A Short Introduction to Eviews

Note

You are responsible to get familiar with Eviews as soon as possible. All homeworks are likely to contain questions for which you will need to use this software package. A dataset to experiment with Eviews is available on Blackboard under *Course Documents*. Eviews is installed on all computers in the undergraduate computer lab (UDAL) on the first floor of the McNeil building.

1 Getting help

Please refer to the Eviews handbooks, which are very comprehensive. Of the two handbooks that accompany Eviews, the *User's Guide* will be the more useful for you. It explains all functions of Eviews step-by-step. (The *Command and Programming Reference* is useful if you want to write batch programs that perform a sequence of steps automatically.) Both manuals are also available in the Eviews help menu itself (as .pdf). Very helpful is also the searchable help index in the Eviews help menu: *Help > Index* and *Help > Find*. The best way of getting a first idea of how Eviews works is to experiment with the commands presented here and to try other commands and options and see what happens.

2 Eviews philosophy

You can access most of the Eviews functionality via menus. Just browse through the menus, and find the appropriate command. You will then be guided through several windows that prompt you for the information required to perform the command.

EViews organizes data, graphs, output, and so forth, as objects. Each of these objects can be copied, saved, cut-and-pasted into other Windows programs, or used for further analysis. A collection of objects can be saved together in a workfile. Since Eviews creates new objects with everything you do, it makes sense to delete unimportant intermediate results to avoid a messy workfile.

Please note that you cannot mix data series of different frequencies (annual, quarterly, monthly, weekly, daily) within the same work file page.

3 Creating a workfile

To create a new workfile click *File > New > Workfile*. If you have quarterly data from the first quarter of 1950 until the last quarter of 2005, then the procedure is: Select: "dated - regular frequency", frequency "quarterly", start date: "1950:1", end date "2005:4".

Notice that there are already two series in the workfile: `c`, and `resid`. They stand for "coefficients" and "residuals". Every time you estimate something, the coefficients are stored in `c` and the residuals in `resid`.

4 Importing data into Eviews

The are two ways to get your dataset into Eviews. When you have only a few observations, you might want to cut-and-paste data into Eviews or even type it in by hand. To do this, you first need to create a workfile of the desired frequency and start and end date. Then you create a series object within this workfile to hold the data by clicking on *Object > New Object > Series* on the workfile window. Give the series a beautiful name. Then click on *Edit+/-*, start entering your data. When your are done, click *Edit+/-* again.

For larger datasets, however, you will probably prefer to use the Eviews import function.

1. First convert your raw data into a format that Eviews understands, such as a text file with e.g. comma separated values, a Lotus file, or an Excel file. If you use Excel, for example, make a file with only one spreadsheet. On that sheet, put each series directly next to each other - be sure to start your data in cell A1. Do not put any titles or names to the columns, but - this is very important - *remember* what data is in each column! Also you need to remember to beginning and end of your sample. Save this file as ".xls" file.

2. Open Eviews.

3. Create a new workfile with the frequency and start and end date of your data.

4. Import the data: Select *File > Import > Read Text-Lotus-Excel*. At the bottom of the dialogbox, change "Files of type" to "Excel (*.xls)" so that you can see the file. Then browse to find your data.

5. Then you are asked:

   - Data order: select "by observation", if each series occupies one column; or "by series", if each series occupies one row.
   - Upper-left data cell : write "A1".
   - Names of series: write the name of the series you are importing in the right order, for example `rgdp rcons rgov rinv` or whatever name you give to the series you are importing.
   - Do not change the import sample period. You should have already selected the correct period when you created the workfile.

6. Do a cross-check with your raw data file. Compare the number of observations, check if each series got the correct name.

5 Generating a new variable

Click the *Genr* button on the workfile window and then insert the defining equation of your new variable. For example `x_growth=log(x)-log(x-1)`. Note that when you write `x(-1)`, Eviews understands that you want `x` lagged one period.

6 Generating multiple graphs

Suppose you want to make a plot of the four variables `rgdp rcons rgov rinv`.

1. Select your four variables `rgdp rcons rgov rinv` by keeping the "Ctrl" key pressed and clicking on the series with your mouse pointer.

2. Right click with the mouse and select *Open > As Group*.

3. Then click *View > Graph > Line* on the group window and you are done. If you would like to create multiple *separate* graphs, use *View > Multiple Graphs > Line*.

4. To preserve your work, click *Freeze* on the group window and then in the new graph window click *Name* and enter the desired graph name.

5. Then play around a bit to understand how to format the graph the way you want. For example, to insert a title click *Add Text*. To shade a certain time period click *Line/Shade* and then select *Shaded area* and enter the time span that you wish to shade. If you want to shade several periods which are not connected, you have to repeat this procedure several times.

7 Running a regression

1. In the command window, which is the white area just below the Eviews menu bar, type `ls y c x`. `y` stands for the name you gave to your dependent variable, `x` for whatever name you gave to your independent variable and `c` is the constant. `ls` just means least squares.

2. To modify your estimation, click *Estimate* on the equation window. There you can modify the estimation equation, the estimation method and the sample period.

3. You can save the output using *Freeze* on the regression window.

4. Again, take some time to check out the available views and regression diagnostics in the *View* menu of the equation window.

8 Some more hints

8.1 Changing the sample period

To set the workfile sample, simply click on the *Sample* button in the workfile window, and enter the range, e.g. `2003Q1 2004Q3`. `@first @last` is also possible.

For more information on data manipulation you should consult the Eviews help files. Under *Help > Eviews Help Topics > Contents* you find the chapters Workfile Basics, Object Basics, Basic Data Handling, Working with Data, Series, Groups, Statistical Graphs from Series and Groups, Graphs, Tables and Text Objects and Basic Regression, which cover the topics of this introduction in much more detail.

8.2 Creating a time dummy

One common task in time series analysis is the creation a variable that represents the time trend. Eviews has a time trend variable already built-in. If you type `@TREND` instead of a series name, then this returns a time trend that increases by one for each observation of the workfile.

8.3 Taking differences

Eviews also provides a shortcut to compute the first and second differences. If you type `d(x)` instead of a series name, it means you want to use the first difference of `x`.

8.4 Scatter plot of regression

To create a scatter diagram of `x` against `y`, just type: `scat x y`. Or, you can make a group containing `x` and `y`, and then select *View > Graph > Scatter with regression* in the group window.

8.5 Command window and Quick menu

Many actions can be done more quickly in the command window, which is the white window below the menu bar, instead of browsing through the menus. For example, transformations are most easily specified there: Type `series lgdp = log(gdp)`, which generates a new series `lgdp`, the *natural* log of `gdp`. Similarly, to generate a new group consisting of `gdp` and `d(gdp)`, just type `group bothgdp gdp d(gdp)`.

If you don't know the name of the command, often the menu *Quick* contains the procedure you need.

8.6 Exporting Eviews graphs

Eviews generates graphs, but they may not look they way you want them to. In order to use an Eviews graph in another program you can save it as a Windows metafile ("*.wmf"). Click *Proc > Save graph to disk* in the graph window (you may have to *Freeze* the graph first). Choose "metafile" for Word, or the ".eps" format otherwise, and choose a file path. The picture can then be imported into a Word document using *Insert > Picture > From File* in Word.