

# Final Assignment Proposal

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## Research Question

How Super PAC Independent Expenditure impacts political polarization in the Senate?

## Hypothesis (V1.0)

### Hypothesis:

Super PAC independent expenditures have increased the level of political polarization in the Senate compared to pre-2010 sessions.

## Variables

### Outcome Variable (Y):

Level of political polarization between politicians (using *nominate\_dim1*<sup>1</sup> variable).

- *nominate\_dim1* is an individual politician-level variable (how liberal or conservative they are in economic terms).
- Consider calculating the level of variation (or polarization) for each Congress.

### Predictor Variables:

- Size of Super PAC Independent Expenditures
- Count of Super PAC Independent Expenditures per Campaign Cycle (FEC)

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<sup>1</sup>DW *Nominate* data measures a politician's ideology based on their tenure. One of the scales, *nominate\_dim1*, represents the economic liberal–conservative dimension.

Unlike *nominate\_dim1*, *nokken\_poole\_dim1* estimates are calculated separately for each congressional session. (Data access: VoteView Data)

- Proportion of Campaign Funds that come from Super PACs
  - *E.g.* 25% of candidate X's funds from Super PACs

## **Confounding Variables:**

- How did their district vote according to party lines?
  - Proportion of vote shares for the winning candidate
- Party affiliation
- Change in party (Vote View)

## **Data Sources**

- **DW Nominate** (Vote View)
- **FEC Data** on Independent Expenditures

## **Research Design**

### **Time Periods**

- **Pre-Treatment:** 2000–2010
  - Since Super PACs' independent expenditures were not legal before 2010, we could assign weights to PAC contributions prior to 2010 to make them equivalent.
- **Treatment:** 2010–2025 (or something)

### **Methods**

- **Event-Study Method**
  - Take the average each year by Congress.
- **K-Means Classification**
  - Classify groups of Super PACs by *nominate\_dim1* / number of independent expenditures / size of independent expenditures of supporting/opposing politicians.
  - Helps identify interests or motivations of that Super PAC.

### **Population**

- Explore the data to determine whether to exclude freshman representatives.
  - Did the “type” of person that seeks office change after 2010?
- Focus on the **Senate** (note: could introduce bias).