Government 317: Campaigns and Elections

Fall 2004
Tuesday and Thursday 2:55–4:10 (MG 165)
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TA Office Hours: Tue 9:30–11:30, Thu 9:30–11:30 or other times by appointment.
• soft money
  – banned by BCRA
  – exempt: voter registration and GOTV ($10,000 per source)
• hard money
  – individuals: $2,000 per election to a candidate (up from $1,000)
  – higher limits if running against a “millionaire”
  – PACs: $5,000 per election to a candidate
  – individuals: $37,500 aggregate to candidates per two years
  – individuals: $5,000 to a PAC per year
  – individuals: $25,000 per year to a party committee
  – individuals: $57,500 aggregate to PACs and parties per two years
- non-party electioneering
  - corporations and unions prohibited
  - limited disclosure and reporting requirements
  - unlimited spending and contributions
  - 501(c)(4)s (but not 501(c)(3)s)
  - 527s
• itemized individual contributions FEC data (1982–96)
  – in terms of the number of contributions, there is roughly parity between parties as long as Democrats are in the majority
  – REVOLUTION in 1994, especially in the last three months
  – individuals abandon Democrats after they lose the majority
  – most individuals who contribute are investors
  – (see the handouts/fecdiffs02.pdf plots)
• service
  – votes
  – bill proposals
  – legislative committee actions
  – regulation
  – bureaucratic intervention (oversight)
  – pork (local federal expenditure)
• service
  – votes
  – bill proposals
  – legislative committee actions
  – regulation
  – bureaucratic intervention (oversight)
  – pork (local federal expenditure)

• timing
  – quid pro quo
  – long-term relationships (access)
• service
  - votes
  - bill proposals
  - legislative committee actions
  - regulation
  - bureaucratic intervention (oversight)
  - pork (local federal expenditure)

• timing
  - quid pro quo
  - long-term relationships (access)

• extent
  - paying supporters or buying off opponents
  - buying majorities
  - buying agenda control
• assignable credit for service ("credit claiming," Mayhew)
  – votes
  – bill proposals
  – legislative committee actions
  – regulation
  – bureaucratic intervention (oversight)
  – pork (local federal expenditure)
• assignable credit for service ("credit claiming," Mayhew)
  - votes
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  - pork (local federal expenditure)

• who? legislators? bureaucrats? presidents?
• assignable credit for service ("credit claiming,” Mayhew)
  – votes
  – bill proposals
  – legislative committee actions
  – regulation
  – bureaucratic intervention (oversight)
  – pork (local federal expenditure)
• who? legislators? bureaucrats? presidents?
• desirability of service:
  – is pork “pure profit” (Fiorina)?
    * incumbent advantage: “the bureaucracy did it”
  – legislating is “position taking” (Mayhew)
    * someone opposes every position
    * the “legislator’s dilemma”
buying a majority
buying a majority
buying a majority
buying a majority
buying a majority
• one basic principle for investing: equate marginal costs across possible investments
Price–service curves

The graph shows the relationship between price and service. The curves indicate that as the service increases, the price also increases, reflecting a trade-off between the two factors.
Figure 1: Price–service curves with maximum service limits
Figure 2: Service–price curves
Figure 8: Service–price relationships with budget = 10
Figure 3: Service–price relationships with budget = 10
Figure 4: Service–price relationships with budget = 5
Figure 5: Service–price relationships with budget = 2
Figure 6: Service–price relationships with budget = 1
Figure 3: Service–price relationships with budget = 10
Figure 8: Service–price relationships with budget = 10 and maximum contribution = 4
Figure 8: Service–price relationships with budget = 10 and maximum contribution = 3
• to buy the most high-quality service, equate marginal costs across legislators
  – give the most to the highest quality source, but not everything
  – with a limited contributor budget, some legislators receive zero
• to buy the most high-quality service, equate marginal costs across legislators
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• the buying majorities theory is a special case
• to buy the most high-quality service, equate marginal costs across legislators
  – give the most to the highest quality source, but not everything
  – with a limited contributor budget, some legislators receive zero

• the buying majorities theory is a special case

• upper limits on contributions
  – imposing an upper limit may cause contributions to lower quality legislators to increase
  – increasing an existing upper limit may cause contributions to lower quality legislators to decrease
• telecomm bill example
  – seven Baby Bells’ mean: $607.40
  – seven long distance companies’ mean: $608.96

• party, committees, leadership, voting record, seniority
Descriptions of Legislator Quality Attribute Variables
Business Interest, Electoral and Party Variables:

BizState One if legislator is from a state in which the telco operates local telephone exchanges, otherwise zero
AFL-CIO AFL-CIO roll call vote rating scores
BIPAC Business Industry Political Action Committee roll call vote rating scores
IncProp Proportion of all 1992 general election votes for the legislator
IncClos IncProp*(1-IncProp)
PMoney Total campaign contributions ($1000) received by all 1992 primary election challengers
GMoney Total campaign contributions ($1000) received by all 1992 general election challengers
IsDem One for Democrats and Bernie Sanders (I-VT), zero for Republicans
Terms Number of House terms served (counted from 1)
House Committee Variables:

AG  Agriculture  
AP  Appropriations  
AR  Armed Services  
BA  Banking, Finance and Urban Affairs  
BU  Budget  
DC  District of Columbia  
ED  Education and Labor  
EN  Energy and Commerce  
FO  Foreign Affairs  
GO  Government Operations  
HO  House Administration  
IN  Interior and Insular Affairs  
JU  Judiciary  
ME  Merchant Marine and Fisheries  
PO  Post Office and Civil Service  
PU  Public Works and Transportation  
RU  Rules  
SC  Science, Space, and Technology  
SM  Small Business  
ST  Standards of Official Conduct  
VE  Veterans’ Affairs  
WA  Ways and Means

Subcommittee Dummy Variables:

EN04  Telecommunications and Finance  
EN06  Commerce, Consumer Protection, and Competitiveness  
GO04  Commerce, Consumer, and Monetary Affairs  
JU01  Economic and Commercial Law  
JU04  Intellectual Property and Judicial Administration  
SC05  Technology and Competitiveness  
SC06  Science  
SM03  Regulation, Business Opportunities, and Energy  
SM04  Antitrust, Impact of Deregulation, and Ecology  
WA01  Trade  
WA03  Select Revenue Measures
Descriptions of Legislator Quality Attribute Variables
Committee and Subcommittee Chair Dummy Variables:

Chair1  Chair of exclusive committee (Dems)
Chair2  Chair of semi-exclusive committee (Dems)
Chair3  Chair of non-exclusive committee (Dems)
SChair1 Chair of subcomm of exclusive committee (Dems)
SChair2 Chair of subcomm of semi-exclusive committee (Dems)
SChair3 Chair of subcomm of non-exclusive committee (Dems)
Rank1   Ranking member of “Red” committee (Reps)
Rank2   Ranking member of “White” committee (Reps)
Rank3   Ranking member of “White” committee (Reps)
SRank1  Ranking member of subcomm of “Red” committee (Reps)
SRank2  Ranking member of subcomm of “White” comm (Reps)
SRank3  Ranking member of subcomm of “White” committee (Reps)

Note: Exclusive committees are AP, RU, WA, semi-exclusive are AG, AR, BA, ED, EN, FO, JU, PU and non-exclusive are BU, DC, GO, HO, IN, ME, PO, SC, SM, VE, ST. “Red” committees are AP, RU, WA, EN, “White” committees are the semi-exclusive set less EN, and “White” is the same as non-exclusive.

Party Committee Dummy Variables:

ComPol   Committee on Committees or Policy Comm (Republican)
Steering Steering Committee (Democrat)
DCCC    Congressional Campaign Committee (Democrat)
RCCC    National Congressional Committee (Republican)
Whips   Whips
Special Position Dummy Variables:

Speaker   Speaker of the House
MajLead, MinLead  Majority and Minority Leaders
MajWhip, MinWhip  Majority and Minority Whips
Leader

Speaker;
Majority and Minority Leaders;
Whips; Chief Deputy Whips;
Caucus Chair, Vice Chair and Secretary;
Conference Chair and Vice Chair;
Chairs of Steering and Policy Comm.,
Republican Policy Comm.,
Republican Research Comm.,
Democratic Study Group
Democratic Campaign Comm.,
Republican National Congressional Comm.
Long-Distance Company PACs
<table>
<thead>
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Regional Holding Company ("Baby Bell") PACs (part 1)
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<td>D:WA</td>
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<tr>
<td>D:EN</td>
<td>7.2</td>
<td>R:GO04</td>
<td>7.7</td>
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<td>D:HO</td>
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<td>D:JU</td>
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Regional Holding Company ("Baby Bell") PACs (part 2)

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<td>Speaker</td>
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<tr>
<td>SChair3</td>
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<td>D:IncProp</td>
<td>-7.1</td>
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<td>D:Leader</td>
<td>14.4</td>
<td>D:IncClos</td>
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<td>ComPol</td>
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<td>D:PMoney</td>
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</tr>
<tr>
<td>Steering</td>
<td>3.5</td>
<td>D:Terms</td>
<td>.5</td>
</tr>
</tbody>
</table>
- distributing contributions across open seats
- partisan contributors and investor contributors
• distributing contributions across open seats

• partisan contributors and investor contributors
  – almost all labor PACs are Democratic partisans
  – very few labor PACs (some maritime unions) are Republican investors
  – most corporate PACs are Republican partisans
  – but many corporate PACs are also Democratic investors, at least when Democrats hold the majority
• Partisan Contributions Theory (Snyder)
• Investor Contributions Theory (Baron, Snyder)
• Unified Contributions Theory (Baron, Snyder, Wand)
simple partisan theory

probability Democrat wins

money

probability Democrat wins
simple partisan theory

money

probability Democrat wins
simple investor theory

Democrat's money vs. probability Democrat wins
simple investor theory

- The first graph shows the relationship between the probability of a Democrat winning and the Democrat's money. The line is positive, indicating an increase in money as the probability of winning increases.

- The second graph demonstrates the relationship between the probability of a Democrat winning and the Republican's money. The line is negative, illustrating a decrease in Republican's money as the probability of winning increases.

These graphs are part of a simple investor theory model.
combined theory
combined theory

probability Democrat wins

Republican's money

probability Democrat wins
Contributions Theory Equilibrium (Baron, Snyder, Wand)

$p$ is the probability that the Democrat defeats the Republican: 
$0 < p < 1$.

**total of investor contributions, by party:**

$$X_D = \gamma_D p$$
$$X_R = \gamma_R (1 - p)$$

**total of partisan contributions, by party:**

$$Y_D = \phi_D p(1 - p) - X_D$$
$$Y_R = \phi_R p(1 - p) - X_R$$
• before and after 1994, separately, Wand (2003) classifies PACs as one of:
  – Republican partisan
  – Democratic partisan
  – Republican investor
  – Democratic investor

• Wand then estimates the preceding model for each set of years 1984–92 and 1996–2000
how well does the theoretical model describe contributions in open seats?

Wand (2003) uses nonparametric estimates to assess this:

- party committees (Figure 2, page 12)
- corporate and labor PACs (Figure 3, page 14)
- investors and partisans (Figure 6, page 21)
Pork Barrel Politics in Presidential Elections

“Forget the polls,” I said. “You can’t beat an incumbent president. Remember, he’s got a hundred billion dollars at his disposal to distribute to local governments, and he can send that money anywhere he wants. Everybody from Alabama to Alaska files for projects, and the administration decides which ones to approve. In an election year, they go where the votes are.”

—Tip O’Neill (O’Neill and Novak 1987:326)
• pork sent “where the votes are”
  – local federal expenditures (LFEs)
• pork sent “where the votes are”
  – local federal expenditures (LFEs)
  – targeting voters directly
  – targeting local elites
• pork sent “where the votes are”
  – local federal expenditures (LFEs)
  – targeting voters directly
  – targeting local elites

• local elites and LFEs
  – “Everybody … files for projects”
  – intergovernmental grants
  – federalism: “institutional complexity”
• bureaucratic intervention and federalism
  – patronage
• bureaucratic intervention and federalism
  – patronage
  – post-election appointments
  – duration of appointments: 21 months (Heclo 1977)
• bureaucratic intervention and federalism
  – patronage
  – post-election appointments
  – duration of appointments: 21 months (Heclo 1977)

• whom to appoint?
  – theory: a competitive lottery
  – probability of appointment increases with magnitude of help to the candidate’s campaign
• bureaucratic intervention and federalism
  – patronage
  – post-election appointments
  – duration of appointments: 21 months (Heclo 1977)
• whom to appoint?
  – theory: a competitive lottery
  – probability of appointment increases with magnitude of help to the candidate’s campaign
  – this appointment rule maximizes the gains to each candidate
  – the rule implies a “converted loss” pattern
• a principal-agent problem
  – two principals, many agents
  – presidential candidates are the principals
  – local elites are the agents
the converted-loss appointment rule
  - maximize appointments to those who produced the largest increase in support in their local area
• the converted-loss appointment rule
  – maximize appointments to those who produced the largest increase in support in their local area
  – appoint only after screening
    * for policy fit
    * for fit with relevant part of Congress
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  – consequence: local elites exert the most effort in swing areas
• the converted-loss appointment rule
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  – consequence: local elites exert the most effort in swing areas
  – prediction: appointment is most likely from areas with election support in the range of 0.5–0.7
• the converted-loss appointment rule
  – maximize appointments to those who produced the largest increase in support in their local area
  – consequence: local elites exert the most effort in swing areas
  – prediction: appointment is most likely from areas with election support in the range of 0.5–0.7
• side-effect: local elite work in each area is one-sided
  – the local elites in each area pick a side
  – hence, converted-loss patronage may partly explain local party affiliations
• converted-loss rule when only LFEs can be observed
  – underlying prediction: appointment is most likely from areas with election support in the range of 0.5–0.7
  – testable prediction: post-election LFEs should be higher in areas with election support in the range of 0.5–0.7
• voter-oriented targeting
  – assume voters are retrospective
    * “what have you done for me lately?”
  – assume LFEs are traceable to the president
    * institutionally complex LFEs are not traceable
• voter-oriented targeting
  – assume voters are retrospective
    ★ “what have you done for me lately?”
  – assume LFEs are traceable to the president
    ★ institutionally complex LFEs are not traceable
  – testable prediction: pre-election LFEs should be higher in areas with election support in the range of 0.3–0.5
• voter-oriented targeting
  – assume voters are retrospective
    * “what have you done for me lately?”
  – assume LFEs are traceable to the president
    * institutionally complex LFEs are not traceable
  – testable prediction: pre-election LFEs should be higher in areas with election support in the range of 0.3–0.5
    * only for LFEs that are not institutionally complex
• predictions for LFEs
  – voter-oriented targeting: pre-election LFEs should be higher in areas with election support in the range of 0.3–0.5
  – elite-oriented targeting: post-election LFEs should be higher in areas with election support in the range of 0.5–0.7
  * recall 21-month typical term of political appointees
• predictions for LFEs
  – voter-oriented targeting: pre-election LFEs should be higher in areas with election support in the range of 0.3–0.5
    • only for LFEs that are not institutionally complex
  – elite-oriented targeting: post-election LFEs should be higher in areas with election support in the range of 0.5–0.7
    • recall 21-month typical term of political appointees
    • especially for institutionally complex LFEs
example: 1985–1988
- post-election for 1984 (Reagan-Mondale)
- pre-election for 1988 (Bush-Dukakis)
• example: 1985–1988
  – post-election for 1984 (Reagan-Mondale)
  – pre-election for 1988 (Bush-Dukakis)

• localities are counties

• pre-election support is measured using National Election Studies (NES) data

• data are from the 104 counties covered by the NES

• see Mebane and Wawro (MS 2002) for details
# Types of local federal expenditure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
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<td>transfer payments&lt;sup&gt;e&lt;/sup&gt;</td>
<td>transfer payments to individuals</td>
</tr>
<tr>
<td>civilian employment&lt;sup&gt;f&lt;/sup&gt;</td>
<td>Federal govt civilian employment</td>
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<tr>
<td>military employment&lt;sup&gt;f&lt;/sup&gt;</td>
<td>Federal govt military employment</td>
</tr>
<tr>
<td>civilian salaries&lt;sup&gt;e&lt;/sup&gt;</td>
<td>salaries and wages, all civilian and Postal Service employees</td>
</tr>
<tr>
<td>military salaries&lt;sup&gt;e&lt;/sup&gt;</td>
<td>salaries and wages, all military personnel</td>
</tr>
<tr>
<td>civilian procurements&lt;sup&gt;e&lt;/sup&gt;</td>
<td>procurement contracts, all except Defense Department</td>
</tr>
<tr>
<td>military procurements&lt;sup&gt;e&lt;/sup&gt;</td>
<td>procurement contracts, Defense Department</td>
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<tr>
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<td>direct payments other than for individuals</td>
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<tr>
<td>education transfers&lt;sup&gt;e&lt;/sup&gt;</td>
<td>transfers to local govts for education</td>
</tr>
<tr>
<td>highways transfers&lt;sup&gt;e&lt;/sup&gt;</td>
<td>transfers to local govts for highways</td>
</tr>
<tr>
<td>social welfare transfers&lt;sup&gt;e&lt;/sup&gt;</td>
<td>transfers to local govts for public, welfare employment security, health and hospitals, housing</td>
</tr>
<tr>
<td>other transfers&lt;sup&gt;e&lt;/sup&gt;</td>
<td>all other transfers to local govts</td>
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</table>

<sup>a</sup> All variables are used per capita, based on county population.

<sup>e</sup> units, $1000 per person.

<sup>f</sup> units, jobs per person.
### Types of local federal expenditure

<table>
<thead>
<tr>
<th>Institutional Complexity</th>
<th>Low</th>
<th>High</th>
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<td>direct payments</td>
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The number in parentheses shows the degree of the targeting polynomial.
Effects of Support on LFEs, Pre-midterm (Post-election for 1984)

The number in parentheses shows the degree of the targeting polynomial.
Pre-Midterm (Post-election for 1984) Support Values That Maximize LFEs

Maximum is an elite-oriented targeting value

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<td>direct payments</td>
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<td>(.46, .58)</td>
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<td>Federal highways transfers</td>
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<td>State education transfers</td>
<td>.55</td>
<td>(.53, .57)</td>
</tr>
<tr>
<td>State other transfers</td>
<td>.71</td>
<td>(.68, .74)</td>
</tr>
</tbody>
</table>

Maximum is not in the elite-oriented range

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>civilian employment</td>
<td>.96</td>
<td>(.00, 1.00)</td>
</tr>
<tr>
<td>military salaries</td>
<td>—</td>
<td>no max $\alpha$</td>
</tr>
<tr>
<td>transfer payments</td>
<td>—</td>
<td>no max $\alpha$</td>
</tr>
<tr>
<td>Federal other transfers</td>
<td>.18</td>
<td>(.02, .56)</td>
</tr>
<tr>
<td>State welfare transfers</td>
<td>.29</td>
<td>(.24, .35)</td>
</tr>
</tbody>
</table>
Effects of Support on LFEs, Post-midterm (Pre-election for 1988)

The number in parentheses shows the degree of the targeting polynomial.
Effects of Support on LFEs, Post-midterm (Pre-election for 1988)

The number in parentheses shows the degree of the targeting polynomial.
Post-midterm (Pre-election for 1988) Support Values That Maximize LFEs

Maximum is an elite-oriented targeting value

<table>
<thead>
<tr>
<th>Transfer Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer payments</td>
<td>0.74</td>
<td>(0.00, 1.00)</td>
</tr>
</tbody>
</table>

Maximum is not in the elite-oriented range

<table>
<thead>
<tr>
<th>Procurements</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilian procurements</td>
<td>—</td>
<td>no max^a</td>
</tr>
<tr>
<td>Military procurements</td>
<td>0.44</td>
<td>(0.32, 0.57)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilian employment</td>
<td>0.85</td>
<td>(0.00, 1.00)</td>
</tr>
<tr>
<td>Military employment</td>
<td>0.04</td>
<td>(0.02, 0.06)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Salaries</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilian salaries</td>
<td>—</td>
<td>no max^a</td>
</tr>
<tr>
<td>Military salaries</td>
<td>—</td>
<td>no max^a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct payments</td>
<td>0.90</td>
<td>(0.43, 1.00)</td>
</tr>
</tbody>
</table>

Federal payments

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal highways transfers</td>
<td>0.98</td>
<td>(0.00, 1.00)</td>
</tr>
<tr>
<td>Federal welfare transfers</td>
<td>0.90</td>
<td>(0.89, 0.90)</td>
</tr>
<tr>
<td>Federal education transfers</td>
<td>0.99</td>
<td>(0.83, 1.00)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal other transfers</td>
<td>—</td>
<td>no max^a</td>
</tr>
</tbody>
</table>

State payments

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>State highways transfers</td>
<td>0.05</td>
<td>(0.00, 0.87)</td>
</tr>
<tr>
<td>State welfare transfers</td>
<td>0.44</td>
<td>(0.32, 0.57)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>State education transfers</td>
<td>—</td>
<td>no max^a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Payments</th>
<th>Value</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>State other transfers</td>
<td>0.84</td>
<td>(0.23, 1.00)</td>
</tr>
</tbody>
</table>
Effects of Support on Pre-midterm to Post-midterm Changes in LFEs

The number in parentheses shows the degree of the targeting polynomial.
Effects of Support on Pre-midterm to Post-midterm Changes in LFEs

The number in parentheses shows the degree of the targeting polynomial.
Support That Maximizes Pre- to Post-midterm Changes in Institutionally Less Complex LFEs

Maximum is a voter-oriented targeting value

- military employment \( \cdot.39 \) \((.39, .39)\)
- civilian procurements \( \cdot.33 \) \((.32, .35)\)
- civilian salaries \( \cdot.41 \) \((.41, .41)\)
- military procurements \( \cdot.42 \) \((.34, .51)\)
- military salaries \( \cdot.39 \) \((.26, .53)\)
- transfer payments \( \cdot.38 \) \((.14, .67)\)
- direct payments \( \cdot.32 \) \((.27, .38)\)

Maximum is not in the voter-oriented range

- civilian employment \( \cdot.98 \) \((.00, 1.00)\)

\(a\) The polynomial does not have any local maximum values in \((0, 1)\).
Support That Maximizes Pre- to Post-midterm Changes in Institutionally Complex LFEs

Maximum is a voter-oriented targeting value

Federal welfare transfers  .46  (.42, .51)
Federal highways transfers  .35  (.00, 1.00)
Federal education transfers  .32  (.27, .38)

Maximum is not in the voter-oriented range

Federal other transfers  —  no max$^\alpha$
State highways transfers  .17  (.07, .33)
State welfare transfers  —  no max$^\alpha$
State education transfers  —  no max$^\alpha$
State other transfers  .53  (.49, .56)

$^\alpha$ The polynomial does not have any local maximum values in (0, 1).
- converted-loss appointment rule
- voter-oriented targeting
• converted-loss appointment rule
  – these local elites are investor contributors, of a sort
• voter-oriented targeting
- converted-loss appointment rule
  - these local elites are investor contributors, of a sort
- voter-oriented targeting
- partisan appointments
  - about policy, not pork
• Florida 2000
  – Palm Beach County’s butterfly ballot
<table>
<thead>
<tr>
<th>Party</th>
<th>Candidate</th>
<th>Position</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republican</td>
<td>George W. Bush</td>
<td>President</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Dick Cheney</td>
<td>Vice President</td>
<td></td>
</tr>
<tr>
<td>Democratic</td>
<td>Al Gore</td>
<td>President</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Joe Lieberman</td>
<td>Vice President</td>
<td></td>
</tr>
<tr>
<td>Libertarian</td>
<td>Harry Browne</td>
<td>President</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Art Olivier</td>
<td>Vice President</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>Ralph Nader</td>
<td>President</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Winona LaDuke</td>
<td>Vice President</td>
<td></td>
</tr>
<tr>
<td>Socialist Workers</td>
<td>James Harris</td>
<td>President</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Margaret Trowe</td>
<td>Vice President</td>
<td></td>
</tr>
<tr>
<td>Natural Law</td>
<td>John Hagelin</td>
<td>President</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Nat Goldhaber</td>
<td>Vice President</td>
<td></td>
</tr>
</tbody>
</table>

(A vote for the candidates will actually be a vote for their electors.)

(Vote for Group)

| Reform                | Pat Buchanan  | President  | 4      |
|                       | Ezola Foster  | Vice President |     |
| Socialist             | David McReynolds | President | 6 |
|                       | Mary Cal Hollis | Vice President |  
| Constitution          | Howard Phillips| President | 8 |
|                       | J. Curtis Frazier | Vice President | |
| Workers World         | Monica Moorehead | President | 10 |
|                       | Gloria La Riva | Vice President |   |

Write-In Candidate
To vote for a write-in candidate, follow the directions on the long stub of your ballot card.
Total Number of Presidential Votes Cast

Election-Day Minus Absentee Proportion for Buchanan

Palm Beach
Votes for Reform Candidates by Proportions Voting for U.S. Senate Candidates, for Palm Beach County Precincts

<table>
<thead>
<tr>
<th>Scope</th>
<th>Reform Candidate</th>
<th>Intercept</th>
<th>Senate: Nelson (D)</th>
<th>Senate: Deckard (Ref)</th>
<th>( \hat{\sigma} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>All precincts</td>
<td>Buchanan</td>
<td>-6.17 (0.15)</td>
<td>2.06 (0.21)</td>
<td>-12.74 (14.79)</td>
<td>1.22</td>
</tr>
<tr>
<td>District 35</td>
<td>Buchanan</td>
<td>-7.48 (0.51)</td>
<td>3.85 (0.71)</td>
<td>13.13 (23.89)</td>
<td>1.26</td>
</tr>
<tr>
<td>District 35</td>
<td>Lowe</td>
<td>-1.98 (0.34)</td>
<td>-1.86 (0.51)</td>
<td>18.06 (14.46)</td>
<td>1.54</td>
</tr>
<tr>
<td>District 16</td>
<td>Buchanan</td>
<td>-7.00 (0.29)</td>
<td>3.32 (0.46)</td>
<td>3.95 (15.09)</td>
<td>1.15</td>
</tr>
<tr>
<td>District 16</td>
<td>McGuire</td>
<td>-3.37 (0.30)</td>
<td>-1.00 (0.50)</td>
<td>25.96 (9.10)</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Note: Entries are \( \tanh \) estimates of coefficient parameters of the overdispersed binomial regression model using precinct-level data from the 2000 election (standard errors are in parentheses). The last column reports the LQD dispersion estimate \( \hat{\sigma} \). Number of precincts: all precincts, 515; District 35, 105; District 16, 149.
Vote for Buchanan by U.S. Senate Vote in Palm Beach County, for Individual Ballots by Ballot Type

<table>
<thead>
<tr>
<th>Ballot Type</th>
<th>Intercept</th>
<th>Nelson (D)</th>
<th>Deckard (Ref)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Election-Day</td>
<td>$-5.18$ (0.034)</td>
<td>0.61 (0.040)</td>
<td>2.41 (0.138)</td>
</tr>
<tr>
<td>Absentee</td>
<td>$-6.11$ (0.156)</td>
<td>$-0.21$ (0.236)</td>
<td>3.68 (0.400)</td>
</tr>
</tbody>
</table>

Note: Entries are maximum likelihood estimates of coefficient parameters of the binary logistic regression model using ballot data from the 2000 election (standard errors are in parentheses). Ballots with spoiled presidential votes (undervotes or overvotes) are omitted. Including them does not materially change the results. Number of unspoiled ballots for each type: election-day, 381,449; absentee, 36,412.
Proportion Voting for Buchanan by U.S. Senate Vote Choice and Ballot Type in Palm Beach County

<table>
<thead>
<tr>
<th>Senate Candidate</th>
<th>Election-Day Ballots</th>
<th>Absentee Ballots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proportion</td>
<td>$N$</td>
</tr>
<tr>
<td>Bill Nelson (D)</td>
<td>0.0102</td>
<td>228,455</td>
</tr>
<tr>
<td>Joel Deckard (Ref)</td>
<td>0.0590</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Note: Entries are the proportion of ballots with a vote for Buchanan out of the $N$ ballots of each type voted for each Senate candidate, using ballot data from the 2000 election. Ballots with spoiled presidential votes (undervotes or overvotes) are omitted.
• Florida 2000
  – Palm Beach County’s butterfly ballot
Florida 2000
- Palm Beach County’s butterfly ballot
- at least 2,000 people voted by mistake for Buchanan instead of Gore
- **Florida 2000**
  - Palm Beach County’s butterfly ballot
  - at least 2,000 people voted by mistake for Buchanan instead of Gore
  - most likely the number is about 2,800 people
Florida 2000
  - Palm Beach County’s butterfly ballot
  - at least 2,000 people voted by mistake for Buchanan instead of Gore
  - most likely the number is about 2,800 people
  - were other ballots used in Florida better?
• Florida 2000: other ballots better than the butterfly?
  – most counties with Votomatic machines had the candidates for president on one page
  – consider examples from Broward, Lee and Pinellas counties
<table>
<thead>
<tr>
<th>Name</th>
<th>Party</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEORGE W. BUSH</td>
<td>REPUBLICAN</td>
<td>2</td>
</tr>
<tr>
<td>DICK CHENEY</td>
<td>REPUBLICAN</td>
<td>2</td>
</tr>
<tr>
<td>AL GORE</td>
<td>DEMOCRATIC</td>
<td>3</td>
</tr>
<tr>
<td>JOE LIEBERMAN</td>
<td>DEMOCRATIC</td>
<td>3</td>
</tr>
<tr>
<td>HARRY Browne</td>
<td>LIBERTARIAN</td>
<td>4</td>
</tr>
<tr>
<td>ART OLIVIER</td>
<td>LIBERTARIAN</td>
<td>4</td>
</tr>
<tr>
<td>RALPH NADER</td>
<td>GREEN</td>
<td>5</td>
</tr>
<tr>
<td>WINONA LADUKE</td>
<td>GREEN</td>
<td>5</td>
</tr>
<tr>
<td>JAMES HARRIS</td>
<td>SOCIALIST</td>
<td>6</td>
</tr>
<tr>
<td>MARGARET TROWE</td>
<td>SOCIALIST</td>
<td>6</td>
</tr>
<tr>
<td>JOHN HAGELIN</td>
<td>NATURAL LAW</td>
<td>7</td>
</tr>
<tr>
<td>NAT GOLDHABER</td>
<td>NATURAL LAW</td>
<td>7</td>
</tr>
<tr>
<td>PAT BUCHANAN</td>
<td>INFORM</td>
<td>8</td>
</tr>
<tr>
<td>EZOLA FOSTER</td>
<td>INFORM</td>
<td>8</td>
</tr>
<tr>
<td>DAVID MCREYNOLDS</td>
<td>SOCIALIST</td>
<td>9</td>
</tr>
<tr>
<td>MARY CAL HOLLIS</td>
<td>SOCIALIST</td>
<td>9</td>
</tr>
<tr>
<td>HOWARD PHILLIPS</td>
<td>CONSTITUTION</td>
<td>10</td>
</tr>
<tr>
<td>J. CURTIS FRAZIER</td>
<td>CONSTITUTION</td>
<td>10</td>
</tr>
<tr>
<td>MONICA MOOREHEAD</td>
<td>WORKERS</td>
<td>11</td>
</tr>
<tr>
<td>GLORIA LA RIVA</td>
<td>WORKERS</td>
<td>11</td>
</tr>
</tbody>
</table>

To vote for a write-in candidate, follow directions on the grey envelope.
### FEDERAL

<table>
<thead>
<tr>
<th>Name</th>
<th>Party</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>George W. Bush</td>
<td>REP</td>
<td>4</td>
</tr>
<tr>
<td>Dick Cheney</td>
<td>REP</td>
<td></td>
</tr>
<tr>
<td>Al Gore</td>
<td>DEM</td>
<td>5</td>
</tr>
<tr>
<td>Joe Lieberman</td>
<td>REP</td>
<td></td>
</tr>
<tr>
<td>Harry Browne</td>
<td>REP</td>
<td></td>
</tr>
<tr>
<td>Art Olivier</td>
<td>LIB</td>
<td>6</td>
</tr>
<tr>
<td>Ralph Nader</td>
<td>GRE</td>
<td>7</td>
</tr>
<tr>
<td>Winona LaDuke</td>
<td>REP</td>
<td></td>
</tr>
<tr>
<td>James Harris</td>
<td>SWP</td>
<td>8</td>
</tr>
<tr>
<td>Margaret Trowe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Hagelin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nat Goldhaber</td>
<td>LAW</td>
<td>9</td>
</tr>
<tr>
<td>Pat Buchanan</td>
<td>REF</td>
<td>10</td>
</tr>
<tr>
<td>Ezola Foster</td>
<td>REF</td>
<td></td>
</tr>
<tr>
<td>David McReynolds</td>
<td>SPF</td>
<td>11</td>
</tr>
<tr>
<td>Mary Cal Hollis</td>
<td>CPF</td>
<td>12</td>
</tr>
<tr>
<td>Howard Phillips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Curtis Frazier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monica Moorehead</td>
<td>WWP</td>
<td>13</td>
</tr>
<tr>
<td>Gloria Lariva</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ELECTORS FOR PRESIDENT AND VICE PRESIDENT**

Vote for One Group

To vote for a write-in candidate, follow the directions on the long side of your ballot card.

### CONGRESSIONAL

**UNITED STATES SENATOR**

Vote for One

<table>
<thead>
<tr>
<th>Name</th>
<th>Party</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill McCollum</td>
<td>REP</td>
<td>22</td>
</tr>
<tr>
<td>Bill Nelson</td>
<td>DEM</td>
<td>23</td>
</tr>
<tr>
<td>Joe Simonetta</td>
<td>LAW</td>
<td>24</td>
</tr>
<tr>
<td>Joel Deckard</td>
<td>REF</td>
<td>25</td>
</tr>
<tr>
<td>Willie Logan</td>
<td>NPA</td>
<td>26</td>
</tr>
<tr>
<td>Andy Martin</td>
<td>NPA</td>
<td>27</td>
</tr>
<tr>
<td>Darrell L. McCormick</td>
<td>NPA</td>
<td>28</td>
</tr>
</tbody>
</table>

To vote for a write-in candidate, follow the directions on the long side of your ballot card.

### REPRESENTATIVE IN CONGRESS, 14th CONGRESSIONAL DISTRICT

Vote for One

<table>
<thead>
<tr>
<th>Name</th>
<th>Party</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porter Goss</td>
<td>REP</td>
<td>32</td>
</tr>
<tr>
<td>Sam Farling</td>
<td>LAW</td>
<td>33</td>
</tr>
</tbody>
</table>

To vote for a write-in candidate, follow the directions on the long side of your ballot card.
NOVEMBER 7, 2000
For Additional Information, Contact:

DEE BROWN
MARION COUNTY SUPERVISOR OF ELECTIONS
Post Office Box 289
Ocala, Florida 34478-0289

VOTING INSTRUCTIONS

STEP 1. Using both hands, insert the ballot card all the way into the Votomatic.

STEP 2. Be sure the two slots in the end of your card fit down over the 2 red pins.

STEP 3. To vote, hold the punching stylus straight up. Punch straight down through the ballot card for the candidates, or issues of your choice.

DO NOT USE PEN OR PENCIL.

STEP 4. You may vote all pages.

STEP 5. After voting, remove the ballot card from the Votomatic. Turn ballot card over and remove any small "chips" that may be attached to back of card. Fold top of ballot card down over voted portion and place in ballot box.

NOTE: if you make a mistake, return your ballot card and obtain another.
• Florida 2000
  – Duval County’s two-page ballot
    * the cover of the voting book had the instruction (as in Pinellas County) “Vote all pages”
<table>
<thead>
<tr>
<th>Party</th>
<th>Candidate</th>
<th>Position</th>
<th>Electors</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPUBLICAN</td>
<td>GEORGE W. BUSH</td>
<td>For President</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DICK CHENEY</td>
<td>For Vice President</td>
<td></td>
</tr>
<tr>
<td>DEMOCRATIC</td>
<td>AL GORE</td>
<td>For President</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>JOE LIEBERMAN</td>
<td>For Vice President</td>
<td></td>
</tr>
<tr>
<td>LIBERTARIAN</td>
<td>HARRY BROWNE</td>
<td>For President</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>ART OLIVER</td>
<td>For Vice President</td>
<td></td>
</tr>
<tr>
<td>GREEN</td>
<td>RALPH NADER</td>
<td>For President</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>WURINA LADEKE</td>
<td>For Vice President</td>
<td></td>
</tr>
<tr>
<td>SOCIALIST WORKERS</td>
<td>JAMES HARRIS</td>
<td>For President</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>MARGARET TROWE</td>
<td>For Vice President</td>
<td></td>
</tr>
</tbody>
</table>

(A vote for the candidate will actually be a vote for their electors.)

(Vote for Group)

TURN PAGE FOR CONTINUED LIST OF CANDIDATES FOR PRESIDENT AND VICE PRESIDENT
### OFFICIAL BALLOT
GENERAL AND MUNICIPAL ELECTION
DUVAL COUNTY, FLORIDA, NOVEMBER 7, 2000

<table>
<thead>
<tr>
<th>ELECTORS</th>
<th>NATURAL LAW</th>
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<tbody>
<tr>
<td>FOR PRESIDENT</td>
<td>JOHN HADJIN</td>
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<tr>
<td>NAT GOLDBERG</td>
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<tr>
<td>AND</td>
<td>PAT BUCHANAN</td>
</tr>
<tr>
<td>SOCIALIST</td>
<td>DAVID MCREYNOLDS</td>
</tr>
<tr>
<td>FOR VICE PRESIDENT</td>
<td>EIZOLA FOSTER</td>
</tr>
<tr>
<td>Mary CAL HOLLIS</td>
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</table>

(A vote for the candidate will actually be a vote for their ticket)

<table>
<thead>
<tr>
<th>CONSTITUTION</th>
<th>HOWARD PHILLIPS</th>
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<tr>
<td>FOR PRESIDENT</td>
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<td>FOR VICE PRESIDENT</td>
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<table>
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<th>WORKERS WORLD</th>
<th>MONICA MOOREHEAD</th>
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<tbody>
<tr>
<td>FOR PRESIDENT</td>
<td>GLORIA LA RIVA</td>
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<td>FOR VICE PRESIDENT</td>
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(Continued from previous page)

<table>
<thead>
<tr>
<th>WRITE-IN CANDIDATE</th>
<th>FOR PRESIDENT</th>
</tr>
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<tbody>
<tr>
<td>FOR VICE PRESIDENT</td>
<td></td>
</tr>
</tbody>
</table>
Florida 2000

- Duval County’s two-page ballot
  * the cover of the voting book had the instruction (as in Pinellas County) “Vote all pages”
- what happened?
Florida 2000

- Duval County’s two-page ballot
  ∗ the cover of the voting book had the instruction (as in Pinellas County) “Vote all pages”

- what happened?

- the result was more than 26,000 overvotes

- 291,581 ballots were cast in Duval County

- about 9 percent of all ballots cast in Duval had an overvote for president
• Florida 2000: better ballots
  – optical scan ballots
    * precinct-tabulated in Hernando County
• Florida 2000: better ballots
  – optical scan ballots
    * not so good in Lake County
    * choices too compressed (see the Orlando Sentinel clip)
• Florida 2000: better ballots
  – optical scan ballots
    * not so good in Lake County
    * choices too compressed
• Florida 2000: better ballots
   - optical scan ballots
     * not so good in Lake County
     * choices too compressed
     * county-tabulated
     * irresponsible Election Board illegally did not count unambiguous write-ins
• Florida 2000: undervotes, other votes and overvotes
  - undervotes
    * primary focus of the recount efforts
    * Toobin tells the story well
    * divining the undervotes, the outcome depends on the rules used
    * with some rules Bush wins by a few hundred votes
    * with other rules Gore wins by a few hundred votes

  - overseas absentee votes
    - 680 that were counted were illegal (New York Times)
    - without those ballots, Bush's winning margin shrinks to (best guess) 251
• Florida 2000: undervotes, other votes and overvotes
  − undervotes
    * primary focus of the recount efforts
    * Toobin tells the story well
    * divining the undervotes, the outcome depends on the rules used
    * with some rules Bush wins by a few hundred votes
    * with other rules Gore wins by a few hundred votes
  − overseas absentee votes
    * 680 that were counted were illegal (New York Times)
    * without those ballots, Bush’s winning margin shrinks to (best guess) 251
Florida 2000: overvotes

- there were approximately 110,000 overvotes
- the frequency of overvotes depended on administrative procedures, especially on:
  * the type of machine
  * the type of ballot
  * the tabulation method
  * whether a warn-and-correct system was in operation
- many overvotes were Bush+ or Gore+
• many overvotes were Bush⁺ or Gore⁺
  – adjacent holes (e.g., on the butterfly ballot)
OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

ELECTORS FOR PRESIDENT AND VICE PRESIDENT

(REPUBLICAN)
GEORGE W. BUSH · PRESIDENT
DICK CHENEY · VICE PRESIDENT

(DEMOCRATIC)
AL GORE · PRESIDENT
JOE LIEBERMAN · VICE PRESIDENT

(LIBERTARIAN)
HARRY BROWNE · PRESIDENT
ART OLIVIER · VICE PRESIDENT

(GREEN)
RALPH NADER · PRESIDENT
WINONA LaDuke · VICE PRESIDENT

(SOCIALIST WORKERS)
JAMES HARRIS · PRESIDENT
MARGARET TROWE · VICE PRESIDENT

(NATURAL LAW)
JOHN HAGELIN · PRESIDENT
NAT GOLDHABER · VICE PRESIDENT

(REFORM)
PAT BUCHANAN · PRESIDENT
EZOLA FOSTER · VICE PRESIDENT

(SOCIALIST)
DAVID McREYNOLDS · PRESIDENT
MARY CAL HOLLIS · VICE PRESIDENT

(CONSTITUTION)
HOWARD PHILLIPS · PRESIDENT
J. CURTIS FRAZIER · VICE PRESIDENT

(WORKERS WORLD)
MONICA MOOREHEAD · PRESIDENT
GLORIA La RIVA · VICE PRESIDENT

WRITE-IN CANDIDATE
To vote for a write-in candidate, follow the directions on the long stub of your ballot card.
• many overvotes were Bush+ or Gore+
  – adjacent holes (e.g., on the butterfly ballot)
  – adjacent bubbles (e.g., Lieberman-Libertarian in Lake County)
• many overvotes were Bush+ or Gore+
  – adjacent holes (e.g., on the butterfly ballot)
  – adjacent bubbles (e.g., Lieberman-Libertarian in Lake County)
  – corrected mistakes (e.g., Leon County, see leonovervote.pdf)
  – redundant write-ins (e.g., Leon County, see leonovervote.pdf)

WHAT IF BETTER ADMINISTRATIVE PROCEDURES HAD BEEN USED?
• many overvotes were Bush+ or Gore+
  – adjacent holes (e.g., on the butterfly ballot)
  – adjacent bubbles (e.g., Lieberman-Libertarian in Lake County)
  – corrected mistakes (e.g., Leon County, see leonovervote.pdf)
  – redundant write-ins (e.g., Leon County, see leonovervote.pdf)

• WHAT IF BETTER ADMINISTRATIVE PROCEDURES HAD BEEN USED?
Votes and Allocated Overvotes in Florida, 2000 Presidential Election

<table>
<thead>
<tr>
<th>Vote Counts</th>
<th>Bush</th>
<th>Gore</th>
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<td><strong>Certiﬁed Results:</strong></td>
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<tr>
<td>Florida Total</td>
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<td>Federal Absentee</td>
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<td>Certified Total</td>
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<td><strong>Uncounted Election-day Ballots:</strong></td>
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<tr>
<td>Unambiguous Write-ins</td>
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<td>732</td>
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<tr>
<td>Ambiguous Write-ins</td>
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<tr>
<td>Two-mark Overvotes</td>
<td>15,236</td>
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<td>Multiple-mark Overvotes</td>
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<tr>
<td>All Allocated Overvotes</td>
<td>24,288</td>
<td>70,020</td>
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</table>

Sources:  

\( ^a \) "November 7, 2000 General Election Ofﬁcial Results," Florida Department of State.  
\( ^b \) "Florida Ballots Project Data Files," NORC.
### Write-in Overvotes in Florida Counties with Optical Scan Machines, NORC Data

<table>
<thead>
<tr>
<th>Tabulation</th>
<th>Unambiguos</th>
<th>Ambiguos</th>
<th>Ratio: Write-in to Certified</th>
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Write-in Overvotes in Florida Counties with Optical Scan Machines, NORC Data

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<th>Ambiguous</th>
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<th>Tabulation</th>
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<td>Bush</td>
<td>Gore</td>
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<tr>
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<td>16</td>
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<td>Taylor</td>
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Allocated Overvotes in Florida Counties, 2000 Presidential Election, NORC Data

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<tbody>
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<td>Bush</td>
<td>Gore</td>
<td>Bush</td>
<td>Gore</td>
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<td>Optical Precinct</td>
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<td>Opt. Prec.—Columbia, Escambia</td>
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<td>1,093</td>
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### Allocated Overvotes in Florida Counties, 2000 Presidential Election, NORC Data

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<thead>
<tr>
<th>Tabulation</th>
<th>Two Marks</th>
<th>Multiple</th>
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<tbody>
<tr>
<td></td>
<td>Bush</td>
<td>Gore</td>
<td>Bush</td>
<td>Gore</td>
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<tr>
<td>Votomatic—Duval</td>
<td>0.032</td>
<td>0.079</td>
<td>0.010</td>
<td>0.052</td>
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<tr>
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<td>0.016</td>
<td>0.004</td>
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<tr>
<td>Votomatic—Palm Beach</td>
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<td>0.005</td>
<td>0.014</td>
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<td>0.013</td>
<td>0.020</td>
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</table>
• Are Many Marks a Vote?

• a simple model with “true voters” and “random voters”
  – true voters always vote to convey a specific voting intention, even though they sometimes make mistakes
  – random voters simply make marks at random

• Assume
  – all voters who mark only one candidate for president are true voters
  – but only a fraction of the voters who make multiple marks for president are true voters
• Assume
  – all voters who mark only one candidate for president are true voters
  – but only a fraction of the voters who make multiple marks for president are true voters

• the conditional Senate voting behavior of the one-mark voters, given their presidential choices, is the standard for the behavior of the true voters in each county

• discrepancies between that standard and the conditional Senate voting behavior of the two-mark or multiple-mark voters are due to the presence of random voters in those groups
<table>
<thead>
<tr>
<th>County</th>
<th>One Mark</th>
<th></th>
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<th></th>
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<th>Two Marks</th>
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Senate Voting Behavior Given Presidential Vote, Ballot Image Data

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<td>0.72</td>
<td>0.75</td>
<td>0.77</td>
<td>0.78</td>
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</table>
• a simple model with “true voters” and “random voters”
  - let $P_1$ denote the observed proportion of one-mark voters who cast a Senate vote for one of the major party candidates
  - let $P_2$ denote the observed proportion of two-mark voters who do so
• Assume:
  
  - $P_1$ is the rate at which all true voters vote for a major party candidate
  
  - $H$ denotes the unknown rate at which random voters vote for a major party candidate
  
  - $P_2$ is an average of the rates $P_1$ and $H$, weighted by the unknown proportion of true voters among the two-mark voters
  
  - let $\beta$ denote that proportion

  $$P_2 = \beta P_1 + (1 - \beta)H$$
• for the additional information needed to find $\beta$...
  
  - let $S_1$ denote the observed proportion of one-mark Bush voters who vote for McCollum instead of Nelson
  
  - let $S_2$ denote the observed proportion of two-mark Bush voters who do so
• Assume:
  - $S_1$ is the rate at which all true Bush voters choose McCollum over Nelson
  - $R$ denotes the unknown rate at which random voters who happen to have voted for either McCollum or Nelson end up voting for McCollum
  - $S_2$ is an average of the rates $S_1$ and $R$, weighted by the unknown proportion of true voters among the two-mark Bush voters who also voted for either McCollum or Nelson
  - let $\alpha$ denote that proportion
    \[ S_2 = \alpha S_1 + (1 - \alpha)R \]
• given

\[ P_2 = \beta P_1 + (1 - \beta)H \]  
\[ S_2 = \alpha S_1 + (1 - \alpha)R \]  

• solve for \( \beta \)
• given

\[ P_2 = \beta P_1 + (1 - \beta) H \]  \hspace{1cm} (1)
\[ S_2 = \alpha S_1 + (1 - \alpha) R \]  \hspace{1cm} (2)

• solve for \( \beta \)
  
  - \( \alpha \) is the proportion of true voters among the two-mark Bush voters who also voted for either McCollum or Nelson
given

\[ P_2 = \beta P_1 + (1 - \beta)H \]  
\[ S_2 = \alpha S_1 + (1 - \alpha)R \]

solve for \( \beta \)

- \( \alpha \) is the proportion of true voters among the two-mark Bush voters who also voted for either McCollum or Nelson

- equation (1) implies \( \alpha = \beta P_1 / P_2 \)
given

\[ P_2 = \beta P_1 + (1 - \beta)H \]  \hspace{1cm} (1)

\[ S_2 = \alpha S_1 + (1 - \alpha)R \]  \hspace{1cm} (2)

- solve for \( \beta \)
  - \( \alpha \) is the proportion of true voters among the two-mark Bush voters who also voted for either McCollum or Nelson
  - equation (1) implies \( \alpha = \beta P_1 / P_2 \)
  - substituting for \( \alpha \), equation (2) can be solved for \( \beta \)

\[ \beta = \frac{P_2(S_2 - R)}{P_1(S_1 - R)} \]
• computing $\beta$

$$\beta = \frac{P_2(S_2 - R)}{P_1(S_1 - R)}$$  \hspace{1cm} (3)
• computing $\beta$

$$\beta = \frac{P_2(S_2 - R)}{P_1(S_1 - R)}$$

(3)

• Assume:
  – random voters who happen to have picked Bush are truly choosing at random between McCollum and Nelson

• then it is reasonable to set $R = 1/2$
• computing $\beta$

$$\beta = \frac{P_2(S_2 - R)}{P_1(S_1 - R)}$$  \hspace{1cm} (3)

• Assume:
  – random voters who happen to have picked Bush are truly choosing at random between McCollum and Nelson

• then it is reasonable to set $R = 1/2$

• $P_1, P_2, S_1$ and $S_2$ are all observed

• so the stated model with equation (3) gives a practical procedure for computing the proportion of true votes among the two-mark overvotes allocated to Bush
• computing \( \beta \)

\[
\beta = \frac{P_2(S_2 - R)}{P_1(S_1 - R)}
\]  

• Assume:
  – random voters who happen to have picked Bush are truly choosing at random between McCollum and Nelson

• then it is reasonable to set \( R = 1/2 \)

• \( P_1, P_2, S_1 \) and \( S_2 \) are all observed

• so the stated model with equation (3) gives a practical procedure for computing the proportion of true votes among the two-mark overvotes allocated to Bush

• it is straightforward to apply the procedure both to the overvotes allocated to Gore and to the allocated multiple-mark overvotes.
## Estimated True Votes Among the Presidential Overvotes, Ballot Image Data

<table>
<thead>
<tr>
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<th>Gore</th>
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## Estimated True Votes Among the Presidential Overvotes, Ballot Image Data

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## Estimated True Votes Among the Presidential Overvotes, NORC Data

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## Estimated True Votes Among the Presidential Overvotes, NORC Data

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<td>Gore</td>
<td>Bush</td>
<td>Gore</td>
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Florida 2000: overvotes

WHAT IF BETTER ADMINISTRATIVE PROCEDURES HAD BEEN USED?

- if none of the administrative problems had occurred, then just based on the allocated overvotes that would not have occurred, Gore would have gained a net of more than 35,000 votes

- if the best type of vote tabulation system used in the state in 2000—precinct-tabulated optical scan ballots with the warn-and-correct systems operational—had been used everywhere in Florida, Gore would have won by more than 30,000 votes
• Bush v. Gore
  – certiorari granted due to “unconstitutional” legislative action by the Florida Supreme Court
  – 7–2 on “equal protection” threats in the recount
  – 5–4 on decision to award the election to Bush
• Bush v. Gore
  – certiorari granted due to “unconstitutional” legislative action by the Florida Supreme Court
  – 7–2 on “equal protection” threats in the recount
  – 5–4 on decision to award the election to Bush

• evaluation (by me and most—not all—legal scholars)
  – thoroughly bogus actions by the court
  – nothing but a partisan power grab
• “The Court’s decision in Bush v Gore has been regarded in many quarters as a travesty of constitutional law incapable of rational defense. Recently, for example, 585 law professors have signed a public letter attacking a conservative and mean-spirited Court for its devious and hypocritical judicial activism.” (Epstein 2001, 13)
• “The Court’s decision in Bush v Gore has been regarded in many quarters as a travesty of constitutional law incapable of rational defense. Recently, for example, 585 law professors have signed a public letter attacking a conservative and mean-spirited Court for its devious and hypocritical judicial activism.” (Epstein 2001, 13)

• the equal protection argument is “a confused nonstarter at best, which deserves much of the scorn that has been heaped upon it” (Epstein 2001, 14)

• Article II, Section I, Clause 2: “Each State shall appoint, in such Manner as the Legislature Thereof May Direct,” the electors... (Rehnquist, Scalia, Thomas)
• election reform

• Help America Vote Act of 2002 (HAVA)
  – money for new machines
  – Election Administration Commission
- election reform
- Help America Vote Act of 2002 (HAVA)
  - money for new machines
  - Election Administration Commission
- late and inadequate
  - standards “are not intended to define appropriate election administration practices” (FEC 2002)
  - underfunded
  - goals set for 2006 not 2004
- see the Election Reform Information Project. http://electionline.org/ for updated information
• is new technology better?
  – in Florida, “the disturbing fact is that a repetition of the problems of 2000 now seems likely” (Jimmy Carter op-ed)

• electronic touch screen systems
  – Diebold’s incompetent software
  – needed: voter verifiable paper trails to allow audits and manual recounts
  – political struggles going on right now
  – see http://www.verifiedvoting.org/ for up to date information
• the spatial model
  – are preferences single peaked?
  – example: NO (even after reordering)
• the spatial model
  – are preferences single peaked?
  – example: NO (even after reordering)
  – preferences ($x > y$ means $x$ is preferred to $y$):
    * person A: $x > y > z$
    * person B: $z > x > y$
    * person C: $y > z > x$
• the spatial model
  – are preferences single peaked?
  – example: YES
• the spatial model
  – are preferences single peaked?
  – example: YES
  – preferences:
    * person D: $x > y > z$
    * person E: $z > y > x$
    * person F: $y > z > x$
the spatial model

- are preferences single peaked?
- example: YES
- preferences:
  * person D: $x > y > z$
  * person E: $z > y > x$
  * person F: $y > z > x$
- each person has an IDEAL POINT
the spatial model

- are preferences single peaked?
- example: NO (when alternatives are not ordered appropriately)
• the spatial model
  – are preferences single peaked?
  – example: NO (when alternatives are not ordered appropriately)
  – preferences (same as before):
    * person D: \(x > y > z\)
    * person E: \(z > y > x\)
    * person F: \(y > z > x\)
• the spatial model
  - there is a one-dimensional spatial model when preferences are single peaked
• the spatial model
  – there is a one-dimensional spatial model when preferences are single peaked
• which alternative wins in a series of pairwise votes with single-peaked preferences?
• the spatial model
  – there is a one-dimensional spatial model when preferences are single peaked
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• the spatial model
  – there is a one-dimensional spatial model when preferences are single peaked

• which alternative wins in a series of pairwise votes with single-peaked preferences?
  – with single-peaked preferences, the alternative that coincides with the median voter’s ideal point beats every other alternative
• the spatial model
  – there is a one-dimensional spatial model when preferences are single peaked

• which alternative wins in a series of pairwise votes with single-peaked preferences?
  – with single-peaked preferences, the alternative that coincides with the median voter’s ideal point beats every other alternative
  – this is the MEDIAN VOTER THEOREM
• the spatial model
• single-peaked preferences and measures of distance
  – tent metrics
  – example with asymmetries and different distances for different people
• the spatial model
• single-peaked preferences and measures of distance
  – tent metrics
  – example with asymmetries and different distances for different people
• which alternative wins in a series of pairwise votes?
• the spatial model
• single-peaked preferences and measures of distance
  – tent metrics: \( d = -b|x_{k} - x_{i}| \)
  – example with symmetry and same distances for different people
• the spatial model

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• which alternative wins in a series of pairwise votes?
• the spatial model

• single-peaked preferences and measures of distance
  – euclidean metrics: \( d = -b(x_k - x_i)^2 \)
  – symmetry
  – example with same distances for different people
• the spatial model
• single-peaked preferences and measures of distance
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  – symmetry
  – example with same distances for different people
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• with symmetric single-peaked preferences
• which is to say, in a pure one-dimensional spatial model...
• the spatial model
• with symmetric single-peaked preferences
• which is to say, in a pure one-dimensional spatial model...
• all information about the chooser’s preferences that is relevant for choice behavior is summarized by the chooser’s ideal point
• the spatial model
• representing a continuum of voters with symmetric, single-peaked preferences
• in other words, a one-dimensional spatial electorate
- the spatial model
- a one-dimensional spatial electorate
- adding party “policy” locations
• the spatial model
• a one-dimensional spatial electorate
• adding party “policy” locations
• counting votes
  – assume: everyone votes in accord with his or her preferences, which means everyone votes for the closest alternative
  – if two alternatives are equally close, the voter chooses each alternative with probability \( \frac{1}{2} \)
  * i.e., the voter flips a (fair) coin
• a one-dimensional spatial electorate

• where will two parties locate?
• a one-dimensional spatial electorate

• where will two parties locate?

• assume:
  – parties care only about winning the election
  – the voters act purely in accord with one-dimensional spatial preferences
• a one-dimensional spatial electorate

• where will two parties locate?

• assume:
  – parties care only about winning the election
  – the voters act purely in accord with one-dimensional spatial preferences

• examples of inferior choices
• a one-dimensional spatial electorate

• where will two parties locate?

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  – the voters act purely in accord with one-dimensional spatial preferences

• unique equilibrium result: median convergence
• with a one-dimensional electorate, where will two parties locate?

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• median convergence is a Nash equilibrium
  – given that both are at the median, neither party can do better by choosing a different location
• with a one-dimensional electorate, where will two parties locate?

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• sequential moves: the first party anticipates the second party’s response
• with a one-dimensional electorate, where will two parties locate?

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  - parties care only about winning the election
  - the voters act purely in accord with one-dimensional spatial preferences

• unique equilibrium result: median convergence

• median convergence is a Nash equilibrium
  - given that both are at the median, neither party can do better by choosing a different location

• sequential moves: the first party anticipates the second party’s response

• simultaneous moves: each party anticipates the other’s best response to every possible choice of location
• why do parties diverge?
• why do parties diverge?
• going beyond a bare one-dimensional spatial model
• why do parties diverge?
• going beyond a bare one-dimensional spatial model
• primary elections
• why do parties diverge?
• going beyond a bare one-dimensional spatial model
• primary elections
• assume:
  – candidates have to win party primaries first
  – primary voters act purely in accord with one-dimensional spatial preferences
• why do parties diverge?
• primary elections
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  – primary voters act purely in accord with one-dimensional spatial preferences
why do parties diverge?

primary elections

assume:
   - candidates have to win party primaries first
   - primary voters act purely in accord with one-dimensional spatial preferences

if primary voters look ahead and vote strategically in the primaries in order to win the general election, general electorate median convergence again occurs
• why do parties diverge?
why do parties diverge?

third parties
• why do parties diverge?
• third parties
• assume:
  – the major parties choose positions first
  – then a third party may enter (i.e., choose a position)
  – this is a Stackelberg entry model
• why do parties diverge?
• third parties
• assume:
  – the major parties choose positions first
  – then a third party may enter (i.e., choose a position)
  – this is a Stackelberg entry model
  – all parties care only about winning the election (plurality rule)
  – the voters act purely in accord with one-dimensional spatial preferences
• third parties and major party divergence
• suppose the major parties enter stacked up at the median
• third parties and major party divergence

• suppose the major parties enter stacked up at the median
  – a third party entering slightly to either side wins
• third parties and major party divergence
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  – entering in the middle the third party loses, but may be able to determine the winner
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• are there positions where the major parties can avoid being outflanked?
• third parties and major party divergence
• suppose the major parties locate at the first and third quartiles
• third parties and major party divergence

• suppose the major parties locate at the first and third quartiles
  – a third party entering slightly more extreme than either major party loses but also causes the one it is near to lose
  – entering between the major parties the third party loses but again can determine the winner
  – the third party maximizes the number of votes it receives by locating somewhere (anywhere) in the middle
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• since the third party cannot win, perhaps it does not enter after the major parties choose the polarized locations
• third parties and major party divergence

• unique equilibrium result with the Stackelberg entry rules:
  the major parties locate at the first and third quartiles
• third parties and major party divergence

• unique equilibrium result with the Stackelberg entry rules:
  the major parties locate at the first and third quartiles
  - if the third party is acting to maximize the number of votes it receives, it locates somewhere (anywhere) between the two major parties
• third parties and major party divergence

• unique equilibrium result with the Stackelberg entry rules:
  the major parties locate at the first and third quartiles
  – if the third party is acting to maximize the number of votes it receives, it locates somewhere (anywhere) between the two major parties
  – if the third party is acting to win the election, it may be deterred from entering at all
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• examples (?):
  – if the third party is acting to maximize the number of votes it receives, it locates somewhere (anywhere) between the two major parties: Perot in 1992
Perot in 1992?
• third parties and major party divergence

• unique equilibrium result with the Stackelberg entry rules: the major parties locate at the first and third quartiles

• examples (?):
  – if the third party is acting to get above a small threshold number of votes, it may enter anywhere: Green Party (and St. Ralph) in 2000
St. Ralph in 2000?
• how many parties are there in a one-dimensional spatial world with plurality rule elections?
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• the Stackelberg entry model result suggests that if initially there are two, and those two are in strategic equilibrium locations, no more will enter
• how many parties are there in a one-dimensional spatial world with plurality rule elections?

• the Stackelberg entry model result suggests that if initially there are two, and those two are in strategic equilibrium locations, no more will enter.

• what happens if initially there are more than two?

• assume:
  – all parties know the voters’ preferences and know one another’s proposed positions
how many parties? start with 10, each with 1/10 chance to win
J coalesces with I and wins
AB coalition answers IJ coalition, gaining 1/2 chance to win
• how many parties are there in a one-dimensional spatial world with plurality rule elections?

• assume:
  – all parties know the voters’ preferences and know one another’s proposed positions

• if initially there are more than two, then coalition formation will reduce the number to just two
• how many parties are there in a one-dimensional spatial world with plurality rule elections?

• assume:
  – all parties know the voters’ preferences and know one another’s proposed positions

• if initially there are more than two, then coalition formation will reduce the number to just two

• this is a special case of Duverger’s Law: a plurality election rule implies a two-party system

• in this special case, the reduction to two parties has been forced by elite coalitionmaking
• with plurality rule elections, strategic voters may also cause the number of parties to be reduced

• that is, with strategic voters, only a limited number of parties may get votes

• example: consider again St. Ralph in 2000
St. Ralph in 2000?
• with plurality rule elections, strategic voters may also cause the number of parties to be reduced

• wasted vote logic:
  – voters whose first choice is clearly losing vote instead for a second choice, in order to defeat a much worse alternative
• with plurality rule elections, strategic voters may also cause the number of parties to be reduced

• wasted vote logic:
  – voters whose first choice is clearly losing vote instead for a second choice, in order to defeat a much worse alternative

• with a plurality rule election, this generally leads to only two parties getting a positive number of votes

• this is another path to Duverger’s Law, driven by voters, not elites
how many parties? start with 4
• with plurality rule elections, strategic voters may also cause the number of parties to be reduced

• wasted vote logic

• with a plurality rule election, this generally leads to only two parties getting a positive number of votes
• with plurality rule elections, strategic voters may also cause the number of parties to be reduced

• wasted vote logic

• with a plurality rule election, this generally leads to only two parties getting a positive number of votes

• exceptions:
  – a third party gets votes from those who have the two leading parties tied as the worst alternatives
  – if there are many ties in preferences, more than two parties may get a positive number of votes
  – if the distribution of initial preferences is nearly even, more than two parties may get a positive number of votes
Duverger’s Law with plurality rule elections

- strategic elites may reduce the number of coalitions to two
- strategic voters, using wasted vote logic, may give only two parties a positive number of votes
• Duverger’s Law with plurality rule elections
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• special thresholds may give some voters a reason to vote for a third party
  – example: the Green Party in 2000
• Duverger’s Law with plurality rule elections
  – strategic elites may reduce the number of coalitions to two
  – strategic voters, using wasted vote logic, may give only two parties a positive number of votes
• special thresholds may give some voters a reason to vote for a third party
  – example: the Green Party in 2000
• the analysis generalizes to cases where the candidates with the top $M$ proportions of the vote take office
  – here, in general, $M + 1$ candidates get a positive number of votes (Cox)
  – the exceptional cases parallel the exceptions with a plurality election rule
• spatial models with multiple dimensions
  – there is nothing like a median voter result
  – in general, any position can be defeated
• spatial models with multiple dimensions
  – there is nothing like a median voter result
  – in general, any position can be defeated

• define: winset of a point \( x \)
  – the set of positions that defeat \( x \) in a pairwise contest
• spatial models with multiple dimensions
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• define: winset of a point $x$
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• e.g., in one dimension, the winset of the median is empty
  (i.e., is the empty set), while every other point has a
  nonempty winset
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• in two dimensions...
• a two-dimensional spatial model

• two-dimensional separable euclidean preferences:
  \[ d = [(x_k - x_i)^2 + (y_k - y_i)^2]^{1/2} \]

• an example with three voters
Three Voters with Separable Euclidean Preferences
• a two-dimensional spatial model

• two-dimensional separable euclidean preferences:

\[ d = \left[ (x_k - x_i)^2 + (y_k - y_i)^2 \right]^{1/2} \]

• with two-dimensional spatial preferences, in general the winset of any point \( x \) is not empty

• with separable preferences, the median on one dimension can be defeated by alternatives that shift along both dimensions

• with nonseparable preferences, a one-dimensional median is even more unstable
two-dimensional nonseparable euclidean preferences:

\[ d = \left[ (x_k - x_i)^2 + (y_k - y_i)^2 + b(x_k - x_i)(y_k - y_i) \right]^{1/2} \]
Three Voters with Nonseparable Euclidean Preferences
two-dimensional nonseparable euclidean preferences:

\[ d = \left( (x_k - x_i)^2 + (y_k - y_i)^2 + b(x_k - x_i)(y_k - y_i) \right)^{1/2} \]

with two-dimensional spatial preferences, whether separable or nonseparable, in general the winset of any point \( x \) is not empty

with nonseparable preferences, the median on one dimension can be defeated even by alternatives that shift along the same dimension
• the general implication for political strategy: almost every position in a multidimensional policy space can be defeated
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• the Legislator’s Dilemma
  – running for reelection based on one’s rollcall voting record almost surely means one will be defeated
  – hence, in theory at least, incumbents run on pork, reputation and similar nonspatial things
  – in practice the only thing that works is to suppress the challenger
• the general implication for political strategy: almost every position in a multidimensional policy space can be defeated

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• the strategy of matching
• the general implication for political strategy: almost every position in a multidimensional policy space can be defeated
• the strategy of matching
• response: the strategy of ambiguity
Strategy of Ambiguity
• the general implication for political strategy: almost every position in a multidimensional policy space can be defeated
• the strategy of matching
• response: the strategy of ambiguity
• the general implication for political strategy: almost every position in a multidimensional policy space can be defeated

• the strategy of matching

• response: the strategy of ambiguity

• the strategy of ambiguity fails, if voters are risk averse
• three types of negative campaigning
  1. highlighting nonspatial characteristics
• three types of negative campaigning
  1. highlighting nonspatial characteristics
  2. matching
• three types of negative campaigning
  1. highlighting nonspatial characteristics
  2. matching
  3. asserting the opponent is ambiguous ("flip-flop")
• instability with multidimensional spatial preferences
• the chaos theorems
• instability with multidimensional spatial preferences
• the chaos theorems
  – there is a finite path of pairwise majority votes from any alternative to any other alternative, and back
  – power of the agenda setter given sincere voters
- instability with multidimensional spatial preferences
- the chaos theorems
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- an example with three voters
Three Voters
• Pareto set:
  - the set of all points that are not unanimously inferior to any other point
• Pareto set:
  – the set of all points that are not unanimously inferior to any other point

• each point in the Pareto set
  1. is not unanimously inferior to any other point
  2. is unanimously superior to at least one other point
Three Voters with Pareto Set
Three Voters Facing an Agenda
Indifference Curves At Status Quo
Indifference Curves At First Alternative
Indifference Curves At Second Alternative
Indifference Curves At Third Alternative
• instability with multidimensional spatial preferences
• the chaos theorems
  – there is a finite path of pairwise majority votes from any alternative to any other alternative, and back
  – power of the agenda setter given sincere voters
• strategic voters can keep outcomes inside the Pareto set
Indifference Curves At Status Quo, with Pareto Set
Indifference Curves At First Alternative, with Pareto Set
- instability with multidimensional spatial preferences
- strategic voters can keep outcomes inside the Pareto set
  - technically, strategic voters can keep outcomes inside a smaller set, the “uncovered set”
• instability with multidimensional spatial preferences

• strategic voters can keep outcomes inside the Pareto set
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• that’s with a prespecified, public agenda
• instability with multidimensional spatial preferences
• strategic voters can keep outcomes inside the Pareto set
  – technically, strategic voters can keep outcomes inside a smaller set, the “uncovered set”
• that’s with a prespecified, public agenda
• one can get a similar result with an unknown agenda, if voters are risk averse
  – a voter does not support “extreme” alternatives that are very favorable to the voter if they are outside the Pareto set, due to the risk of getting outcomes that swing wildly far away
• individual voting decisions
  – turnout decisions: vote or not
  – vote choice decisions: which alternative to vote for
• individual voting decisions
  – turnout decisions: vote or not
  – vote choice decisions: which alternative to vote for
• descriptions versus theories
  – description using demographic breakdowns: region, gender, ethnicity, race, religion, urban-suburban-rural, union membership, etc.
• individual voting decisions
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  – description using demographic breakdowns: region, gender, ethnicity, race, religion, urban-suburban-rural, union membership, etc.
  – describing coalitions: e.g., New Deal coalition; Christian coalition
• individual voting decisions
  – turnout decisions: vote or not
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• descriptions versus theories
  – description using demographic breakdowns: region, gender, ethnicity, race, religion, urban-suburban-rural, union membership, etc.
  – describing coalitions: e.g., New Deal coalition; Christian coalition
  – descriptions tell who, what, where but not why votes were cast as they were, or why some voted and others didn’t
• descriptions versus theories
  – theories attempt to explain voting using simple and general mechanisms
  – the mechanisms are defined in terms of models: conceptual machines that supposedly generate turnout and vote choices
  – models, and the theories they express, are evaluated in terms of both how well they describe and how compelling the concepts are
• descriptions versus theories
  – theories attempt to explain voting using simple and general mechanisms
  – the mechanisms are defined in terms of models: conceptual machines that supposedly generate turnout and vote choices
  – models, and the theories they express, are evaluated in terms of both how well they describe and how compelling the concepts are
  – sadly, perhaps, aesthetics matters
• theoretical models versus forecasting models
  – forecasting models do not depend on reasonable or even remotely correct mechanisms
  – they are never defined at a reasonable level of analysis
  – they are exercises in “crazy correlation”
• theoretical models versus forecasting models
  – forecasting models do not depend on reasonable or even remotely correct mechanisms
  – they are never defined at a reasonable level of analysis
  – they are exercises in “crazy correlation”

• seven recent forecasts for the two-party share of the popular vote in the 2004 presidential election (PS: Political Science & Politics, October 2004): common components...
  – presidential approval (all but two)
  – economic conditions (all but one)
  – presidential incumbency
## Seven Forecasts for the Two-Party Popular Vote Share in 2004

<table>
<thead>
<tr>
<th>Forecaster</th>
<th>Predicted Vote for G. W. Bush</th>
<th>Date of Forecast</th>
<th>Probability of Vote &gt; 50% for Favored Candidate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abramowitz</td>
<td>53.7</td>
<td>7/31/04</td>
<td>—</td>
</tr>
<tr>
<td>Campbell</td>
<td>53.8</td>
<td>9/6/04</td>
<td>97%</td>
</tr>
<tr>
<td>Wlezian and Erikson</td>
<td>51.7 to 52.9</td>
<td>8/27/04</td>
<td>75%</td>
</tr>
<tr>
<td>Holbrook</td>
<td>54.5</td>
<td>8/30/04</td>
<td>92%</td>
</tr>
<tr>
<td>Lewis-Beck and Tien</td>
<td>49.9</td>
<td>8/27/04</td>
<td>50%</td>
</tr>
<tr>
<td>Lockerbie</td>
<td>57.6</td>
<td>5/21/04</td>
<td>92%</td>
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<tr>
<td>Norpoth</td>
<td>54.7</td>
<td>1/29/04</td>
<td>95%</td>
</tr>
<tr>
<td><strong>The Median Forecast</strong></td>
<td><strong>53.8</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- theoretical models versus forecasting models
  - theoretically compelling models are not necessarily good at forecasting
  - for one thing, a theoretical model is usually intended to clarify only part of the process
  - even the data collected to support theoretical investigations (the National Election Study [NES]) has that feature
• theoretical models versus forecasting models
  – even the data collected to support theoretical investigations (the National Election Study [NES]) is not especially good at estimating the vote
  – Campbell (in that PS symposium):
    * “since 1948, the final pre-election Gallup poll has an error of 2.1 percentage points”
    * “the mean absolute error of the NES study (since 1952), conducted after the election, is 2.4 percentage points”
    * several of the forecasting models have comparable out-of-sample error rates
• unified models: vote choice with abstention
  – vote only if the difference between the candidates is sufficiently large
• unified models: vote choice with abstention
  - vote only if the difference between the candidates is sufficiently large

• define for each potential voter
  - $V_A$: value of candidate $A$
  - $V_Z$: value of candidate $Z$
  - $C$: net cost of voting
• unified models: vote choice with abstention
  – vote only if the difference between the candidates is sufficiently large

• define for each potential voter
  – $V_{A}$: value of candidate $A$
  – $V_{Z}$: value of candidate $Z$
  – $C$: net cost of voting

• the values $V_{A}$, $V_{Z}$ and $C$ do not necessarily indicate a rational choice.

• for example, they may summarize predispositions from unconsidered habits; in that case this formulation is a bit misleading
• define for each potential voter
  - $V_A$: value of candidate $A$
  - $V_Z$: value of candidate $Z$
  - $C$: net cost of voting

• general rules:
  - vote only if $|V_A - V_Z| > C$
  - choose $A$ if $V_A > V_Z$
  - choose $Z$ if $V_Z > V_A$
• vote choice models
  – choose $A$ if $V_A > V_Z$
  – choose $Z$ if $V_Z > V_A$

the simple act of voting” (Kelley-Mirer, APSR 1974)
• vote choice models
  – choose \( A \) if \( V_A > V_Z \)
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• “the simple act of voting” (Kelley-Mirer, APSR 1974)
• “the simple act of voting” (Kelley-Mirer, APSR 1974)
  - presented as a response to the weighted-sum kind of method associated with the Michigan school (to be examined momentarily)

Any decision may be thought of as involving both a set of considerations (conscious or unconscious) and a rule (conscious or unconscious) in accordance with which these considerations are weighed” (KM)
• “the simple act of voting” (Kelley-Mirer, APSR 1974)
  - presented as a response to the weighted-sum kind of method associated with the Michigan school (to be examined momentarily)
  - KM say that an explanation is better if it “(a) shows a stronger, nonspurious statistical association with voters’ choices, (b) involves a more believable (and nontrivial) account of the way voters arrive at their decisions, and (c) permits one to predict voters’ choices more accurately”
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  - “Any decision may be thought of as involving both a set of considerations (conscious or unconscious) and a rule (conscious or unconscious) in accordance with which these considerations are weighed” (KM)
  - use the NES likes-dislikes items and party identification
• NES likes-dislikes items: parties
  – Is there anything in particular that you like about the Democratic party? What is that? Anything else [you like about the Democratic Party]?
  – Is there anything in particular that you don’t like about the Democratic party? What is that? Anything else [you don’t like about the Democratic Party]?
  – Is there anything in particular that you like about the Republican party? What is that? Anything else [you like about the Republican Party]?
  – Is there anything in particular that you don’t like about the Republican party? What is that? Anything else [you don’t like about the Republican Party]?
• NES likes-dislikes items: candidates

  – Is there anything in particular about (Democratic presidential candidate) that might make you want to vote for him? What is that? Anything else?

  – Is there anything in particular about (Democratic presidential candidate) that might make you want to vote against him? What is that? Anything else?

  – Is there anything in particular about (Republican presidential candidate) that might make you want to vote for him? What is that? Anything else?

  – Is there anything in particular about (Republican presidential candidate) that might make you want to vote against him? What is that? Anything else?
• “the simple act of voting” (Kelley-Mirer)
• consider the NES likes-dislikes items
  – record up to five “mentions” from each respondent
• compute
  – \( D_{pL} \) = number of Dem party likes
  – \( D_{pD} \) = number of Dem party dislikes
  – \( R_{pL} \) = number of Rep party likes
  – \( R_{pD} \) = number of Rep party dislikes
  – \( D_{cL} \) = number of Dem candidate likes
  – \( D_{cD} \) = number of Dem candidate dislikes
  – \( R_{cL} \) = number of Rep candidate likes
  – \( R_{cD} \) = number of Rep candidate dislikes
• \( S = D_{pL} + D_{cL} - D_{pD} - D_{cD} + R_{pD} + R_{cD} - R_{pL} - R_{cL} \)
• “the simple act of voting” (Kelley-Mirer)
• consider the NES likes-dislikes items
  – record up to five “mentions” from each respondent
• compute net score:
  \[ S = D_{pL} + D_{cL} - D_{pD} - D_{cD} + R_{pD} + R_{cD} - R_{pL} - R_{cL} \]
• decision rule:
  – vote Dem if \( S > 0 \)
  – vote Rep if \( S < 0 \)
  – if \( S = 0 \), use party identification to break the tie
• “the simple act of voting” (Kelley-Mirer)
• consider the NES likes-dislikes items
  – record up to five “mentions” from each respondent
• compute net score:
  \[ S = D_{PL} + D_{cL} - D_{pD} - D_{cD} + R_{pD} + R_{cD} - R_{pL} - R_{cL} \]
• decision rule:
  – vote Dem if \( S > 0 \)
  – vote Rep if \( S < 0 \)
  – if \( S = 0 \), use party identification to break the tie
• performance: in NES data from 1952, 1956, 1960 and 1964 they correctly predicted about 88 percent of respondents’ self-reports of their vote choices
• “the simple act of voting” (Kelley-Mirer, APSR 1974)
  – KM say that an explanation is better if it “(a) shows a stronger, nonspurious statistical association with voters’ choices, (b) involves a more believable (and nontrivial) account of the way voters arrive at their decisions, and (c) permits one to predict voters’ choices more accurately”

• concerns
• “the simple act of voting” (Kelley-Mirer, APSR 1974)
  - KM say that an explanation is better if it “(a) shows a stronger, nonspurious statistical association with voters’ choices, (b) involves a more believable (and nontrivial) account of the way voters arrive at their decisions, and (c) permits one to predict voters’ choices more accurately”

• concerns
  - spuriousness: mentioned considerations may not faithfully represent the factors that changed voters’ opinions
  - endogeneity due to rationalization: voters may decide who they will vote for then look for reasons to tell others
  - likes-dislikes are strongly correlated with partisanship, so maybe the model is basically party ID
• vote choice models
  – choose $A$ if $V_A > V_Z$
  – choose $Z$ if $V_Z > V_A$
• vote choice models
  – choose $A$ if $V_A > V_Z$
  – choose $Z$ if $V_Z > V_A$

• the Michigan model
the Michigan model
has party identification (party ID, PID) at its core
claims voting decisions depend on party ID and other attitudes
• NES standard question format:
  – “Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?”
  – (IF REPUBLICAN OR DEMOCRAT) “Would you call yourself a strong (REPUBLICAN/DEMOCRAT) or a not very strong (REPUBLICAN/DEMOCRAT)?”
  – (IF INDEPENDENT, OTHER [1966 and later: OR NO PREFERENCE]:) “Do you think of yourself as closer to the Republican or Democratic party?”

• result: seven-point index of party ID
  – Strong Democrat, Weak Democrat, Independent Democrat, Independent, Independent Republican, Weak Republican, Republican
  – a scattering of people are Apolitical, identify with a third party (very rare), don’t know or refuse to answer
<table>
<thead>
<tr>
<th>PID</th>
<th>'84</th>
<th>'86</th>
<th>'88</th>
<th>'90</th>
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<td>10</td>
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</tbody>
</table>
• what is party ID?
  – a “standing decision” (Campbell), but not the same as the current vote choice, or even many recent vote choices
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  * pure independents versus leaners
  * leaners are at least as partisan in their current vote choices as partisans are
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    * childish habit? (“I’m a Democrat because my daddy was a Democrat” [American Voter])
• what is party ID?
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  - a “socialized” attribute: early adult or even childhood acquisition that subsequently changes only rarely
    * childish habit? (“I’m a Democrat because my daddy was a Democrat” [American Voter])
  - retrospective treatment: a “running tally”; fully rational, even Bayesian update of the parties’ records in office?
    * “contextual partisanship”: responding to the current campaign, in particular to the candidates’ positions
    * e.g., 1984 (Mondale versus Hart)
• party ID and voting behavior in presidential elections
• the normal vote: regular frequencies of turning out and choosing candidates
• party ID and voting behavior in presidential elections

• the normal vote: regular frequencies of turning out and choosing candidates
  
  – strong partisans are most likely to vote and highly loyal (about 98%)
  
  – weak partisans are slightly less likely to vote and somewhat less loyal (about 95% for Republicans, about 93% for Democrats)

  – leaners are somewhat less likely to vote than weak partisans, but no less loyal (Republicans) or more loyal (Democrats)

  – pure independents are much less likely to vote
a normal vote analysis takes the party ID long-run frequencies as a baseline and then evaluations deviations from those as due to the effects of "short-term forces"

- short-term forces include a short list of other attitudes: domestic and foreign policy issues; characteristics of the candidates; economic evaluations
• party ID and voting behavior in presidential elections
• the weighted-sum kind method: specify attitudes as a vector field, i.e., each person is a regression equation
• all attitudes, including party ID, are treated symmetrically
• each person is a (probit) regression equation

• define:

\[ y_i = \begin{cases} 
  REP & \text{if } y_i^* > 0 \\
  DEM & \text{if } y_i^* < 0 
\end{cases} \]

\[ y_i^* = b_0 + b_1 PID_i + b_2 POLD_i + b_3 POLR_i + b_4 CAND_i + b_5 CANR_i + b_6 ECON_i + e_i \]
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• measure the attitudes with survey data, estimate the coefficients
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measure the attitudes with survey data, estimate the coefficients

referring to

- choose \( A \) if \( V_A > V_Z \)
- choose \( Z \) if \( V_Z > V_A \)

\[ y_i^* = V_A - V_Z \]
• each person is a (probit) regression equation
• an example: the Bush-Gore vote choice in 2000 (NES data)
• questions to measure the variables:

\[ y_i, \text{ vote choice (CF0704a)} \]

“(IF R VOTED:) How about the election for President? Did you vote for a candidate for President? (IF YES:) Who did you vote for?”

PID (CF0301) “Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?” (IF REPUBLICAN OR DEMOCRAT) “Would you call yourself a strong (REPUBLICAN/DEMOCRAT) or a not very strong (REPUBLICAN/DEMOCRAT)?” (IF INDEPENDENT, OTHER [1966 and later: OR NO PREFERENCE]:) “Do you think of yourself as closer to the Republican or Democratic party?”
- questions to measure the variables:

Intelligent Dem (CF0350) “I am going to read a list of words and phrases people may use to describe political figures... Think about Al Gore. The first phrase is ‘intelligent.’ In your opinion, does the phrase ‘intelligent’ describe Al Gore extremely well, quite well, not too well or not well at all?”

Intelligent Rep (CF0362) “I am going to read a list of words and phrases people may use to describe political figures... Think about George W. Bush. The first phrase is ‘intelligent.’ In your opinion, does the phrase ‘intelligent’ describe George W. Bush extremely well, quite well, not too well or not well at all?”
• questions to measure the variables:

National Economy (CF0872) “What about the next 12 months? ALL YEARS EXC. 2000: VERSION 1: Do you expect the economy, in the country as a whole, to get better, stay about the same, or get worse? VERSION 2: Do you expect the economy, in the country as a whole, to get worse, stay about the same, or get better?”
--questions to measure the variables:

Libcon Self (CF0803) “(ALL YEARS EXC. 2000 TELEPHONE:) We hear a lot of talk these days about liberals and conservatives. Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, or haven’t you thought much about this? (7-POINT SCALE SHOWN TO R)

(2000 TELEPHONE) When it comes to politics, do you usually think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, extremely conservative, or haven’t you thought much about this?”
questions to measure the variables:

Libcon Dem (CF9088) “We hear a lot of talk these days about liberals and conservatives. Here is a 7-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place Al Gore on this scale? (7-POINT SCALE SHOWN TO R)”

Libcon Rep (CF9096) “Where would you place George Bush on this scale? (7-POINT SCALE SHOWN TO R)”
• response codes used to measure the variables:
  vote choice Democrat, 1; Republican, 2

PID create a set of “dummy variables”
  PID: strong Dem (1 if Strong Democrat, 0 otherwise)
  PID: weak Dem (1 if Weak Democrat, 0 otherwise)
  PID: lean Dem (1 if Democrat leaner, 0 otherwise)
  PID: Independent (1 if Pure Independent, 0 otherwise)
  PID: lean Rep (1 if Republican leaner, 0 otherwise)
  PID: weak Rep (1 if Weak Republican, 0 otherwise)
  PID: strong Rep (1 if Strong Republican, 0 otherwise)
response codes used to measure the variables:

Intelligent Dem, Intelligent Rep Not well at all, 0; Not too well, 1; Quite well, 2; Extremely well, 4

National Economy Better, 1; Same, 0; Worse, −1

Libcon Self, Libcon Dem, Libcon Rep Extremely liberal, 1; Liberal, 2; Slightly liberal, 3; Moderate, middle of the road, 4; Slightly conservative, 5; Conservative, 6; Extremely conservative, 7

Dem Distance |(Libcon Self) − (Libcon Dem)|

Rep Distance |(Libcon Self) − (Libcon Rep)|
• each person is a (probit) regression equation
• an example: the Bush-Gore vote choice in 2000 (NES data)
• define:

\[ y_i^* = b_0 + b_1(\text{PID: weak Dem})_i + b_2(\text{PID: lean Dem})_i \\
+ b_3(\text{PID: Independent})_i + b_4(\text{PID: lean Rep})_i \\
+ b_5(\text{PID: weak Rep})_i + b_6(\text{PID: strong Rep})_i \\
+ b_7(\text{Intelligent Dem})_i + b_8(\text{Intelligent Rep})_i \\
+ b_9(\text{Dem Distance})_i + b_{10}(\text{Rep Distance})_i \\
+ b_{11}(\text{National Economy})_i + e_i \]

\[ y_i = \begin{cases} 
REP & \text{if } y_i^* > 0 \\
DEM & \text{if } y_i^* < 0 
\end{cases} \]
## 2000 Presidential Vote Choices (NES, Probit)

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<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>SE</th>
<th>t-stat.</th>
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<tbody>
<tr>
<td>(Intercept)</td>
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<td>.64</td>
<td>-3.4</td>
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<td>PID: weak Dem</td>
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<td>.48</td>
<td>2.1</td>
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<tr>
<td>PID: lean Dem</td>
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<td>3.2</td>
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<td>PID: Independent</td>
<td>1.21</td>
<td>.51</td>
<td>2.4</td>
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<td>PID: lean Rep</td>
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<td>.47</td>
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<td>PID: weak Rep</td>
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<td>5.5</td>
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<tr>
<td>PID: strong Rep</td>
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<td>.56</td>
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<tr>
<td>Intelligent Dem</td>
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<td>-2.4</td>
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<tr>
<td>Intelligent Rep</td>
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<td>.15</td>
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<tr>
<td>Dem Distance</td>
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<td>.08</td>
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<tr>
<td>Rep Distance</td>
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</tr>
<tr>
<td>National Economy</td>
<td>-0.13</td>
<td>.17</td>
<td>-0.8</td>
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</table>
• the Michigan model
• concerns
  – predictive ability: not bad, but not terrific; circa 70%–85% correctly classified
• the Michigan model
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  – complexity
    * for voters: do people really think like that? are decisions vectors?
• the Michigan model

• concerns
  – predictive ability: not bad, but not terrific; circa 70%–85% correctly classified
  – complexity
    * for voters: do people really think like that? are decisions vectors?
    * for analysts: models! statistics! ick!
• the Michigan model
• concerns
  – meaningfulness: do the attitudes exist?
    * nonresponse
• the Michigan model
• concerns
  – meaningfulness: do the attitudes exist?
    * nonresponse
    * nonattitudes: symptom, choosing the middle of the scale
### NES Libcon Self Placements, Percentage within Study Year

<table>
<thead>
<tr>
<th>Self-placement</th>
<th>'84</th>
<th>'86</th>
<th>'88</th>
<th>'90</th>
<th>'92</th>
<th>'94</th>
<th>'96</th>
<th>'98</th>
<th>'00</th>
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<tbody>
<tr>
<td>Extremely Liberal</td>
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<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
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<td>Liberal</td>
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<td>Slightly Liberal</td>
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<td>Moderate, Middle of Road</td>
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<td>4</td>
<td>3</td>
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</table>
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    * nonresponse
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    * nonattitudes: symptom, choosing the middle of the scale
    * nonattitudes: symptom, response instability over time
    * nonattitudes: symptom, inability to explain one’s position
• the Michigan model

• concerns
  – meaningfulness: do the attitudes exist?
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    * nonattitudes
  
  – spuriousness: voters’ opinions are for the most part strongly correlated with party ID
- the Michigan model
- concerns
  - meaningfulness: do the attitudes exist?
    * nonresponse
    * nonattitudes
  - spuriousness: voters’ opinions are for the most part strongly correlated with party ID
  - endogeneity: are the opinions causes or consequences of the vote choice?
vote choice models

- choose $A$ if $V_A > V_Z$
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the spatial model (i.e., it’s almost all spatial)
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- distinguish spatial from nonspatial characteristics of candidates
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  - spatial characteristics are defined by distances from each voter’s ideal point, in however many dimensions
  - nonspatial characteristics are defined by simple positive responsiveness: more is always better (or less is always better)
  - nonspatial characteristics are also known as valence issues
    * examples:
• the spatial model (i.e., it’s almost all spatial)
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    * examples:
      * candidate traits (intelligent, strong leader, etc.)
      * economic performance (complicated: growth, unemployment, inflation, income)
• distinguish spatial from nonspatial characteristics of candidates

• one spatial dimension:
  – voter \( i \)'s ideal point: \( x_i \)
  – candidates' positions: \( x_A, x_Z \)
  – candidates' nonspatial attributes: \( w_A, w_Z \)
  – unobserved random components: \( e_{Ai}, e_{Zi} \)
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• one spatial dimension:
  – voter $i$’s ideal point: $x_i$
  – candidates’ positions: $x_A, x_Z$
  – candidates’ nonspatial attributes: $w_A, w_Z$
  – unobserved random components: $e_{Ai}, e_{Zi}$

$$V_{Ai} = -|x_i - x_A| + w_A + e_{Ai}$$

$$V_{Zi} = -|x_i - x_Z| + w_Z + e_{Zi}$$
• distinguish spatial from nonspatial characteristics of candidates

• several \((m)\) spatial dimensions:
  – voter \(i\)’s ideal point: \((x_{1i}, \ldots, x_{mi})\)
  – candidates’ positions: \((x_{1A}, \ldots, x_{mA}), (x_{1Z}, \ldots, x_{mZ})\)
  – candidates’ nonspatial attributes: \(w_A, w_Z\)
  – unobserved random components: \(e_{Ai}, e_{Zi}\)
• distinguish spatial from nonspatial characteristics of candidates

• several \( m \) spatial dimensions:
  - voter \( i \)’s ideal point: \( (x_{1i}, \ldots, x_{mi}) \)
  - candidates’ positions: \( (x_{1A}, \ldots, x_{mA}), (x_{1Z}, \ldots, x_{mZ}) \)
  - candidates’ nonspatial attributes: \( w_A, w_Z \)
  - unobserved random components: \( e_{Ai}, e_{Zi} \)

\[
V_{Ai} = - \left[ \sum_{k=1}^{m} (x_{ki} - x_{kA})^2 \right]^{1/2} + w_A + e_{Ai}
\]
\[
V_{Zi} = - \left[ \sum_{k=1}^{m} (x_{ki} - x_{kZ})^2 \right]^{1/2} + w_Z + e_{Zi}
\]
• if there is only one spatial dimension, it is conventional to interpret it as corresponding to a liberal-conservative dimension

• if there are several spatial dimensions, it is conventional to interpret them as corresponding to distinct issue positions
  – in NES data, the issue positions are measured using self-placement and candidate or party placement items
in NES data, the issue positions are measured using self-placement and candidate or party placement items

the selection of issues varies from year to year
• in NES data, the selection of issues varies from year to year (examples)

• Some people feel that the government in Washington should see to it that every person has a job and a good standard of living. Others think the government should just let each person get ahead on his/their own.

Where would you place the Democratic party on this scale? (7-POINT SCALE SHOWN TO R) [used in 1972–1984, 1988, 1992, 1994, 2000]
• in NES data, the selection of issues varies from year to year (examples)

• Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Other people feel that it is important for the government to provide many more services even if it means an increase in spending.

Where would you place the Democratic Party on this scale? (7-POINT SCALE SHOWN TO R) [used in 1982–2000]
• in NES data, the selection of issues varies from year to year (examples)

• Some people believe that we should spend much less money for defense. Others feel that defense spending should be greatly increased.

• several \(^{(m)}\) spatial dimensions:

• most of the issues used in NES surveys are strongly correlated with libcon, for people who respond to both issues and libcon
  – not everyone cares about (or knows about) all issues: the idea of “issue publics”
• several \((m)\) spatial dimensions:

• most of the issues used in NES surveys are strongly correlated with libcon, for people who respond to both issues and libcon
  – not everyone cares about (or knows about) all issues: the idea of “issue publics”

• how many dimensions are there?
  – the idea of the “basic space”
• several \((m)\) spatial dimensions:

• most of the issues used in NES surveys are strongly correlated with libcon, for people who respond to both issues and libcon
  – not everyone cares about (or knows about) all issues: the idea of “issue publics”

• how many dimensions are there?
  – the idea of the “basic space”

• is partisanship in the basic space?
• suppose we treat everything as spatial, using statistical procedures to map everything onto a conjectured basic space
• especially this has been done by Poole and Rosenthal
• following are results using NES data
Our unfolding results are basically similar to those of Rabinowitz (1978). First, most of the variation of the thermometers is accounted for by three dimensions. Second, the candidates appear near the periphery of the space, although voters are unimodally distributed about the center. (See Figures 1–4. Figures 1 and 3 are the plots obtained for voters, Figures 2 and 4 the plots obtained for nonvoters. Similar plots for 1972 and 1980 are available from the authors on request. Major candidate positions are similar across years. In 1980, Anderson is close to Carter. The contour lines are explained below.)

This second result is at variance with some simple spatial theories which would hold that the candidates should converge to a point in the center of the distribution. One might be inclined to ascribe the extreme placement of the candidates to either lack of gradated discrimination by respondents or to methodological artifact. Two corroborative pieces of evidence, however, buttress the

FIGURE 1
1968 Voters

+One possibility for methodological artifact can be ruled out. Suppose the thermometers measured not distance but utility and that reported utilities were some nonlinear function of distance, say distance squared. Suppose further that the candidates had converged to a common position. Using
Our second set of evidence on polarization comes from studies of Congress. Fiorina (1974), replicating an earlier study by Strain, found dramatic changes in the roll call positions of a constituency when its representative was replaced by a representative from the opposite party. Similarly, using the same metric unfolding technique used here, but this time on interest group ratings of Congress, Poole (1981) and Poole and Daniels (1982) found a polarized, bimodal Congress. Using their one-dimensional unfolding values, we have confirmed the Strain-Fiorina results for the Senate (see Poole and Rosenthal, 1983; see also Bullock and Brady, 1983). Senators from the same state but from different parties are far apart on the dimension, but senators from the same party and the same state tend to be spatial clones.

Even though congressional data and survey data on issue placement of presidential candidates both point to spatial polarization, we remain struck by the extent to which the candidates are at the periphery of the space. Indeed Burnham

---

1 In distinction to the thermometer data, the interest group ratings contain a full range of numerical values and no piling up of implicit “don’t knows” on a score of 50. Hence, the polarized positions of the candidates are surely not simply a consequence of these quirks of survey thermometer data.
vided convergence in all runs except one. In that case, on the second wave, a one-dimensional model gave the highest geometric mean. The estimated choice probabilities along the dimension are graphed in Figure 5.

We conjecture that spatial models are as successful as raw thermometers in explaining electoral choice because the thermometers are noisy measurements. In positioning a respondent relative to a given candidate on the basis of the respondent’s set of thermometer rankings and not just the ranking for the candidate, one smooths the error. The basic, commonly shared ideological space is, we further conjecture, of very small dimension. Thus, when one unfolds the thermometer data into higher dimensional spaces, one is basically reintroducing the noise in the original measurements. These conjectures are consistent with the observation that the three-dimensional model typically does not predict as well as a two-dimensional model. The fact that the spatial models do not do even better than thermometers probably reflects the ability of the thermometers to measure, as Pierce (1981) and Fiorina (1981, p. 154) suggest, nonspatial aspects of preference as well as noise.

We emphasize, though, that regardless of nonspatial aspects, thermometer data are consistent with the basic assumptions of spatial theory. For 1980, for example, we do as well by replacing three thermometer ratings for the candidates by a single coordinate, based on the theoretical restrictions of the Euclidean metric and a common perception of candidate locations for all individuals. Sim-

FIGURE 5
One Dimension, 1980

...
• turnout models
  – vote only if the difference between the candidates is sufficiently large
  – $V_A$: value of candidate $A$
  – $V_Z$: value of candidate $Z$
  – $C$: net cost of voting
  – vote if
    \[
    |V_A - V_Z| - C > 0
    \]

• but this does not explicitly incorporate the elector’s own behavior or its consequences
rational choice turnout models

- $P$: probability that one’s vote decides the election
- $B$: net benefit from having one’s preferred alternative win
- $C$: net cost of voting

vote if

$$PB - C > 0$$

how big are $P$, $B$ and $C$?
rational choice turnout models

- $P$: probability that one’s vote decides the election
- $B$: net benefit from having one’s preferred alternative win
- $C$: net cost of voting
- $D$: “duty”
- vote if

$$PB - C + D > 0$$

- if $PB$ is small, everything depends on $D$
• rational choice turnout models
  – $P$: probability that one’s vote decides the election
  – $B$: net benefit from having one’s preferred alternative win
  – $C$: net cost of voting
  – $D$: “duty”
  – vote if
    \[ PB - C + D > 0 \]
  • if $PB$ is small, everything depends on $D$
• turnout
• turnout
  – closeness and turnout in 2004 (Henry Brady's graphs)
• turnout
  – closeness and turnout in 2004 (Henry Brady’s graphs)
  – strategic abstention and strategic ignorance (Downs)
- turnout
  - “roll-off”
• turnout
  – “roll-off”
  – racially related (motivated?) abstention (Herron-Sekhon 2004)
    * “the African-American residual vote rate will shrink in contests with black candidates”
    * supporting evidence from 1998 in Cook County, Illinois
    * some evidence also of “discretionary residual votes” among white voters facing a strong black incumbent.
    * others (e.g., Claudine Gay) have argued for such demobilizing effects more generally.
• turnout and political participation

• other modes of participation
  – education
  – SES
  – social capital and personal capital (Brady, Schlozman, Verba)
  – will the high levels of mobilization in 2004 last?
- congressional elections
- House and Senate
  - resemble presidential elections in terms of party ID
• congressional elections

• House and Senate
  – resemble presidential elections in terms of party ID
  – mixed relationship with economic conditions
    * significant effect of retrospective economic conditions
      in presidential years, mostly, but not at midterm
• congressional elections

• House and Senate
  – resemble presidential elections in terms of party ID
  – mixed relationship with economic conditions
    * significant effect of retrospective economic conditions
      in presidential years, mostly, but not at midterm
    * the strategic elites story for weak cross-sectional
      effects: stronger candidates run when they anticipate
      doing better
a digression on making inferences about economic performance voting: a fallacy of using variation over people instead of variation over time (tracing to Kramer 1983)

- define personal economic experience and economically related political evaluations:

\[ x_{ti} = a_0 + q_{ti} + r_{ti} + s_t \]
\[ y^*_{ti} = b_0 + r_{ti} + s_t \]
\[ y_{ti} = \Phi(y^*_{ti}) \]

- \( q_{ti} \): idiosyncratic experience
- \( r_{ti} \): governmentally relevant personal experience
- \( s_t \): governmentally induced collective experience
- \( a_0, b_0 \): constants
- \( \Phi(z) \): normal distribution function (maps argument into \((0,1)\))
• methodological digression

\[ x_{ti} = a_0 + q_{ti} + r_{ti} + s_t \]
\[ y_{ti}^* = b_0 + r_{ti} + s_t \]
\[ y_{ti} = \Phi(y_{ti}^*) \]

• cross-sectional data: consider relationship between \( x_{ti} \) and \( y_{ti} \) across \( i \) (people) for each \( t \) (time)
Cross-sectional relations for a simulated population

Year 1

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9
- methodological digression

\[ x_{ti} = a_0 + q_{ti} + r_{ti} + s_t \]
\[ y^*_t = b_0 + r_{ti} + s_t \]
\[ y_{ti} = \Phi(y^*_t) \]

- cross-sectional data: consider relationship between

\[ x_{ti} - x_{t-1,i} \text{ (personal changes)} \] and \[ y_{ti} \text{ across } i \text{ (people) for each } t \text{ (time)} \]
Cross-sectional changes in $x$ for a simulated population

Year 2

Year 3

Year 4

Year 5

Year 6

Year 7

Year 8

Year 9
• methodological digression

\[ x_{ti} = a_0 + q_{ti} + r_{ti} + s_t \]
\[ y^*_{ti} = b_0 + r_{ti} + s_t \]
\[ y_{ti} = \Phi(y^*_{ti}) \]

• panel data: consider relationship between \( x_{ti} \) and \( y_{ti} \) across \( t \) (time) for each \( i \) (people)
Individual-level time series relations for a simulated population
• methodological digression

\[
\begin{align*}
  x_{ti} &= a_0 + q_{ti} + r_{ti} + s_t \\
  y_{ti}^* &= b_0 + r_{ti} + s_t \\
  y_{ti} &= \Phi(y_{ti}^*)
\end{align*}
\]

• aggregate time series data: consider relationship between 
  \((1/n) \sum_i x_{ti}\) and \((1/n) \sum_i y_{ti}\) (i.e., the averages) across \(t\) (time)
Aggregate time series relations for a simulated population
- House and Senate elections
  - importance of constituency service: complicated
    * many know about service (nearly 70 percent of constituents in some cases)
    * but efforts to find strong connections to votes have not borne out
• House and Senate elections
  – relationship between pork and votes is complicated: more pork does not mean more votes
- House and Senate elections
  - relationship between pork and votes is complicated: more pork does not mean more votes
  - how can that be? recall Fiorina’s Keystone argument
• House and Senate elections
  – relationship between pork and votes is complicated: more pork does not mean more votes
  – how can that be? recall Fiorina’s Keystone argument
  – reasons
    * general: only discretionary pork that can be attributed to the representative should be considered by voters
    * but we know a lot of pork is directed at local elites (at least by the President) and not at voters
    * besides, not all voters like pork
• House and Senate elections
  – relationship between pork and votes is complicated: more pork does not mean more votes
  – four kinds of House campaigns (Mebane 2000):
    * good service, unopposed incumbent, high contributions (.08)
    * good service, incumbent drops out (.07)
    * bad service, unopposed incumbent, high contributions (.38)
    * bad service, competitive race but incumbent advantage (.47)
• congressional elections

• House and Senate
  – biggest difference from presidential races...
• congressional elections
• House and Senate
  – biggest difference from presidential races...
  – incumbent advantage
• congressional elections

• House and Senate
  – biggest difference from presidential races...
  – incumbent advantage
  – noncompetitive races
  – 98 percent reelection rate in the House
  – 90 percent reelection rate in the Senate in recent years (since the mid 1980s)
  – unopposed races
- districting in House elections
  - incumbent advantage and gerrymandering
    * incumbent protection
    * partisan districts
- districting in House elections
  - Voting Rights Act
    * majority minority districts: changes over time
    * contiguity and other aesthetics
    * substantive representation and symbolic representation
    * “bleaching” districts
• models of institutional balancing
• a president and a legislature (treated as unicameral)
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  – four possible policies: $\theta_{DD}$, $\theta_{DR}$, $\theta_{RD}$, $\theta_{RR}$
• models of institutional balancing
• a president and a legislature (treated as unicameral)
  – four possible policies: \( \theta_{DD}, \theta_{DR}, \theta_{RD}, \theta_{RR} \)
  – Fiorina’s model: voters choose the closest policy (sincere voting)
voting model example
voting model example
voting model example
Fiorina model example
• models of institutional balancing
• a president and a legislature (treated as unicameral)
  – four possible policies: $\theta_{DD}, \theta_{DR}, \theta_{RD}, \theta_{RR}$
  – Fiorina’s model with strategic voting: voters choose the closest policy, taking into account how others will vote
strategic model example
• models of institutional balancing
• a president and a legislature (treated as unicameral)
• a more elaborate representation of the institutions and of strategic behavior (Alesina and Rosenthal)
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• a more elaborate representation of the institutions and of strategic behavior (Alesina and Rosenthal)
  – $\bar{H}$: expected proportion Republican in the legislature
  – $\bar{P}$: probability that Republican wins the presidency
  – $\alpha_D, \alpha_R$: power of president, Democrat or Republican
• models of institutional balancing
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\[
\tilde{\theta}_D^i = \alpha_D \theta_D^i + (1 - \alpha_D)[\bar{H} \theta_R^i + (1 - \bar{H})\theta_D^i], \quad 0 \leq \alpha_D \leq 1, \\
\tilde{\theta}_R^i = \alpha_R \theta_R^i + (1 - \alpha_R)[\bar{H} \theta_R^i + (1 - \bar{H})\theta_D^i], \quad 0 \leq \alpha_R \leq 1
\]
• models of institutional balancing
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$$\tilde{\theta}_R^i = \alpha_R \theta_R^i + (1 - \alpha_R)[\bar{H}\theta_R^i + (1 - \bar{H})\theta_D^i], \quad 0 \leq \alpha_R \leq 1$$

• ticket splits go only one way
Alesina-Rosenthal model: presidential year, uncertain
A-R model: pres. year with post-election policies
A-R model: pres. year with Republican victory certain
A-R model: pres. year with Democratic victory certain
A-R model: pres. year, post-election policies
A-R model: midterm with Republican president
A-R model: midterm with Democratic president
• models of institutional balancing

• in addition to the structural midterm shifts of Alesina and Rosenthal which relate to uncertainty ...

• there is a pattern of midterm shifts in voters’ and nonvoters’ ideal points away from the party of the president
• models of institutional balancing

• in addition to the structural midterm shifts of Alesina and Rosenthal which relate to uncertainty ...

• there is a pattern of midterm shifts in voters’ and nonvoters’ ideal points away from the party of the president
  
  - Stimson’s data going back to 1960 (and earlier)
  
  - NES data going back to 1976
Median Absolute Difference, Self versus Winner’s Party

(a) All Voters and Nonvoters

(b) Independent Independents

(c) Strong Democrats

(d) Democrats

(e) Independent Democrats

(f) Independent Republicans

(g) Republicans

(h) Strong Republicans
Median Signed Difference, Self versus Both Parties

(a) All Voters

(b) Independent Independents

(c) Strong Democrats

(d) Democrats

(e) Independent Democrats

(f) Independent Republicans

(g) Republicans

(h) Strong Republicans