



**Model
analyzer**
For Excel

**INCREASES
YOUR
PRODUCTIVITY**



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Overview

What is Model Analyzer for Excel?

Model Analyzer for Excel is an add-in for Microsoft Excel with which you can analyse the data in your spreadsheets, in an automatic, fast and intuitive manner.

What can I do with Model Analyzer for Excel?

You can perform the following analyses:

- ✓ Centralised management of input and output variables in your spreadsheets.
- ✓ Multiple-scenario analyses.
- ✓ What-if analysis (tornado and spider analysis and sensitivity tables).
- ✓ Analysis to find multiple target values.
- ✓ Break-even analysis.
- ✓ Monte Carlo simulation with the main statistical distributions.
- ✓ Other useful tools.

Who can use Model Analyzer for Excel?

Any type of user that utilises Microsoft Excel for his or her projects. It can be used by financial analysts, engineers, biologists, mathematicians, economists, teachers, and students in general, scientists, people working in marketing, sales, purchases, accounting, etc.

I have older versions, what should I do to use this new version?

Based on feedback from our users, we have made important changes compared with former versions. As a result, you will have to re-create with this version the models you created with former versions. We thank you for understanding, as this will happen this only time and will not happen again in the future.

What changes are included in this new version 2.0?

It includes the following changes:

- ✓ Analyses with Monte Carlos simulation have been added.
- ✓ The 'Go' button that appeared in the scenarios spreadsheet has been removed and replaced by a 'Run' button directly accessed from the ribbon (Excel 2007).
- ✓ Input/Output management has been centralised.
- ✓ All interfaces (dialogs and buttons) have been improved for a more intuitive use; however, your suggestions for further improvement will always be welcomed.

 Cells watcher, is now a form better adapted to work with Model Analyzer for Excel, and has been improved.

How do I start using Model Analyzer for Excel?

First of all, you have to add inputs and outputs with the Manage Inputs and Manage Outputs tools. Then you can use any of the other tools, such as creating scenarios, what-if analysis, simulations, and cells watcher.



Basic Concepts

Model in Microsoft Excel

A model is a construct in Microsoft Excel of an abstraction of reality, case study, or objective analysis. Each model should be developed in only one Excel book, for a more centralized use of data. You can develop from very basic models to very complex ones that contain numerous sheets. For example, the following structure is a basic model:

$$\text{Gross profit} = \text{Units sold} * (\text{Sales price} - \text{Sales cost})$$

Output Input Input Input

Where each data occupies one cell of Microsoft Excel.

Input

Independent variable whose value is not a function of another variable. In the example above, Units Sold, Sales Price and Sales Cost are the inputs. Each cell in Excel represents an input, it must not have precedents but it must have dependents.

Output

Dependent variable whose value is a function of other variable(s) (inputs) In the above example, there is only one output, Gross Profit, which is derived from the inputs specified. Each Excel cell containing an output should have precedents. Intermediate formulas could be outputs.

Analysis of Models

This process involves varying inputs and analysing the resulting behaviour of output variables. Input variables may be entered using multiple-scenario, what-if or simulation analysis. Conversely, based on target or desired output variables, you may find the input values required to get such target values.

Scenario

A set of variables which combined represent a possible situation for a model. Typically, a model can consider, say, three scenarios, such as Optimistic, Pesimistic and Neutral. However, with the Scenarios tool of Model Analyzer for Excel, you can generate hundreds of scenarios, where each scenario is represented by one column in the Scenarios sheet.

What-if

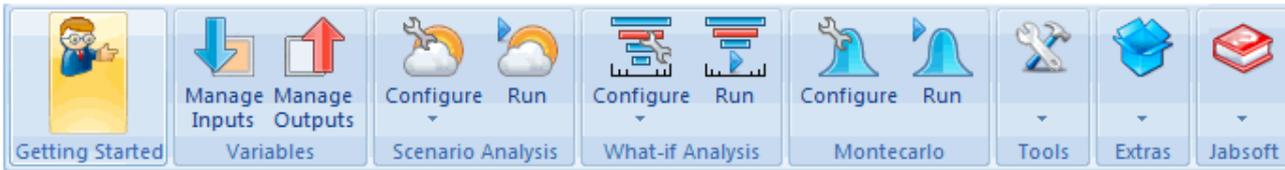
This process consists in giving values to inputs and see how outputs are affected.

Goal Seeker

With this technique you can find the values inputs should take to get the desired output values.

Model analyzer For Excel

Getting Started



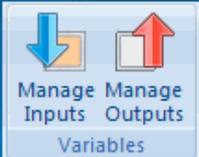
This access gives us a way to quickly start using the tool.

How to

2 simple steps to start:



Step 1: First, identify in the model the variables input and output *(watch video)*

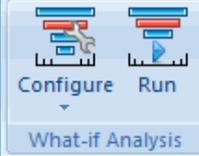


Step 2: Now you can use the main analysis options of Model Analyzer for Excel

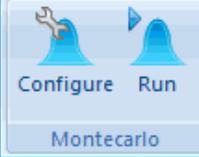
Scenario Analysis:
It allows you to create a sheet with multiple scenario *(watch video)*



What-if Analysis:
It allows you to create analysis of type: Spider, tornado *(watch video)*



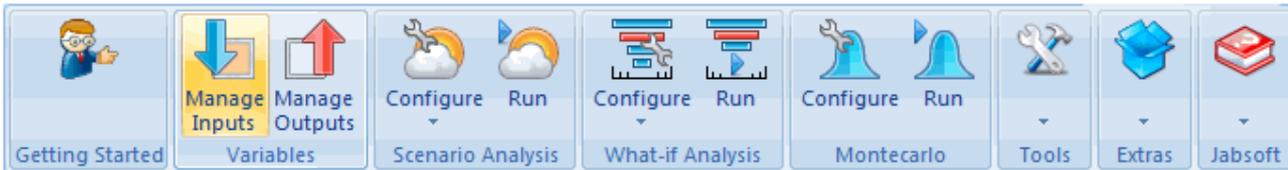
Montecarlo:
It allows you to make thousands of simulations through the *(watch video)*





Model analyzer For Excel

Manage Inputs



Use this function to add and remove input variables to and from your models. We will elaborate on the following basic model.

	A	B	C	D	E	F	G	H	I
1	Information about the model								
3	Input variables:								
4	Amount of loan								
5	Interest rate								
6	Term of Loan (Years)								
7	Number of Payments (per Year)								
9	Output variables:								
10	Amount of Payment								
13	Loan								
14									
15	Amount of loan		\$32,000						
16	Interest Rate		8.00%						
17	Term of Loan (Years)		10						
18	Number of Payments (per Year)		12						
20	Amount of Payment		\$388.25						

Go to the **Variables** section and select **Manage Inputs** , and the dialog below pops up.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	
	\$388.25

Manage input cells

Go to reference cell

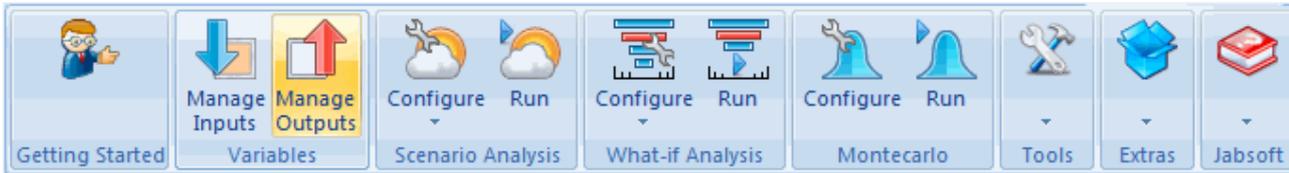
Title	Cell	Sheet	Value
Amount of loan	D15	Loan	\$32,000
Interest Rate	D16	Loan	8.00%
Term of Loan (Years)	D17	Loan	10
Number of Payments (per Year)	D18	Loan	12

- ✓ **Add:** Use this button to add a new Input variables.
- ✓ **Edit:** Use this button to edit the title of each variables (this is optional since the tool captures automatic titles). The title must be making reference to a cell and not write a text manually.
- ✓ **Delete:** Serves to eliminate an Input variable.
- ✓ **Go to reference cell:** It serves to navigate by each variable. First activate the cell, then click on each element of the list of variables.
- ✓ **Cell's colors:** It automatically gives color to the chosen input cells. It has a color by default.
- ✓ **Search automatically:** Automatically looks for inputs in specific sheets of the book. This offers a quicker way to begin using this tool.



Model analyzer For Excel

Manage Outputs



Use this function to add and remove output variables to and from your models. We will elaborate on the following basic model.

	A	B	C	D	E	F	G	H	I	
1	Information about the model									
3	Input variables:									
4	Amount of loan									
5	Interest rate									
6	Term of Loan (Years)									
7	Number of Payments (per Year)									
9	Output variables:									
10	Amount of Payment									
13	Loan									
14										
15	Amount of loan			\$32,000					4 Inputs	
16	Interest Rate			8.00%						
17	Term of Loan (Years)			10						
18	Number of Payments (per Year)			12						
20	Amount of Payment			\$388.25					1 Output	

Go to the **Variables** section and select **Manage Outputs** , and the dialog below pops up.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Manage output cells ✕

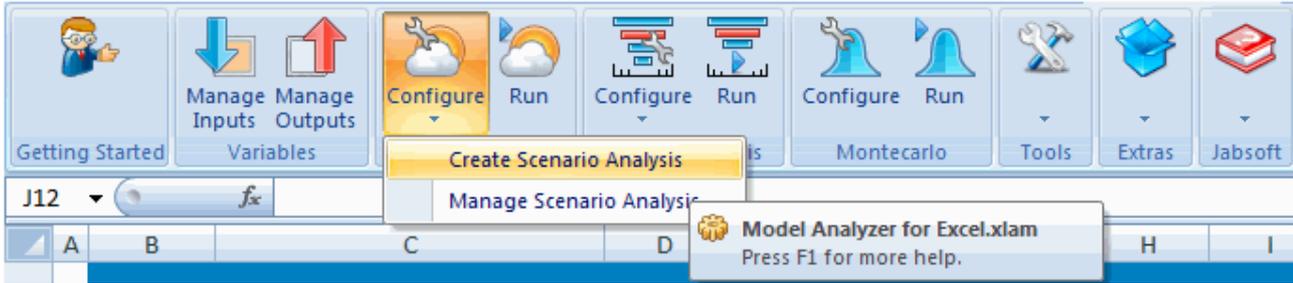
+ Add
 ✎ Edit Title
 ✖ Delete
 Go to reference cell
 🎨 Cell's colors

Title	Cell	Sheet	Value
Amount of Payment	D20	Loan	\$388.25

?
📄
🔍 Search automatically
 ✖ Close

Model analyzer For Excel

Create Scenario Analysis



When models are large and complex, and you wish to have input and output variables centralised, it is time to use the Create Scenario Analysis tool. With this tool, you can create quickly a new sheet in the same book, with the input and output cells you want to analyse, managing as much scenarios as columns are in the Microsoft Excel spreadsheet. As we have already loaded the inputs and outpus using Manage Inputs and Manage Outputs now just go to the section **Scenario Analysis** and select **Create Scenario Analysis** , taking the following model as example.

	A	B	C	D	E	F	G	H	I										
1	Information about the model																		
3	Input variables:																		
4	Amount of loan																		
5	Interest rate																		
6	Term of Loan (Years)																		
7	Number of Payments (per Year)																		
9	Output variables:																		
10	Amount of Payment																		
13	Loan																		
14	<table border="1"> <tr> <td>Amount of loan</td> <td>\$32,000</td> </tr> <tr> <td>Interest Rate</td> <td>8.00%</td> </tr> <tr> <td>Term of Loan (Years)</td> <td>10</td> </tr> <tr> <td>Number of Payments (per Year)</td> <td>12</td> </tr> <tr> <td>Amount of Payment</td> <td>\$388.25</td> </tr> </table>									Amount of loan	\$32,000	Interest Rate	8.00%	Term of Loan (Years)	10	Number of Payments (per Year)	12	Amount of Payment	\$388.25
Amount of loan	\$32,000																		
Interest Rate	8.00%																		
Term of Loan (Years)	10																		
Number of Payments (per Year)	12																		
Amount of Payment	\$388.25																		
15	4 Inputs																		
20	1 Output																		

First choose the inputs and outputs from the left-side lists and move it to the right-side list. To do it see the following image:

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create Scenario Analysis

Select all input and output variables involved in the scenario analysis

Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
Amount of loan	D15	Loan			
Interest Rate	D16	Loan			
Term of Loan (Years)	D17	Loan			
Number of Payments...	D18	Loan			

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
Amount of Payment	D20	Loan			

Buttons: Cancel, Back, Next, Finish

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create Scenario Analysis

Select all input and output variables involved in the scenario analysis

Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of loan	D15	Loan
			Interest Rate	D16	Loan
			Term of Loan (Years)	D17	Loan
			Number of Payments...	D18	Loan

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of Payment	D20	Loan

Buttons: Cancel, Back, Next, Finish

Click **Next** to enter the scenarios.

The default number of scenarios is fourth, but you can add others by entering their names directly, separated by commas.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create Scenario Analysis

Enter scenarios' names separated by commas, example : High, Medium, Low

Scenarios' names

- Active
- High
- Medium
- Low

Buttons: Add, Delete, Cancel, Back, Next, Finish

Click **Next** . Enter the information about the scenarios sheet you are going to create.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create Scenario Analysis

Scenarios' sheet name: Scenario Analysis1

Model name: Scenario Analysis1

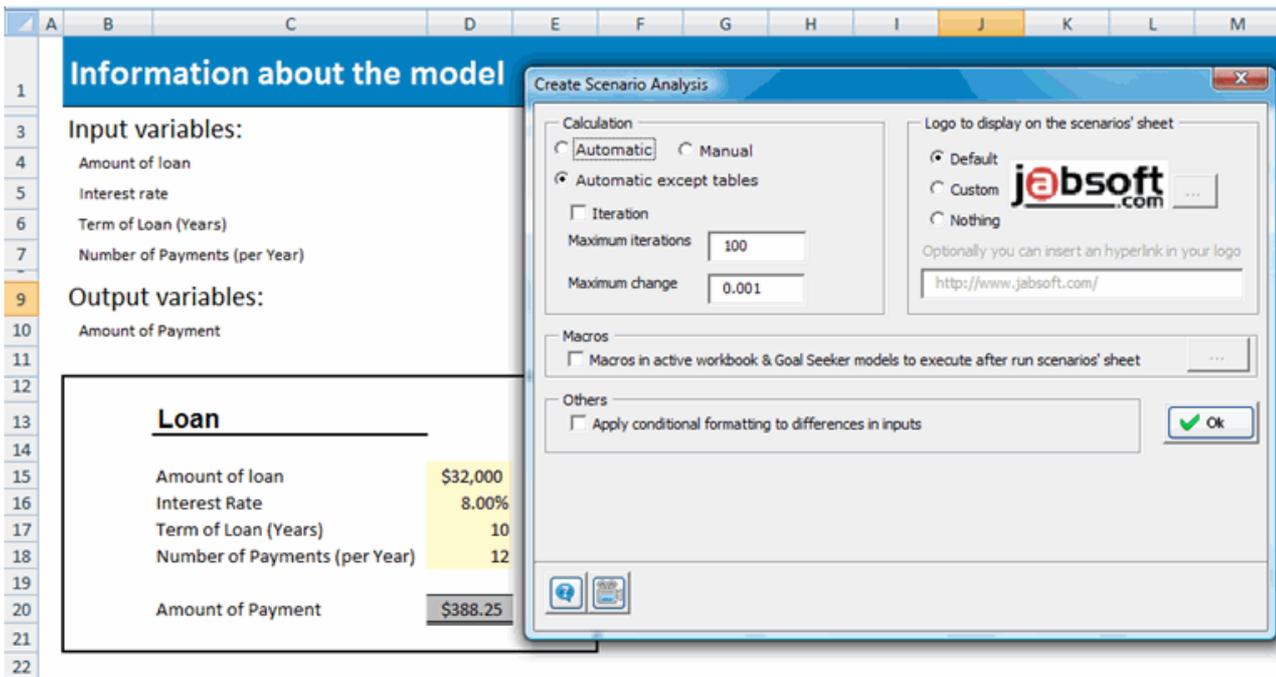
Author: JABOFT

Description: Scenario Analysis1

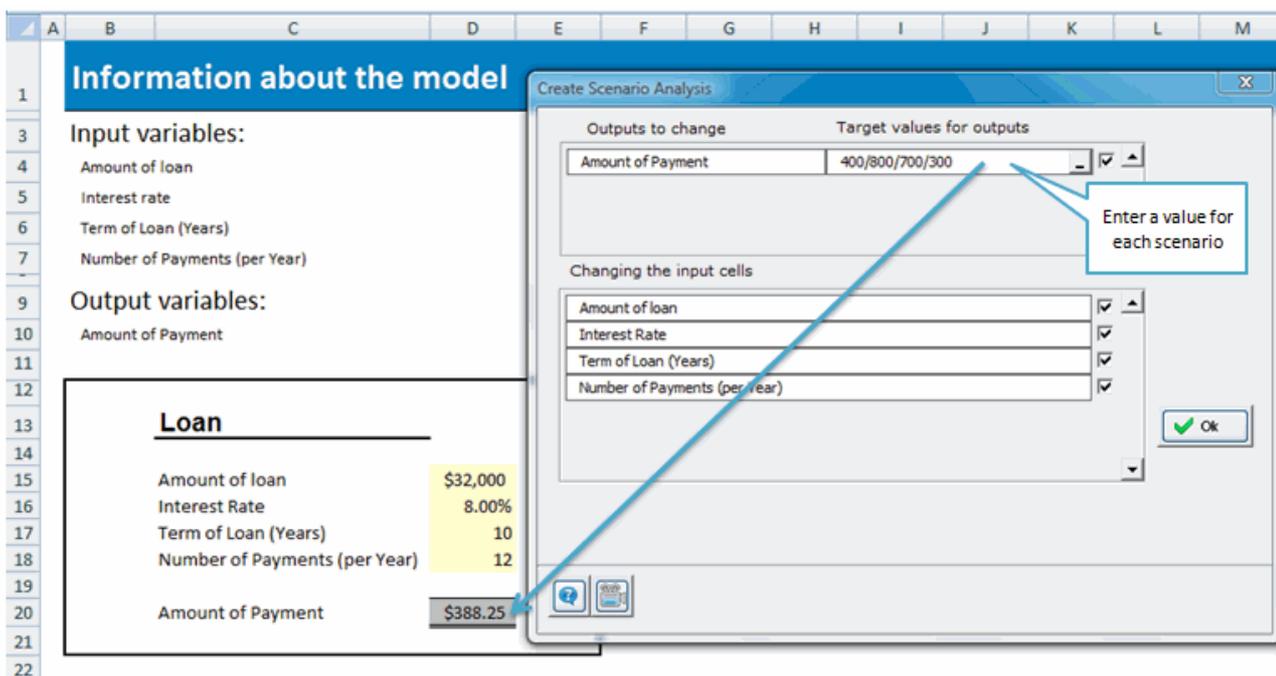
Apply Goal Seeker for Scenarios' Sheet

Buttons: Settings, Advanced Customizing..., Cancel, Back, Next, Finish

(OPTIONAL) If you click the **Advanced customizing** button, you will be able to configure certain advanced features, but you don't have to. You can create the scenarios sheet without customizing these options.



(OPTIONAL) If you click the **Apply Goal Seeker for Scenarios' Sheet** checkbox, you will be able to configure Goal Seeker for Scenario Analysis, but you don't have to. You can create the scenarios sheet without customizing these options.



When you click Finish, the following **scenarios sheet** will appear.

Scenario Analysis1		Creation Date: 11/03/2010 11:32:46 a.m.			
Author: JABOFT		Last Run Date: 11/03/2010 11:32:47 a.m.			
Titles	Active	High	Medium	Low	
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000	
Interest Rate	8.00%	8.00%	8.00%	8.00%	
Term of Loan (Years)	10	10	10	10	
Number of Payments (per Year)	12	12	12	12	
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25	
Goal Seeker Analysis	Active	High	Medium	Low	
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726	
Interest Rate	8.69%	28.14%	23.75%	2.39%	
Term of Loan (Years)	9.55847245	3.8898454	4.55889041	15.5730246	
Number of Payments (per Year)	11.4701669	4.66781448	5.47066849	18.6876296	
Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00	

By default, the input values of all scenarios are the same as those in the model, but you can change them (except for the ACTIVE column)

In this manner, you can change the input values for each scenario and run it again with 'Run' and see the output values for each scenario. You can do this a many times as needed.



Important: if you want to add or remove inputs, output or scenarios in the scenarios sheet don't do it manually; use the Manage Scenario Analysis tool.

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Manage Scenario Analysis



Use this tool to add or remove inputs, outputs and scenarios to or from a scenarios sheet created with Create Scenario Analysis .

Do not try to make changes manually without using this tool or you will cause errors in you Excel model.

In this section you can **add and remove inputs** , or move them up and down a list of inputs.

Titles	Active	High	Medium	Low
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000
Interest Rate	8.00%	8.00%	8.00%	8.00%
Term of Loan (Years)	10	10	10	10
Number of Payments (per Year)	12	12	12	12
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25

Goal Seeker Analysis	Active	High	Medium	Low
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726
Interest Rate	8.69%	28.14%	23.75%	2.39%
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Number of Payments (per Year)	11.4701669	4.66781448	5.47066849	18.6876296
Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00

Title	Address	Source
Amount of loan	\$C\$8	LoanID15
Interest Rate	\$C\$9	LoanID16
Term of Loan (Years)	\$C\$10	LoanID17
Number of Payments (per Y...	\$C\$11	LoanID18

You can **add and remove outputs** , or sort them by moving them up and down.

Scenario Analysis1
Author: JABOFT
Creation Date: 11/03/2010 11:32:46
Last Run Date: 11/03/2010 11:32:47

Titles	Active	High	Medium	Low
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000
Interest Rate	8.00%	8.00%	8.00%	8.00%
Term of Loan (Years)	10	10	10	10
Number of Payments (per Year)	12	12	12	12
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25

Goal Seeker Analysis	Active	High	Medium	Low
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726
Interest Rate	8.69%	28.14%	23.75%	2.39%
Term of Loan (Years)	9.55847245	3.8898454	4.56889041	15.6730246
Number of Payments (per Year)	11.4701669	4.66781448	5.47066849	18.6876296
Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00

Manage Scenario Analysis

Existing Basic Scenario Analysis in active workbook: Scenario Analysis1

Inputs | Outputs | Scenarios | Customizing | Goal Seeker

Go to reference cell

Title	Address	Source
Amount of Payment	\$C\$13	Loan/D20

You can **add or remove scenarios**, and sort them by moving them left or right.

Scenario Analysis1
Author: JABOFT
Creation Date: 11/03/2010 11:32:46
Last Run Date: 11/03/2010 11:32:47

Titles	Active	High	Medium	Low
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000
Interest Rate	8.00%	8.00%	8.00%	8.00%
Term of Loan (Years)	10	10	10	10
Number of Payments (per Year)	12	12	12	12
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25

Goal Seeker Analysis	Active	High	Medium	Low
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726
Interest Rate	8.69%	28.14%	23.75%	2.39%
Term of Loan (Years)	9.55847245	3.8898454	4.56889041	15.6730246
Number of Payments (per Year)	11.4701669	4.66781448	5.47066849	18.6876296
Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00

Manage Scenario Analysis

Existing Basic Scenario Analysis in active workbook: Scenario Analysis1

Inputs | Outputs | Scenarios | Customizing | Goal Seeker

Enter scenarios' names separated by commas, example : High, Medium, Low

Scenario name	Address
Active	\$D\$6
High	\$E\$6
Medium	\$F\$6
Low	\$G\$6

Set this scenario as active in model Go to reference cell

You can also **customize advanced options** as well as apply customized macros and conditional formats to show if the inputs have been changed to the original or active values in the model.

Scenario Analysis1
Author: JABOFT
Creation Date: 11/03/2010 11:32:46
Last Run Date: 11/03/2010 11:32:47

Titles	Active	High	Medium	Low
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000
Interest Rate	8.00%	8.00%	8.00%	8.00%
Term of Loan (Years)	10	10	10	10
Number of Payments (per Year)	12	12	12	12
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25

Goal Seeker Analysis	Active	High	Medium	Low
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726
Interest Rate	8.69%	28.14%	23.75%	2.39%
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Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00

Manage Scenario Analysis

Existing Basic Scenario Analysis in active workbook: Scenario Analysis1

Inputs | Outputs | Scenarios | Customizing | Goal Seeker

Calculation
 Automatic Manual
 Automatic except tables
 Iteration
 Maximum iterations: 100
 Maximum change: 0.001

Logo in active scenarios' sheet
 Default
 Custom [jobsoft.com](http://www.jobsoft.com)
 Nothing
 Optionally you can insert an hyperlink in your logo
<http://www.jobsoft.com/>

Macros
 Macros in active workbook & Goal Seeker models to execute after run scenarios' sheet

Others
 Apply conditional formatting to differences in inputs

Save Close

You can also **customize goal seeker analysis** for scenario analysis.

Scenario Analysis1
Author: JABOFT
Creation Date: 11/03/2010 11:32:46
Last Run Date: 11/03/2010 11:32:47

Titles	Active	High	Medium	Low
Amount of loan	\$32,000	\$32,000	\$32,000	\$32,000
Interest Rate	8.00%	8.00%	8.00%	8.00%
Term of Loan (Years)	10	10	10	10
Number of Payments (per Year)	12	12	12	12
Amount of Payment	\$388.25	\$388.25	\$388.25	\$388.25

Goal Seeker Analysis	Active	High	Medium	Low
Amount of loan	\$32,969	\$65,937	\$57,695	\$24,726
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Amount of Payment (target value)	\$400.00	\$800.00	\$700.00	\$300.00

Manage Scenario Analysis

Existing Basic Scenario Analysis in active workbook: Scenario Analysis1

Inputs | Outputs | Scenarios | Customizing | Goal Seeker

Outputs to change: Amount of Payment
 Target values for outputs: 400/800/700/300

Changing the input cells
 Amount of loan
 Interest Rate
 Term of Loan (Years)
 Number of Payments (per Year)

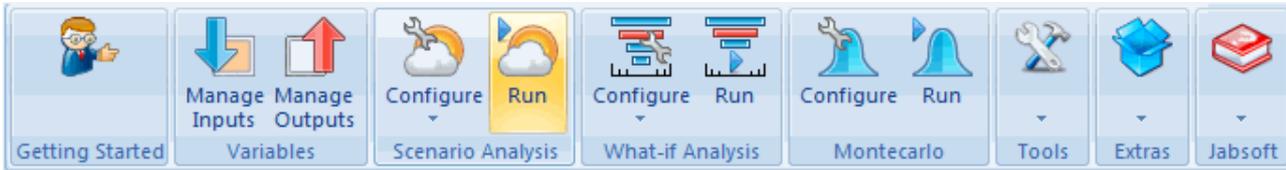
Paste results in: 'Scenario Analysis1'!C16
 Apply Goal Seeker for Scenario Analysis

Save Close



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Run Scenario Analysis



From this dialog, you can run directly any **Scenario Analysis** .

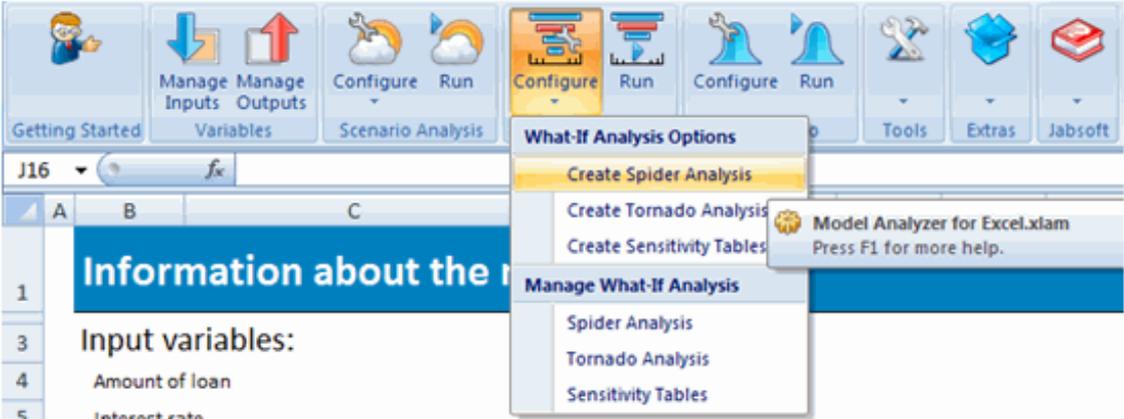
	A	C	D	E	F	G	H	I	J	K	
2	Scenario Analysis		Creation Date: 03/03/2010 06:03:45 p.m.							jobsoft.com	
3	Author: JABSOFT		Last Run Date: 03/03/2010 06:21:44 p.m.								
5											
6	Titles		Active	Scen. 1	Scen. 2	Scen. 3	Scen. 4	Scen. 5	Scen. 6	Scen. 7	
8	Amount of loan		\$32,000	\$31,000	\$33,000	\$35,000	\$37,000	\$39,000	\$41,000	\$43,000	
9	Interest Rate		8.00%	8.00%	8.50%	9.00%	9.50%	10.00%	10.50%	11.00%	
10	Term of Loan (Years)		10	11	12	13	14	15	16	17	
11	Number of Payments (per Year)		12	12	12	12	12	12	12	12	
12											
13	Amount of Payment		\$388.25	\$370.27	\$384.34	\$401.13	\$420.55	\$442.54	\$467.08	\$494.16	
14											
15											
16											
17											
18											
19											
20											
21											

Select the Scenario Analysis to Run

Scenario Analysis [Run]

Model analyzer For Excel

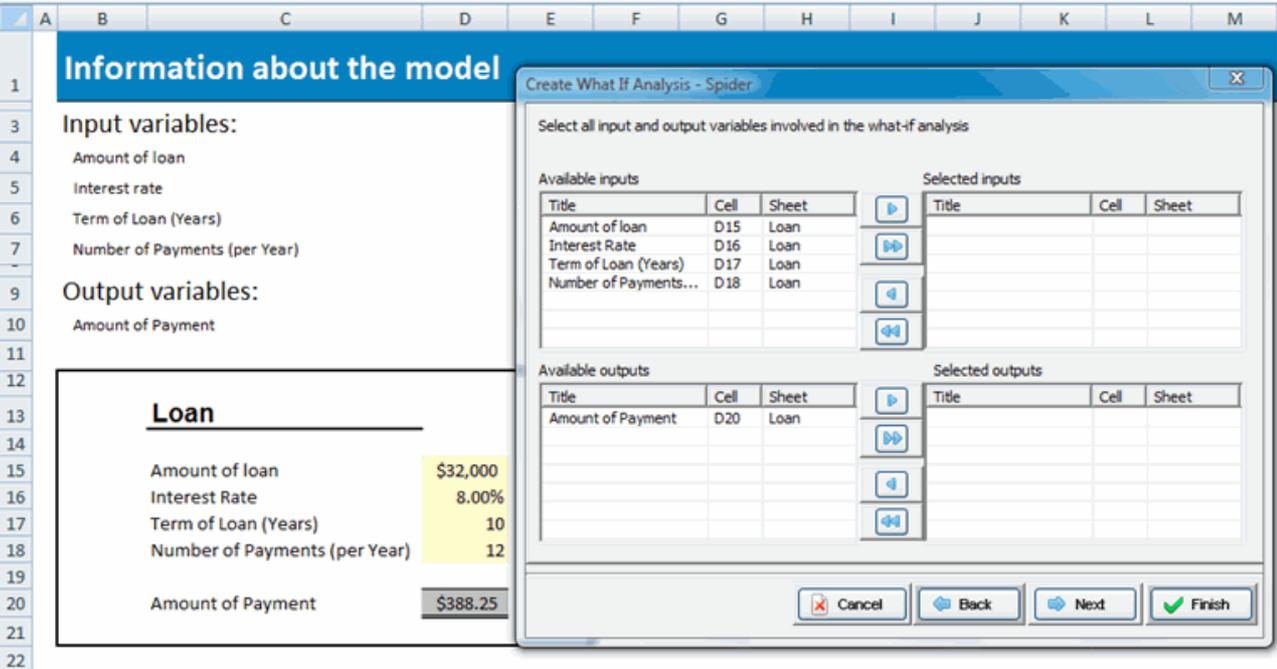
Create Spider Analysis



You can use this function to apply the same percent variation to all selected inputs from a base percentage value, an increase and top value.

It shows the impact of these percent changes on the selected output. In addition, it shows a spider chart, where you can see how the output variable changes with changes in the input variable and know if they change in the same or opposite direction.

You should first choose the input and output variables. You can select as many as 20 inputs and 1 output for each run.



Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create What If Analysis - Spider

Select all input and output variables involved in the what-if analysis

Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of loan	D15	Loan
			Interest Rate	D16	Loan
			Term of Loan (Years)	D17	Loan
			Number of Payments...	D18	Loan

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of Payment	D20	Loan

Buttons: Cancel, Back, Next, Finish

Then you should enter the initial, change, and final percent values for all input variables. Alternatively, you can save this spider analysis and rerun it from Run What-If Analysis . You can edit a saved model with Manage Spider Analysis .

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create What If Analysis - Spider

Options

Input changes (%):

Start: 50 Step: 10 Stop: 150

Generate Spider Chart

Spider analysis data

Model name: Spider Analysis Author: JABSOFT

Model description:

Save this analysis

Buttons: Cancel, Back, Next, Finish

The result is shown below.

Sensibility's analysis for "Amount of Payment"

Input Variables Values

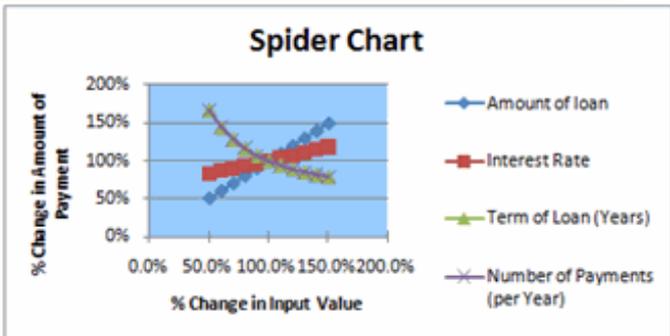
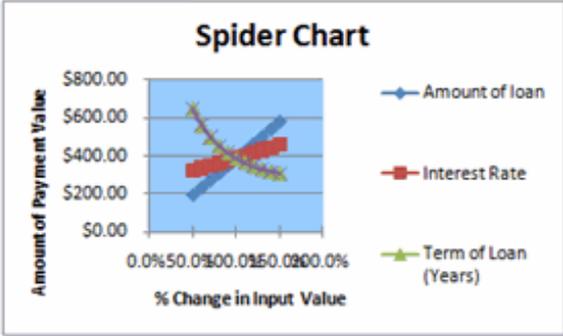
	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%	110.0%	120.0%	130.0%	140.0%	150.0%
Amount of loan	\$16,000	\$19,200	\$22,400	\$25,600	\$28,800	\$32,000	\$35,200	\$38,400	\$41,600	\$44,800	\$48,000
Interest Rate	4.00%	4.80%	5.60%	6.40%	7.20%	8.00%	8.80%	9.60%	10.40%	11.20%	12.00%
Term of Loan (Years)	5	6	7	8	9	10	11	12	13	14	15
Number of Payments	6	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18

Output Variable Values "Amount of Payment"

	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%	110.0%	120.0%	130.0%	140.0%	150.0%
Amount of loan	\$194.12	\$232.95	\$271.77	\$310.60	\$349.42	\$388.25	\$427.07	\$465.90	\$504.72	\$543.55	\$582.37
Interest Rate	\$323.98	\$336.29	\$348.87	\$361.73	\$374.85	\$388.25	\$401.91	\$415.83	\$430.00	\$444.43	\$459.11
Term of Loan (Years)	\$648.84	\$561.06	\$498.76	\$452.37	\$416.60	\$388.25	\$365.29	\$346.38	\$330.58	\$317.22	\$305.81
Number of Payments	\$648.84	\$561.06	\$498.76	\$452.37	\$416.60	\$388.25	\$365.29	\$346.38	\$330.58	\$317.22	\$305.81

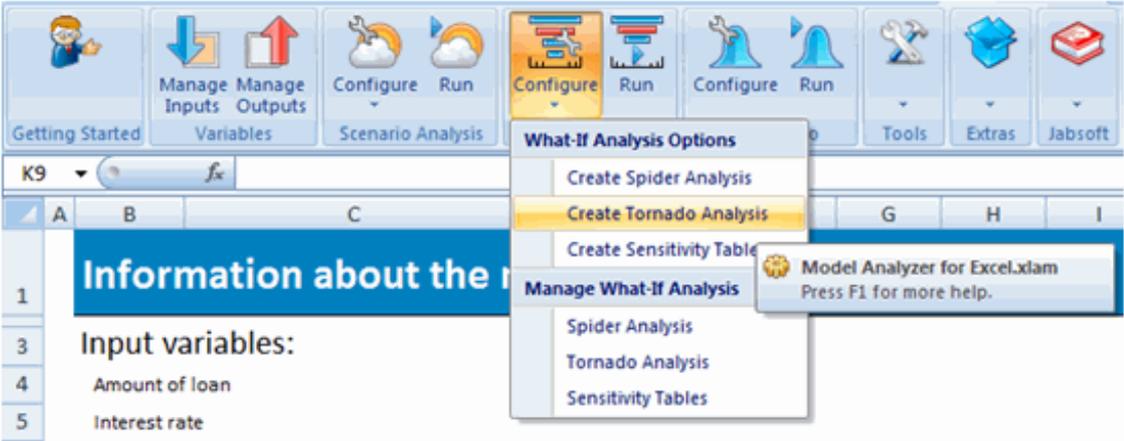
Output Variable Percent Variation "Amount of Payment"

	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%	110.0%	120.0%	130.0%	140.0%	150.0%
Amount of loan	50.00%	60.00%	70.00%	80.00%	90.00%	100.00%	110.00%	120.00%	130.00%	140.00%	150.00%
Interest Rate	83.45%	86.62%	89.86%	93.17%	96.55%	100.00%	103.52%	107.10%	110.75%	114.47%	118.25%
Term of Loan (Years)	167.12%	144.51%	128.46%	116.52%	107.30%	100.00%	94.09%	89.22%	85.15%	81.71%	78.77%
Number of Payments	167.12%	144.51%	128.46%	116.52%	107.30%	100.00%	94.09%	89.22%	85.15%	81.71%	78.77%



Model analyzer For Excel

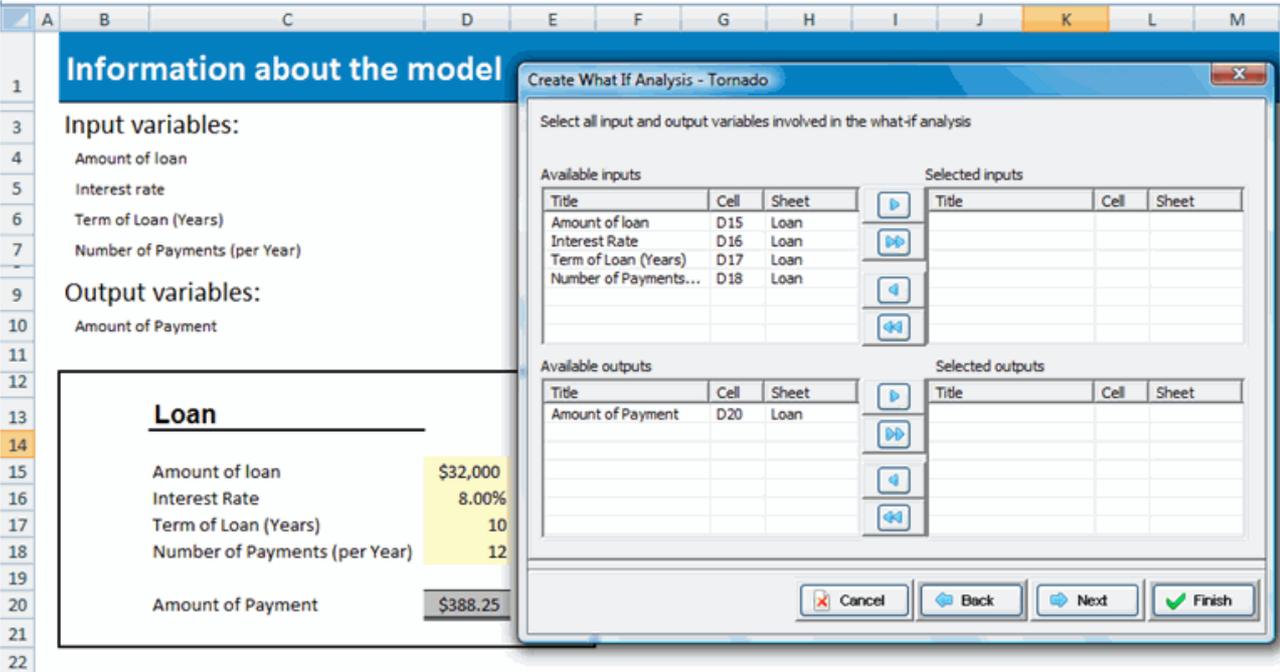
Create Tornado Analysis

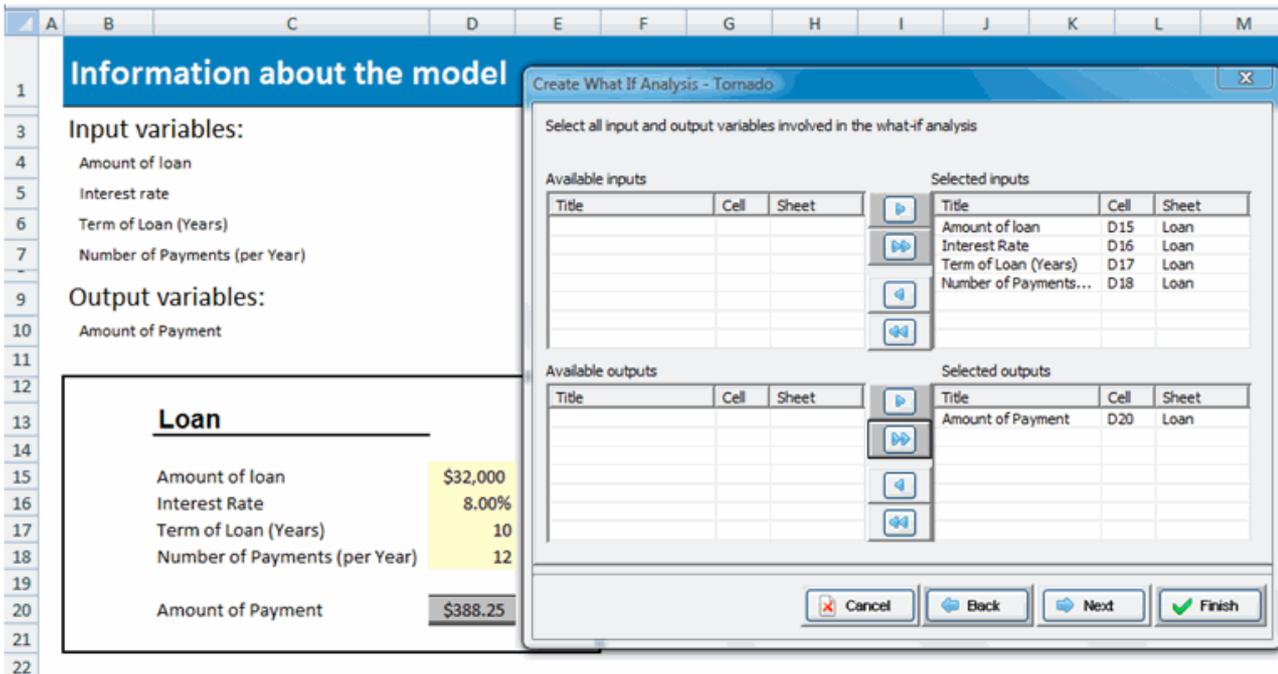


With it, you can apply to input variable values a percent variation to the left and another of the same size to the right. This allows you to immediately spot which inputs the resulting output variables are most sensitive to; in addition, you can see a chart that shows the input variables ordered from the most to the least impact on the output.

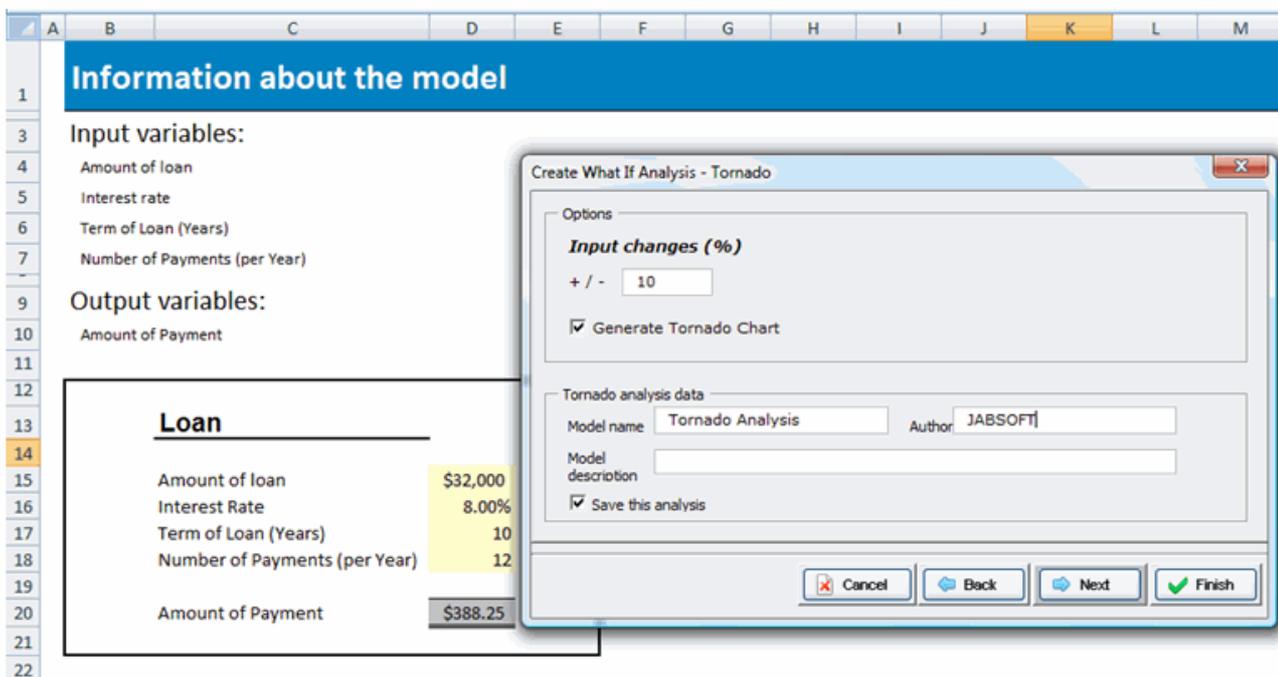
You will find this tool helpful when you don't know which variables should be handled more carefully on account of the resulting variations in the model, as a small change in them may have large impact on the output.

You should first select the input variables and the output variable, as shown in the screenshots below. You can work with as many as 20 inputs and 1 output each time you run the tool.





When you click Next, a dialog will pop up as that shown below. Here you can modify the default percent change value for all inputs. In addition, you can save the tornado analysis and rerun it with Run What-If Analysis . You can edit a saved model with Manage Tornado Analysis .

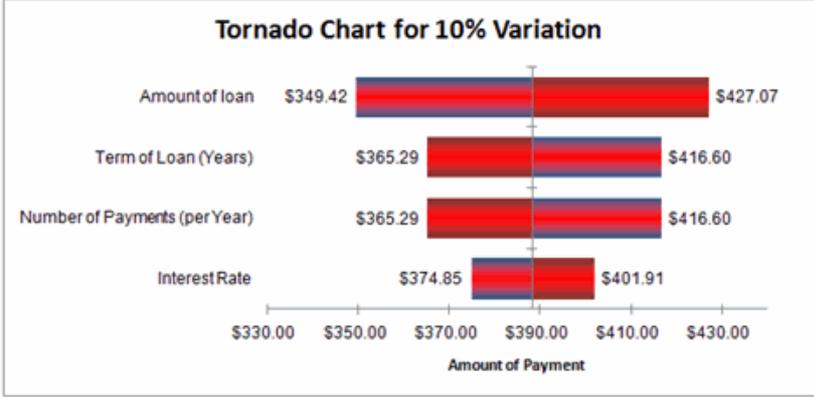


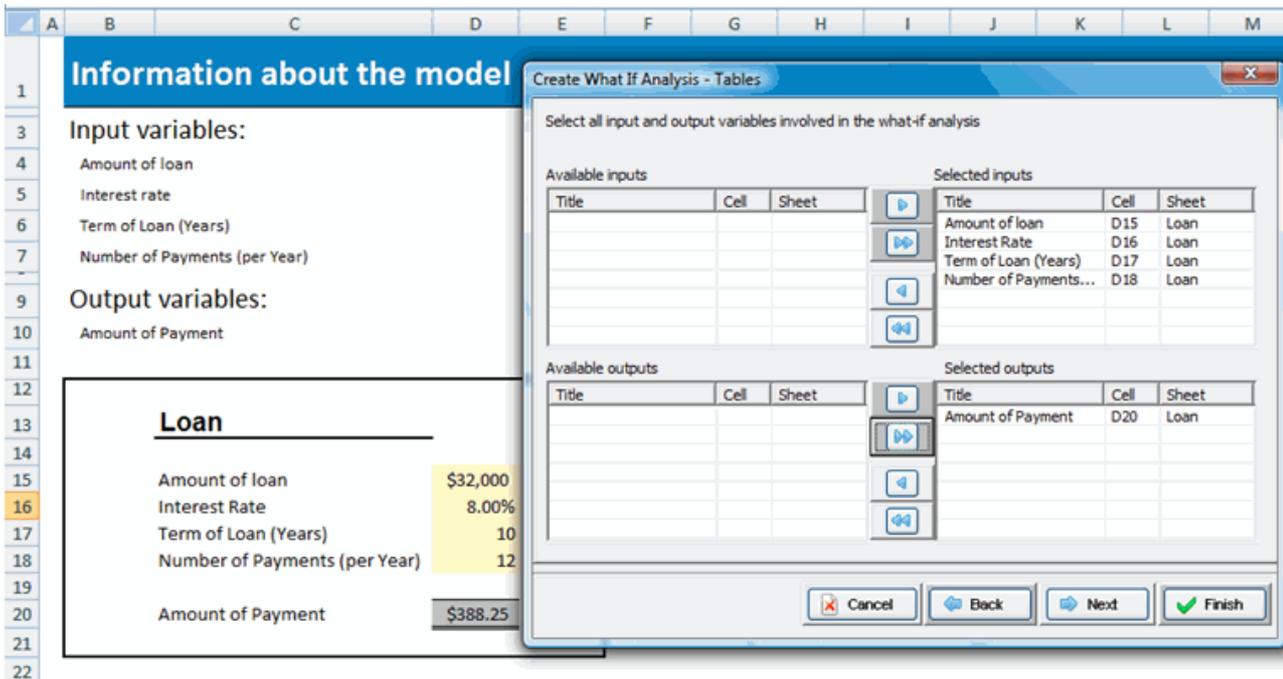
You can see the result in the following image.

1
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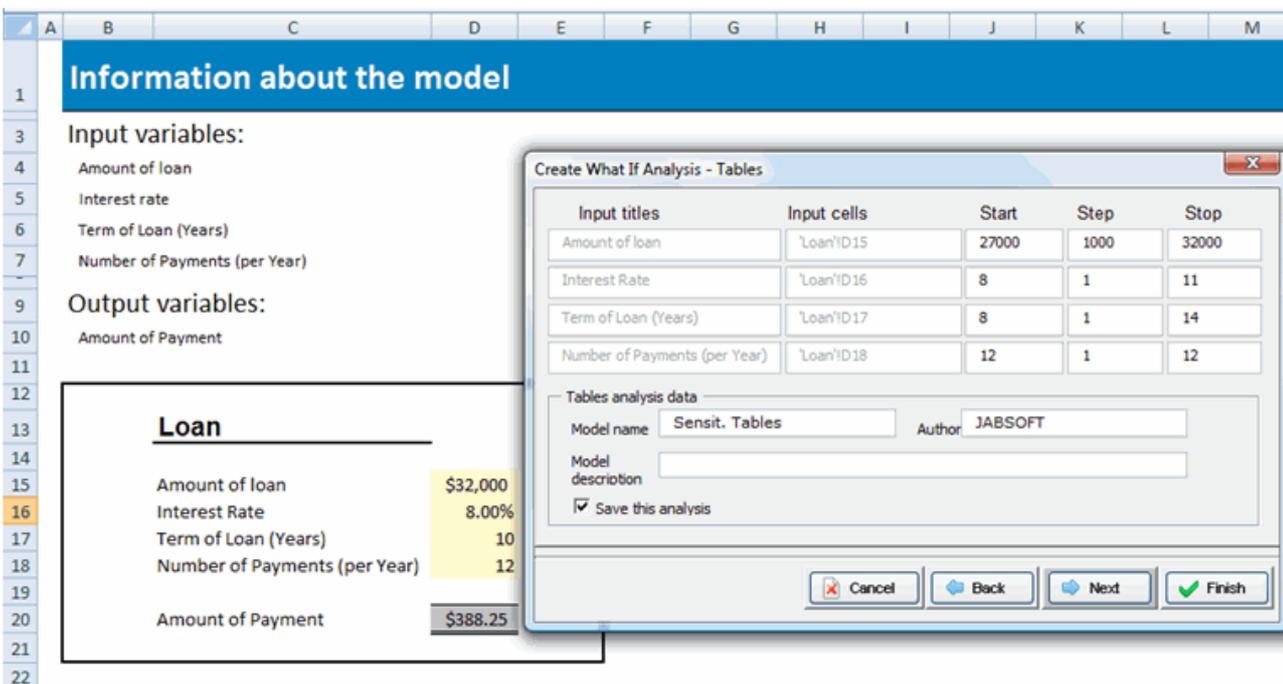
Sensitivity's analysis for variations of 10% to input values

Input Variables	Input Values			Output Values "Amount of Payment"			Low Variation	High Variation	Absolute Variance	Percent Variance
	Low	Base	High	Low	Base	High				
Amount of loan	\$28,800	\$32,000	\$35,200	\$349.42	\$388.25	\$427.07	-10.0%	10.0%	\$77.65	50.14%
Term of Loan (Years)	9	10	11	\$416.60	\$388.25	\$365.29	7.3%	-5.9%	\$51.30	21.89%
Number of Payments (per Year)	10.8	12	13.2	\$416.60	\$388.25	\$365.29	7.3%	-5.9%	\$51.30	21.89%
Interest Rate	7.20%	8.00%	8.80%	\$374.85	\$388.25	\$401.91	-3.4%	3.5%	\$27.05	6.09%





Now click Next. A dialog will pop up where you can enter the change rate values for each input variable. Alternatively, you can save this data analysis to run it directly later with Run What-If Analysis . You can edit a saved model with Manage Sensitivity Tables .



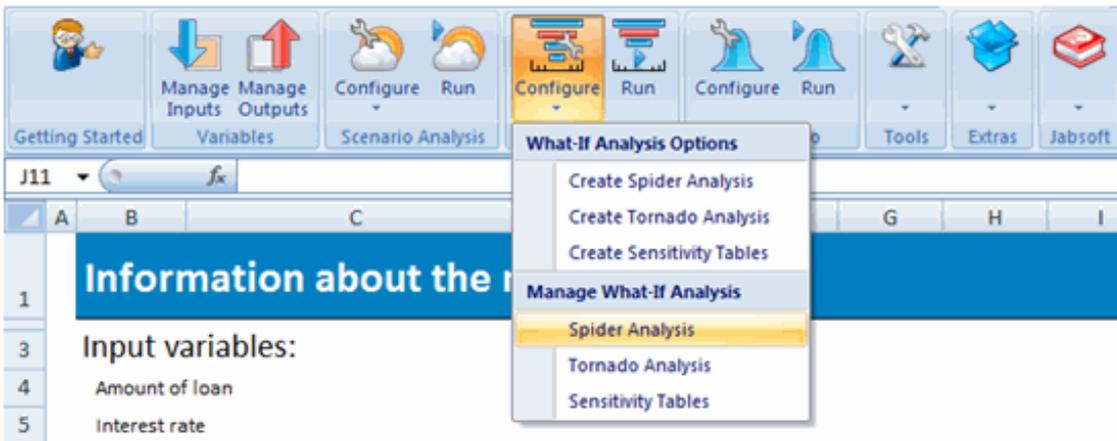
You can see the result in the following image. As you can see, changes in the outputs are shown after input changes are made; with this information, you can find the set of values most adequate for your decision making.

	A	B	C	D	E	F
1						
2		Sensibility's analysis				
3						
4		Amount of loan	Interest Rate	Term of Loan (Years)	Number of Payments (per Year)	Amount of Payment
5		\$27,000	8.00%	8	12	\$381.69
6		\$27,000	8.00%	9	12	\$351.51
7		\$27,000	8.00%	10	12	\$327.58
8		\$27,000	8.00%	11	12	\$308.22
9		\$27,000	8.00%	12	12	\$292.26
10		\$27,000	8.00%	13	12	\$278.93
11		\$27,000	8.00%	14	12	\$267.66
12		\$27,000	9.00%	8	12	\$395.56
13		\$27,000	9.00%	9	12	\$365.66
14		\$27,000	9.00%	10	12	\$342.02
15		\$27,000	9.00%	11	12	\$322.94
16		\$27,000	9.00%	12	12	\$307.27
17		\$27,000	9.00%	13	12	\$294.21
18		\$27,000	9.00%	14	12	\$283.21
19		\$27,000	10.00%	8	12	\$409.70
20		\$27,000	10.00%	9	12	\$380.12
21		\$27,000	10.00%	10	12	\$356.81
22		\$27,000	10.00%	11	12	\$338.04
23		\$27,000	10.00%	12	12	\$322.67
24		\$27,000	10.00%	13	12	\$309.92
25		\$27,000	10.00%	14	12	\$299.21
26		\$27,000	11.00%	8	12	\$424.13
27		\$27,000	11.00%	9	12	\$394.90
28		\$27,000	11.00%	10	12	\$371.93
29		\$27,000	11.00%	11	12	\$353.49
30		\$27,000	11.00%	12	12	\$338.46
31		\$27,000	11.00%	13	12	\$326.03
32		\$27,000	11.00%	14	12	\$315.64
33		\$28,000	8.00%	8	12	\$395.83
34		\$28,000	8.00%	9	12	\$364.52
35		\$28,000	8.00%	10	12	\$339.72



Model analyzer For Excel

Manage Spider Analysis



You can edit any spider data analysis you have saved.
The following dialog will pop up:

Information about the model	
Input variables:	
Amount of loan	
Interest rate	
Term of Loan (Years)	
Number of Payments (per Year)	
Output variables:	
Amount of Payment	

<u>Loan</u>	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Select an item of the list and the dialogs will appear as those when you created the spider analysis, just follow the wizard.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create What If Analysis - Spider

Select all input and output variables involved in the what-if analysis

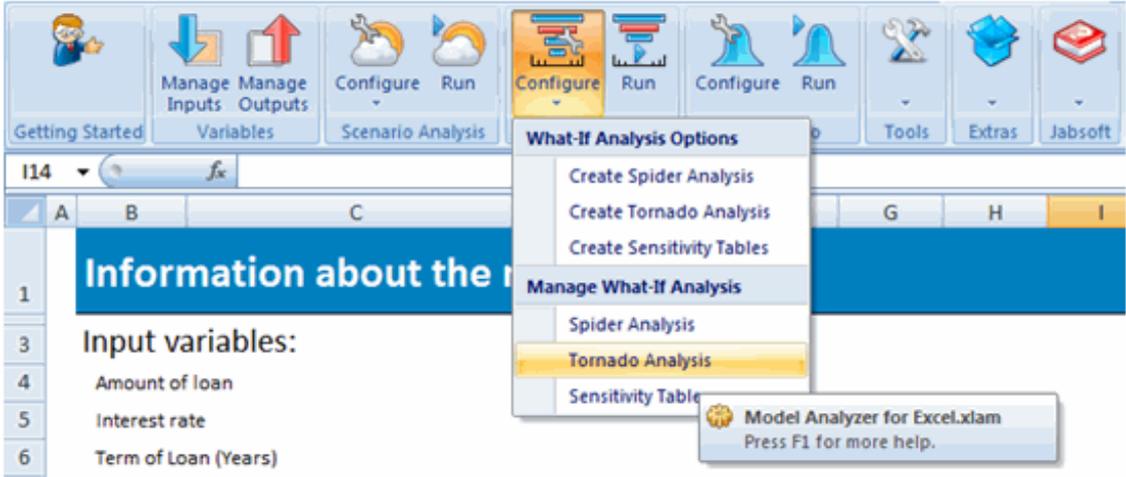
Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of loan	D15	Loan
			Interest Rate	D16	Loan
			Term of Loan (Years)	D17	Loan
			Number of Payments...	D18	Loan

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of Payment	D20	Loan

Buttons: Cancel, Back, Next, Save

Model analyzer For Excel

Manage Tornado Analysis



You can edit any tornado data analysis you have saved. The following dialog will pop up.

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Select an item from the list and the same dialogs will appear as those when you created the tornado analysis, just follow the wizard.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Create What If Analysis - Tornado

Select all input and output variables involved in the what-if analysis

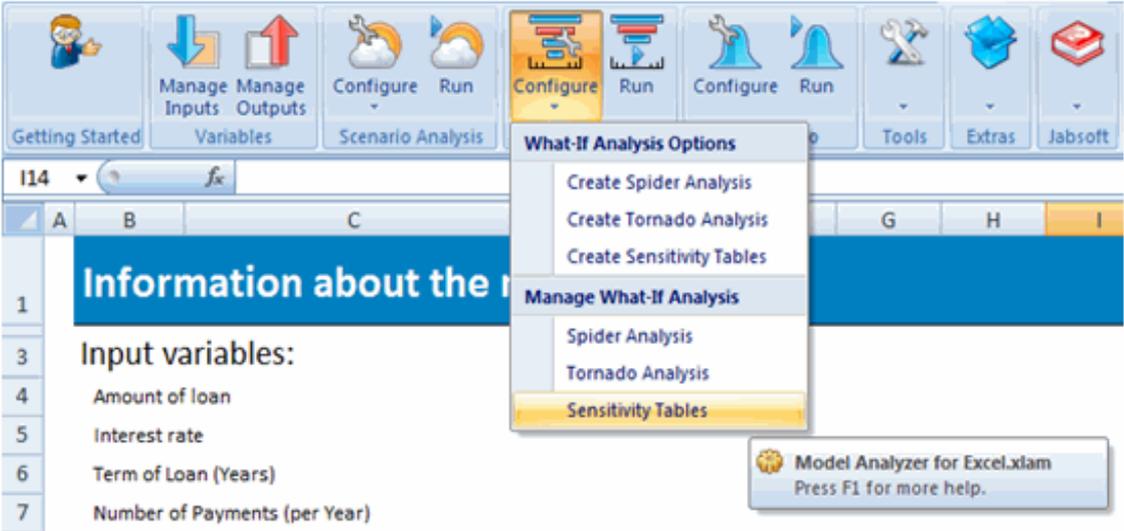
Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of loan	D15	Loan
			Interest Rate	D16	Loan
			Term of Loan (Years)	D17	Loan
			Number of Payments...	D18	Loan

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of Payment	D20	Loan

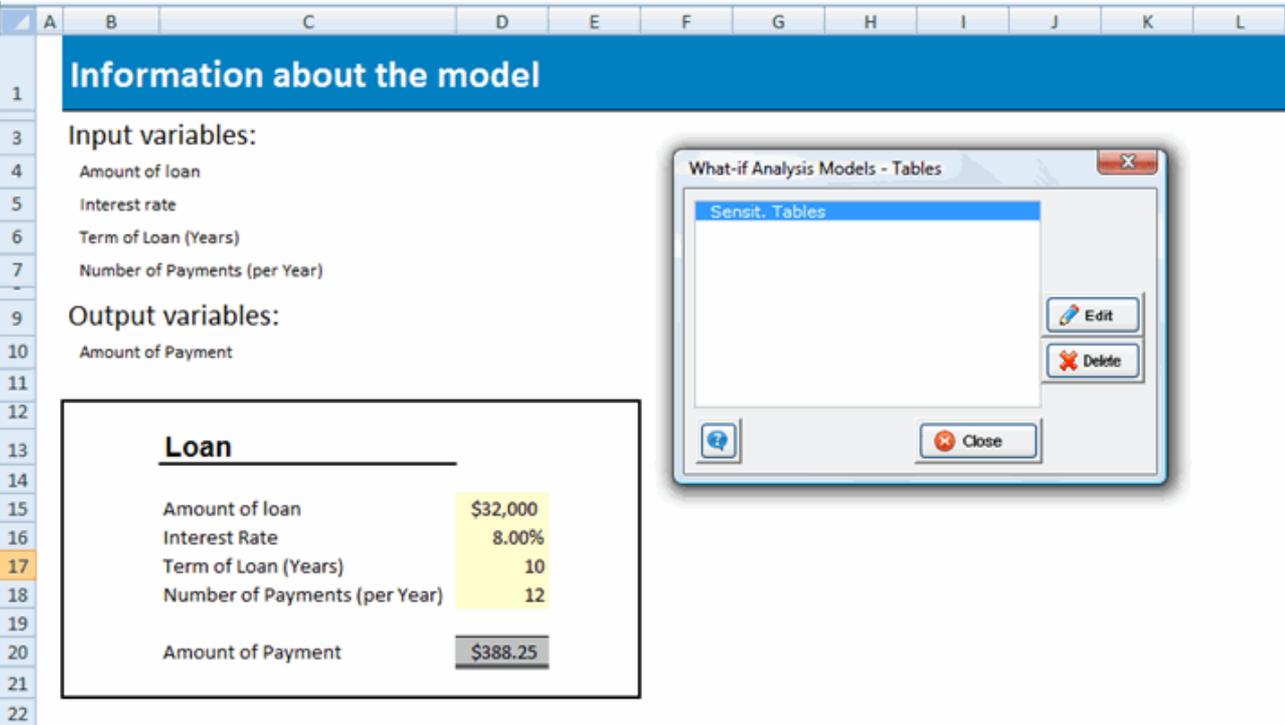
Cancel Back Next Save

Model analyzer For Excel

Manage Sensitivity Tables



You can edit any sensitivity tables data analysis you have saves. The following dialog will pop up:



Select an item from the list and the same dialogs will appear as those when you created the sensitivity tables analysis, just follow the wizard.

1

2

3 **Information about the model**

4 **Input variables:**

5 Amount of loan

6 Interest rate

7 Term of Loan (Years)

8 Number of Payments (per Year)

9 **Output variables:**

10 Amount of Payment

11

12

13 **Loan**

14

15 Amount of loan \$32,000

16 Interest Rate 8.00%

17 Term of Loan (Years) 10

18 Number of Payments (per Year) 12

19

20 Amount of Payment \$388.25

21

22

Create What If Analysis - Tables

Select all input and output variables involved in the what-if analysis

Available inputs			Selected inputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of loan	D15	Loan
			Interest Rate	D16	Loan
			Term of Loan (Years)	D17	Loan
			Number of Payments...	D18	Loan

Available outputs			Selected outputs		
Title	Cell	Sheet	Title	Cell	Sheet
			Amount of Payment	D20	Loan

Cancel Back Next Save

Model analyzer For Excel

Run What-if Analysis



From this dialog, you can run directly any What-If data analysis you have saved; just select the type of data analysis and all items of that type will be listed for you to select and run.

	A	B	C	D	E	F	G	H	I	J	K	L												
1	Information about the model																							
3	Input variables:																							
4	Amount of loan																							
5	Interest rate																							
6	Term of Loan (Years)																							
7	Number of Payments (per Year)																							
9	Output variables:																							
10	Amount of Payment																							
13	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">Loan</td> </tr> <tr> <td style="width: 70%;">Amount of loan</td> <td style="text-align: right;">\$32,000</td> </tr> <tr> <td>Interest Rate</td> <td style="text-align: right;">8.00%</td> </tr> <tr> <td>Term of Loan (Years)</td> <td style="text-align: right;">10</td> </tr> <tr> <td>Number of Payments (per Year)</td> <td style="text-align: right;">12</td> </tr> <tr> <td>Amount of Payment</td> <td style="text-align: right; background-color: #cccccc;">\$388.25</td> </tr> </table>												Loan		Amount of loan	\$32,000	Interest Rate	8.00%	Term of Loan (Years)	10	Number of Payments (per Year)	12	Amount of Payment	\$388.25
Loan																								
Amount of loan	\$32,000																							
Interest Rate	8.00%																							
Term of Loan (Years)	10																							
Number of Payments (per Year)	12																							
Amount of Payment	\$388.25																							

Run What-If Analysis Models

Spider Models

- Spider Models
- Tornado Models
- Tables Models

Run

Close

Important: the results of this section will replace the results sheet you had created initially. Be careful with this, because you will lose any values contained in the sheet created originally.

Montecarlo



A little bit of theory

Simulation with Model Analyzer for Excel uses the Monte Carlo technique. With this technique, random values are generated for the input variables so we can see their impact on output variables, thus generating thousands of parallel scenarios.

To do this, you first have to relate the input variable with which you want to run the analysis with certain types of probability distributions. A probability distribution shows all possible results of a random experiment and the probability of each result, precisely, the random values generated by the Monte Carlo technique.

This version of Model Analyzer for Excel has five types of common probability distributions available:

- Normal
- Triangular
- Uniforme
- Poisson
- Logística
- Discreta

For example, if you have the variable people's height or weight, you will soon realize that most values tend towards a central value, the mean, and the farther away the values, the smaller their probability; in this case, you could use the **Normal** distribution.

If, for example, you have the variables sales price, production costs, interest rates, and similar, each susceptible of taking three values -a minimum, a most likely and a maximum value- in this case you can use a **Triangular** distribution, as suggested by its name.

If, on the contrary, there is no central value as in the normal distribution, but rather all values within a range have the same probability of being chosen, then you can use the **Uniform** distribution. Consider for example that fuel prices may range between 100 and 120 dollars the barrel in the coming two years, then the possible values 100, 101, 102, ..., 120 have the same probability of occurrence; that is, none of them is more likely to occur.

To exemplify a variable that follows the Poisson distribution, consider the following case: You know, based on historical information of your company, that every customer's purchase has 1.2% chance of resulting in a complaint for any reason. Based on this data, you may analyze and determine the probability that 5 complaints will occur from 800 sales. You should think of applying Poisson here. The Poisson distribution is applicable when there is a large number of experiments or events with a very low probability of occurring. The following parameters apply:

n: "number of times the experiment is performed".

p: "probability of occurrence each time".

The restrictions to apply **Poisson** are:

$p < 10\%$
 $n * p < 10$

If your input variable meets these characteristics, then you can apply Poisson.

For variables with temporary growth, such as demographic variables, for example, the growth of bacteria populations- you can apply the **Logistic** distribution.

You should use the **Discrete** distribution when you have variables with a definite number of probable values, and the sum of their probabilities add up to 100%.

With Model Analyzer for Excel, you will find simulations uncomplicated; the only thing you need to do is to identify the type of input variables and define their parameters, and now you're ready to perform simulations. We do not intend to give you an advance course on statistical distributions-there are plenty of books on this already that you can purchase. If this subject is new to you, it would be convenient for you to read about the types of distributions handled in this version of Model Analyzer for Excel.

How to do a simulation

First you have to relate the input variables involved in the experiment to the type of distribución most suitable for such variables, and enter the required parameters. In the following dialog, select the input and click the **Assign the type of distribution** button to assign parameters.

The screenshot shows the 'Information about the model' dialog box in Excel. It lists input variables and output variables. The 'Input variables' section includes: Amount of loan, Interest rate, Term of Loan (Years), and Number of Payments (per Year). The 'Output variables' section includes: Amount of Payment. A secondary dialog box, 'Setting up the types of distributions for input variables', is open, showing a table of input variables and their assigned distributions. The 'Assign the type of distribution' button is highlighted. A third dialog box, 'Input: Amount of loan', is open, showing the 'Triangular' distribution parameters: min (27000), m. likely (30000), and max (32000). A red triangle is displayed in the center of this dialog box.

Type	Cell	Sheet	Value	Distribution
Amount of loan	D15	Loan	\$32,000	Triangular (27000; 30000; 32000)
Interest Rate	D16	Loan	8.00%	Triangular (0.07; 0.08; 0.11)
Term of Loan (Years)	D17	Loan	10	(Empty)
Number of Payments (per ...)	D18	Loan	12	(Empty)

The required parameters for each type of distribution are:

Order of the distributions parameters.

Normal {mean; std.dev.; [tr.min]; [tr.max]}

Triangular {min; m.likely; max; [tr.min]; [tr.max]}

Uniform {min; max}

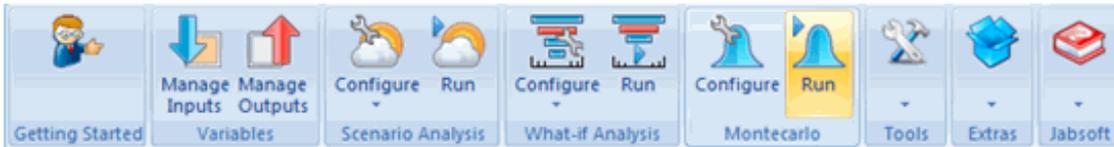
Logistic {alpha; beta}

Poisson {lambda}

Discrete {{val1, val2, val3, val4, val5, val6};

{prob1,prob2,prob3,prob4,prob5,prob6}}

The second step is to run the simulation, which prompts you to specify the number of simulations. With Model Analyzer for Excel you can complete as many as 1,000,000 simulations for each experiment. In the following case, only 1000 will be performed.

A screenshot of an Excel spreadsheet showing the 'Information about the model' section. It lists input variables (Amount of loan, Interest rate, Term of Loan (Years), Number of Payments (per Year)) and output variables (Amount of Payment). A 'Running the simulation' dialog box is overlaid, prompting for the number of simulations (1000). Below the spreadsheet, a 'Loan' summary table shows the results: Amount of loan (\$32,000), Interest Rate (8.00%), Term of Loan (Years) (10), Number of Payments (per Year) (12), and Amount of Payment (\$388.25).

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Once the simulation is completed, the results are shown in a window as the following:

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan

- Amount of loan: \$32,000
- Interest Rate: 8.00%
- Term of Loan (Years): 10
- Number of Payments (per Year): 12
- Amount of Payment: \$388.25

Simulation reports

Choose the variable to show simulation results. You will see the results of both input and output variables. The results will be sent to a new sheet.

Inputs # Inputs = 2

Title	Cell	Sheet	Value	Distribution
Amount of loan	D15	Loan	32000	Triangular (27000; 30...
Interest Rate	D16	Loan	0.08	Triangular (0.07; 0.08...

Outputs # Outputs = 1

Title	Cell	Sheet
Amount of Payment	D20	Loan

Buttons: Minimize Window, Close

Just select an output and click the  button to show the results for the distribution.

Variable's name: Amount of Payment **Simulation date:** 11/03/2010 14:43

Sheet: Loan **# of Simulations:** 1000

Cell: D20

Statistics of the simulation.

Central Tendency

- Mean: \$371.15
- Median: \$369.76
- StErr: 0.602160302

Spread

- Max: \$426.72
- Min: \$318.15
- Range: \$108.57
- StDev: 19.04198071

Shape

- Skewness: 0.174363785
- Kurtosis: -0.23729031

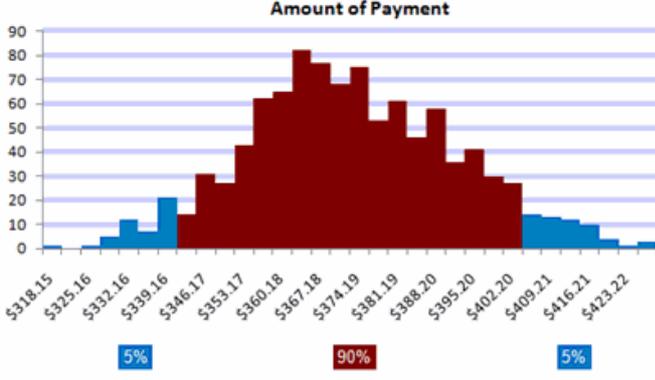
Probabilities

- Left X: \$340.58
- Left P: 5%
- Right X: \$403.64
- Right P: 5%
- Dif. X: \$63.05
- Dif. P: 90%

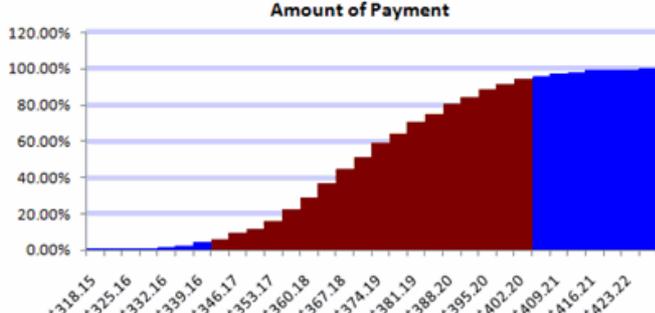
Percentiles

- Percentil 1%: \$329.28
- Percentil 2%: \$332.78
- Percentil 3%: \$336.82
- Percentil 4%: \$338.39
- Percentil 5%: \$340.58
- Percentil 6%: \$342.45
- Percentil 7%: \$344.16
- Percentil 8%: \$344.83
- Percentil 9%: \$346.05
- Percentil 10%: \$347.16
- Percentil 11%: \$348.63
- Percentil 12%: \$349.93
- Percentil 13%: \$350.60
- Percentil 14%: \$351.20
- Percentil 15%: \$352.26
- Percentil 16%: \$353.04
- Percentil 17%: \$353.61
- Percentil 18%: \$354.54
- Percentil 19%: \$354.84

Amount of Payment



Amount of Payment



Data

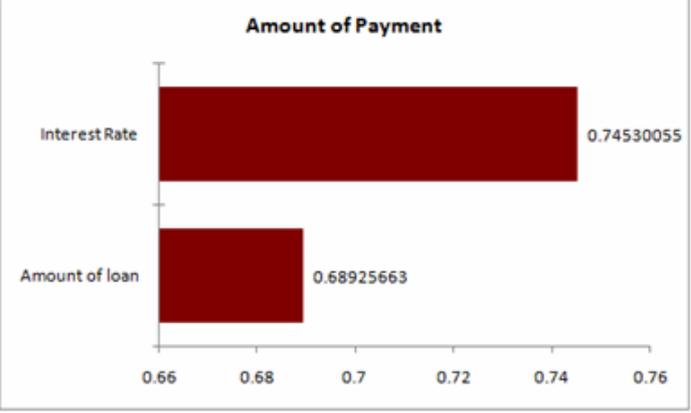
- \$337.96
- \$366.66
- \$370.66
- \$344.78
- \$404.57
- \$356.45
- \$362.95
- \$364.52
- \$401.80
- \$379.85
- \$366.31
- \$379.74
- \$396.07
- \$356.20
- \$368.47
- \$368.48
- \$389.64
- \$345.59
- \$412.18
- \$378.78
- \$344.25
- \$360.93
- \$391.94
- \$351.69
- \$391.00
- \$376.48
- \$397.32
- \$368.65
- \$387.90
- \$396.72
- \$380.08
- \$359.81
- \$386.30
- \$360.47
- \$376.82
- \$357.90
- \$364.50
- \$376.69
- \$382.98

You can also select an output and press the  button to show a tornado chart, which shows the relative importance of each input for the output variable, through a correlation between all inputs and the output, as shown below:

Variable's name: Amount of Payment Simulation date: 11/03/2010 14:45
Sheet: Loan
Cell: D20

Inputs Correlations Tornado Graph

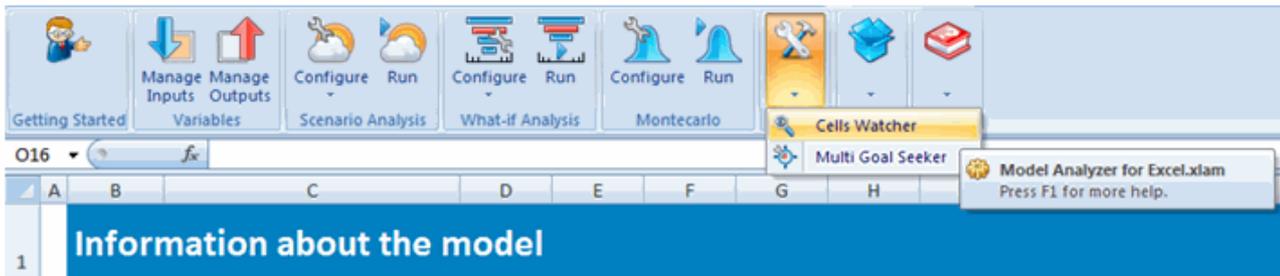
Interest R 0.74530055
Amount of 0.68925663



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Model analyzer For Excel

Cells Watcher



With this tool you can change inputs directly in your model in Excel and see the changes in real time. Then you can undo all changes and reset the original values; this will be possible as long as you do not close the cells watcher dialog. This is a very useful tool when you want to change the inputs in large models, where a centralized analysis of inputs and outputs cannot be done.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Cells Watcher

Show Address

Title	Value
Amount ...	\$388.25

Show Address

Title	Value
Amount ...	\$32,000
Interest ...	8.00%
Term of ...	10
Number ...	12

Interval of Change: 0.1

Go to reference cell

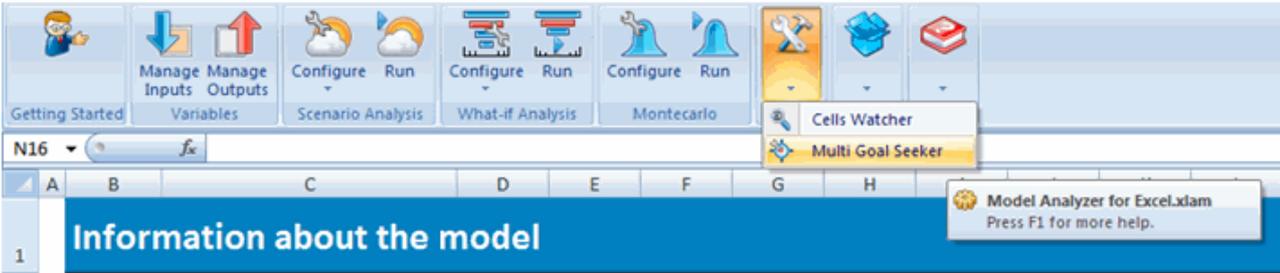
Reset original values to:

Selected Input

All Inputs

Model analyzer For Excel

Create Goal Seeker Analysis



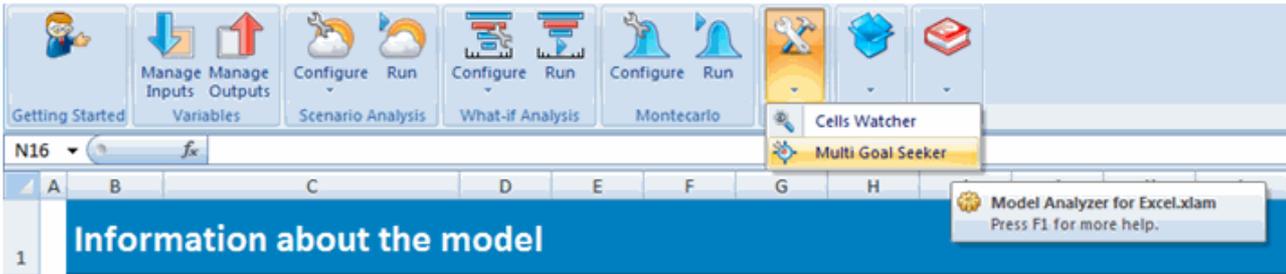
With this function you can find the input values required to get certain target output values. As shown in the following screenshot, you need to have the target values in rows with the same number of columns as the inputs.

Information about the model	
Input variables:	
Amount of loan	
Interest rate	
Term of Loan (Years)	
Number of Payments (per Year)	
Output variables:	
Amount of Payment	
Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25
Target values	\$400.00
	\$500.00

Alternatively, you can save this data analysis and rerun it from Run Multi Goal Seeker Analysis .

Model analyzer For Excel

Create Breakeven Analysis



Use this function to find the breakeven point, where outputs reach "zero". Evidently, this depends on the input involved.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Breakeven dialog box:

- Define the cell/range to change: Loan!\$D\$20
- Changing the cell/range: Loan!\$D\$15
- Save this analysis:
- Model Name: BreakEv1
- Short description:

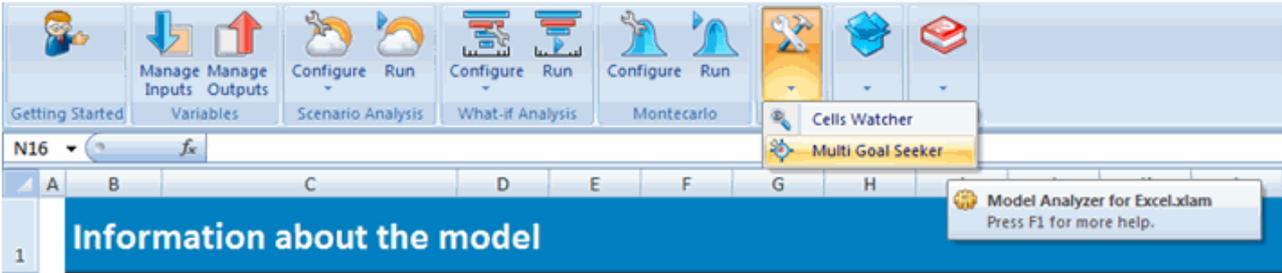
The following image shows the results obtained after applying the tool. In this case, you can see what the Price per Unit should be for the Gross Profit to reach the breakeven point.

	A	B	C	D	E	F	G	H	I	J	K												
1	Information about the model																						
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4	Amount of loan																						
5	Interest rate																						
6	Term of Loan (Years)																						
7	Number of Payments (per Year)																						
9	Output variables:																						
10	Amount of Payment																						
12	<table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2"><u>Loan</u></td> </tr> <tr> <td style="padding: 5px;">Amount of loan</td> <td style="text-align: right; padding: 5px;">\$0</td> </tr> <tr> <td style="padding: 5px;">Interest Rate</td> <td style="text-align: right; padding: 5px;">8.00%</td> </tr> <tr> <td style="padding: 5px;">Term of Loan (Years)</td> <td style="text-align: right; padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">Number of Payments (per Year)</td> <td style="text-align: right; padding: 5px;">12</td> </tr> <tr> <td style="padding: 5px;">Amount of Payment</td> <td style="text-align: right; padding: 5px; background-color: #cccccc;">\$0.00</td> </tr> </table>											<u>Loan</u>		Amount of loan	\$0	Interest Rate	8.00%	Term of Loan (Years)	10	Number of Payments (per Year)	12	Amount of Payment	\$0.00
<u>Loan</u>																							
Amount of loan	\$0																						
Interest Rate	8.00%																						
Term of Loan (Years)	10																						
Number of Payments (per Year)	12																						
Amount of Payment	\$0.00																						
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Alternatively, you can save this data analysis and rerun it from Run Multi Goal Seeker Analysis .

Model analyzer For Excel

Manage Goal Seeker Analysis



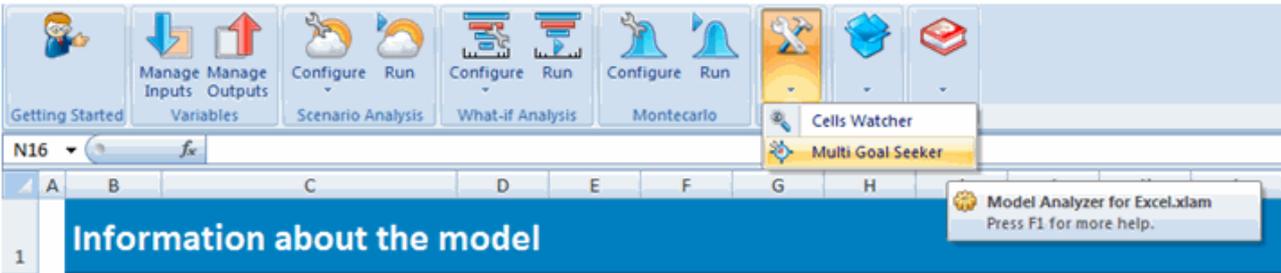
With this tool you can edit any saved data analysis created with Create Goal Seeker Analysis . The following dialog will pop up; select the data analysis to edit from the list.

The screenshot shows an Excel spreadsheet with a loan model. The 'Information about the model' header is at the top. Below it, 'Input variables' and 'Output variables' are listed. A table summarizes the loan details. The 'Goal Seeker Models' dialog box is open, showing a list with 'GS1' selected and 'Edit' and 'Delete' buttons.

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Model analyzer For Excel

Manage Breakeven Analysis



With this tool you can edit any saved data analysis created with Create Breakeven Analysis . The following dialog will pop up; select the data analysis to edit from the list.

Information about the model

Input variables:

- Amount of loan
- Interest rate
- Term of Loan (Years)
- Number of Payments (per Year)

Output variables:

- Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

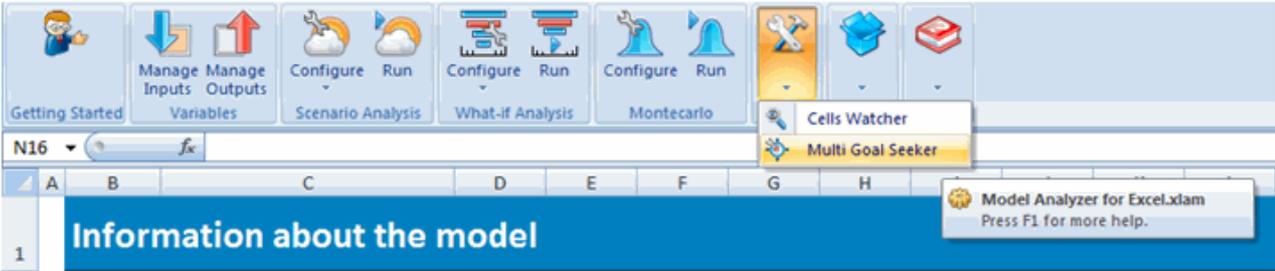
Breakeven Models

- BreakEv1

Buttons: Edit, Delete, Close

Model analyzer For Excel

Run Multi Goal Seeker Analysis



Any data analysis created and saved with Create Goal Seeker Analysis and Create Breakeven Analysis may be run directly from this dialog. Select the type of data analysis and all items of that type will be listed so you can run any of them.

Information about the model

1

3 **Input variables:**

4 Amount of loan

5 Interest rate

6 Term of Loan (Years)

7 Number of Payments (per Year)

9 **Output variables:**

10 Amount of Payment

Loan	
Amount of loan	\$32,000
Interest Rate	8.00%
Term of Loan (Years)	10
Number of Payments (per Year)	12
Amount of Payment	\$388.25

Run Goal Seeker Models

Goal Seeker Models

Goal Seeker Models

Breakeven Models

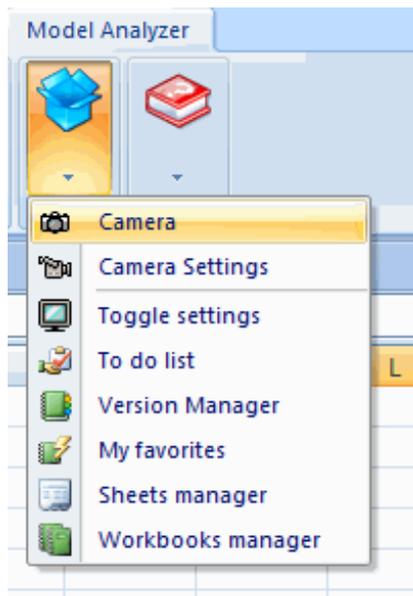
Run

Close

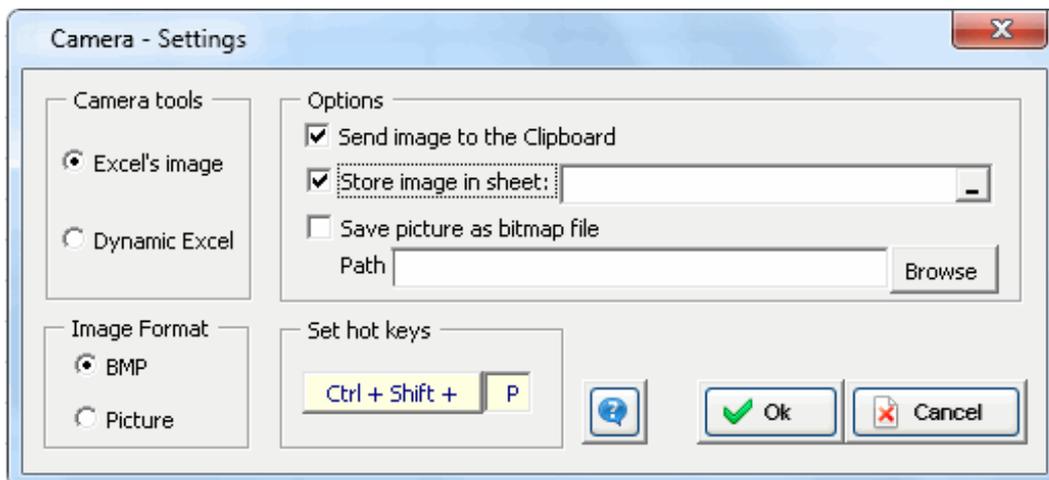
Camera -

Accessing in Excel 2007

From the **Model Analyzer ribbon** select Extras/ Camera settings.



This settings dialog will appear:



There are two option buttons in the **Camera Tools** frame: **Excel's image** and **Dynamic**. Choose any.

Then, in the **Options** frame select:

Send image to the Clipboard to send an image to the Clipboard **Store image in sheet** to paste an image in the cell of your choice **Save picture in file** to save an image in a file, to select the folder the image will be saved in. Click **Browse** to open a dialog showing folders and name your file.

Under **Image Format**, select the image format: **BMP** or **Picture**.

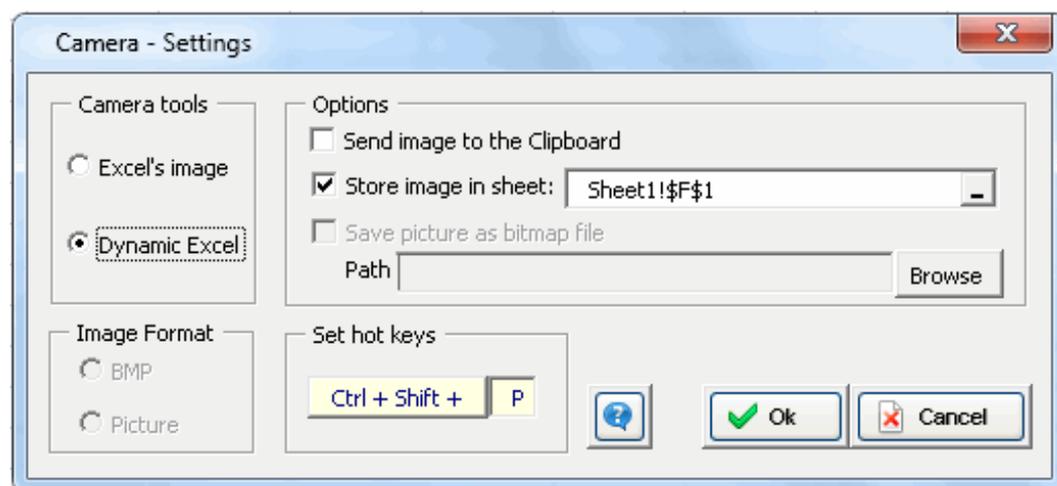
Then click **Apply** to save the settings. You may also set a keyboard shortcut with **Set hot keys**. Set the combination of keystrokes by entering a letter in the text box (**P** is the default) and then click **Close**.
Once the settings are completed and saved, you can use this tool by clicking the Camera icon and selecting a range.

Example

For example, if you have an Excel spreadsheet range with this data:

	A	B	C	D	E	F
1						
2						
3			Product A	Product B		Product A Product B
4		2000	200	300		2000 200 300
5		2001	150	200		2001 150 200
6		2002	100	150		2002 100 150
7		2003	50	75		2003 50 75
8		Total	500	725		Total 500 725
9						

Choose these settings: **Dynamic Excel**, **Store image in sheet** and **H88** as the target cell. Save the settings and close the dialog.



Select a range as shown in the example and click the Camera icon .
The range is copied as a dynamic image in the target cell selected, F2 in this example.
Any changes in the source range will be reflected in the target image.



Toggle



We often lose valuable time doing repetitive tasks -if, for example, we want to hide the headings in several sheets of the Workbook, we will have to do it one at a time.

This powerful tool has been crated to do away with such loss of time.

Adventajes include:

Same upper -left cell in all

Let's say you are working in a workbook with 50 sheets and you wish to view the value in the R200 cell of each. It would be a dreary task having to navigate through all worksheets and locate that specific cell in them all, wouldn't it?

With this tool, this would be as simple as:

1. Locate yourself in any worksheet and select the cell to be checked.
2. Press the Same upper -left cells in all button.

That's it. You will view that cell in all worksheets; the selected cell will be viewed the left upper corner.

As simple as 1-2!

Reset Excel's last cells

This utility allows you to save only the part of each worksheet in use, meaning the section containing actual data or formatting.

It may happen that the last cell of a worksheet is beyond the range of your actual used data. This issue may cause you to have a larger file size than necessary, you may experience other unusual behavior.

Clear the excess rows and columns with Reset Excel's last cell and solve these issues.

And many configuration options more. Use this tool as best suits your convenience it's super-intuitive.

Toggle settings X

Reference style :
 A1 R1C1

Calculation
 Automatic
 Automatic except tables
 Manual
 Iteration

Maximum Iterations

Maximum Change

Formula bar
 Status bar
 Tabs
 Horizontal scrollbar
 Vertical scrollbar

Gridlines
 Page breaks
 Headings
 Zeros
 Show formulas
 Full screen

Comments



Apply this settings to all sheets.

To do

To do list is a simple but useful tool, which allows you to manage any pending tasks related to a given workbook that may be key to your projects, in an ordered manner.

To do list allows you to add a task, edit it and control its progress.

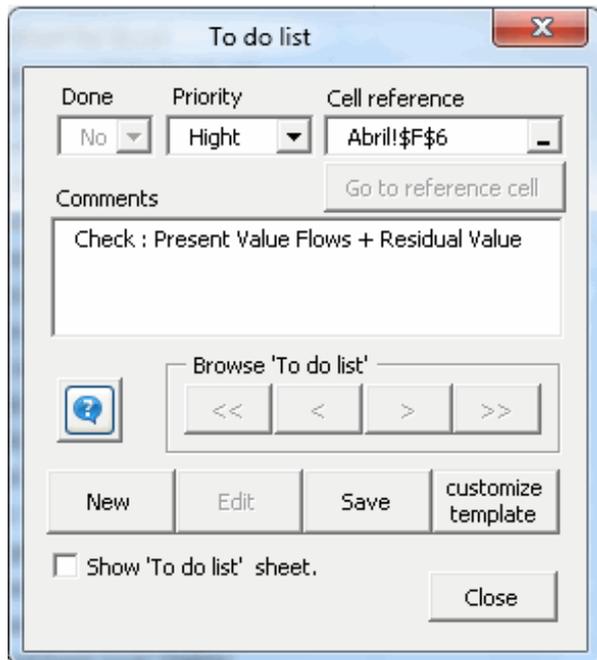
It's very easy to use:

1. Click the **To do list** button in the Model Navigator toolbar. A dialog will be displayed.
2. Enter the corresponding information and save the model.

Once a long list of tasks has been built, you may navigate through them.

In addition, you may customize the template to suit your needs.

This **To do list** is saved in a very hidden worksheet of your workbook.



The screenshot shows the 'To do list' dialog box with the following fields and controls:

- Done:** A dropdown menu set to 'No'.
- Priority:** A dropdown menu set to 'Hight'.
- Cell reference:** A text box containing 'Abril!\$F\$6'.
- Comments:** A text area containing 'Check : Present Value Flows + Residual Value'. A 'Go to reference cell' button is located to the right of the text area.
- Browse 'To do list':** A section containing a question mark icon and four navigation buttons: '<<', '<', '>', and '>>'.
- Buttons:** 'New', 'Edit', 'Save', and 'customize template'.
- Checkbox:** 'Show 'To do list' sheet.' with an unchecked box.
- Close:** A 'Close' button at the bottom right.



Version



With this tool you will be able to check the progress of your projects.

The accomplishment of a project usually means to work with the same workbook(s) for several days.

It would be ideal to add (hidden) commentaries of significant occurrences, drawbacks, and/or pending tasks as your project makes progress.

This tool do this –and more. You may save and edit in a very hidden sheet the information corresponding to the progress of your projects. An you may review all that saved information.

In addition, you have the option to customize the template to suit your needs.

The screenshot shows a dialog box titled "Version manager" with a close button (X) in the top right corner. The dialog contains several input fields and buttons:

- Number : 1.00
- Author : Jabsoft|
- Date : abr 16, 10
- Time : 14:3 PM
- File name : smart consolidation-2010x
- Released to : (empty)
- On : abr 16, 10
- Comments : (empty text area)

Below the input fields, there is a "Browse versions" section with a help icon (question mark in a speech bubble) and four navigation buttons: <<, <, >, and >>. At the bottom, there are four buttons: "New", "Edit", "Save", and "customize template". A checkbox labeled "Show sheet with report." is located below the "Save" button, and a "Close" button is at the bottom right.

My



Do you need to manage many folders, workbooks and worksheets in one place? Use this powerful tool to select and manage them all.

Observation:

If you use **Windows Vista**, it will be necessary to activate some permissions.

This video will teach you how to configure some permission to make this tool work out correctly.

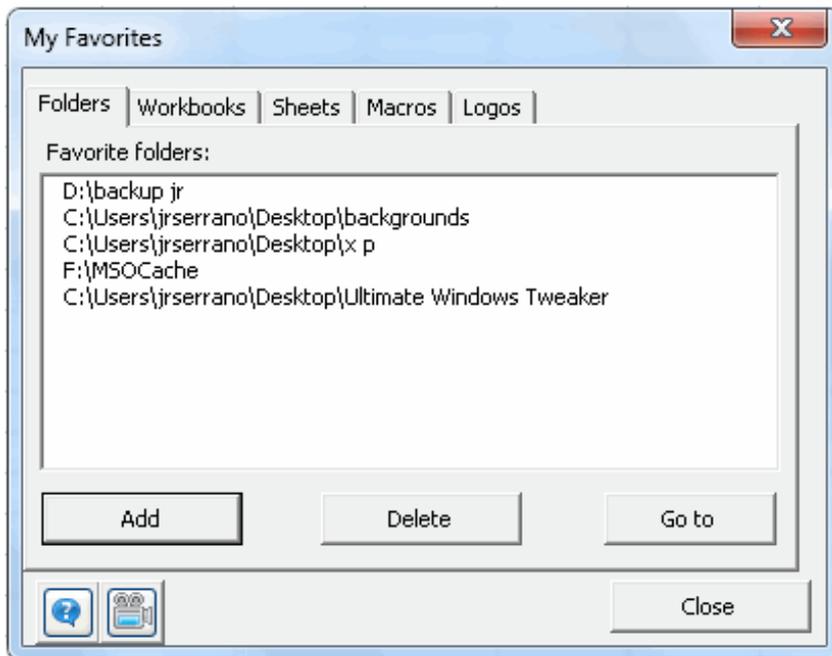
http://www.jabssoft.com/spreadsheet_presenter/sp_videos/security_demo_sp/security_demo.htm

Folders

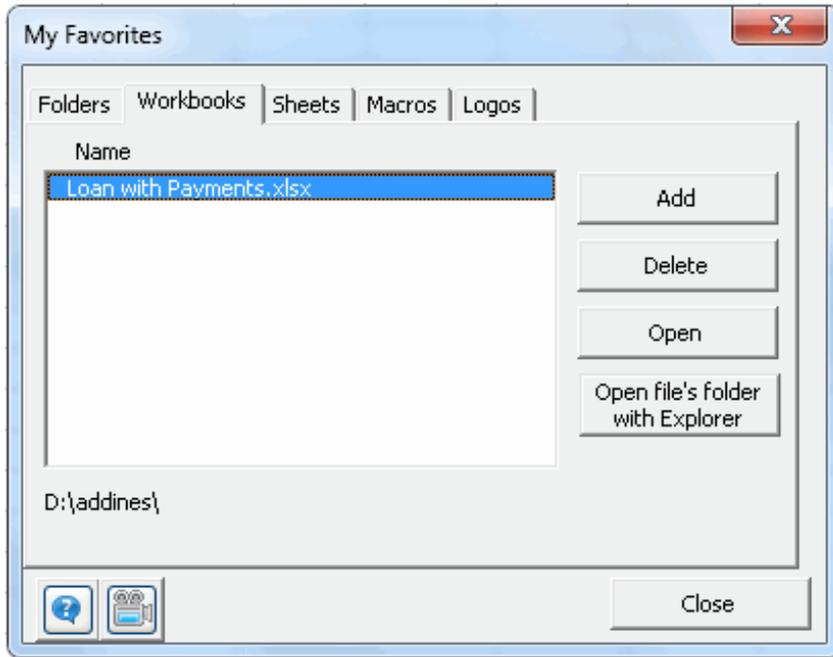
This utility will allow create a list with our directories most visited, to access quick and easily.

It works so:

- 1.- Press the '**Add**' button to add a directory to the favorite directories list.
- 2.- Press the '**Delete**' button to erase a directory of the favorite directories list.
- 3.- Press the '**Go to**' button to open the selected directory with the Window's Explorer.



Workbooks

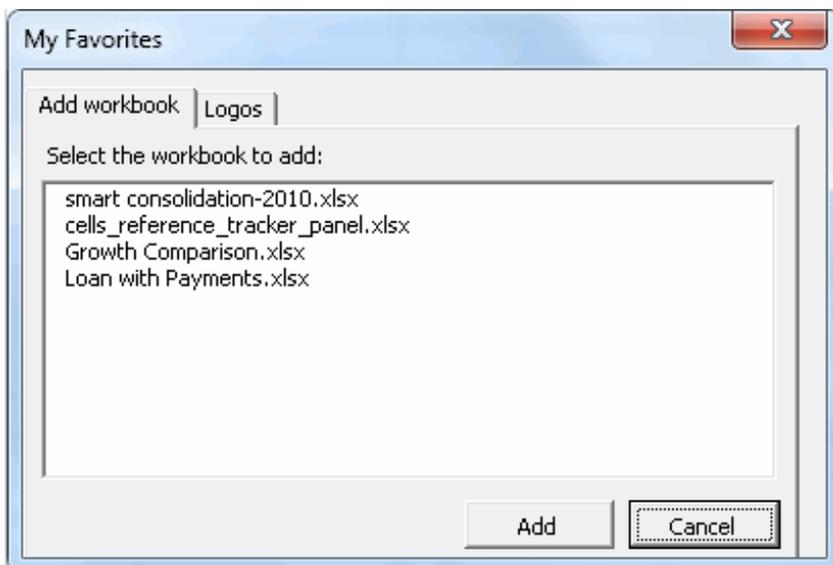


This tool allows you to store a list of most frequently used workbooks. It's a kind of direct access.

Think of the following situation:

You have to check, say, three workbooks (or more, for that matter) on a daily basis. This means you have to first go to the folders containing them to access each. With My Favorites you no longer will have to do that. Just do as follows:

1. With all opened relevant books, click **My Favorites > Workbooks**.
2. Click the **Add** button.



3. Select the workbooks you want to include in your list of favorites. Click **Add**.

That would be it.

The next time you want to open that workbook, just click the **My Favorites** button and you will be able to access your most frequently used workbooks from this dialog.

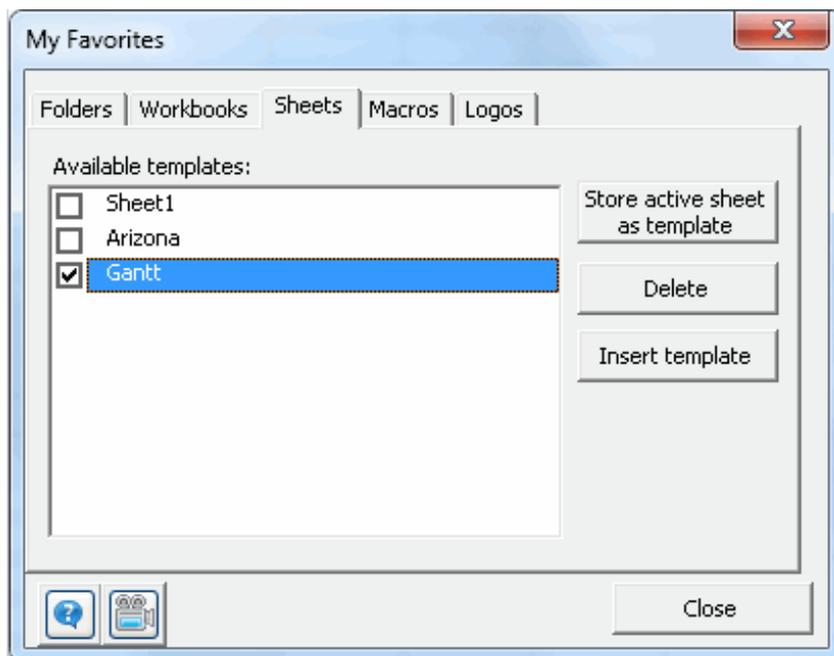
In addition, you can delete any workbook from the list and open the folder the selected workbook is in.

Sheets

If you constantly use certain templates and need to open several books to copy the templates onto several workbooks, this is the tool you need.

Favorite templates saves the templates you wish in one single place and allows you to easily access them. Options include:

- ✔ **Store active sheet as template:** First select the desired template by checking the corresponding checkbox, then click this button.
- ✔ **Delete:** Clears the selected template from your list of favorites.
- ✔ **Insert template:** To copy a template (already stored) onto the active workbook



Macros

In certain occasions we see ourselves in the necessity to have a macro to realize some repeated and automatic tasks. Sometimes we use the "grabadora de macros" to generate them and then we modify to our convenience.

Finally we finish to lose those macros or we just dont know in what book we saved it the last time.

The Favorite Macros tool was made to keep and to arrange our most used macros when we want. We keep it in the "bloc de notas" in an organized way to facilitate the use.

This tool has a complete panel control to edit, to copy and to export macros.

Click on Edit Button... To edit an existing macro.

Click on New Button... To add a macro to a macro list.

Click on Save Button... to save a new macro or save the changes of a modified macro.

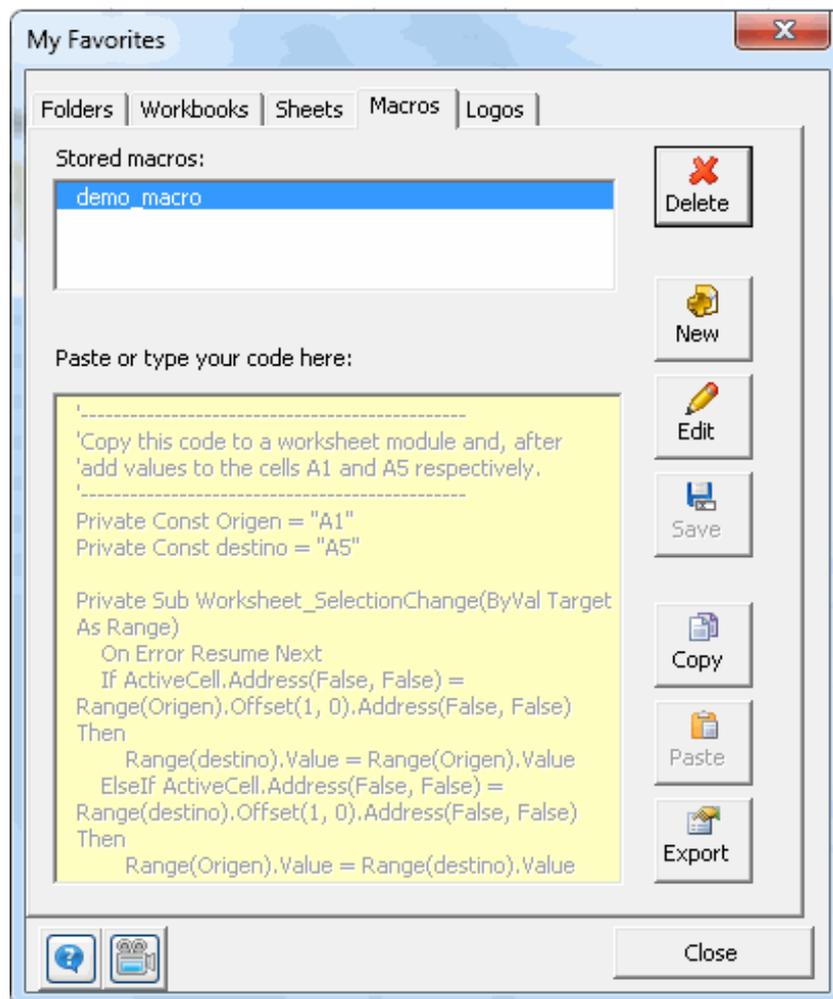
Click on Delete button... to eliminate a macro from the list.

Click on Copy button to copy a macro to memory (then you can paste in any place)

Click on the Export Button... to save the selected macro in a "bloc de notas"

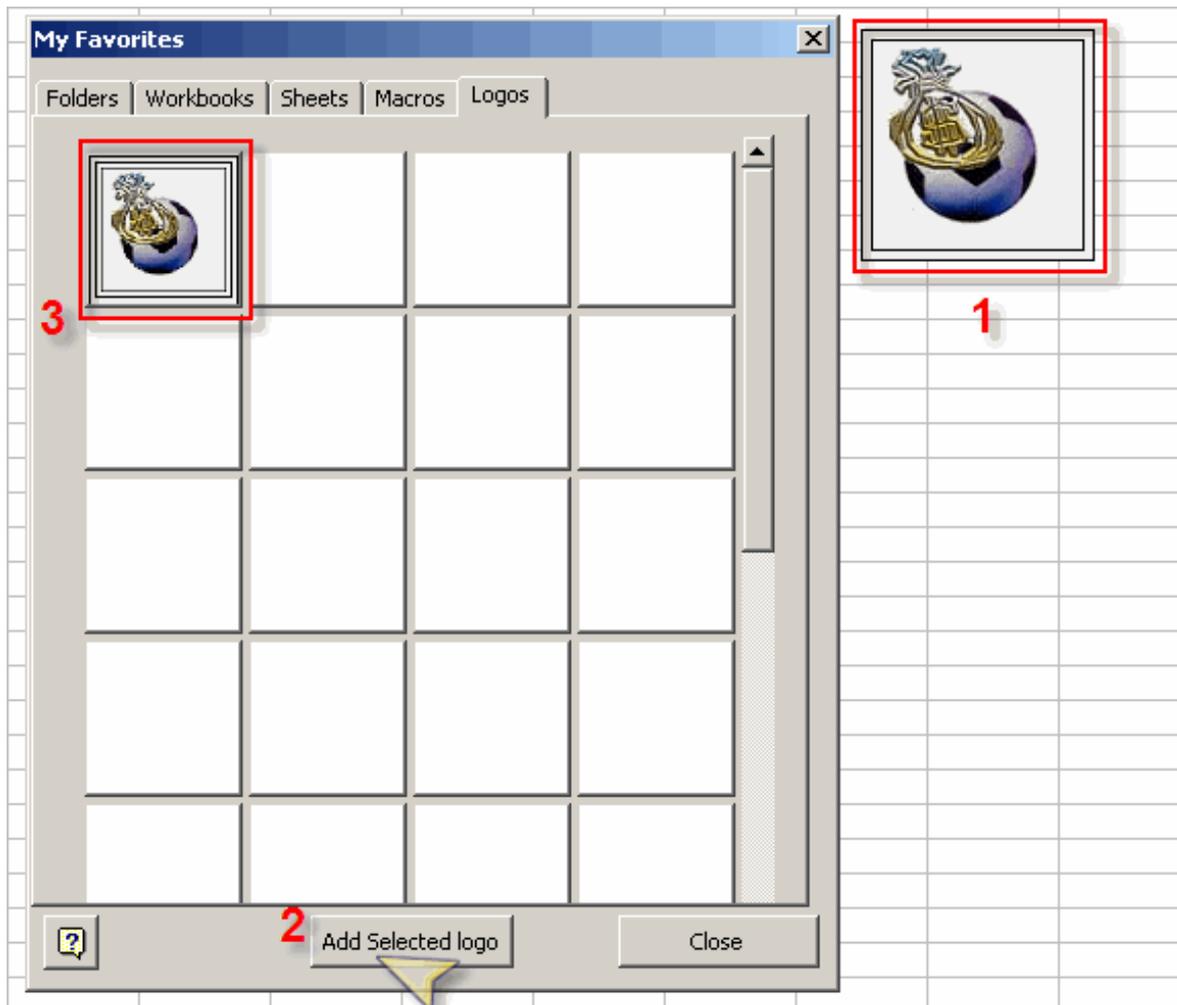
Suppose that you have saved many macros with this tool and then you want to use the macros in another PC, Simply use the path you used to install Excel Model Builder and then copy "My Macros" file in the other PC.

My Macros file is where the macros is saved.



Logos

- 1.- Select an image of your worksheet.
- 2.- Press the **Add** button.
- 3.- The image will be saved in My Favorite **Logos**.



To delete an image:

- 1.- Do right click on the image.
- 2.- Click the **Delete** option of the popup menu.



Note: You can insert max. 64 images.



Sheets



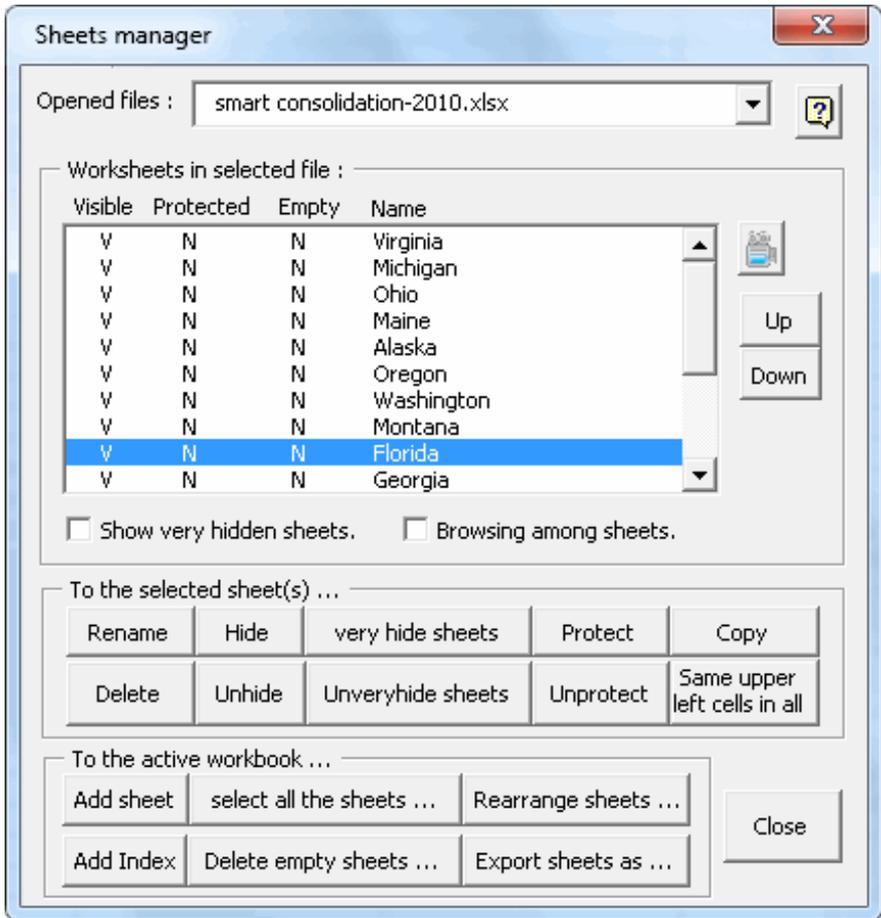
Your workbooks have so many sheets you find it hard to manage them?

Use **Sheet Manager** –a comprehensive tool that will make any worksheet management task easier to you.

Sheets manager show a relation of all the sheets of your workbook, including hidden and the very hidden sheets, too describes the other properties to each one of them. Thus you can quickly note which are protected with password or which are hidden.

Sheets manager helps you, of simple way, with the following actions:

- Export the selected sheets...
- Hide sheets.
- Unhide sheets
- To make the sheets very hidden
- To show to the very hidden sheets
- To protect sheets
- Unprotect sheets
- Rearrange sheets
- Delete all the empty sheets
- Generate a Index of all the existing sheets.
- Navigation between the sheets
- Add sheets
- Rename sheets
- Delete sheets.





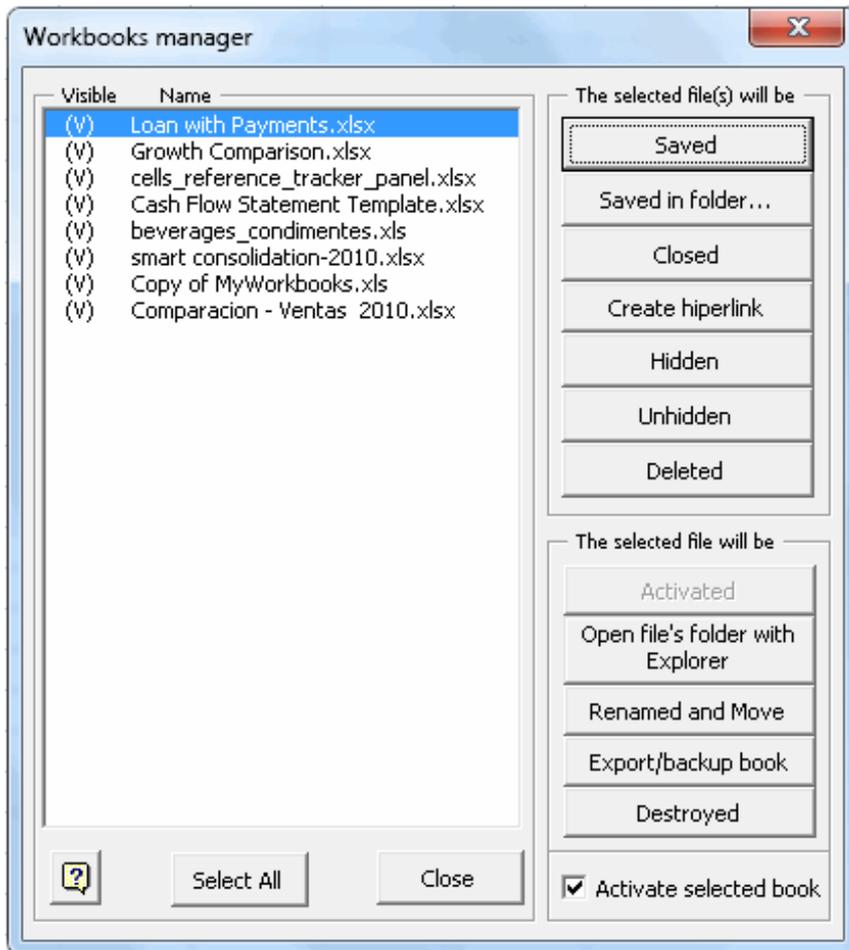
Workbooks



Managing your open workbooks is made easy with the **Workbook manager** tool.

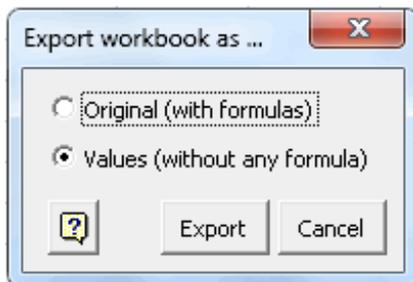
With this tool you can:

- List all open workbooks, even the hidden ones.
- Save workbooks.
- Save workbooks in other folders.
- Close workbooks.
- Create a hyperlink to another workbook.
- Hide workbooks.
- Show (unhide) workbooks.
- Delete workbooks.
- Activate workbooks.
- Open the folder a workbook is in.
- Rename workbooks and move them to another folder.
- Export workbooks as backups.
- Destroy workbooks (without the possibility to restore - assets and damage control may be required)
- Navigate through workbooks.



Export / backup workbook

With this tool you can backup your workbooks either by making an exact copy of the original or by converting all formulas in your workbook into values.





Requirements

- ✓ MS Windows XP or more
- ✓ MS Excel 2007 or more

In case you are using Windows Vista, it is necessary to give permission to the installation file of the product as it is in this video of example.

http://www.jabsoft.com/model_builder_for_excel/videos_emb/security_demo_xmb/security_demo.htm

In your case probably the path would be similar to this C:\Archivos de programa\JABSOFT\Model Analyzer for Excel

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Uninstallation

Before uninstalling the product, do:

- Open Microsoft Excel.
- Uncheck Model Analyzer for Excel in Tools > Add-ins.. option.
- Close Excel.

Automatic

Start - Programs - JABSOFIT - Model Analyzer for Excel > Uninstall Model Analyzer for Excel.

Or

Manual

- Open the Windows Explorer.
- Go to the folder, the path should be: C:\Program Files\JABSOFIT\Model Analyzer for Excel and delete it.

That is all.



Do you need more help?

- ✔ If you need help address to our HelpDesk (<http://www.jabsoft.net/helpdesk>)
- ✔ If you have comments or suggestions about Model Analyzer for Excel add-in, please contact us at: support@jabsoft.com

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Perú

- ✔ Developer website: Jabsoft (<http://www.jabsoft.com>)
- ✔ Sales website: Model Advisor (<http://www.modeladvisor.com>)

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