The Original “Gerrymander”

- Named for Elbridge Gerry, Governor of Mass., 1810-12
- Later Vice President under Madison
- Plan elected Republicans 29-11, even though they received only 57% of the popular vote.
Florida 3\textsuperscript{rd} (Black majority)

“Gnawed Wishbone”
Illinois 4\textsuperscript{th} (Hispanic majority)

“Pair of Earmuffs”
Louisiana 4th (Black majority)

“Mark of Zorro”
New York 12th (Hispanic Maj.)

“Bullwinkle”
Texas 29th (Hispanic Majority)

“Bird with Plumage”
1) “Microscopic View of a Disease”
2) “Flying Fossilized Reptile”
Texas 25th (Hispanic Majority)

“Cubist Worm”
Georgia 11th (Black majority)

“French Poodle Attacking with a Hatchet”
1965 Voting Rights Act Primer

Section 2

- Swept away all states laws imposing “tests or devices” on any individual’s right to vote
- Made illegal all state & local laws that “deny or abridge” minorities’ right to vote
- Permanent

Implementation

- Many city councils elected at-large were forced to change to district-based elections
Section 5

- Covered states must receive federal approval for changes in laws that may affect voting
  - Changes in Electoral Systems (but not legislative rules)
  - Annexation/De-annexation of suburbs
  - Redistricting

- Not permanent; up for renewal in 2007

Implementation

- Standard for preclearance was retrogression
  - I.e., couldn’t go back to at-large elections
- Unclear how this applies to redistricting
- Assumption was that you would pass if you didn’t reduce the number of majority-minority districts
BUT… Things Get *Ugly*

- After 1990 Census, North Carolina drew a map with one majority-minority dist.
  - Same as they had in the 1980’s
- DOJ (surprisingly) denied preclearance
  - Said NC could have created a second, but didn’t, for discriminatory reasons
- So the state went back to the drawing board and made a second M-M district
Overturned in Shaw v. Reno as *unconstitutional* racial gerrymander
State had to go back to the drawing board again
Emerging tradeoff between descriptive and substantive representation?
Key to passing legislation important to minorities is coalition building.

Two strategies to accomplish this:

1) Elect minorities to office and have them bargain in the legislature.
2) Spread minorities out more, and have them part of an electoral coalition.

Question: Given current conditions, which strategy maximizes substantive representation?
How would you draw districts to maximize the votes in favor of minority-supported legislation?
- Automatically accounts for the fact that more Blacks → more Republicans too
- Is this different from the strategy to elect as many Blacks as possible?
- How has this changed over time?
Methodology

To calculate optimal districting schemes:

1. Determine relationship BVAP ⇒ Roll Call Voting in Congress (Representation Effect)

2. Determine relationship BVAP ⇒ Type of Representative Elected (Electoral Effect)

3. Combine 1 & 2 to maximize average expected LCCR score across districts.

\[ E(VS \mid BVAP) = \sum_{\theta} E(VS \mid \theta, BVAP) \cdot P(\theta \mid BVAP) \]

- Representation Equation
- Electoral Equation
Estimation Strategy

1. Data & Measurement Issues
2. Estimate Electoral & Representation Equations
3. Combine to Maximize Expected Representation
Estimation Strategy

1. Data & Measurement Issues
   - Voting Scores
   - Level of Analysis
   - Functional Form

2. Estimate Electoral & Representation Equations

3. Combine to Maximize Expected Representation
## Descriptive Statistics

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>DESCRIPTION</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCCR</td>
<td>Member's civil rights voting record.</td>
<td>Leadership Conference on Civil Rights, Civil Rights Voting Record for the 103rd Congress.</td>
</tr>
<tr>
<td>VoteScore</td>
<td>Support for measures in which over 60% of black representatives voted alike.</td>
<td>Congressional Quarterly Key Votes of the 103rd Congress</td>
</tr>
<tr>
<td>Party</td>
<td>1 for Republicans; 0 otherwise.</td>
<td>1994 Almanac of American Politics</td>
</tr>
<tr>
<td>Race</td>
<td>Race of member coded 1 for black; 0 otherwise.</td>
<td>Congressional Quarterly, vol. 52, supplemental to issue no. 44, p. 10.</td>
</tr>
<tr>
<td>BVAP</td>
<td>Percent black voting age population in the district.</td>
<td>1990 Census data</td>
</tr>
<tr>
<td>Cover</td>
<td>1 if district is covered under Section 5 of the VRA; 0 otherwise.</td>
<td>Handbook of U.S. Election Laws and Practices, 249-51 &amp; 257-62</td>
</tr>
<tr>
<td>South*</td>
<td>1 for southern states; 0 otherwise.</td>
<td>Congressional Quarterly Almanac, 1994</td>
</tr>
<tr>
<td>East**</td>
<td>1 for eastern states; 0 otherwise.</td>
<td>Congressional Quarterly Almanac, 1994</td>
</tr>
</tbody>
</table>
LCCR vs. Vote Scores
## Level of Disaggregation

### Six Subgroups of Representatives

<table>
<thead>
<tr>
<th>Region Type</th>
<th>South Covered</th>
<th>South non-Covered</th>
<th>Other</th>
<th>Northeast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republicans</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Non-Black Democrats</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Black Democrats</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Estimation Approaches

**Multivariate**

- BVAP
- Educ
- Income
- Urban
- VoteScore

**Bivariate**

- BVAP
- Educ
- Income
- Urban
- VoteScore
Estimation Strategy

1. Data & Measurement Issues
2. Estimate Electoral & Representation Equations
3. Combine to Maximize Expected Representation

- BVAP ➔ Type of Representative
- Point of Equal Opportunity
- BVAP ➔ Votes in Congress
Electoral Equations

- Estimate—BVAP → Type Elected
- Method—Use ordered probit:
  - Dependent Variable
    - White Democrat
    - Black Democrat
    - Republican
  - Independent Variable
    - BVAP
    - Regional effects
Electoral Equations

94th Congress

99th Congress

104th Congress

Decreased polarized voting within the electorate.
Representation Equations

- For each subgroup, estimate BVAP→Vote Score
- Method: Test down from most general functional form to more restrictive.
  1. Fit general additive models using loess and smoothing splines;
  2. Test for non-linearities;
  3. If not important, use robust linear method (plus usual diagnostics);
  4. If important, reproduce in a parametric regression.
# Mean and Median Vote Scores

<table>
<thead>
<tr>
<th>Congress</th>
<th>94th</th>
<th>99th</th>
<th>104th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Vote Score</td>
<td>Average BVAP</td>
<td>Number</td>
</tr>
<tr>
<td>(1) Non-eastern Republicans</td>
<td>20.93%</td>
<td>6.15%</td>
<td>106</td>
</tr>
<tr>
<td>(2) Eastern Republicans</td>
<td>40.97%</td>
<td>3.6%</td>
<td>38</td>
</tr>
<tr>
<td>(3) Non-black Democrats from covered Southern districts</td>
<td>42.76%</td>
<td>18.02%</td>
<td>62</td>
</tr>
<tr>
<td>(4) Non-black Democrats from non-covered Southern districts</td>
<td>56.78%</td>
<td>11.81%</td>
<td>27</td>
</tr>
<tr>
<td>(5) Non-southern Non-black Democrats</td>
<td>81.30%</td>
<td>5.52%</td>
<td>186</td>
</tr>
<tr>
<td>(6) Black Democrats</td>
<td>93.69%</td>
<td>46.86%</td>
<td>16</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>56.53%</td>
<td>9.20%</td>
<td>435</td>
</tr>
<tr>
<td>Overall Median</td>
<td>64.00%</td>
<td>4.0%</td>
<td>435</td>
</tr>
</tbody>
</table>

**Scores are fairly constant within each group, differ across groups**

**Increased partisan polarization within Congress**
Estimation Strategy

1. Data & Measurement Issues
2. Estimate Electoral & Representation Equations
3. Combine to Maximize Expected Representation

\[ E(VS \mid BVAP) = \sum_{\theta} E(VS \mid \theta, BVAP) \cdot P(\theta \mid BVAP) \]

- Optimization
- Time Trends
- Regional Trends
Total Representation

94th Congress 99th Congress 104th Congress

South

East

Other

General patterns consistent across time.
State with \( n \) districts, \( P_b \) black voters;
Let \( \mathbf{b} = (b_1, b_2, \ldots, b_n) \), and \( VS(b_i) \) be the representation equation

Optimal allocation of minority voters will:

\[
\max_{\mathbf{b}} \sum_{i=1}^{n} VS(n \cdot b_i), \quad \text{s.t.:}
\]

\[
(1) \quad b_i \geq 0 \\
(2) \quad b_i \leq \frac{1}{n} \\
(3) \quad b_i \leq P_b \\
(4) \quad \sum_{i=1}^{n} b_i = P_b
\]

- Automatically accounts for inter-district effects of gerrymandering.
Optimal Districts for Substantive Representation

- In the 1970’s: 100%
  - Concentrate black voters as much as possible
  - Essentially, no white will vote for black representatives
- In the 1980’s: 65%
  - Strategy is still to elect blacks to office
- In the 1990’s: 45%
  - Still a good chance of electing blacks
  - But less likely to elect Republicans nearby
Southern states are highly over-gerrymandered
Optimal Districts for Electing Minorities

- We put equal opportunity at 40%
  - Criticized at the time
  - But subsequent elections have seen blacks win 11 of 15 southern seats from 40-50% districts

- Drawing districts to maximize the number of minorities elected: 57%

- So there is a tradeoff between descriptive & substantive representation
So maximizing policy influence now means reducing BVAP in some districts.

This was the issue in *Georgia v. Ashcroft*:

- Black legislators supported a new plan that dropped some 63% districts down to 51%.
- DOJ objected under Section 5, claiming that this was retrogression.

Court said minorities could choose to trade off descriptive & substantive rep.
Possible Application to Texas

- New plan left pre-existing majority-minority districts intact
  - But reduced the number of White Dems
- So descriptive representation is the same, substantive representation falls
- Is this OK?
  - No: this is retrogression under *Ashcroft*
  - Yes: Otherwise only Democrats can gerrymander for partisan reasons
Conclusions

- Tradeoff between descriptive and substantive representation has developed over time
  - Decreased polarized voting in the electorate
  - Increased partisan polarization in Congress

- To maximize substantive representation:
  - Outside South: equal-minority districts
  - South: ~45% districts

- Black candidates can win election outside of majority-minority districts