

### Script for RegressIt video 3: from RegressIt to R and back

1. For those who are users or students of R, there are tools for exporting your data to an R session and re-running your regression models there with just a few clicks, as well as for running R code in RegressIt. These tools let you use RegressIt as a front or back end for R in order to take advantage of its own output options and get a gentle introduction to it if you are a beginner, without having to type any code.
2. Here's how it works. Suppose that you have just launched a new session in **RStudio** in a separate window. To re-run your models there, you first need to transfer the data. Go back to Excel and **click the Export Data button** on the RegressIt ribbon. This tool will write the contents of your data sheet to a comma delimited text file for import into R... or any other program that prefers text data. The default name of the data file is the data sheet name and the default location is the Excel file location. Let's just **click OK a couple of times** to go with these defaults.
3. The file has now been created and the R code for reading it has been written to the clipboard. Just **go to your RStudio window and hit Paste, Enter**, and the data will be loaded.
4. Now go to a RegressIt model sheet in the Excel file, say, Model 1.0. **Click the Export Code button** and choose from the menu of output options and **click OK a couple of times**.
5. The code will be written to the clipboard, and you just need to **go back to the RStudio window and hit Paste, Enter**, to run it. Here's the output, which includes a standard 2x2 chart array with the RegressIt model name in the chart titles. In this case the selected text output includes tables for coefficients and their confidence intervals. They're not very pretty or easy to read.
6. Now let's re-run Model 3 as well. Go back to Excel, go to the Model 3 sheet, hit the R code button and choose your options, back to Rstudio and hit paste Enter, and here's Model 3. On the right, you can toggle back and forth between the chart arrays, which show that Model 3 fits a lot better in this case.
7. It also works the other way: if you copy the text string for your model equation in R to any cell in your Excel file and launch the regression model from there, it will pick up the variables for running the same model. In this Excel file, an extra sheet called Rcode has been added and the R code for several models has already been copied into cells in column A, using a different set of model names. If you click on one of these cells and hit the Linear Regression button, the variables and model name are pre-selected. Just choose your output options and hit Run. This would be a good way to get higher quality output, including a nicely formatted model summary table. It would also allow you to easily share your results with non-R-specialists.
8. Here's the result when we do this with Model.3.From.R with the usual chart selections...