Lecture 8. Analysis

Marcy Shieh

November 5, 2020

Goals

- ▶ Learn how to fit a regression

Regressions

- Regressions help you estimate the relationship between a dependent and independent variable
- There are different types of regressions

Regressions common in political science

- ▶ Linear regression
- ▶ Logistic regression
- ▶ There are also other regressions, but those are the two regressions that are widely used. . .

Linear regression

- Use when the outcome is continuous

Logistic regression

- Use when the outcome is binary

Is it really that simple?

No. . .

Here are other things you should think about. . .

- ▶ Play around with your data! Get to know your data! Summarize your data, explore your data, etc.

- ▶ Analyze different metrics to evaluate the goodness of fit

- ▶ Cross-validation: a small difference between the observed and predicted values suggest prediction accuracy

- ▶ You may use automated model selection procedures but be careful when if you have a bunch of control variables where you might not want to put them all in the same model

- ▶ Consider what is possible, what your resources are, etc. If it's resource-intensive to use a certain regression, you may want to weigh your options

- ▶ Regression regularization methods are useful for data with high dimensionality (features exceed observations) and multcollinearity (variables are highly related)