

ECON 6300/7320/8300: Advanced Microeconometrics

Tutorial 1: Stata and Basic Statistics

At the end of this tutorial you should be able to

- use Stata to read, manipulate and save data and workfiles
- use Stata to compute descriptive statistics
- use Stata to conduct hypothesis tests concerning a population mean

Problems:

1. The text file `consumption.dta` contains observations on the weekly family consumption expenditure (`CONS`) and income (`INC`) for a sample of 10 families.

- (a) Read the data into Stata
- (b) Draw a scatter diagram of `CONS` against `INC`.
- (c) On checking the data, you find that your assistant has recorded the weekly consumption expenditure for Family 8 as \$900 instead of \$90. Correct this error and redraw the scatter diagram
- (d) Compute the mean, median, maximum and minimum values of `INC` and `CONS`.
- (e) Compute the correlation coefficient between `CONS` and `INC`. Comment on the result.
- (f) Create the following new variables

$$DCONS = 0.5CONS$$

$$LCONS = \log(CONS)$$

$$INC2 = INC^2$$

$$SQRTINC = \sqrt{INC}$$

- (g) Delete the variable `DCONS` and `SQRTINC` from the workfile
 - (h) Delete this workfile.
2. At the Famous Fulton Fish Market in New York city, sales of whiting (a type of fish) vary from day to day. Over a period of several months, daily quantities sold (in pounds) were observed. These data are in the file `fultonfish.dat`. Description of the data is in the file `flutonfish.def`. Describe the first four columns.
 - (a) Use Stata to open the data file and name the series in the first four columns as `date`, `lprice`, `quan` and `lquan`
 - (b) Compute the sample mean and standard deviation of the quantity sold (`quan`).
 - (c) Test the null hypothesis that the mean quantity sold is equal to 7,200 pounds a day at the 5% level of significance. Be sure to state i) the null and alternative hypothesis, ii) the decision rule, iii) the test statistic, iv) the decision, and v) your statistical conclusion.
 - (d) Construct the 95% confidence interval for part (c)
 - (e) Label the variable `lprice` as “log(Price) of whiting per pound” and `lquan` as “log(Quantity)”. Then, plot `lprice` against `lquan`. Comment on the nature of the relationship between these two variables.
 - (f) Save this workfile to any folder on any drive.