Regulating Elections: Districts

17.251/252
Spring 2016
Throat Clearing

Preferences \(\rightarrow\) The Black Box of Rules \(\rightarrow\) Outcomes
Major ways that congressional elections are regulated

• The Constitution
  – Basic stuff (age, apportionment, states given lots of autonomy)
  – Federalism key

• Districting

• Campaign finance
APPORTIONMENT
Apportionment methods

- 1790 to 1830--The **Jefferson method** of greatest divisors
  - Fixed “ratio of representation” with rejected fractional remainders
  - Size of House can vary
- 1840--The **Webster method** of major fractions
  - Fixed “ratio of representation” with retained major fractional remainders
  - Size of House can vary
- 1850-1900--The **Vinton or Hamilton** method
  - Predetermined # of reps
  - # of seats for state = Population of State/(Population of US/N of Seats)
  - Remaining seats assigned one at a time according to “largest remainder”
  - “Alabama paradox”
- 1940-2010--The method of equal proportions

Source:
https://www.census.gov/population/apportionment/about/history.html
About the Alabama Paradox …

- Called the “Alabama paradox” because of the 1880 census (increasing the House from 299 to 300 reduces Alabama’s seats)
- Rule: Compute “fair share” of seats, then allocate an additional seat according to largest remainder
- Example, 3 states w/ 10 & 11 seats

<table>
<thead>
<tr>
<th>State</th>
<th>Pop.</th>
<th>Fair share</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>610</td>
<td>4.357</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>590</td>
<td>4.214</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>200</td>
<td>1.429</td>
<td>1→2</td>
</tr>
<tr>
<td>Total</td>
<td>1400</td>
<td>9</td>
<td>9→10</td>
</tr>
<tr>
<td>Divisor</td>
<td>140=</td>
<td>1400/10</td>
<td></td>
</tr>
</tbody>
</table>

10 Seats | 11 Seats
---|---
| 10 Seats | 11 Seats
---|---
| 10 Seats | 11 Seats
Diversion to the Alabama Paradox

- Called the “Alabama paradox” because of the 1880 census (increasing the House from 299 to 300 reduces Alabama’s seats)
- Rule: Compute “fair share” of seats, then allocate an additional seat according to largest remainder
- Example, 3 states w/ 10 & 11 seats

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<td>A</td>
<td>610</td>
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<td>4→5</td>
</tr>
<tr>
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<td>200</td>
<td>1.429</td>
<td>1→2</td>
<td>1.575</td>
<td>1</td>
</tr>
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<td>1400</td>
<td>9</td>
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</tr>
<tr>
<td>Divisor</td>
<td>140=</td>
<td>1400/10</td>
<td></td>
<td>127 =</td>
<td>1400/11</td>
</tr>
</tbody>
</table>
Balinsky and Young (1982)
*Fair Representation*

- Any method of apportionment will yield paradoxes
- No apportionment method...
  - Follows the quota rule
    - Quota rule: If population$_s$/seats$_1 = I.ddd$, the state either gets $I$ seats or $I+1$ seats
  - Avoids the Alabama paradox
  - Avoids the population paradox
    - Population paradox: when you have two states, and the one that grows faster loses seats to the one that grows slower
Method of equal proportions

• “Results in a listing of the states according to a priority value--calculated by dividing the population of each state by the geometric mean of its current and next seats—that assigns seats 51 through 435.”

• Practically: This method assigns seats in the House of Representatives according to a ‘priority’ value. The priority value is determined by multiplying the population of a state by a ‘multiplier.’ For example, following the 1990 census, each of the 50 states was given one seat out of the current total of 435. The next, or 51st seat, went to the state with the highest priority value and thus became that state's second seat.

Source: http://www.census.gov/population/www/censusdata/apportionment.html
# Priority values after 2010

<table>
<thead>
<tr>
<th>Seat #</th>
<th>State</th>
<th>Priority #</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>California Seat 2</td>
<td>26,404,773</td>
</tr>
<tr>
<td>52</td>
<td>Texas Seat 2</td>
<td>17,867,469</td>
</tr>
<tr>
<td>53</td>
<td>California Seat 3</td>
<td>15,244,803</td>
</tr>
<tr>
<td>54</td>
<td>New York Seat 2</td>
<td>13,732,759</td>
</tr>
<tr>
<td>55</td>
<td>Florida Seat 2</td>
<td>13,364,864</td>
</tr>
</tbody>
</table>

... 431 Florida Seat 27 713,363
432 Washington Seat 10 711,867
433 Texas Seat 36 711,857
434 California Seat 53 711,308
435 Minnesota Seat 8 710,230
436 North Carolina Seat 14 709,062
437 Missouri Seat 9 708,459
438 New York Seat 28 706,336
439 New Jersey Seat 13 705,164
440 Montana Seat 2 703,158

\[
\frac{37,341,989}{\sqrt{2 \times 1}} = 18,900,773
\]
\[
\frac{18,900,773}{\sqrt{27 \times 26}} = 6,753,369
\]

Reapportionment Change in 2010

http://www.census.gov/population/apportionment/data/2010_apportionment_results.html
<table>
<thead>
<tr>
<th>Last seat given</th>
<th>Next seat at</th>
</tr>
</thead>
<tbody>
<tr>
<td>435 VA 12 (+1)</td>
<td>436 AL 7 (n.c.)</td>
</tr>
<tr>
<td>434 NY 34 (n.c.)</td>
<td>437 OR 6 (+1)</td>
</tr>
<tr>
<td>433 CA 54 (+1)</td>
<td>438 AZ 10 (+1)</td>
</tr>
<tr>
<td>432 TX 39 (+3)</td>
<td>439 MT 2 (+1)</td>
</tr>
<tr>
<td>431 CO 8 (+1)</td>
<td>440 MN 8 (n.c.)</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>446 RI 2 (n.c.)</td>
<td>746 WY 2 (+1)</td>
</tr>
</tbody>
</table>
Anticipated Gains/Losses in Reapportionment
2015 Estimates

State numbers reflect number of congressional house seats after change put into effect.

Based on Census Bureau estimates released 12/22/2015
Apportionment Change 2010-2030
Apportionment Change since 1940
Recent Reapportionment Court Challenges

  - Method of equal proportions OK
  - The Census Bureau can’t sample
  - “Hot deck” imputation challenged
  - Mormon missionaries miscounted
DISTRICTING
Districting

- Districts required in House races since Apportionment Act of 1842
- Effects of districting
  - Can influence overall responsiveness
  - Can influence quality of representation at a micro level
Districting principles

• Universal principles
  – Compactness and contiguity
  – Equal population
  – Respect existing political communities
  – Political/partisan fairness

• Distinct US principle
  – Civil rights constraints
Principle 1: Compactness

- General idea: \( \text{min} (\text{border/area}) \)
- Types of measures (~30 in all)
  - Contorted boundary
  - Dispersion
  - Housing patterns
Three major measures

Convex Hull

Polsby-Popper

Schwartzberg

Uses Polsby-Popper method
(Ratio of district’s area to a circle with the same perimeter)

Source: Christopher Ingraham, Washington Post
http://www.washingtonpost.com/wp-srv/special/politics/gerrymandering/
Compactness in the real world:
Kansas 2011 (Good)

Source: http://nationalmap.gov/small_scale/printable/images/preview/congdist/pagecgd113_ks.gif
Compactness in the real world
Ohio 2011 (not so good)

Source: http://nationalmap.gov/small_scale/printable/images/preview/congdist/pagecgd113_oh.gif
Compactness in the real world:
Florida
Florida 5th district (formerly 3rd)

Source: http://www.floridaredistricting.org/
Florida 20th District
Old Florida Map
New Florida Map
Principle 2: Contiguity

- General idea: keep the district together
Contiguity in the real world: Ohio in 2010

Source: http://www.sos.state.oh.us/sos/upload/reshape/congressional/2012CongressionalDistricts.pdf
Principle 3: Equal population

- Implied by having districts
- Bad: Many states before 1960s
  - Illinois in 1940s (112k-914k)
  - Georgia in 1960s (272k-824k)
- Good: equality?
# Equality in 2000

<table>
<thead>
<tr>
<th>State</th>
<th>Ideal District Size</th>
<th>Percent Overall Range</th>
<th>Overall Range (# of people)</th>
<th>State</th>
<th>Ideal District Size</th>
<th>Percent Overall Range</th>
<th>Overall Range (# of people)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>636,300</td>
<td>0.00%</td>
<td>-</td>
<td>Montana</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Alaska</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Nebraska</td>
<td>570,421</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Arizona</td>
<td>641,329</td>
<td>0.00%</td>
<td>0</td>
<td>Nevada</td>
<td>666,086</td>
<td>0.00%</td>
<td>6</td>
</tr>
<tr>
<td>Arkansas</td>
<td>668,350</td>
<td>0.04%</td>
<td>303</td>
<td>New Hampshire</td>
<td>617,893</td>
<td>0.10%</td>
<td>636</td>
</tr>
<tr>
<td>California</td>
<td>639,088</td>
<td>0.00%</td>
<td>1</td>
<td>New Jersey</td>
<td>647,257</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Colorado</td>
<td>614,465</td>
<td>0.00%</td>
<td>2</td>
<td>New Mexico</td>
<td>606,349</td>
<td>0.03%</td>
<td>166</td>
</tr>
<tr>
<td>Connecticut</td>
<td>681,113</td>
<td>0.00%</td>
<td>0</td>
<td>New York</td>
<td>654,360</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Delaware</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>North Carolina</td>
<td>619,178</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Florida</td>
<td>639,295</td>
<td>0.00%</td>
<td>1</td>
<td>North Dakota</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Georgia</td>
<td>629,727</td>
<td>0.01%</td>
<td>72</td>
<td>Ohio</td>
<td>630,730</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hawaii</td>
<td>582,234</td>
<td>-</td>
<td>-</td>
<td>Oklahoma</td>
<td>690,131</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Idaho</td>
<td>646,977</td>
<td>0.60%</td>
<td>3,595</td>
<td>Oregon</td>
<td>684,280</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Illinois</td>
<td>653,647</td>
<td>0.00%</td>
<td>11</td>
<td>Pennsylvania</td>
<td>646,371</td>
<td>0.00%</td>
<td>19</td>
</tr>
<tr>
<td>Indiana</td>
<td>675,609</td>
<td>0.02%</td>
<td>102</td>
<td>Rhode Island</td>
<td>524,160</td>
<td>0.00%</td>
<td>6</td>
</tr>
<tr>
<td>Iowa</td>
<td>585,265</td>
<td>0.02%</td>
<td>134</td>
<td>South Carolina</td>
<td>668,669</td>
<td>0.00%</td>
<td>2</td>
</tr>
<tr>
<td>Kansas</td>
<td>672,105</td>
<td>0.00%</td>
<td>33</td>
<td>South Dakota</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Kentucky</td>
<td>673,628</td>
<td>0.00%</td>
<td>2</td>
<td>Tennessee</td>
<td>632,143</td>
<td>0.00%</td>
<td>5</td>
</tr>
<tr>
<td>Louisiana</td>
<td>638,425</td>
<td>0.04%</td>
<td>240</td>
<td>Texas</td>
<td>651,619</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Maine</td>
<td>637,462</td>
<td>-</td>
<td>-</td>
<td>Utah</td>
<td>744,390</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Maryland</td>
<td>662,061</td>
<td>0.00%</td>
<td>2</td>
<td>Vermont</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>634,910</td>
<td>0.39%</td>
<td>-</td>
<td>Virginia</td>
<td>643,501</td>
<td>0.00%</td>
<td>38</td>
</tr>
<tr>
<td>Michigan</td>
<td>662,563</td>
<td>0.00%</td>
<td>1</td>
<td>Washington</td>
<td>654,902</td>
<td>0.00%</td>
<td>7</td>
</tr>
<tr>
<td>Minnesota</td>
<td>614,935</td>
<td>0.00%</td>
<td>1</td>
<td>West Virginia</td>
<td>602,781</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mississippi</td>
<td>711,165</td>
<td>0.00%</td>
<td>10</td>
<td>Wisconsin</td>
<td>670,459</td>
<td>0.00%</td>
<td>5</td>
</tr>
<tr>
<td>Missouri</td>
<td>621,690</td>
<td>0.00%</td>
<td>1</td>
<td>Wyoming</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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Source: National Conf. of State Leg.
2012 Supreme Court Case: W.Va. Deviations Acceptable

- Tennant vs. Jefferson County Commission
  - Overturns “as nearly as practicable” rule
- Originally passed bill had zero population variation
- Final bill:
  - 1st dist: 615,991
  - 2nd dist: 620,682
  - 3rd dist: 616,141
Principle 4: Respect for existing political communities*

- Iowa
- Politicians like it
- May be better for citizens
- Getting more difficult with computer drafting of districts and (nearly) equal populations

*Upheld in Tennant v. JCC
But, the Assembly’s another matter
Principle 5: (Partisan) Fairness

- Results should be symmetrical
- Results should be unbiased
Partisan Fairness

- What is the right responsiveness?
Swing ratio

• Measure of responsiveness

• Concept:
  – Swing ratio \( = \frac{\Delta \text{Seats}_p}{\Delta \text{Votes}_p} \)

• Various ways to measure
  – Empirical: across time
  – Theoretical: “uniform swing analysis”
Why the swing ratio is rarely 1

Distribution of vote share

Distribution of seat share

Slope $\sim 3$
Why the swing ratio is rarely 1

Slope = 1
Mayhew Diagram 2012
Mayhew Diagram 2014

Frequency

dempc
Empirical swing ratio
(with data from 1946-2014)
Figure 6.4

Swing ratio = 1.90:1
Bias = 3.6 points
Cumulative distributions, 2008 & 2010

2010 swing = 1.76

2008 swing = 1.15

2012 swing = 1.58
CDF 2014

2014 swing = 1.12
Redistricting and the “Republican Advantage” in the House

• Democrats beat Republicans nationwide in popular vote in 2012, but Republicans won the House handily
  – Likely to repeat in 2016
• Explanation: Republican gerrymanders in 2011
  – Ohio (48% Dem vote → 4D, 12R)
  – Florida (47% Dem vote → 10D, 17R)
  – North Carolina (51% Dem vote → 4D, 9R)
  – Pennsylvania (51% Dem vote → 5D, 13R)
  – Michigan (53% Dem vote → 5D, 9R)
  – Wisconsin (51% Dem vote → 3D, 5R)
Reasons for skepticism about the “Republican gerrymander” problem

• Incumbency accounts for ~ 7 points advantage, and there are more Republican incumbents

• Democrats are more concentrated geographically than Republicans
  – Confirmed by Chen and Rodden)

• Florida court case will yield at most a 3-seat shift to the D’s
Court cases concerning partisan fairness

• Davis v. Bandemer (1986)
  – Democrats challenge Indiana plan
  – Court has jurisdiction over partisan gerrymandering
  – This was not a partisan gerrymander

  – Democrats challenge Pennsylvania plan
  – Partisan gerrymandering may be nonjusticiable
  – No majority to overturn Davis v. Bandemer
Principle 5: (Racial) fairness

- From 15th amendment
  - “The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of race, color, or previous condition of servitude.”
- Voting Rights Act of 1965
  - Prevented dilution
    - Section 2: General prohibition against discrimination
    - Section 5: Pre-clearance for “covered” jurisdictions
      - covered jurisdictions must demonstrate that a proposed voting change does not have the purpose and will not have the effect of discriminating based on race or color.
  - 1980: Mobile v. Bolden
    - S.C. says you have to show intent
  - 1982: VRA extension allows effect
  - 1990: Justice dept. moved to requiring maximizing minority representation through pre-clearance
  - 2013: Shelby County v. Holder
    - Section 4b [coverage formula] unconstitutional, thus Section 5 unenforceable
    - Section 2 still in force (probably)
    - Effect greatest in non-districting cases
    - Possible effects on redistricting going forward
Some Court Cases Pertaining to Districting

- Equal population
  - Colgrave v. Green (1946): “political question”
  - Baker v. Carr (1962): Tennessee state districts
  - Gray v. Sanders (1963): Ga. unit rule
  - Wesberry v. Sanders (1964): “one person, one vote” doctrine
  - Davis v. Bandemer (1986): political gerrymanders subject to review, even if one person, one vote met
  - Veith v. Pennsylvania (2002): no deviation allowed (but political gerrymanders may be OK)
VRA Cases

- 1965: Dilution outlawed
- 1982: Extension + Republican DOJ = Racial gerrymanders
- 1993: Shaw v. Reno
  - Race must be narrowly tailored to serve a compelling gov’t interest, or….  
  - Sandra is the law
  - Non-retrogression doctrine
  - Districting overturned in GA, NC, VA, FL, TX, LA, NY (but not IL)
- Page v. Bartels (2001): incumbency protection OK, even if it’s only minority incumbents
- Alabama Legislative Black Caucus v. Alabama (2015) (It’s a mis-reading of Section 5 to keep the % of African Americans in a district the same)
- Shelby County (2013): struck down pre-clearance formula
Current Redistricting

Source: Justin Levitt, “All about Redistricting,” http://redistricting.lls.edu/
Mid-Decade Redistricting Cases after 2000

- **Colorado**
  - State Supreme Court rules unconstitutional by *state* constitution, SCOTUS refuses to hear
- **Pennsylvania**
  - *Bandemer* upheld; redistricting not overturned
- **Texas**
  - *League of United Latin American Citizens et al v Perry.*
  - Mid-decade redistricting OK
  - VRA problem with one state legislative district
- **Virginia**
  - Gov. McAuliffe vetoed a mid-decade state plan in 2015
Who Does the Redistricting?

Source: Brennan Center, http://brennan.3cdn.net/7182a7e7624ed5265d_6im622teh.pdf
Arizona Legislature vs. Ariz. Redistricting Commission

Attorneys for Plaintiff Arizona State Legislature

UNITED STATES DISTRICT COURT
DISTRICT OF ARIZONA

Arizona State Legislature,
Plaintiff,
v.
Arizona Independent Redistricting Commission, and Colleen Mathis, Linda C. McNulty, José M. Herrera, Scott D. Freeman, and Richard Stertz, members thereof, in their official capacities; Ken Bennett, Arizona Secretary of State, in his official capacity,

Defendants.

No. CV-12-01211-PHX-PGR

FIRST AMENDED COMPLAINT

Apportionment Matter:
Three-Judge Panel Requested
Pursuant to 28 U.S.C. § 2248
Arizona Legislature vs. Ariz. Redistricting Commission

• Arguments heard Mar. 2, 2015
• Question: Can redistricting be lodged in a state body that acts independently of the state legislature?
  – the Times, Places and Manner of holding elections for . . . Representatives [in the House] shall be prescribed in each State by the Legislature thereof, but the Congress may at any time by law make or alter such regulations.” (Article I, sec. 4)
• Answer: Yes
Arch & Summer Street in Boston
Arch & Summer Street in Boston

Near this site stood the home of state senator Israel Thorndike, a merchant and privateer. During a visit here in 1812 by Governor Elbridge Gerry, an electoral district was oddly redrawn to provide advantage to the party in office. Shaped by political intent rather than any natural boundaries, its appearance resembled a salamander. A frustrated member of the opposition party called it a gerrymander, a term still in use today.
IF WE HAVE TIME
An aside about the states: Run-off vs. plurality rule

- The South
- California’s “top-two primary”
  - (really like Louisiana’s “Jungle Primary”)
- Interest in “instant runoff”
Spatial representation of runoff primary (Figure 6.2)
http://themonkeycage.org/2013/03/27/can-californias-new-primary-reduce-polarization-maybe-not/
Main Findings

• Voters generally can’t place candidates ideologically
  – Incumbents better placed than challengers
  – Co-partisan candidates are indistinguishable
  – Parties’ candidates distinguishable from each other

• When placed, voters tend to place candidates more centrally than they are
Note Maldonado/Mitchum
Figure 5a: Moderate Respondents’ Perceptions of Viable Democratic Candidates

Figure 5b: Moderate Respondents’ Perceptions of Viable Republican Candidates
2014: District 4 (Central Valley)

In District 4, incumbent Rep. Tom McClintock made the runoff with fellow Republican Art Moore. McClintock is a conservative and friend of the tea party, while his challenger has positioned himself as the moderate alternative -- a reverse of the “establishment v. tea party” narrative that has plagued this primary cycle.

“If McClintock wins,” however, Rarick* says, “the system didn't work.”


*Ethan Rarick, Director of UCB Center for Politics and Public Service, IGS
Rep. Tom McClintock

Representative from California's 4th District
Republican

Elected Positions

<table>
<thead>
<tr>
<th>DATES</th>
<th>TITLE</th>
<th>STATE / DISTRICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2016</td>
<td>Representative</td>
<td>California's 4th District</td>
</tr>
</tbody>
</table>

See Also: McClintock's Official Website | @RepMcClintock | OpenSecrets | VoteSmart | Bioguide | C-SPAN