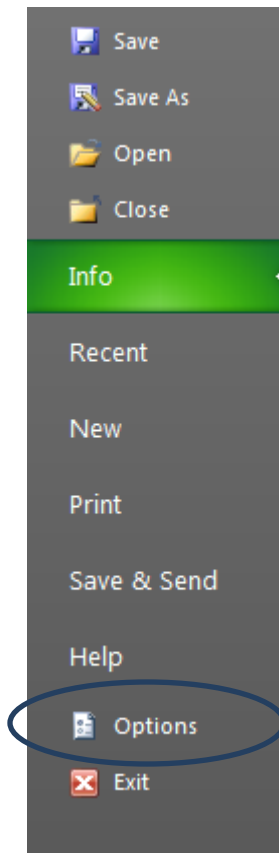
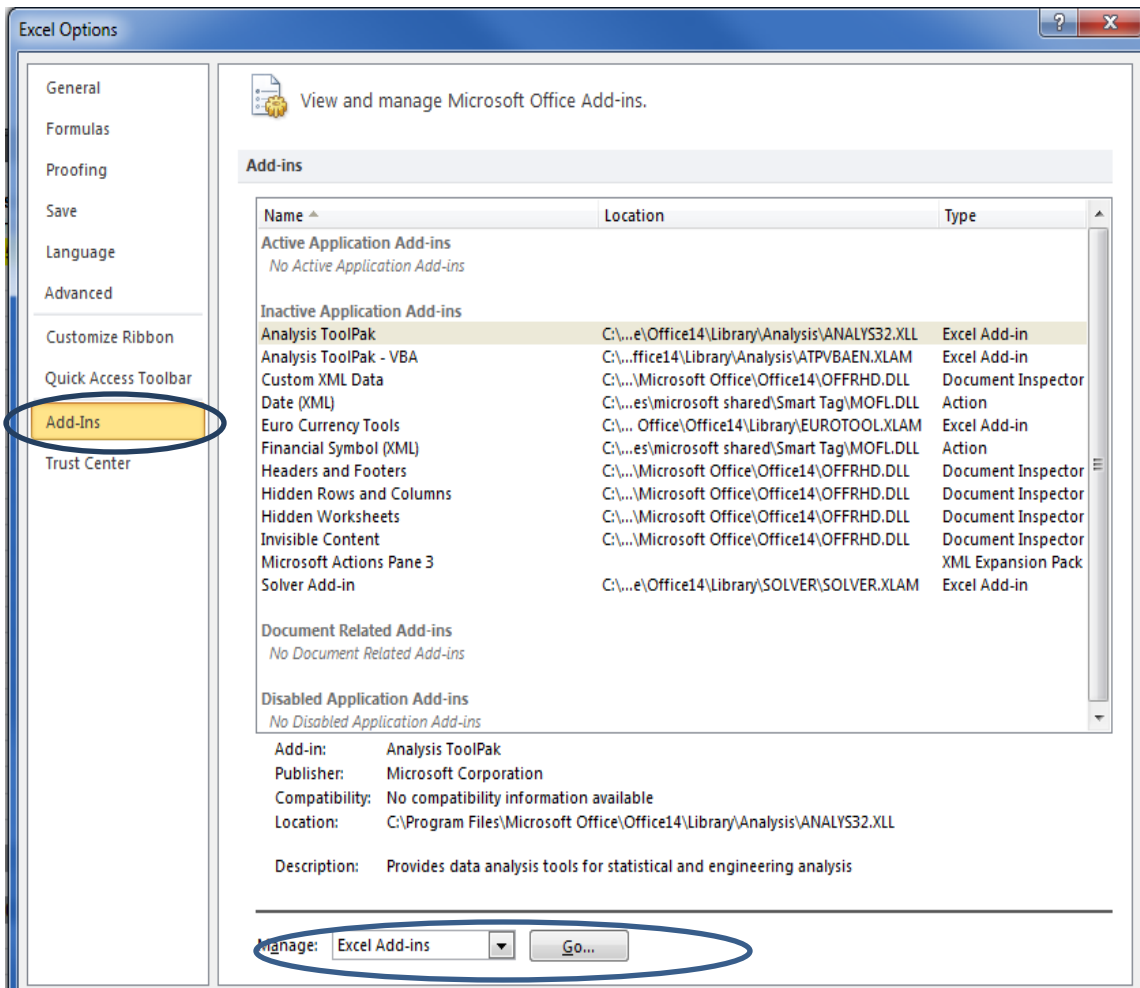


If you do not have the solver add-in installed in Microsoft Excel you will need to take the following steps:

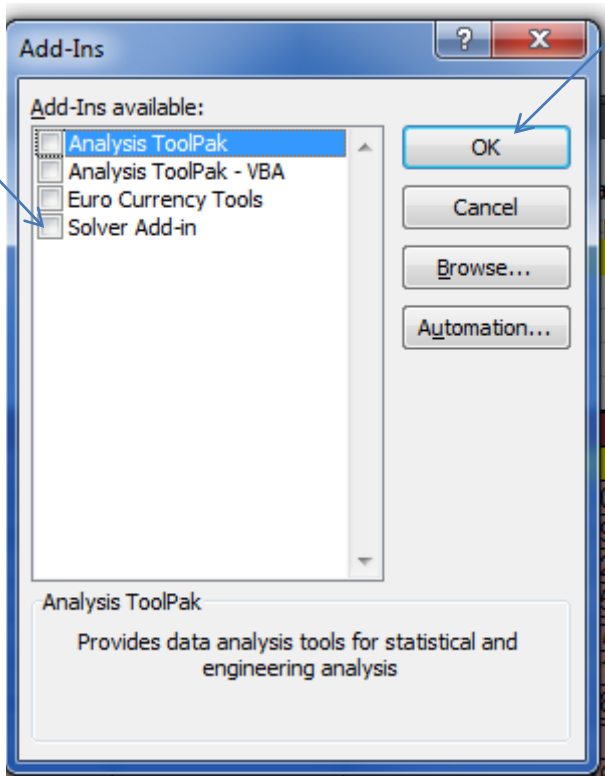
Click on File then options.



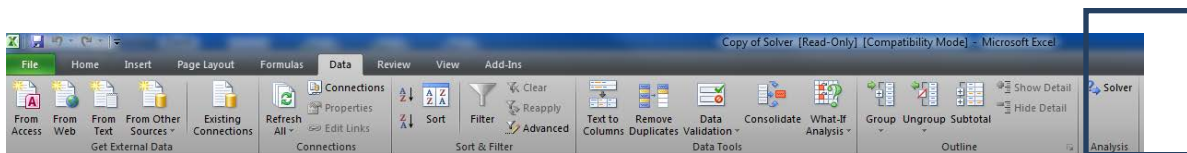
Click on Add-Ins then select manage excel add-ins then click go.



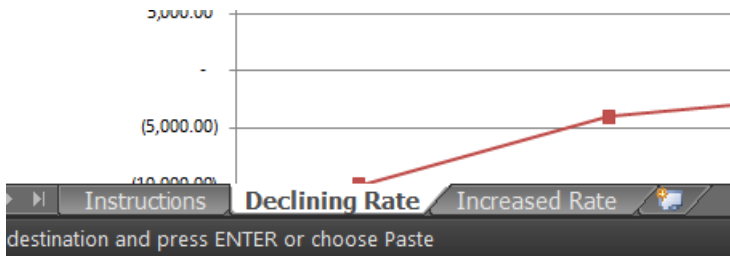
Select Solver Add-In then click Ok



The above steps only have to be done the first time solver is loaded into your MS Excel module. Now click on data on your ribbon bar and notice solver is on the right hand side:



**Instructions for using Solver:** determine if the new rate proposed is an increased rate or declining rate. If increased rate, select the increased rate tab. If declining, select the declining rate tab.



Once in the appropriate tab input data only in the yellow tabs. Each highlighted cell has instructions on what to put in those tabs.

Anticipated Loan Production With No Change in Rate	Marginal Loan Production Percentage To (BREAK EVEN)	Risk Free Investment (Similar Term)	Term of Asset in Months	Projected Weighted Average Rate	Loan Loss Expense	Marginal Loan Loss Expense Change	Cost of Funds	Current Weighted Average Rate	Other Fixed Costs
2,000,000.00	26.88%	0.50%	36.00	3.50%	0.69%	0.00%	0.45%	4.00%	-

Proof		What-If	
Current Loans	2,000,000.00	Anticipated Growth Rate	25%
Current Yield	4.00%	Current Production With No Change	2,000,000.00

After you have completed the information in those tabs click data tab on the ribbon bar, then solver on the right hand side. Click solve. You must be in either declining rate or increased rate tabs to see the outcome.

**Solver Parameters**

Set Objective:

To:  Max  Min  Value Of:

By Changing Variable Cells:

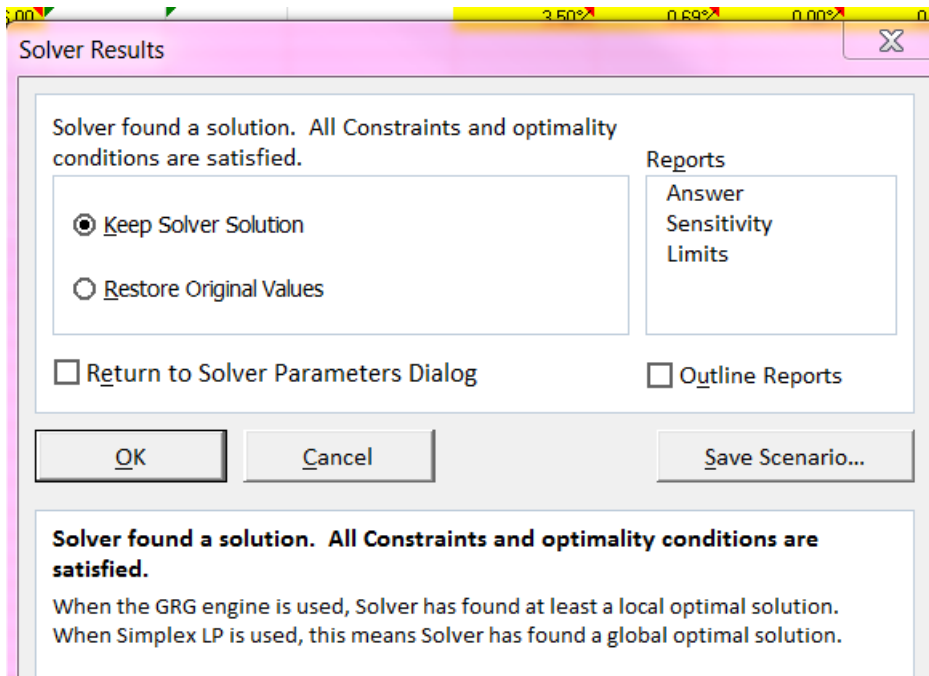
Subject to the Constraints:

Make Unconstrained Variables Non-Negative

Select a Solving Method:

Solving Method  
Select the GRG Nonlinear engine for Solver Problems that are smooth nonlinear. Select the LP Simplex engine for linear Solver Problems, and select the Evolutionary engine for Solver problems that are non-smooth.

Buttons: Add, Change, Delete, Reset All, Load/Save, Options, Help, Solve, Close



The above options popup box will appear and tell you whether a solution was found. Click ok.

<b>Marginal Loan Production Percentage To (BREAK EVEN)</b>
26.88%

Cell B4 will reflect the needed loan production growth or decline (increasing rate) needed to make an economic sense of rate change. If you have questions regarding the usage of this program please feel free to contact Eric Mangham at [emangham@afcu.org](mailto:emangham@afcu.org).