



# Excel 2

## Module 3 – Advanced Charts

# Module Overview

This module is part of the Excel 2 course which is for advancing your knowledge of Excel. During this lesson we will expand on your existing knowledge of charts within Excel.

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## 1. Charts Review

Charting the data in your worksheet is not only fun, but it provides another dimension in analyzing data. If you were tracking daily temperatures in a worksheet, it would be difficult to see the trend or the fluctuations using just the numbers. However, if you turn those numbers into bars on a chart, the picture becomes much clearer. The value of a visual portrayal increases as the amount of data increases.

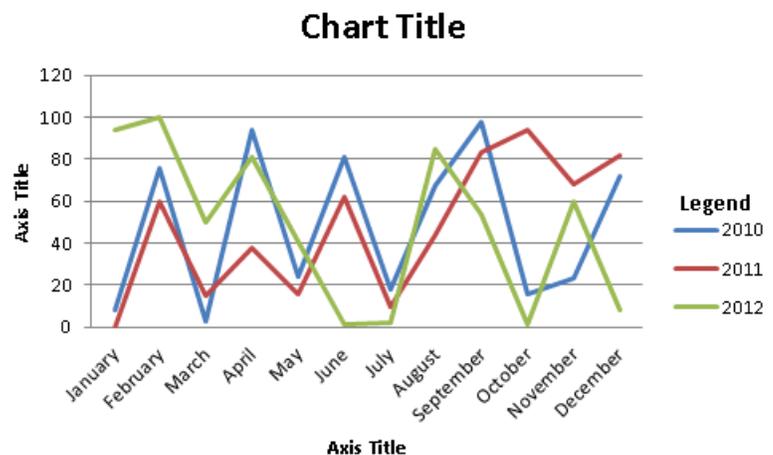
### 1.1. Parts of a Chart

Each chart or graph will have similar parts which can be shown or hidden and edited. The below pictures shows each of the parts available for charts.

**Chart Title** – A name for your chart, used to display quick information on the chart.

**Data Series** – A group of related values, such as all the values in a single row in the chart.

**Axis** – A line that serves as a major reference for plotting data in a chart. In most charts there will be two axes, the X-axis (horizontal) and Y-axis (vertical). These should always be labeled with both the name and unit being measured. Note: Pie charts do not have axes.



**Legend** – A key that identifies additional information.

### 1.2. Types of Charts

Choosing the correct chart for your data is critical to ensure the inserted chart adds value and is not confusing or misleading.

#### 1.2.1. Pie Charts

A pie chart looks like a circle (or a pie) cut up into segments. Pie charts are used to show how the whole of something breaks down into parts. Often when showing percentages a pie chart will be used.

#### 1.2.2. Line Graphs

Line graphs are typically used to show trends or changes over time. Line graphs show relationships between data.

#### 1.2.3. Bar or Column Graphs

Bar graphs allow you to compare amounts of things in categories. Generally each category would be independent of each other, so if one changed the others would not change

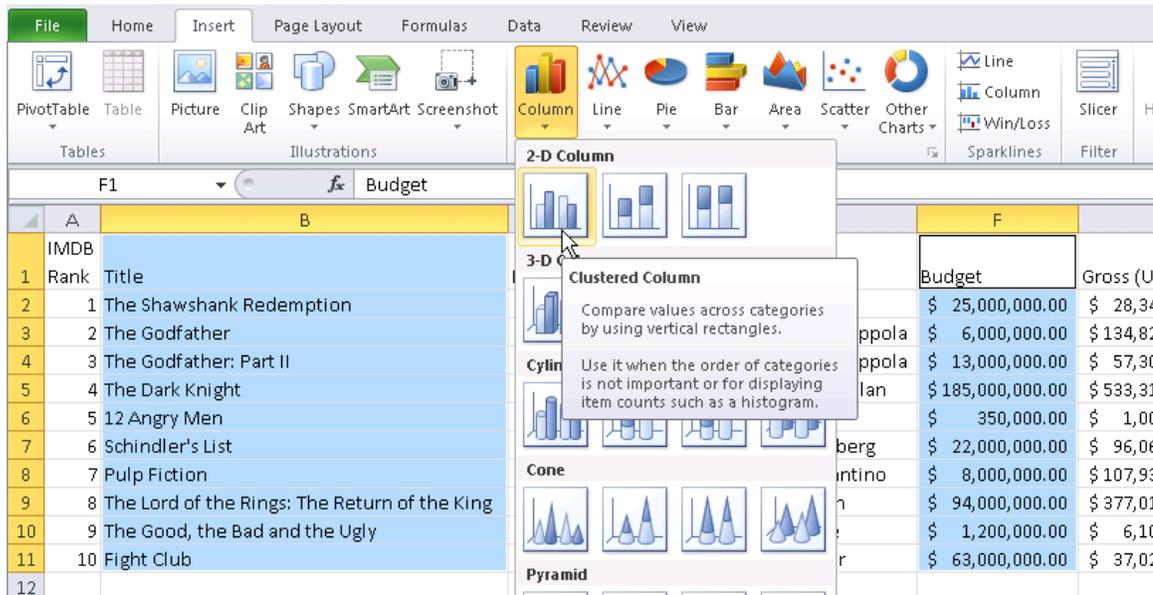
### 1.2.4. Scatter Charts

Scatter charts, or scatter plots, can be used when one variable is independent and the other is either dependent or independent. Scatter charts use Cartesian coordinates to display values for two variables.

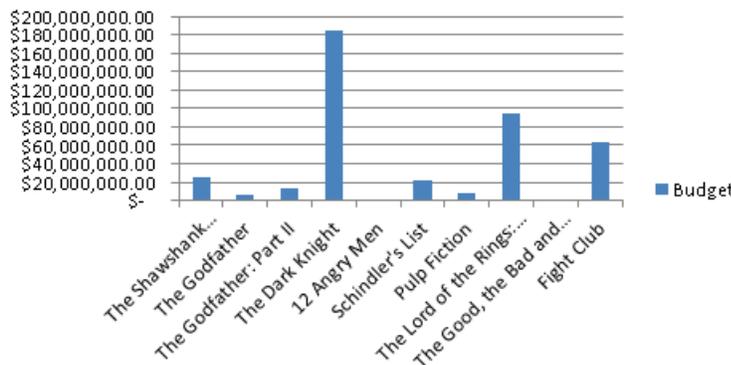
**Follow Me**

#### Open TopMoviesIMDB

1. Open TopMoviesIMDB.xlsx
2. Select column B (Titles) and column F (Budget) using the control key to select just two columns.
3. Select Clustered Column from the Column drop down on the ribbon Insert tab (Charts group).



**Budget**



## 2. Customizing Charts

The created chart in our example is not necessary easy to read. For example seeing the budget per movie does not provide a clear indication of whether the movie was profitable.

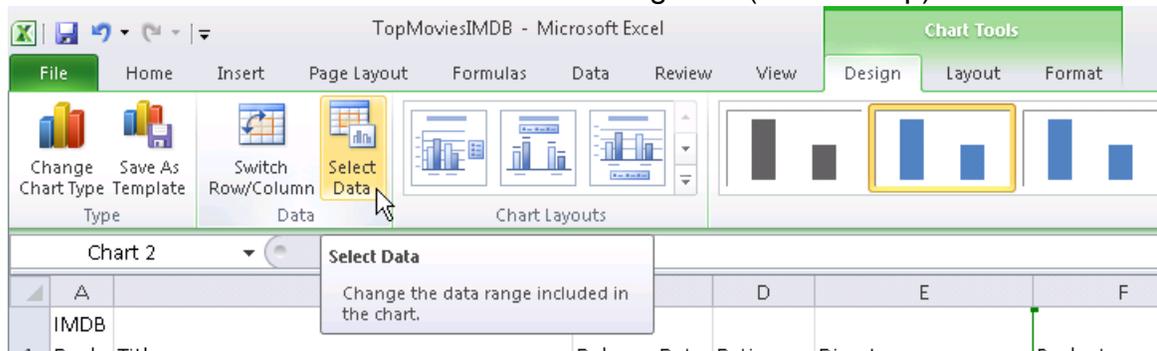
## 2.1. Changing Data

Let's begin by adjusting the selected data of the existing chart. This is particularly useful if you have customized your chart but need to change which data is included.

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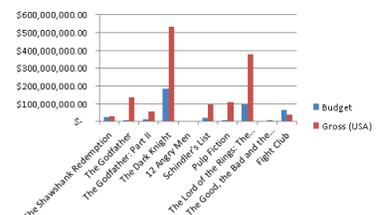
### Change chart data

1. Ensure the newly created chart is still selected.
2. Click **Select Data** from the ribbon Design tab (Data Group)



3. It may be necessary to move the existing chart and dialog box out of the way to select the additional column. Select columns B, F, and G. *In some cases you may need to click the small button next to the selection to open the dialog box. Click OK*

| Rank | Title   | Release Date | Rating   | Director             | Budget            | Gross (USA)       | Runtime | Production Co.               |
|------|---|--------------|----------|----------------------|-------------------|-------------------|---------|------------------------------|
| 1    | The Shawshank Redemption                      | 1994         | R        | Frank Darabont       | \$ 25,000,000.00  | \$ 28,341,463.00  | 142     | Castle Rock Entertainment    |
| 2    | The Godfather                                 | 1972         | R        | Francis Ford Coppola | \$ 6,000,000.00   | \$ 134,921,952.00 | 175     | Paramount Pictures           |
| 3    | The Godfather: Part II                        | 1974         | R        | Francis Ford Coppola | \$ 13,000,000.00  | \$ 77,300,000.00  | 202     | Paramount Pictures           |
| 4    | The Dark Knight                               | 2008         | PG-13    | Christopher Nolan    | \$ 185,000,000.00 | \$ 533,316,061.00 | 152     | Warner Bros.                 |
| 5    | 12 Angry Men                                  | 1957         | Approved | Sidney Lumet         | \$ 350,000.00     | \$ 1,000,000.00   | 96      | Orion-Nova Productions       |
| 6    | Schindler's List                              | 1993         | R        | Steven Spielberg     | \$ 22,000,000.00  | \$ 96,067,179.00  | 195     | Universal Pictures           |
| 7    | Pulp Fiction                                  | 1994         | R        | Quentin Tarantino    | \$ 8,000,000.00   | \$ 107,930,000.00 | 154     | Miramax                      |
| 8    | The Lord of the Rings: The Return of the King | 2003         | PG-13    | Peter Jackson        | \$ 44,000,000.00  | \$ 377,019,252.00 | 201     | New Line Cinema              |
| 9    | The Good, the Bad and the Ugly                | 1966         | Approved | Sergio Leone         | \$ 1,200,000.00   | \$ 6,100,000.00   | 161     | Produzioni Europee Associati |
| 10   | Fight Club                                    | 1999         | R        | David Fincher        | \$ 63,000,000.00  | \$ 37,021,295.00  | 139     | Fox 2000 Pictures            |



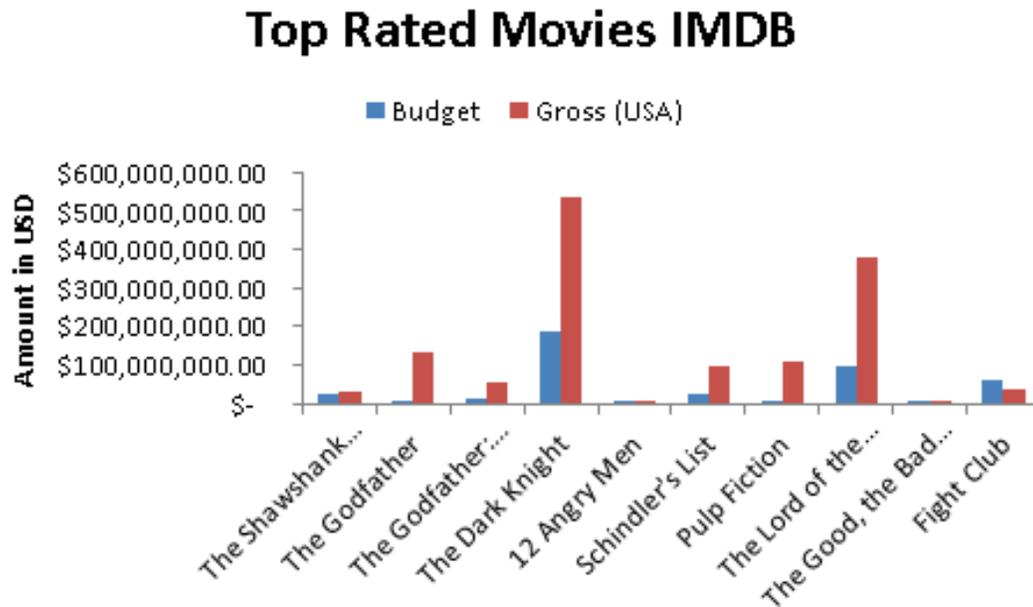
## 2.2. Customizing Layout

In many cases a preset layout may have all the items needed, in other cases some further modification may be needed.

**Follow Me****Adjust layout of Chart**

- Using the icons available on the ribbon Layout tab (Labels & Axes groups), modify your chart to look like the one listed below.

*Remember: When adding new labels you can modify the text right away by beginning to type the new title.*



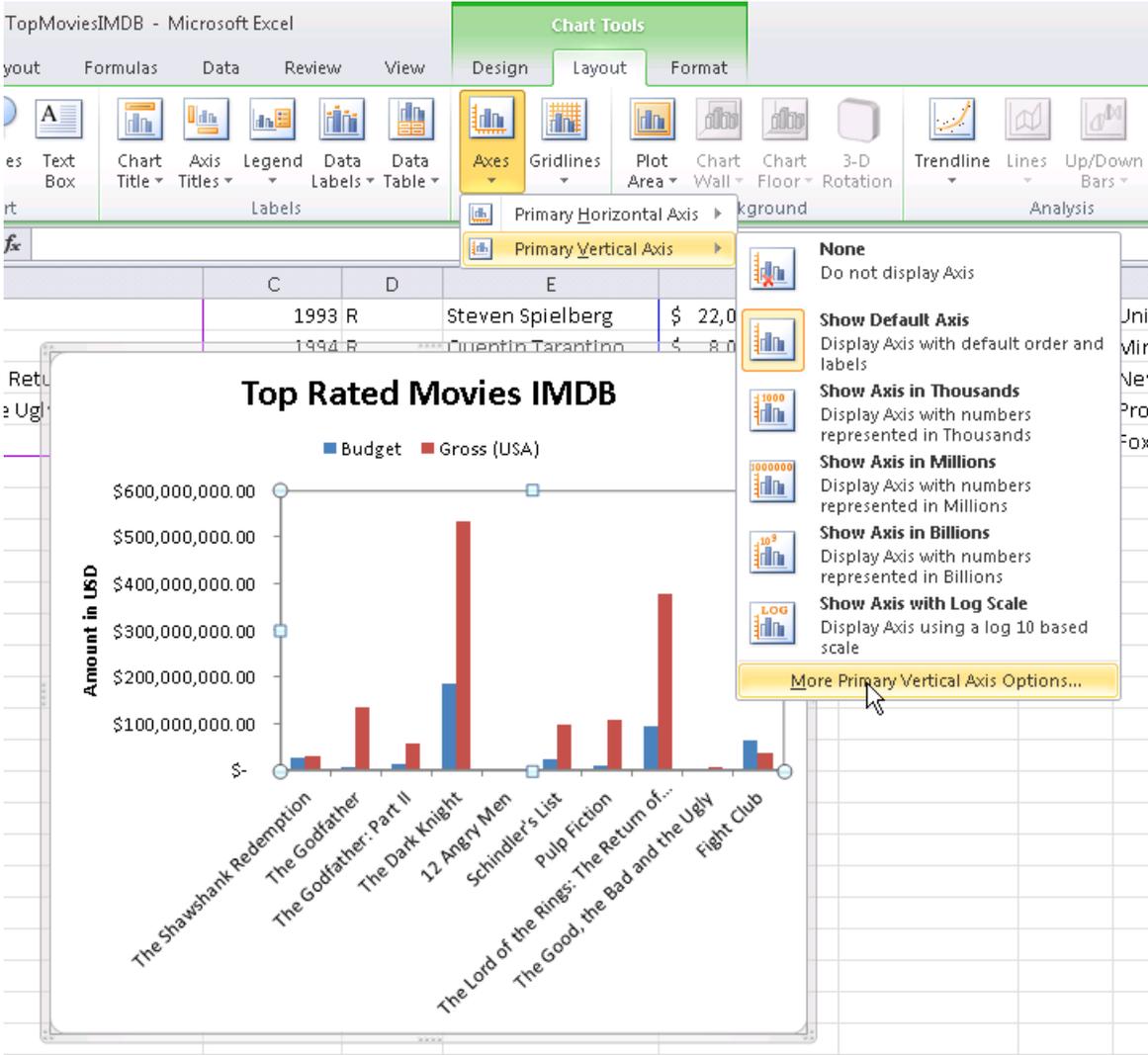
In the example above you should have added labels for a Chart Title and Vertical Axis Rotated Title. The legend was relocated to above the chart allow more room for each movie. All grid lines were removed.

There may still be times when these options do not allow for all the information to be shown or shown clearly. Using the customize options available can allow for even finer changes.

Follow Me

Adjust layout of Chart cont.

- 1. Begin by resizing the chart area to create a more square like area.
- 2. With the chart still selected, open the format axis dialog box to customize the vertical axis. To do this select More Primary Vertical Axis Options from the Axes dropdown on the ribbon layout tab (Axes group).

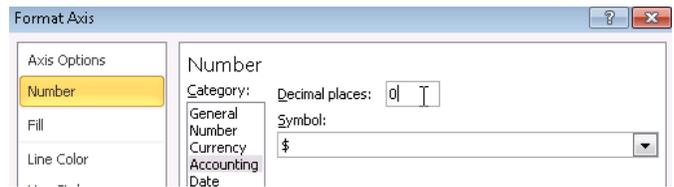
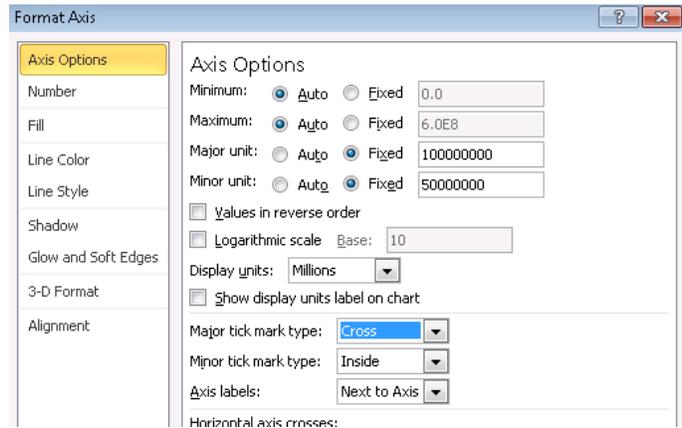


Most of the options have been set automatically and the changes take place immediately.

Axis options allow for precise control over the increments, units, and tick marks. By using fixed minimums and maximums, you decide where the chart values begin and end. Major units will show amounts next to them and can have gridlines turned on and off independently of minor units. The values can even be reversed.

**Follow Me****Format Axis**

1. Adjust the Major unit and Minor unit to fixed amounts. Major units should be set to 100,000,000 and the minor units to half of that at 50,000,000
2. To simplify the amounts we will set the display units to millions but not show the units label (we will alter the axis title to show this information a little later).
3. To help see these marks adjust to show both the Major and minor tick marks.
4. Select Number from the left to further adjust the numbers shown on the axis. In this case we will remove the decimal places but leave the symbol.

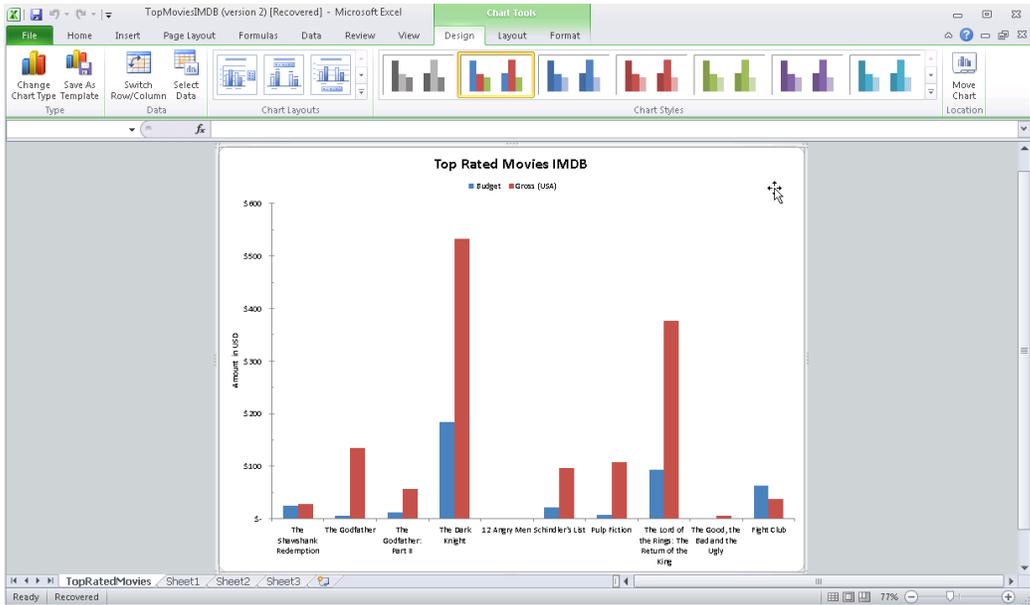
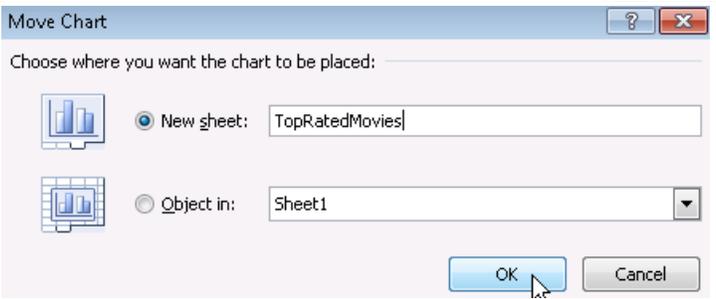
**3. Printing Chart****3.1. Moving Chart**

With Excel, there are many ways to accomplish a task. Printing a chart is no different. In many cases the easiest way is to have a chart in a separate worksheet than the data it represents. Let's begin by moving our chart into its own worksheet of the same workbook.

**Follow Me**

**Move Chart**

1. Select the chart if needed. To move the chart select Move Chart on the ribbon Design tab (Location group).
2. Choose New sheet and rename the sheet to **TopRatedMovies** then select OK

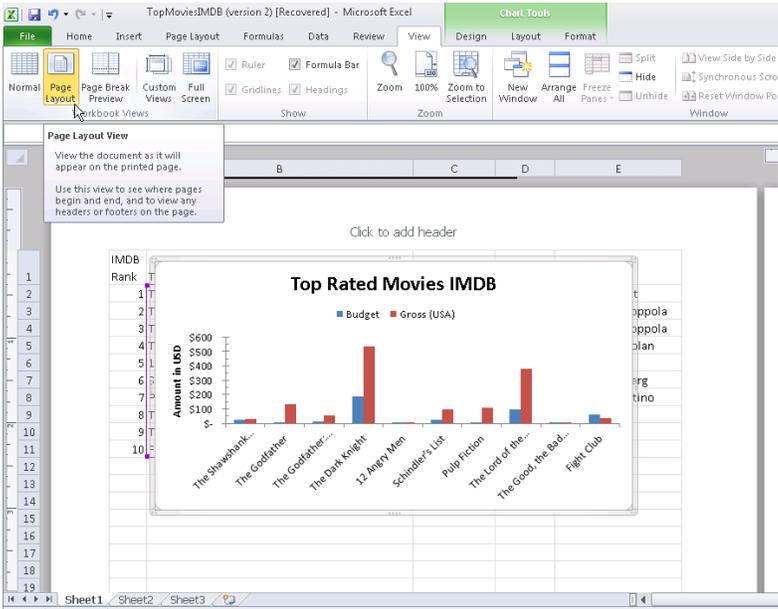


When a chart is in its own tab, printing will usually fit the chart neatly on a single sheet, reviewing the print preview will show you what will print at any given time.

**3.2. Page Setup**

By default the chart may not fit onto a single printed page. This is usually the case when a chart is embedded in a sheet with data.

When printing, the Page Layout view allows you to quickly see which elements will fit onto a given printed page.



**Follow Me**

**Setup data and chart on single page to print**

1. Move the chart back onto Sheet1 using the Move Chart icon on the ribbon design tab, be sure you have the chart selected first
2. Select the Page Layout view
3. Using the Page Layout tab on the ribbon, change the page orientation, margins and scale to fit options to accommodate the information. Adjust column and row sizes as need in combination with word wrap to fit all the data.
4. Move and resize the chart to allow both the chart and data to be seen.

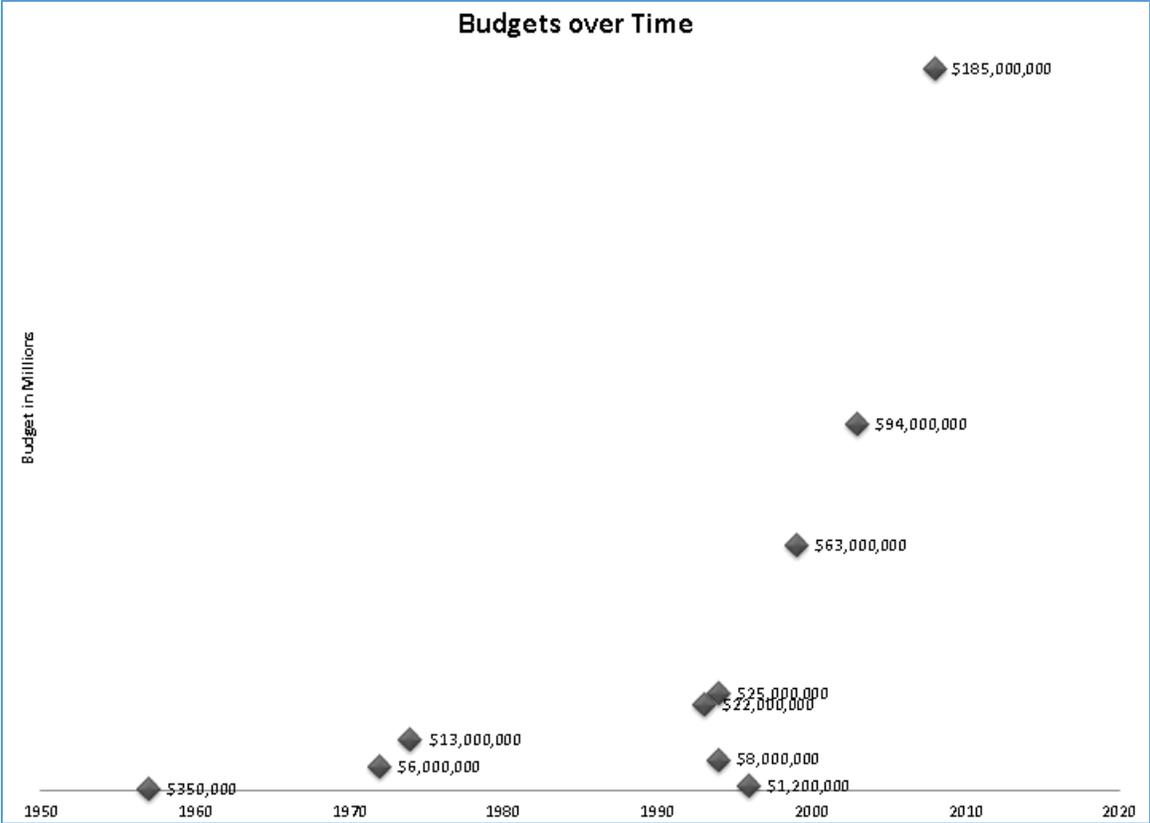
*Use the zoom options to allow for a full view of all the information on the page.*

The screenshot shows an Excel spreadsheet with a table of movie data and a grouped bar chart. The table lists 10 top-rated movies with their release dates, ratings, directors, budgets, gross revenues, and production companies. The bar chart, titled 'Top Rated Movies IMDB', compares the Budget (blue bars) and Gross (USA) (red bars) for these movies. The Y-axis represents the amount in USD, ranging from \$0 to \$600 million. The chart shows that 'The Dark Knight' has the highest gross revenue, while 'The Shawshank Redemption' has the lowest budget.

| IMDB Rank | Title   | Release Date | Rating   | Director             | Budget            | Gross (USA)       | Runtime | Production Co.               |
|-----------|---|--------------|----------|----------------------|-------------------|-------------------|---------|------------------------------|
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### 4. Exercise – Now You

Using the TopMoviesIMDB data, create the following charts.



Hints: This chart uses two columns with adjustments to the design and layout. Try using a preset from the chart layout group in the ribbon design tab.

