

WWS 508b

Precept 3

John Palmer

March 2, 2010

Missing data

Make sure you understand what is happening to missing values when you generate new variables or recode existing ones.

Elasticity

What percentage change in y do we see for each percentage change in x ?

After running regression in Stata:

```
mfxb compute, eyex at(mean)
```

Interpreting regression results

What is difference between a 10 percent change in y and a 10 percentage point change in y ?

Visualizing regression

Mathematica demonstration

Relationships between common distributions

Let Y be a normally distributed random variable. Then

$$Z = Y_1 + Y_2 + Y_3$$

is also normally distributed.

$$W = Z_1^2 + Z_2^2 + Z_3^2 \dots + Z_m^2$$

has a chi-squared distribution with m degrees of freedom. If V is chi-squared with n degrees of freedom. Then

$$f = \frac{W/m}{V/n}$$

has an F distribution with m and n degrees of freedom.

Relationships between common distributions

$$\frac{Z}{\sqrt{W/m}}$$

has a Student t distribution with m degrees of freedom.