Step one: Read data from Excel

1) You will read the series for unemployment and inflation you prepared during the Excel tutorial into Eviews. If you haven't saved that file you can download it from Professor Isgut web site. (Go to http://aisgut.web.wesleyan.edu/econ300/f02/eg.html and click on the US unemployment and inflation data link.)
2) Open the Excel file. Make sure that the data series are in columns next to each other (e.g. in columns B and C) and that the names of the series (UNEMP, INF) appear on top of each column of data. Write down in a piece of paper the period covered by the data (e.g. 1948:01 to 2002:07) and the upper-left data cell (e.g. B2). IMPORTANT: Save and close the Excel file.
3) Open EViews and click on "File"→"New"→"Workfile…". Then select "Monthly" for the frequency and (following the example) enter 1948:01 for the Start date and 2002:07 for the End date.
4) Click on "File"→"Import"→"Read Text-Lotus-Excel…". Then go to the directory where you saved the Excel file, and double-click on its name.
5) Enter the upper-left data cell and the number of series (in this example. 2) in the appropriate boxes, and click 'OK".
6) Note: There are two additional ways to enter data into Eviews. One of them is useful to add series one by one to an existing workfile. For that purpose, to click on "Object"→"New Object…"→"Series"→"OK". You will see a spreadsheet with the letters "NA" in the first column. Then click on "Edit+/-". After that go to the Excel spreadsheet from where you want to get the additional series, and copy and paste it over the column of NA's. (Important: make sure that the period of the additional series matches with the periods in the Eviews workfile.). Then click on Name, enter a name for the series, and close the Series window. As a second method, you can read data directly from a database (USECON) that comes with Eviews (see more below). This method is useful in case the data you need are time series data for the U.S. economy.

Step two: Graphical analysis

1) Click on INF and then hold down the control key and click on UNEMP. Double-click on either of the highlighted series and select "Open Group". You will see a spreadsheet with the two series.
2) In order to create a time series chart click on "View"→"Graph"→"Line". To copy the file into a Word file click on "Edit"→"Copy"→"OK", and then paste into Word.
3) To make a scatterplot click on "View"→"Graph"→"Scatter"→"Simple Scatter". Oops! Shouldn't the explanatory variable (unemployment in the Phillips curve) be in the horizontal axis? To do it right close the Group window and create a new group (as in step 1) by clicking first on UNEMP (the explanatory variable) and then on INF (the dependent variable). The scatterplot will now have unemployment, the explanatory variable, in the horizontal axis.
4) As an interesting alternative, you can create a scatterplot with a regression line. Select "View"→"Graph"→"Scatter"→"Scatter with Regression"→"OK".
5) To make a histogram select one variable at a time by double-clicking on its name. Then click on "View"→"Descriptive Statistics"→"Histogram and Stats". You get a histogram

with selected statistics. (Compared with Excel, EViews doesn't allow you to select the length of the histogram intervals, and also you can't get rid of the statistics if you want to export the graph to Word. On the positive side, Eviews is a lot faster.)

6) Two additional types of graphs that are very easy to do with Eviews are Kernel densities and normal quantile plots. A Kernel density gives you a continuous function that approximates the distribution (think of it as a stylized histogram). To make one, click on the variable name and then select "View"→"Distribution Graphs"→"Kernel Density…"→"OK". On the other hand, a normal quantile plot allows you to examine whether the data are roughly normally distributed. To make one select "View"→"Distribution Graphs"→"Quantile-Quantile …"→"OK". (The Eviews normal quantile plots differ from those in the Moore and McCabe text in that the variable under analysis appears on the x-axis. Eviews also lets you easily prepare quantile plots based on distributions other than the normal.)

Step three: Statistical and regression analysis

1) Select a group with all the variables you will examine and click on "View"→"Descriptive Stats"→"Individual Samples". You get a table with selected statistics. (As in the case of the histograms, Eviews is less flexible than Excel in that you get a predetermined number of statistics, not all of which you might need.)
2) To run a simple regression click on "Quick"→"Estimate Equation…" and then enter the equation in the Equation Specification box in the following way: first the name of the dependent variable, then the letter C to include a constant, and finally the name of the dependent variable. For example, to estimate a simple Phillips curve enter **INF C UNEMP** and click "OK".
3) You can also transform the variables so that the function you estimate is non-linear. For example, a common specification for the Phillips curve is $INF = \alpha + \beta(1/UNEMP)$. In this case the slope is given by $dINF/dUNEMP = -\beta(1/UNEMP)^2$, so you would expect to find a positive value of β for the Phillips curve to be negatively-sloped. You can easily run this regression in Eviews by entering **INF C 1/UNEMP** in the Equation Specification box. Notice that once you have estimated an equation you can click on "Name" to store it if you want to. If you don't want to store it and need to run a new regression, click on "Estimate" in the Equation window, to enter the new specification.
4) Once you have run a regression, the results appear in a table with lots of information. For the time being we'll care about the first two rows. Under "Variable" there appears the name of the explanatory variable and the constant term C. Under "Coefficient", there appear the estimated coefficients of the regression (for example, the one on the C row is the estimated intercept, and the one on the explanatory variable row is the estimated slope. On top of the table, Eviews tells you which are the dependent variable, the method of estimation (we'll mostly use least squares), the period (if it is a time series), and the number of observations. Of the numbers at the bottom of the table, you should understand at this stage the R-squared, the sum of squares residuals, and the mean and standard deviation of the dependent variable. We'll learn to read the additional columns of the table and a few more statistics from the bottom of the table later on in class.
5) The results from the Phillips curve you have estimated seem to contradict expectations. (Why?) Maybe the Phillips curve shifted over time? Maybe that empirical relationship is not observed anymore in the data? To sort out these possibilities you can try different things. One of them is to estimate the equation for different subperiods. For that purpose click on "Estimate" in the Equation Specification window, and change the sample period

in the bottom box. For example change the period to 1948:01-1972:07. Do the results change?

6) To make sure what you just found is right, make a new scatterplot for the period 1948:01-1972:07 only. To select that subsample, click on Sample in the Workfile window and enter the restricted sample period. Then proceed as in point 4 in the previous section to make a scatterplot with a regression line. What you see?
7) Optional: Repeat the above procedure for other subperiods. Can we conclude that the Phillips curve is a thing of the past?
8) Running a multiple regression is a breeze in Eviews. Just follow the instructions in point 2 above, entering more than just one explanatory variable. For example, you can enter a linear time trend as additional explanatory variable. The variable name @TREND, generated automatically by Eviews, takes a value of 1 for the first observation, two for the second, and so on. So as an example of a multiple regression you could enter the following in the Equation Specification box: **INF C UNEMP @TREND**. Does the positive slope go away when you enter a linear trend in a regression for the full sample? What happens if you enter a quadratic trend: **INF C UNEMP @TREND @TREND^2**?
9) Another thing you can do with Eviews is to create dummy variables. For example, suppose that during the period of high inflation roughly between 1970 and 1982 inflation expectations were higher, so the Phillips curve could have shifted up. A rough way to control for this exceptional period is to add a dummy variable that takes a value of one during 1970 and 1982 and zero otherwise. In general, to create a dummy variable in Eviews, you need to click on "Genr" in the Workdfile window, and enter an expression such as D=(condition). After hitting "OK" you will have created a variable that takes a value of 1 when the condition is true and 0 otherwise. To create a dummy equal to one between 1970 and 1982, enter the following expression: **SEVENTIES=(@YEAR>=1970 and @YEAR<=1982)**. (The variable @YEAR, created automatically by Eviews, returns the year. Notice that this condition is formed by using the Boolean operator AND.)
10) Once you have created the dummy variable, you can run the following regression: **INF C UNEMP SEVENTIES**. Is the slope of the Phillips curve negative after taking into account the exceptional seventies?

Optional: Finding data in USECON

1) Open a new workfile specifying the period and the frequency of the series
2) Click on "File"→"Open"→"Database…". Then go to the location where the database is stored: *S:\Data Analysis\Eviews\EViews4net\data* and double-click on the file *usecon.edb*. To find series click on EasyQuery and enter a keyword in the box under "AND description MATCHES". For example, if you enter unemployment and click OK, you will get a list of series that have the word unemployment in its description. Suppose you choose the series lr, civilian unemployment rate, 16 years+ (in percent, seasonally adjusted). To add it to your workfile, double click on the series name (lr) and then click on "Export to Workfile". Recall that the USECON database has only data for the US economy, and only time series data.