A Quick Guide To Regression in EVIEWS

Datasets: The text book refers to datasets using names with a “.RAW” extension, such as “401K.RAW”. Eviews files have the extension “.WF1”, for example “401K.WF1”. These EViews files are located in the Econ410 directory at the SSML, or can be download from the course webpage. For the datasets associated with the textbook, there is an associated “description” file with the extension “.DES”, for example “401K.DES”. This is a text file with a list of the variables and a brief description. These files are located as well in the Econ410 directory, or from the webpage. Knowing the descriptions are probably unnecessary for any assigned statistical manipulations, but may be useful in your interpretation of the results. Most questions ask for interpretation, and this is an important part of your answer.

Opening a Dataset: You can open an EViews file either by double-clicking on the file, or by first starting the EViews program, and then clicking “File\Open\Workfile\...” When you have opened the file, you will see a list of the variables in this data set.

Descriptive Statistics: To obtain statistics for an individual variable, double-click on that variable name in the Workfile window. A new window will open, which will typically show the numerical values of that variable in a spreadsheet-type format. In this new window, click “View\Descriptive Statistics\Histogram and Stats”. The window will change, now showing a histogram of the data, and a list of descriptive statistics, including the sample mean (average), standard deviation, maximum, and minimum.

Counting Data in Specific Ranges: Some questions are similar to: “How many values of X equal 0” (or some other specific number). To answer this, as above, double-click on that variable name in the Workfile window. In the new window, click “View\One-Way Tabulation”. The “Tabulate Series menu appears.” Typically, just click “OK”. Now the window view will change, showing specific values for X in the sample, and the number of occurrences.

Estimating a Simple Regression: Suppose that the datafile has the variables wage and edu and you want to run the regression

\[ wage = \beta_0 + \beta_1 edu + u \]

To do this, in the top Eviews menu, click “Quick\Estimate Equation”. The “Equation Specification” window pops up. In the main box, type “wage c edu”, meaning regress wage on a constant and edu. Then click “OK”. The equation window will pop up. The OLS estimates will appear in the column labeled “Coefficient”. The intercept \( \beta_0 \) will be next to \( C \) and the slope \( \beta_1 \) will be next to EDU. The standard errors will be in the column labeled “Std. Error”. Some equation statistics are listed in the area beneath the equation. The first is the \( R^2 \), labeled “R-squared”. The fourth is the sum of squared residuals (SSR). In the second column, the first and second items are the mean and standard deviation of the dependent variable (Y, or wage in the example above).
**Estimating a Multiple Regression:** Suppose that the datafile has the variables \(wage\), \(edu\), and \(exp\), and you want to run the regression

\[
wage = \beta_0 + \beta_1 edu + \beta_2 exp + u
\]

The method is the same as above, except in the Equation Specification window, type “wage c edu exp” in the main box.

**Using Transformed Variables.** Suppose that a datafile has the variables \(wage\) and \(edu\), and you want to run the regression

\[
\log (wage) = \beta_0 + \beta_1 edu + u
\]

There are several ways to do this.

1. You can create a new variable, say \(lwage\), which equals \(\log (wage)\). To do this, in the Workfile window, click “Genr”. The “Generate Series by Equation” window opens. In the “Enter equation” box, type “\(lwage=\log(wage)\)”. This means, create a new variable, called \(lwage\), which equals \(\log(wage)\). Then click “OK”. The variable \(lwage\) should now be added to the datafile. Now you can execute the desired regression using the methods described above for estimating a simple regression, except that you type “\(lwage c edu\)” in the box.

2. It will be useful to know that most of the datafiles associated with the textbook have already made the needed transformations. So if a problem set question uses the variable \(\log (wage)\), then the variable \(lwage\) already is in the datafile. Wooldridge has used the convention that if a variable is named \(wage\) then \(lwage\) is its natural logarithm. You may wish to check the Description files for variable definitions.

3. An alternative is to use the method for a simple regression, except that you type “\(\log(wage) c edu\)” in the main box. The results will be the same, but the variable \(lwage\) is not created nor saved in the workfile.