

## Econ 482

# Extra-credit Takehome Assignment Computer Instructions for STATA

You will need a (USB) flash drive to copy the data set onto.

### How to download the data to your flash drive

1. Use your favorite web browser and go to [www.u.arizona.edu/~rlo/](http://www.u.arizona.edu/~rlo/) to download the data file **e482XtraCredit\_data.dta**.
2. Follow the course links to Econ 482 to find **e482XtraCredit\_data.dta** and save this to your flash drive.

### How to read the data set into STATA

1. To start STATA, simply click on the file **e482XtraCredit\_data.dta** which should be on your flash drive.
2. The variables **m1**, **r**, **p**, and **q** will automatically be read into STATA.

### How to complete the computer phase of the extra credit assignment

1. You will want to create a log of your output for later printing. To start a log of your output, find the **Log** option in the file menu. Choose **Begin** from the sub-menu. Click on the **Save as type** drop box and select **Log (\*.log)**. Give your log file a name in the **File Name** text box and click on the **save** button to save the log to a convenient directory of your choosing. Everything you do in STATA will be written to this log file until you type **log close** in the command box. If you wish to temporarily stop writing to the log file, type **log off**. When you wish to continue writing to the log file, type **log on**.
2. The variables of interest are  $m1$ ,  $r$ ,  $p$ , and  $q$ . Regardless of whether the original variable names are upper or lowercase, when imported into STATA their names are converted to lower case  $m1$ ,  $r$ ,  $p$ , and  $q$ .

From here on you will need to remember that every command you type in the command box must be followed by the 'enter' key.

3. To estimate the linear form  $m1_t = \beta_0 + \beta_1 r_t + \beta_2 p_t + \beta_3 q_t + u_t$  do the following:
  - a. In the command box type the command **regress m1 r p q**
  - b. That's it! The regression results will appear on the screen and will be captured in the special file.

- c. Your estimates  $\hat{\beta}_0, \hat{\beta}_1, \hat{\beta}_2,$  and  $\hat{\beta}_3$  will appear in the column headed by "Coef. ".  $\hat{\beta}_1$  is the value that appears next to the variable  $r$ ,  $\hat{\beta}_2$  is the value that appears next to the variable  $p$ ,  $\hat{\beta}_3$  is the value that appears next to the variable  $q$ , and  $\hat{\beta}_0$  is the value that appears next to the variable `_cons` (this is the constant or intercept term).
4. To estimate the double-log form  $\ln(m1_t) = b_0 + b_1 \ln(r_t) + b_2 \ln(p_t) + b_3 \ln(q_t) + u_t$  do the following:
- You will need to create new variables that are the logs of the original variables.
    - To keep things simple you can use easy to remember log variable names.
    - To create the natural log of **m1** and name this variable **logm1** just type the command **gen logm1 = log(m1)**.
    - To create the remaining log variables just type the following commands and hit the 'enter' key after each command
 

```
gen logr = log(r)
gen logp = log(p)
gen logq = log(q)
```
  - In the command box type the command **regress logm1 logr logp logq**  
The regression results will appear on the screen and will be captured in the special file.
  - Your estimates  $\hat{b}_0, \hat{b}_1, \hat{b}_2,$  and  $\hat{b}_3$  will appear in the column headed by "Coef. ".  $\hat{b}_1$  is the value that appears next to the variable  $\ln(r)$ ,  $\hat{b}_2$  is the value that appears next to the variable  $\ln(p)$ ,  $\hat{b}_3$  is the value that appears next to the variable  $\ln(q)$ , and  $\hat{b}_0$  is the value that appears next to the variable `_cons` (this is the constant or intercept term).
5. To estimate the semi-log form  $\ln(m1_t) = a_0 + a_1 r_t + a_2 p_t + a_3 q_t + u_t$  do the following:
- In the command box type the command **regress logm1 r p q**  
The regression results will appear on the screen and will be captured in the special file.
  - Your estimates  $\hat{a}_0, \hat{a}_1, \hat{a}_2,$  and  $\hat{a}_3$  will appear in the column headed by "Coef. ".  $\hat{a}_1$  is the value that appears next to the variable  $r$ ,  $\hat{a}_2$  is the value that appears next to the variable  $p$ ,  $\hat{a}_3$  is the value that appears next to the variable  $q$ , and  $\hat{a}_0$  is the value that appears next to the variable `_cons` (this is the constant or intercept term).

6. To estimate the reciprocal form  $\ln(m1_t) = c_0 + c_1 \frac{1}{r_t} + c_2 p_t + c_3 q_t + u_t$  do the following:
- You will need to create a new variable to represent  $\frac{1}{r_t}$ . Let's call this new variable *recipr*. To create this new variable simply type the command  
**gen recipr = 1/r**
  - Next in the command box type the command **regress m1 recipr p q**  
The regression results will appear on the screen and will be captured in the special file.
  - Your estimates  $\hat{c}_0, \hat{c}_1, \hat{c}_2,$  and  $\hat{c}_3$  will appear in the column headed by "Coef. ".  $\hat{c}_1$  is the value that appears next to the variable *recipr*,  $\hat{c}_2$  is the value that appears next to the variable *p*,  $\hat{c}_3$  is the value that appears next to the variable *q*, and  $\hat{c}_0$  is the value that appears next to the variable *\_cons* (this is the constant or intercept term).
7. You will need to retrieve the means of the independent variables. An easy way is STATA is to use the **sum** command:  
In the command box type **sum r** to obtain the mean of *r*.  
After your results are displayed type **sum p** in the command box to obtain the mean of *p*.  
After your results are displayed type **sum q** in the command box to obtain the mean of *q*.
8. To end your recorded session, type the command **log close** (followed by the 'enter' key). This command will save your completed session under the file name and location you had specified when you started logging your session at the beginning.
9. You are now ready to exit the STATA program so click on the **File** menu at the top and then click on **Exit**. If a dialogue box appears asking whether you want to exit without saving changes to the data, click 'yes'.

10. How to print your output file using Microsoft Word. (You may want to print your file at home to avoid printing charges in the Sands Lab)
  - a. Click on the icon for Microsoft Word and then click on the **File** menu.
  - b. Click on the **Open** option. At the bottom of the dialogue box for the **Files of type** window select **all files**.
  - c. At the top of the dialogue box is the **Look in** window. Browse through to the directory to which you saved your log file.
  - d. Click a couple of times on your log file and your results should pop onto the screen.
  - e. In order to make your output appear nicely formatted do the following: click on **Select All** in the appropriate Microsoft Word menu , change the font size to 10, and change the font type to **courier**.
  - f. Click on the **File** menu and select the **Print** option. After you print out the file you can just exit windows without saving anything.
11. How to print your output file using Notepad.
  - a. Browse through to the directory to which you saved your log file.
  - b. Click a couple of times on your log file and your results should pop onto the screen.
  - c. Click on the **File** menu and select the **Print** option. After you print out the file you can just exit windows without saving anything.
12. Don't forget to take your flash drive with you after you are finished.