DATA ANALYTICS FOR POLITICAL SCIENCE

BIVARIATE RELATIONSHIPS

ASSIGNMENTS

- Problem Set 2 due on Friday
- Review Exercise 4 due on Monday
- Prompt for Data Analysis Memo 2 posted

NEW VARIABLE VS. NEW DATA

```r
# create a new variable
data$newvariable <- NA

data$newvariable[data$oldvariable=="blah" &
data$oldvariable=="bleh"] <- "blehblah"

data$newvariable[data$oldvariable=="bloh" &
data$oldvariable=="bluh"] <- "blohbluh"

# create a new dataset that is only a subset
of the old dataset
newdata <- data[data$oldvariable=="blah" &
data$oldvariable=="bleh",]
```

POLARIZATION IN CONGRESS

Table 3.3. Legislative Ideal Points Data.

Variable	Description
name	name of the congressional representative
state	state of the congressional representative
district	district number of the congressional representative
party	party of the congressional representative
congress	congressional session number
dwnom1	DW-NOMINATE score (first dimension)
dwnom2	DW-NOMINATE score (second dimension)

- congress.csv
- Today: How did polarization in Congress change over time, and what may explain it?

POLARIZATION IN CONGRESS

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- **First: focus on 80th (1947-49) and 112th (2011-13) Congress**
  - Create scatterplots: First and second dimension of DW-NOMINATE for D and R, separately for 80th and 112th Congress
- **Then: focus on all Congresses**
  - What are the party medians of the 1st dimension for each Congress? Plot them.

POLARIZATION IN CONGRESS

- polarization_gini.csv
  - congress: congressional session number
  - dem.median: Median DW-NOMINATE score (first dimension), Democrats
  - rep.median: Median DW-NOMINATE score (first dimension), Republicans
  - gini: US Gini coefficient

- Create a polarization variable and plot it over time
- Separate plot of gini over time
- Scatterplot of both

UN VOTING

Table 3.8. United Nations Ideal Points Data.

Variable	Description
CountryName	name of the country
CountryAbb	abbreviated name of the country
idealpoint	its estimated ideal point
Year	year for which the ideal point is estimated
PctAgreeUS	proportion of votes that match with votes cast by the United States on the same issue
PctAgreeRUSSIA	proportion of votes that match with votes cast by Russia/the Soviet Union on the same issue

- unvoting.csv
- How have states' ideological positions changed since the end of the Cold War?
  - Ideological positions measured through voting patterns

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- **idealpoint: captures countries "liberalism" (on e.g. political freedom, democratization, financial liberalization)**
  - Higher values=more liberal
- **PctAgreeUS/PctAgreeRUSSIA: share of votes that match how US/Russia vote**

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- Compute the median of idealpoint for each year, and plot it
- Compute the median of PctAgreeUS for each year, and plot it
- Compute the correlation between the two variables