Data Table Module

1. Direction:

What Data Table can do for you?

Data Table is an Excel tool that shows the results of substituting a range of input values into a worksheet. This tool is usually used in sensitivity test.

For example: In a given model to calculate monthly loan payment, you borrowed a loan amount of 190,000. The duration to payback the loan is 360 months. The annual interest rate is 10%. Then according to the model, the monthly payment of the loan should be a Excel function =PMT(Yearly interest rate/12, months, -loan amount) and the result is 1667.39

Question: How much the monthly payment will be if the interest rate increases from 10% to 12%? What if the interest is 10.25%, 10.5%, 10.75% ... 12%

How to use Data Table?

1. Open the Excel file contains the model
2. Fill the range:
   a. List all the potential input value in a row, i.e. in A8:A16

   b. Let cell B7 (just above the first input value and one cell to the right of the column of values) point to the cell formula in the model “=A5”. Note: you don’t need to label the cell like what I did in A7 and B6, I feel this way the model looks clearer.
3. Highlight the range: click-drag to cover the range A7:B16. Here, make sure that the range includes B7, the cell pointing to the model’s output cell

4. Activate the “Data Table”
   a. Click “Data”
b. Select “Data Table”

c. A dialog box will appear
5. Fill the dialog box
   a. Since the input values (interest rate) are given only in a column, fill only “Column Input Cell” box. In “Column Input Cell” box, give the cell reference in the model where the input values are to be typed by Data Table. In this example, input B2
   b. Leave the “Row Input Cell” box empty

6. Click on “OK”
2. Question:

In model 2, a Net Present Value model is given. A project will bring income 5000 in year 1, 1000 in year 2 and 7000 in year 3. The interest rate (Cost of capital) is 8%. According to the model, the Net Present Value (what the project worth today) is an Excel function = NPV (interest rate, income in year 1, income in year 2, income in year 3, …). And the NPV now is 11,044

Question: How much the NPV will be if the interest rate increases from 8% to 11%? What if the interest is 8.25%, 8.5%, 8.75% … 11%