

1.2 Introduction to EViews.

Now given that you are an expert at Microfit, carry out the same exercise in EViews. The menu structure in EViews is very similar to that in Microfit. One major difference is that EViews files have the extension *.wfl rather than *.fit. As in Microfit, in EViews you can either use menu options to assign commands or you can type commands in to the process window.

1.2.1 Workfiles and Databases in EViews.

One potentially confusing ‘feature’ in EViews is the distinction between **Workfiles** and **Databases**. Workfiles are good, old-fashioned datasets, Databases are collections of datasets which can contain data at different frequencies (Annual, Monthly, etc.). It is probably best to simply work with Workfiles.

1.2.2 The Various EViews Menus.

The Edit Menu.

The **Edit** option has very little to do with statistical analysis, it is just a standard Windows menu for copying and pasting text.

The Objects Menu.

The **Objects** menu presents few options, all of which can be accessed from other parts of the EViews interface. These include the options to add, rename and delete ‘objects’. These ‘objects’ include the time-series in the Workfile.

The View Menu.

The **View** menu also presents few options, all of which can also be accessed from other parts of the EViews interface. These include the options to view ‘objects’ in various ways. These views include ‘spreadsheet’ views of the data and time-series graphs of the data.

The Procs Menu.

The **Procs** menu includes useful options to manipulate the dataset (Workfile). It allows the user to change the time range over which variables are defined. It also allows the user to export and import data to and from other software packages.

The Quick Menu.

The **Quick** menu includes the most useful options in EViews. These include all the regression options. Selecting each option will present the user with a sequence of options to enable the statistical analysis of the data series in the Workfile.

The Options Menu.

The **Options** menu includes various options to change the ‘look and feel’ of how EViews functions. These modifications are just cosmetic.

The Window Menu.

The **Window** option has little to do with statistical analysis, it is just a standard Windows menu for the display of windows and icons.

The Help Menu.

Though the **Help** option is the standard Windows-type option that calls up the on-line EViews manual, this manual is actually very informative. The on-line EViews manual includes the technical description for many of the statistical procedures and even the article references for these procedures.

1.2.3 Inputting and Saving Data.

The options available for data input and saving data are:

- Input from the keyboard: Select **File**, then **New** and then **Workfile**.
- You will then be prompted for the frequency of the data. Upon pressing **OK** a Workfile is created. At the start this Workfile contains just two ‘objects’, the first ‘object’ is a vector of parameters **c**, the second ‘object’ is a vector of residuals.
- To add a series to the Workfile select **Objects**, then **New Object...**, then **Series**, type in a name for the series (e.g. **CONS**) and click **OK**. A new object will now be created within the Workfile. **Note that CON is a reserved name in EViews, hence you must call this variable CONS.**
- To actually input values for this series double-click on the new object, this should open a spreadsheet listing the various (blank) observations

for the series. To change these values you need to single-click on the button **Edit+/-**. You will now be able to type in values for the various observations just like in an ordinary spreadsheet. When finished just click the exit box **X** in the top-right corner of the spreadsheet window.

- Now you have all the information you need to input the following data.

Quarter	CONS	YNC	POP
1980Q1	73136	85541	56285
1980Q2	72012	86250	56308
1980Q3	75209	88157	56330
1980Q4	76674	87216	56337

- To save the dataset (Workfile), click on **File, Save**, select the directory where you wish to save your data (e.g. M:\), select you name for the file (e.g. **Consume1**) and click on the **Save** button. Your dataset will be saved with the extension **.wf1** .

1.2.4 Processing and Plotting Data in EViews.

Look at the flashing cursor within the process window. You can type commands and remarks directly into this window. Here are some commands you can type in:

- Create a new variable that measures disposable income per person by selecting **Quick** and **Generate**, then by typing: $INDY=1000*YNC/POP$ and click **OK**.
- Create a new variable that measures consumption per person by by selecting **Quick** and **Generate**, then by typing: $INDC=1000*CONS/POP$ and click **OK**.
- Produce a time-series plot of these two series by selecting **Quick** and **Graph...**, then by inputting **INDY INDC** and click **OK** and **OK**.
- Produce a scatter plot of these two series by selecting **Quick** and **Graph...**, then by inputting **INDY INDC** and click **OK**, then select **Scatter Diagram** and **OK**.

1.2.5 Regressing Data in EViews.

The **Quick** is also a shortcut to the various equation regression options. Estimate the OLS values of a and b in the consumption equation $INDC_t = a + bINDY_t + e_t$.

- Click on **Quick** and select **Estimate Equation...**
- In the regression specification window type `INDC C INDY` and press the **OK** button.
- The **Results** window gives you a lot of information and various ways of saving this information.
- For now, you are just interested in the coefficients associated with the variables `INDCON` and `INDYNC`. These correspond to the coefficients a and b .

1.3 Introduction to Stata.

Stata is my favourite statistical package, despite this, I will try to give an impartial evaluation of it.

1.3.1 Good and Bad Aspects of Stata.

Stata has good and bad aspects to it, they can be summarised thus:

- The bad aspect of Stata is that it is a difficult package for the novice user to get to grips with. Stata is mainly a command-driven rather than menu-driven piece of software. Not knowing the commands makes it difficult to get started and it is difficult to find these commands using the on-line help.
- The good aspect of Stata are that it has a simple interface which can easily accommodate user-written programs. For this reason it has become nearly as popular as SPSS in the space of just 10 years.
- Stata does not implicitly recognise time, therefore one additional variable that explicitly denotes time must be added. This is probably the only confusing 'feature' of Stata.

1.3.2 Inputting data into Stata.

Rather than describe the menu options in Stata I will simply give an example of how to input data into Stata.

- Type `edit` into the command-line box to bring up the spreadsheet interface. All Stata commands are case-sensitive, so `edit` must be all in lowercase.
- With the spreadsheet interface open, just type in the numbers illustrated in the following table.

<code>year</code>	<code>quarter</code>	<code>CON</code>	<code>YNC</code>	<code>POP</code>
1980	1	73136	85541	56285
1980	2	72012	86250	56308
1980	3	75209	88157	56330
1980	4	76674	87216	56337

Note, the moment you type in a number, the column heading changes to something like: `var1`. You can easily change this variable name by double-clicking on the label `var1` and typing the new name in the box labelled `Name`: .

- Note that you have been asked to type in two variables, one to identify the **year** and the other to identify the **quarter**. Denoting time in Stata involves two steps; firstly defining a variable that denotes time and secondly telling Stata that this new variable denotes time.
- To preserve all these inputs click on the button. You can then exit the spreadsheet by clicking on the button on the top-right of the spreadsheet.
- To create the series `INDC` and `INDY` type `generate INDC=1000*CON/POP` and press and then type `generate INDY=1000*YNC/POP` and press .
- To save this dataset, click `File`, then `Save As...` and save to a directory such as `M:\`. The dataset will be saved with the extension `.dta`.

1.3.3 Defining Time variables in Stata.

In this exercise you have been asked to input quarterly data. Creating a variable that denotes the quarters involves two steps; firstly creating a variable that Stata understands and secondly adding labels that humans understand.

- To create a time variable for quarterly data type `generate time = yq(year,quarter)` in the command line window and press . So far the variable `time` means very little, to view it type `browse` and press .
- To modify the variable `time` so that humans understand it, type `format time %tq` and press . To view the variables type `browse` and press .

So far Stata still does not know that this is time-series data. If you were to input a time-series command at this point (such as `ac INC`) you would get the error message: `time variable not set, use -tsset varname ...-` To tell Stata that this is time-series data, input the command:

```
tsset time
```

and press Enter. Next save the dataset and Stata will remember that this is time-series data.

1.3.4 Plotting time-series data.

Plotting data in Stata is very easy, if you know the command. To plot the series against time input the following command:

```
graph INDC INDY time
```

To plot a slightly prettier graph input the following command:

```
graph INDC INDY time, c(11) xlab ylab.
```

To plot a scatter diagram of INDC on INDY input the command:

```
graph INDC INDY, xlab ylab.
```