

# Pro Forma Financial Statements

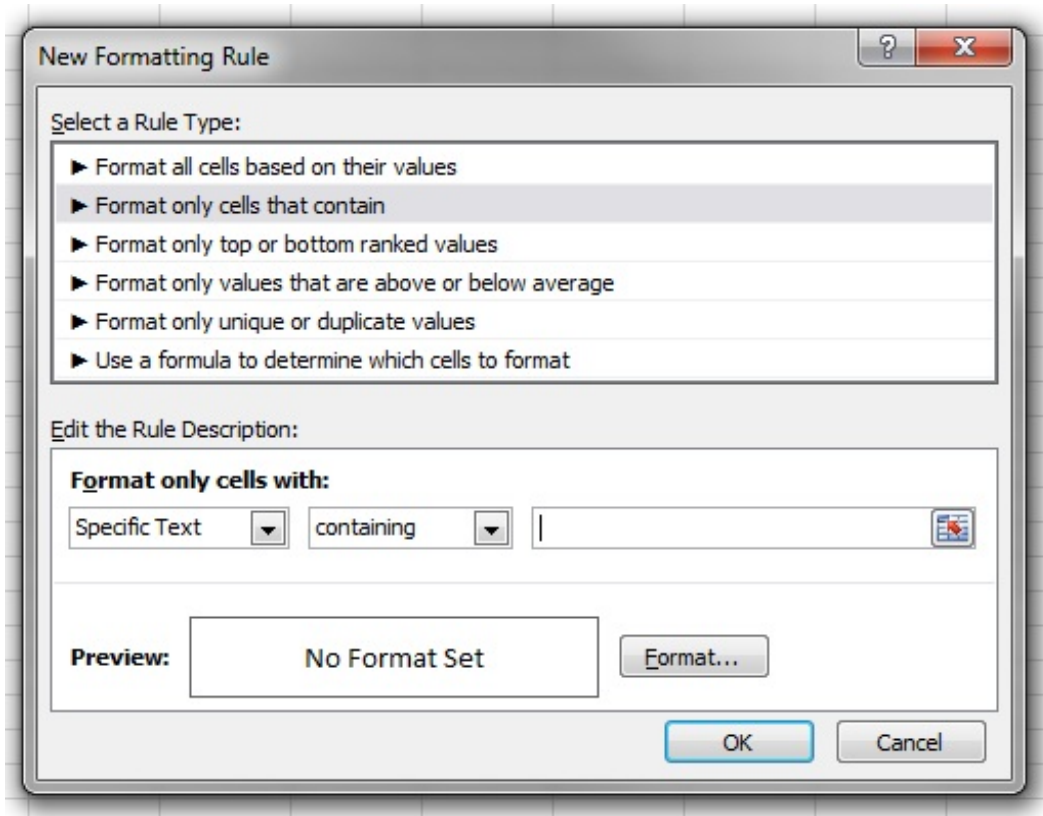


Presented By  
*David Ravetch*  
July 20, 2017

### Module 5: Pro Forma Problem

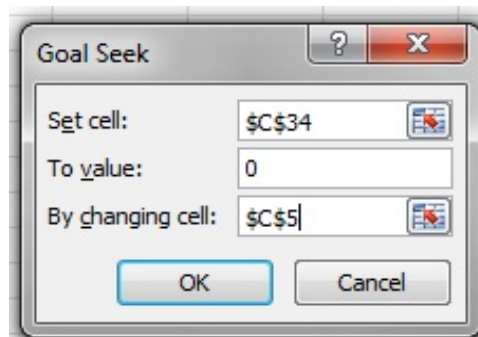
1. Statement of the problem: You have founded a company to sell thin client computers to the food processing industry for Internet transaction processing. Before investing \$2,500,000 in your new company, a venture capitalist has asked for a five year pro-forma income statement showing unit sales, revenue, total variable cost, marketing expense, fixed cost, and profit before tax. You expect to sell 1,600 units of the thin client computers in the first year for \$1,800 each. Swept along by internet growth, you expect to double unit sales each year for the next five years. However, competition will force a 15% decline in price each year. Fortunately, technical progress allows initial variable manufacturing costs of \$1,000 for each unit to decline by 6% per year. Fixed costs are estimated to be \$1,000,000 per year. Marketing expense is projected to be 14% of annual revenue. When it becomes profitable to do so, you will lease an automated assembly machine that reduces variable manufacturing costs by 20% but doubles the annual fixed cost; the new variable manufacturing cost will also decline by 6% per year. Net present value (NPV) will be used to aggregate the stream of annual profits, discounted at 15% per year.
  - a. Ignoring tax considerations, build a spreadsheet for the venture capitalist.
  - b. How many units do you need to sell in the first year to break even in the first year?
  - c. How many units do you need to sell in the **first** year to break even in the **second** year?
  - d. Calculate the NPV discounted at 15%.
2. Envision the worksheet.
  - a. Put assumptions on top.
  - b. Create references to these numbers, so if the assumptions change, the worksheet will update.
3. Solution
  - a. Create pro-forma five-year income statements. Pro forma means “as If,”...as if our assumptions are valid.
  - b. Create different scenarios: with lease and without lease.
  - c. Use MIN function to determine which strategy to implement.

- i. Returns the smallest number in a set of values.
  - ii. Syntax: MIN(number1,number2,...)
  - iii. Number1, number2, ... are 1 to 30 numbers for which you want to find the minimum value.
- d. Use IF function to decide whether or not to start leasing the equipment.
  - i. Returns one value if a condition you specify evaluates to TRUE and another value if it evaluates to FALSE.
  - ii. Use IF to conduct conditional tests on values and formulas.
  - iii. Syntax: IF(logical\_test,value\_if\_true,value\_if\_false)
  - iv. Logical\_test is any value or expression that can be evaluated to TRUE or FALSE. For example, A10=100 is a logical expression; if the value in cell A10 is equal to 100, the expression evaluates to TRUE. Otherwise, the expression evaluates to FALSE. This argument can use any comparison calculation operator.
  - v. Up to seven IF functions can be nested as value\_if\_true and value\_if\_false arguments to construct more elaborate tests.
  - vi. To have result of IF function be text, you must enclose that text within quotation marks.
- 4. Conditional Formatting
  - a. Home | Styles | Conditional Formatting
  - b. New Rule
  - c. Format only cells that contain...
  - d. (Drop down menu) Specific Text containing
  - e. Set format



5. Goal Seek

- a. Performs “What if?” analysis on spreadsheet.
- b. Data | Data Tools | What-If Analysis | Goal Seek



- c. When you know the desired result of a single formula, but not the input value the formula needs to determine the result, you can use the Goal Seek feature.
  - i. Enter the cell and the value (desired result). In our problem, we will want income before taxes to be equal to 0.

- ii. Enter the cell that you want to change. In our problem, we will want to find the number of units it takes to breakeven, so we will want to change the Unit Sales Cell.
- iii. It's really that simple...try it!

6. Net Present Value (NPV)

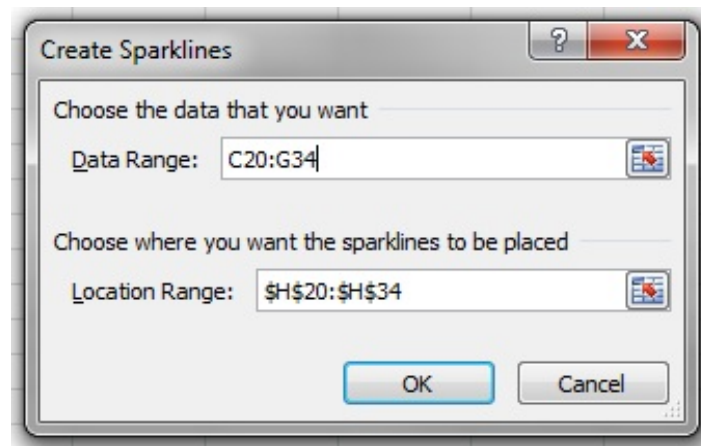
- a. Present value of the cash inflows – present value of cash outflows (usually, the cost of the investment).
- b. If we have not yet determined the cost, then NPV will be simply the PV of cash inflows.
- c. Use NPV function to determine the net present value of **uneven** cash flows
  - i. Note: This is not the same as the traditional finance definition
  - ii. The cash flows are assumed to be equally spaced in time and occur at the end of each period.
  - iii. Be sure to enter your payment and income values in the correct sequence.
- d. After calculating the NPV, this might equal the amount we will be willing to pay for the investment (the company)...or at least a starting point for negotiation.

7. IRR – The rate of return that makes the  $NPV = 0$ . Some say, “The real rate of return”

- a. IRR Function
  - i. Returns the internal rate of return for a series of cash flows represented by the numbers in values. These cash flows do not have to be even, as they would be for an annuity. However, the cash flows must occur at regular intervals, such as monthly or annually.
  - ii. Values must contain at least one positive value and one negative value to calculate the internal rate of return.
  - iii. IRR uses the order of values to interpret the order of cash flows. Be sure

to enter your payment and income values in the sequence you want.

- iv. Guess (optional) is a number that you guess is close to the result of IRR.
  - b. Set up a vertical (or horizontal) list of cash flows.
8. Sparklines: Mini Graphs
- a. Insert | Sparklines | [Choice]



- b. Data Range: What values do you want to see the sparkline?
- c. Location Range: Which cell should the sparkline be placed?
- d. Note: Screenshot, above, may not correspond to actual class example