Exercise - Week 1

1 Setting up STATA

- Start the WTS session (type WTS at the dos prompt).
- Open a web browser and connect to my teaching webpage:

  http://www.homepages.ucl.ac.uk/~uctpsc0/Teaching/GR03.html

- Go to the section "Data Files for Tutorial Classes".
- Click on the zip file link containing all the dataset used in the lectures and save the files on your R drive.
- Using Exceed, open up an X windows on socrates (socrates.ac.uk).
- Type "use stata".
- Type "xstata".

2 Learning STATA commands

- Load the data set called global.dta. To do this, type in the command box: **use global**.
- Click on the browser icon on top of the window (alternatively **type browse**) and have a look at the data.
- To see simple statistics of the data, type **summarize** or **su** for short. For more statistics for a particular variable, for example type **su temp, detail**.
- Tabulate categorical variable by typing **tab sunspot**.
- IF statements.

==	equal to	~=	not equal
>	larger than	>=	larger or equal
&	and	|	or

  compute the average temperature for years after 1900 and for which the number of sunspots is larger than 30. **su temp if year**>1900 **& sunspot** >30.

- Let's learn how to graph.
  - **scatter temp year**
  - **line temp year**
  - **line temp year, title("Temperature")**
  - **twoway (line temp year) (line co2 year, yaxis(2)), title("Temperature and CO2")**
- In order to generate new variables, type **generate lnt =ln(temp)** or for short **gen lnt = ln(temp)**, for example. You can add a label by typing **label variable lnt "log temperature"**. If you plot this variable, do you see any differences in the labelling?
- Generate x = 0 by typing **gen x = 0**. In order to drop variables or observations, type **drop x**.
- Let's learn how to run OLS regression.
  - Regress temperature on year: type **reg temp year**.
  - Increase the number of observation in the data set to reach up to 2050: **set obs 351**.
  - Replace the missing observation with numbers: **replace year = 1699 + _n.**
  - Compute the predicted temperature: **predict ptemp, xb**. What is the average temperature in 2050, given the regression model we use?
  - Graph the observed and predicted temperature as a function of time: **twoway (line ptemp year) (line temp year)**.
- Close the file you have been working on, by typping **clear**.

3 Extra

- Open another data set, called HPRICE2.DTA, by typping **use HPRICE2**. Explore the variables in the files (like doing summary statistics and drawing some graphs).
- Regress the log of housing prices (variable called *price*) on the log of the amount of nitrogen oxide in the air (variable called *nox*). What is the estimated slope coefficient, the elasticity of housing prices on nitrogen oxide?
- Regress the log of housing prices on the log of other variables such as a weighted distance of the community from five major employment centers (called *dist*), the average student-teacher ratio of schools in the community (called *stratio*) and the crime rates in the community (called *crime*).