



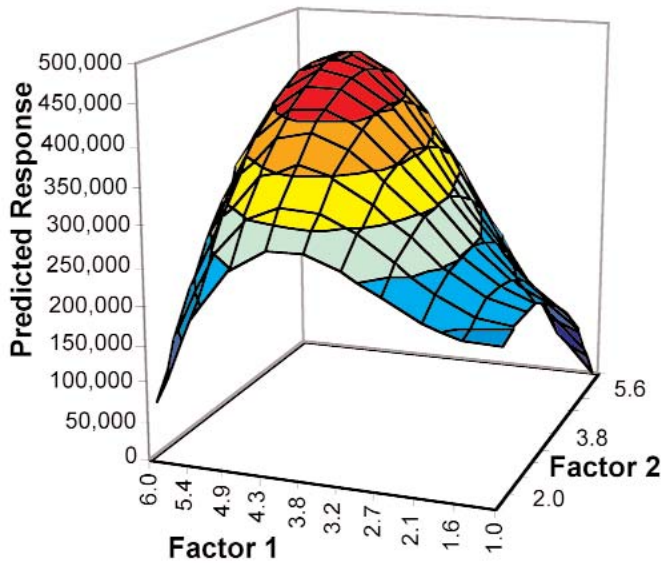
Sagata™ Regression

Easy-to-Use Powerful Linear Regression Software



Sagata™ Regression

[Overview]



Regression is the most commonly used statistical technique in industry. **Sagata Regression Standard (SR Standard)** and **Professional (SR Pro)** help the user:

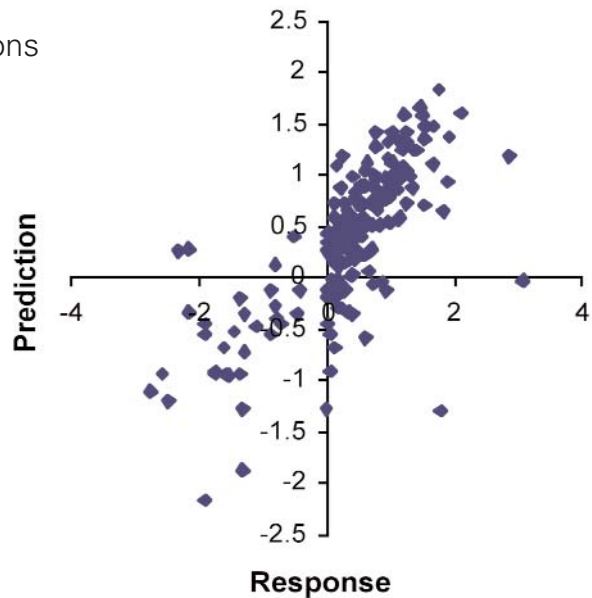
- Develop predictions
- Establish evidence
- Understand how factors affect responses such as bottom line profits

This brochure overviews many of the functions of **SR Standard** and **SR Pro**:

- Working with Data
- Plots
- Model Selection
- Help & Support
- Data Types
- Standard and Pro Versions.

System Requirements:

Microsoft® Excel 2000 or higher
Windows® 2000 or higher



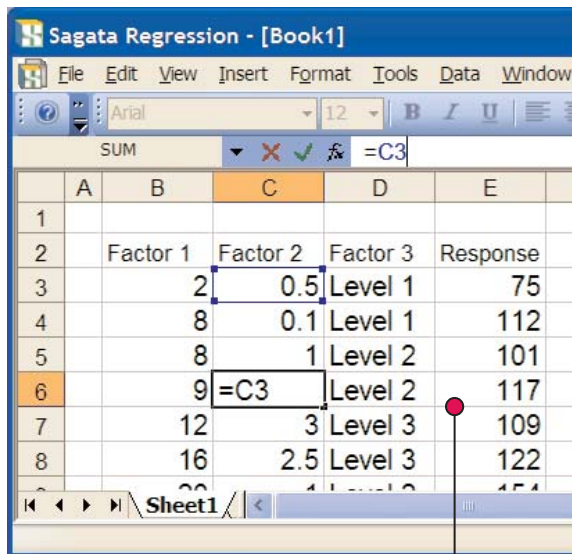
For additional information, see www.sagata.com
or contact us at info@sagata.com.



Sagata™ Regression

[Working With Data]

Familiarity of Microsoft® Excel



Fully functional
Excel spreadsheet

- ▶ **Import, Export, and Save As...** options permit easy transfer of data and results to Microsoft® Excel.
- ▶ **Copy and Paste** enable portability to all Windows®-based programs.

Regression users are engineers, marketers, and scientists who apply regression to predict how their actions will affect business outcomes.

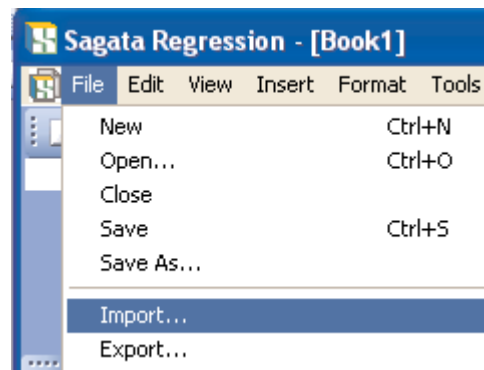
Generally speaking, professionals:

- (1) Have limited time to learn new software
- (2) Need enough power to get the job done.

Comfort is the reason we utilize the Microsoft® Excel spreadsheet interface. That way, you already know how to use your favorite Excel features.

Power derives from our many features not found in current regression software packages. Our users tell us they need these features to get the job done right.

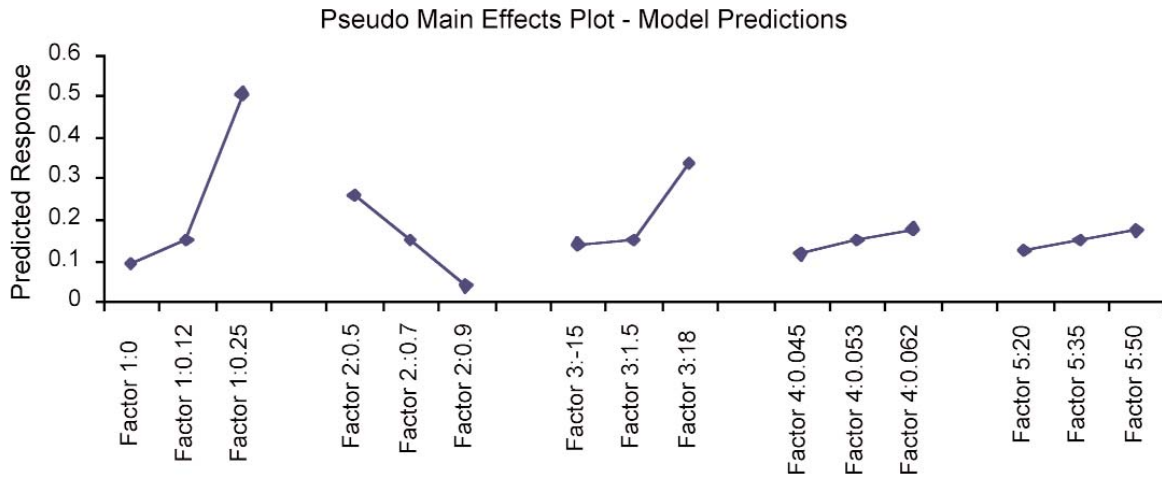
Unique features include categorical inputs, stepwise variable selection using PRESS cross-validation, and the interactive 3D Plot Engine.



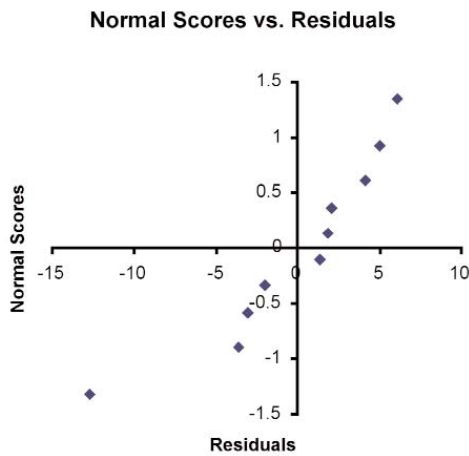


Sagata™ Regression

[Plots]

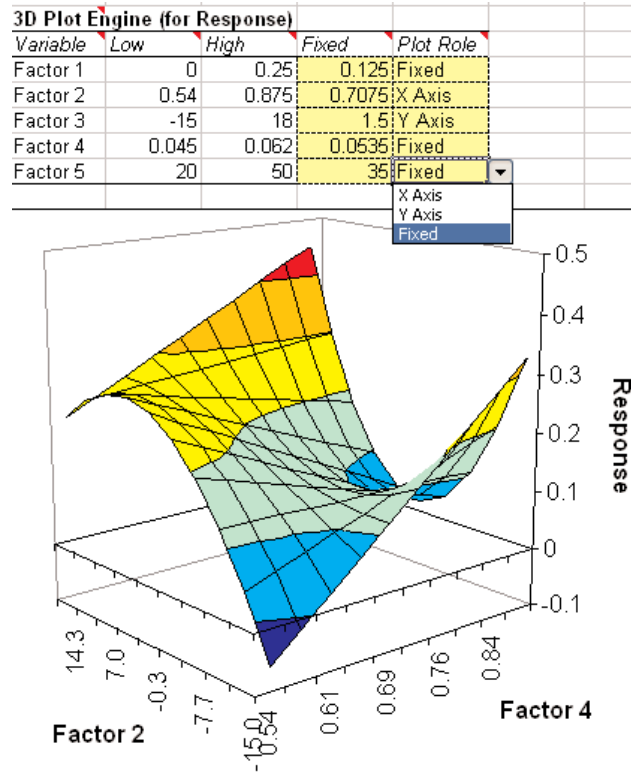


▲ **Pseudo Main Effects Plots** show predictions of the fitted model with each factor varied and the others averaged over.



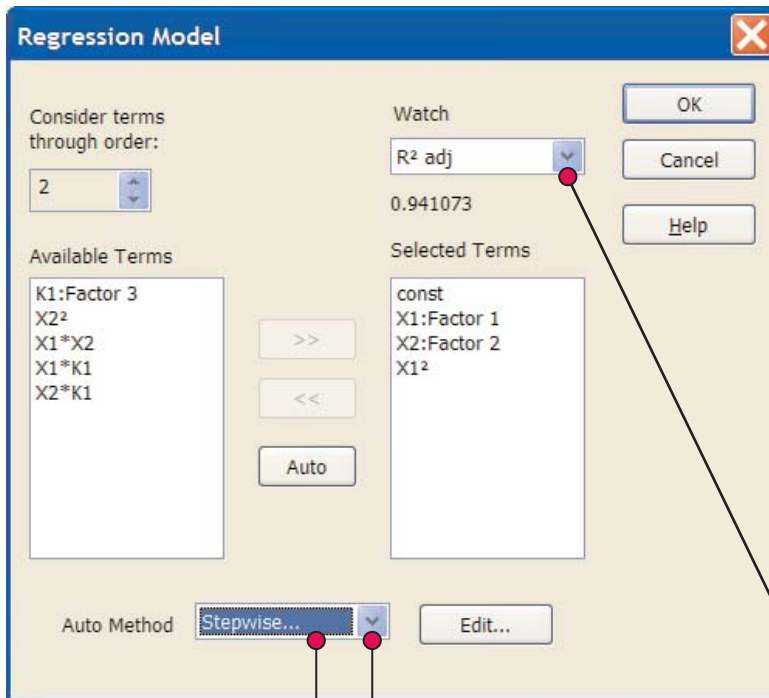
▲ **Normal probability plots** identify outliers.

▶ **3D Plot Engine** shows the model predictions and permits interactive real-time selection of the axis factors and factor settings.





Sagata™ Regression [Model Selection]

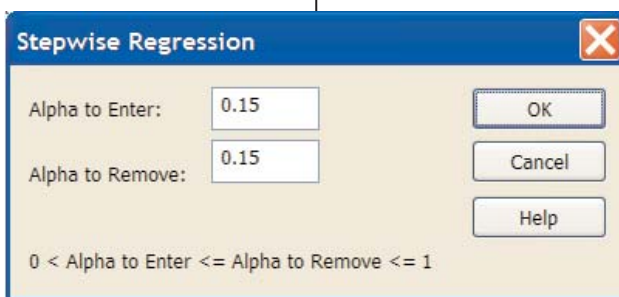


◀ **Interactive environment** permits automatic model generation guided by instant feedback.

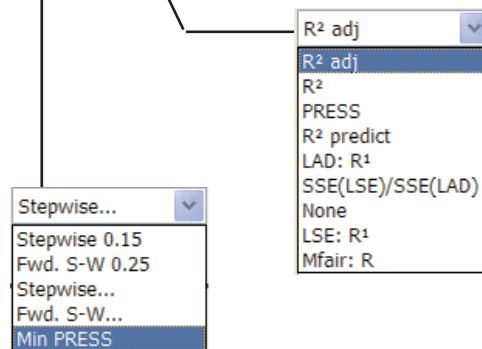
◀ **Autogeneration** of up to third order terms that can be added or removed by mouse selection.

◀ **Categorical factors*** are seamlessly integrated.

▼ **Watch statistics** offer many types of information to support modeling.



▲ **Stepwise regression** permits automatic model generation. Options include forward and standard searches.

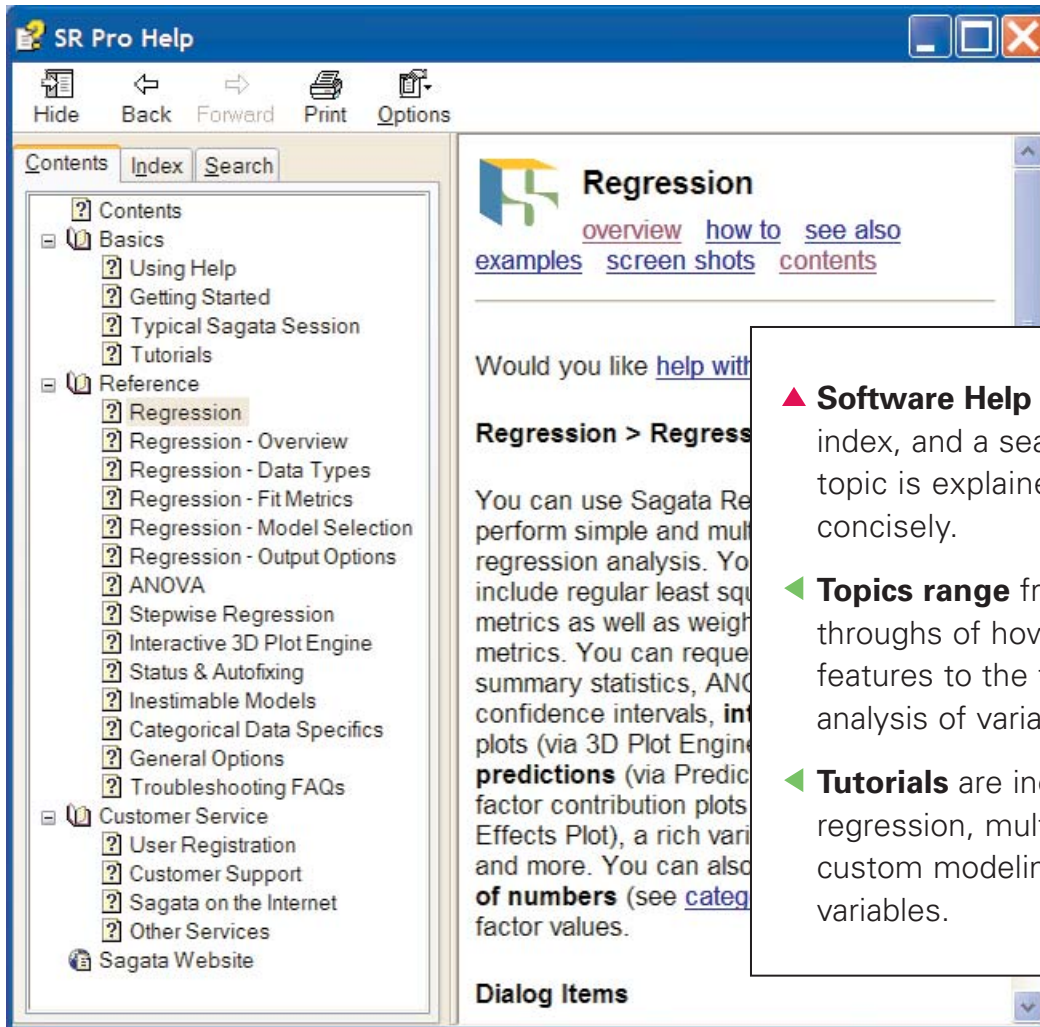


▲ **Min PRESS*** automodeling gives the ease of an automatic model search with the comfort of knowing derived models are supported by cross-validation.

*Available only in Sagata Regression Pro



Sagata™ Regression [Help & Support]



- ▲ **Software Help** includes contents, index, and a search facility. Each topic is explained simply and concisely.
- ◀ **Topics range** from detailed walk-throughs of how to use software features to the technical basis for analysis of variance (ANOVA).
- ◀ **Tutorials** are included for simple regression, multiple regression, custom modeling, and categorical variables.

▲ **Updates, FAQs, and Contact** information on the website:
www.sagata.com

▼ **Comments** interpret cells in the regression output providing both technical formulas and intuitive explanations.

SS	MS	F	p
6757.67	2252.56	48.91	
276.33	46.05		
7034.00			

In brief:
F-statistic. It is the ratio of MSR to MSE. High values imply that your model is useful. See also p-value.

Beware:
Most statistics (and F-statistic is one of them) are calculated based on idealistic assumptions about your data origins.

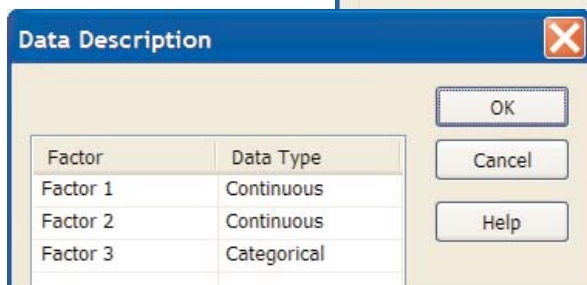
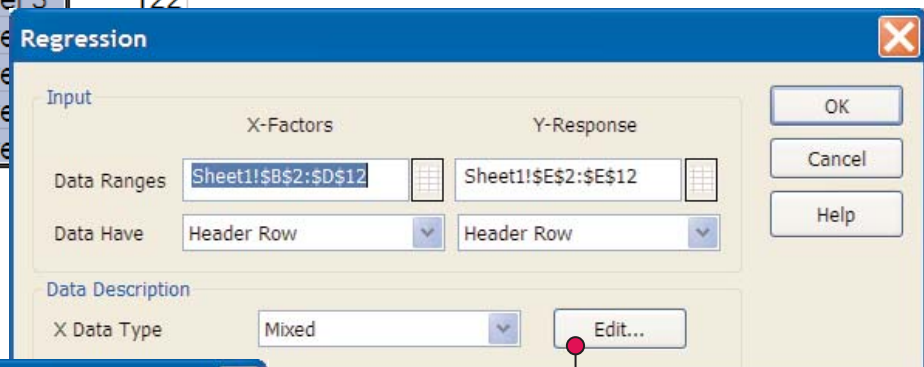


Sagata™ Regression

[Data Types] *

Factor 1	Factor 2	Factor 3	Response
2	0.5	Level 1	75
8	0.1	Level 1	112
8	1	Level 2	101
9	0.5	Level 2	117
12	3	Level 3	109
16	2.5	Level 3	122
20	1	Level 1	75
23	1.2	Level 2	101
22	0.75	Level 1	75
26	1.5	Level 3	122

◀ **Categorical*** or qualitative settings can be entered into cells in the X-Factors range. In other words, the independent variables in regression can be numbers or text.



◀ **Automatic data type identification*** so that the software detects which variables are categorical and which are continuous.

▲ **Custom data type declaration***

permits the user to change the automated variable type.

▶ **Interactive prediction*** as a function

of both continuous and categorical variables.

Prediction Engine (for Response)			
Prediction	85.11		
Error	5.19		
Variable	Low	High	Fixed
Factor 1	2	26	3
Factor 2	0.1	3	0.1
Factor 3			Level 2
			Level 1
			Level 2
			Level 3

*Available only in Sagata Regression Pro



Sagata™ Regression [Standard and Pro]

- ▼ **Precision Checker** is a proprietary technique to avoid misleading model fits from poor data.
- ▼ **Interactive Model Generation** lets the user quickly test many alternative models and apply stepwise analysis.
- ▼ **3D Plot Engine** permits interactive visualization of the fitted model.
- ▼ **Prediction Engine** lets the user explore “what if” predictions based on the fitted regression model.

Feature	Product	
	Sagata™ Regression Pro	Sagata™ Regression Standard
Microsoft® Excel Interface	✓	✓
Precision Checker	✓	✓
Interactive Model Generation	✓	✓
3D Plot Engine	✓	✓
Prediction Engine	✓	✓
Efficient Backend Processing	✓	✓
Data Weighting	✓	
Min PRESS Stepwise	✓	
Fit Metrics: Robust Regression	✓	
Qualitative/Categorical Factors	✓	

▲ **Efficient Backend Processing** uses our fastest C++ code for automatic model generation.

▲ **Data Weighting** lets the user insert information about the trustworthiness of certain data.

▲ **Min PRESS** is a stepwise method to minimize the cross-validation statistic PRESS.

▲ **Fit Metrics: Robust Regression** lets the user derive coefficients that are less likely to be influenced by outliers or small amounts of untrustworthy data.

▲ **Qualitative/Categorical Factors** are independent variables with non-numerical values.