

**Excel Tutorial**  
**Session 1 Basic Excel**  
**Operations**

# *Overview*

- Purpose—Ensure that all finance majors have Excel skills necessary for upper div. courses.
- Session 1: Basic Excel Operations
  - spreadsheet functionality, reference cells, formatting, linking spreadsheets, paste special, equation syntax.
- Session 2: Time value of money
  - bond pricing, financial functions
- Session 3 Data Analysis Tools
  - solver, regression
- Assignments - Each session is ~30 min
  - Complete individually
  - Submit through RamCT for grading.

# *Designing Effective Worksheets*

- A worksheet is a grid of cells.
  - Each cell is like a little calculator.
- Organizing Data
  - Columns usually associate with variables. Data runs down.
  - Try not to skip any rows as you enter data,
  - Place all the variables/data on worksheet that is *separate* from worksheets with statistical results.
- Organizing Calculations
  - Allow user to be able to explicitly see chain of calculations from the starting data.
- Formatting
  - Format cells appropriately for number type, borders, text wrapping, etc.

## *Some Excel Terminology*

- Cell addresses
  - by Column (A, B,...) and Row (1,2..).
  - Cell D5 is the fourth column, 5<sup>th</sup> row.
- Cell references in equations are relational
  - relative to the original location of the equation.
  - Cell B3 has the equation =B2+1
    - If you copy it down one cell, it will copy as =B3+1.
    - If you copy it one cell to the right, it will copy as =C2+1
  - To stop this from happening, you can lock (anchor) the cell address by putting \$ before the column and row reference.
    - E.g. \$B\$1+1 will always copy as B1+1

## *Some Excel Terminology*

- A workbook can include several worksheets
- Format refers to the characteristics of a particular cell, e.g. font, shading, borders, type of number)
- Paste Special
  - Values (when you don't want original equations)
  - Transpose (to change columns to rows)
- Block
  - Identify a section you wish to copy or graph
  - by setting your cursor on the upper left cell and holding down the left mouse button while you drag to the opposite bottom corner.

## *Excel Equations*

- Arithmetic
  - Multiplication: \*
  - Division: /
  - Raise to Power: ^
  - Order of operations:
    - power; multiply/divide; add/subtract
  - Multiplication of parentheticals
    - requires “\*”. For example: =2\*(6+3)
- Many preset functions
  - average(), min(), max(), sqrt(),correl(),var(),stdev()
- Use F1 (help) liberally!!
  - “F1” search for “functions” select “list of functions”
  - Select “Formulas” then “insert function”

## *Simple Shortcuts*

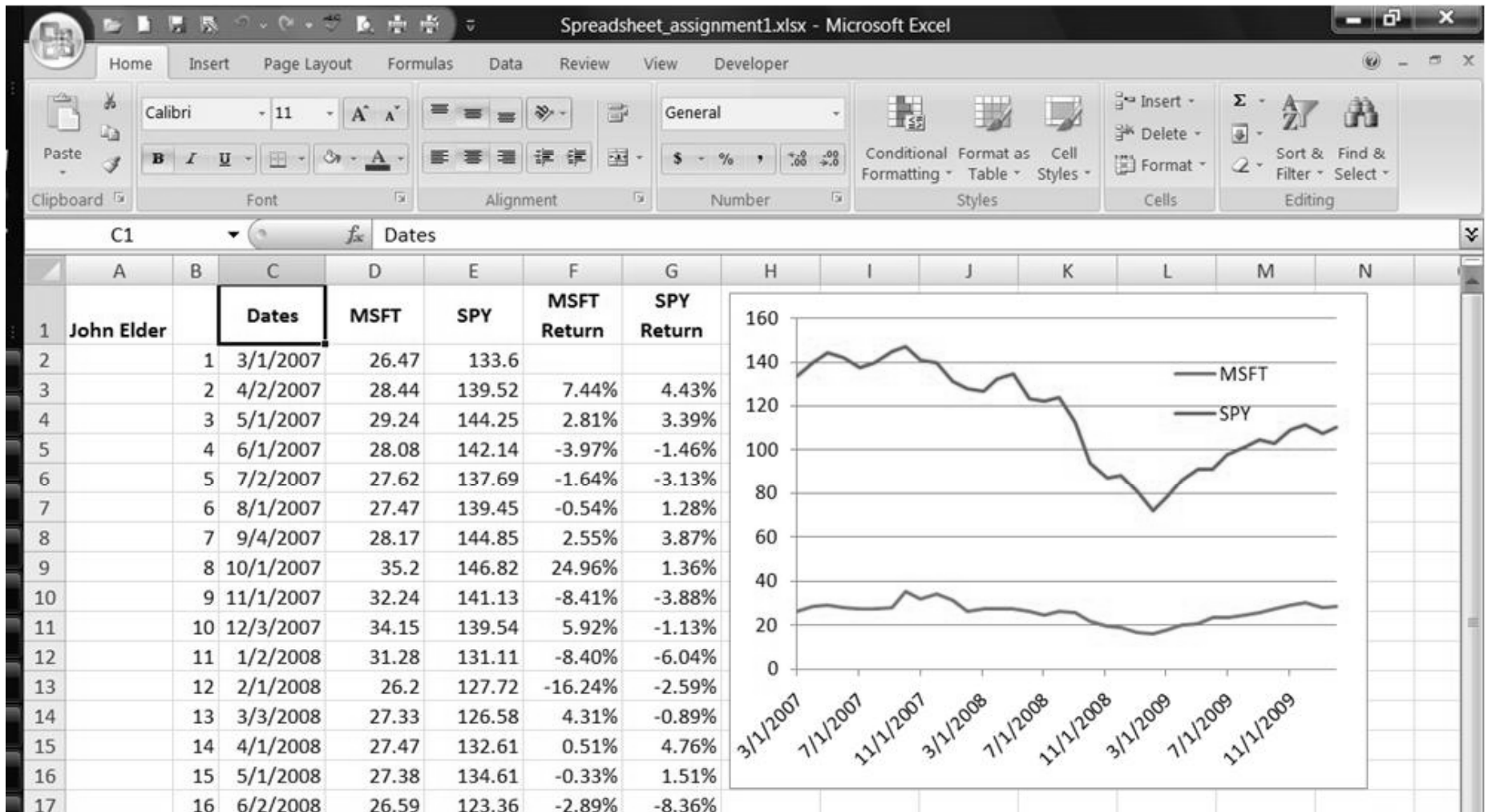
- Copy: three ways
  - Control C
  - Drag the lower right corner of a cell to copy down or across.
  - Right-click source cell; Select “copy”
    - Highlight destination cells;
    - Right click: Select “paste”
    - Paste is also control V
- F4: Locks the highlighted cell address
  - “Anchors” the reference

# *Assignment 1: Basic Excel 1*

- Open Excel
  - In cell A1, write your name.
  - Save file as: lastname\_firstname\_assign1.xlsx
- Starting in cell B2, create a column of numbers that count 1 to 36.
  - Enter “1” in cell B2.
  - Enter formula “=B2 + 1” in cell B3.
  - Copy formula down to B37 by dragging lower left of cell.
- Go to <http://finance.yahoo.com>
  - Download 3 years (36 months) of monthly prices on MSFT from 3/1/2007 through 2/1/2010.
  - Get quote on MSFT, then select “historical prices”
  - Scroll to bottom to get “download data to spreadsheet”
  - Copy dates into column “C”, starting at cell C2.
  - Copy “adj prices” (36 months) into column “D”.

## *Assignment 1: Basic Excel 2*

- Download data on SPY (same period)
  - Copy into column “E”, starting at E2.
  - Enter labels into cells C1, D1 and E1
- Sort data from oldest to newest
  - Highlight columns labeled “Date” “MSFT” and “SPY”
  - Select “Data” from menu, then “Sort”.
  - Sort by column labeled “dates” from oldest to newest.
- Your spreadsheet will eventually look like this:



## *Assignment 1 Exel*

- Graph the prices of MSFT and SPY
  - Highlight prices to be graphed.
  - From menu, “Insert” “Graph” “Line”
- Right click on chart background to “select data”
  - This will allow you to do things like:
  - Enter series labels
  - Change horizontal axis
  - Add/remove series

# *Assignment 1 Excel*

- Calculate monthly returns from prices
  - Enter formula for returns in columns “F” and “G”
  - For example, in cell F3 “D3/D2 –1
  - Copy formulas down and across to column “G”
  - Format data in columns in F and G as percentages; with 2 digits
- Find the average and standard deviation of returns
  - For help hit “F1” then type “average” or “standard deviation”
  - Format cells appropriately.
- Find the correlation between the return on MSFT and on SPY.
- Save this spreadsheet. You will need it later.
  - Submit it to me via RAMCT. (Your "adj close" will be different)

Spreadsheet\_assignment1.xlsx - Microsoft

Home Insert Page Layout Formulas Data Review View Developer

Clipboard Font Alignment Number

E45

	A	B	C	D	E	F	G
31		30	8/3/2009	24.54	101.43	5.37%	3.70%
32		31	9/1/2009	25.61	105.02	4.36%	3.54%
33		32	10/1/2009	27.61	103.01	7.81%	-1.91%
34		33	11/2/2009	29.41	109.35	6.52%	6.15%
35		34	12/1/2009	30.48	111.44	3.64%	1.91%
36		35	1/4/2010	28.18	107.39	-7.55%	-3.63%
37		36	2/1/2010	28.46	110.38	0.99%	2.78%
38							
39							
40	<b>Average</b>					<b>0.28%</b>	<b>-0.63%</b>
41	<b>Standard deviation</b>					<b>8.62%</b>	<b>5.82%</b>
42	<b>Correlation</b>					<b>0.64</b>	