrate the possibilities for using Excel spreadsheets as organizational tools. The ability to quickly sort, filter, and search through large quantities of data make spreadsheets an invaluable tool for trial preparation and execution.

Additional Help

This is an overview of Excel Spreadsheets. If you wish to explore other features of Excel or have questions, please contact the resources below.

> **Defender Services Office—National Litigation Support Team:** 510 637-3500
>
> **Aoki Law PLLC:** 206 624-1900

Other resources are available at www.fd.org under Litigation Support, or the National Litigation Support blog at http://nlsblog.org/.