Government 317: Campaigns and Elections

Fall 2004
Tuesday and Thursday 2:55–4:10 (MG 165)
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TA Office: B13 White Hall
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)

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  - long-term relationships (access)

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- 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
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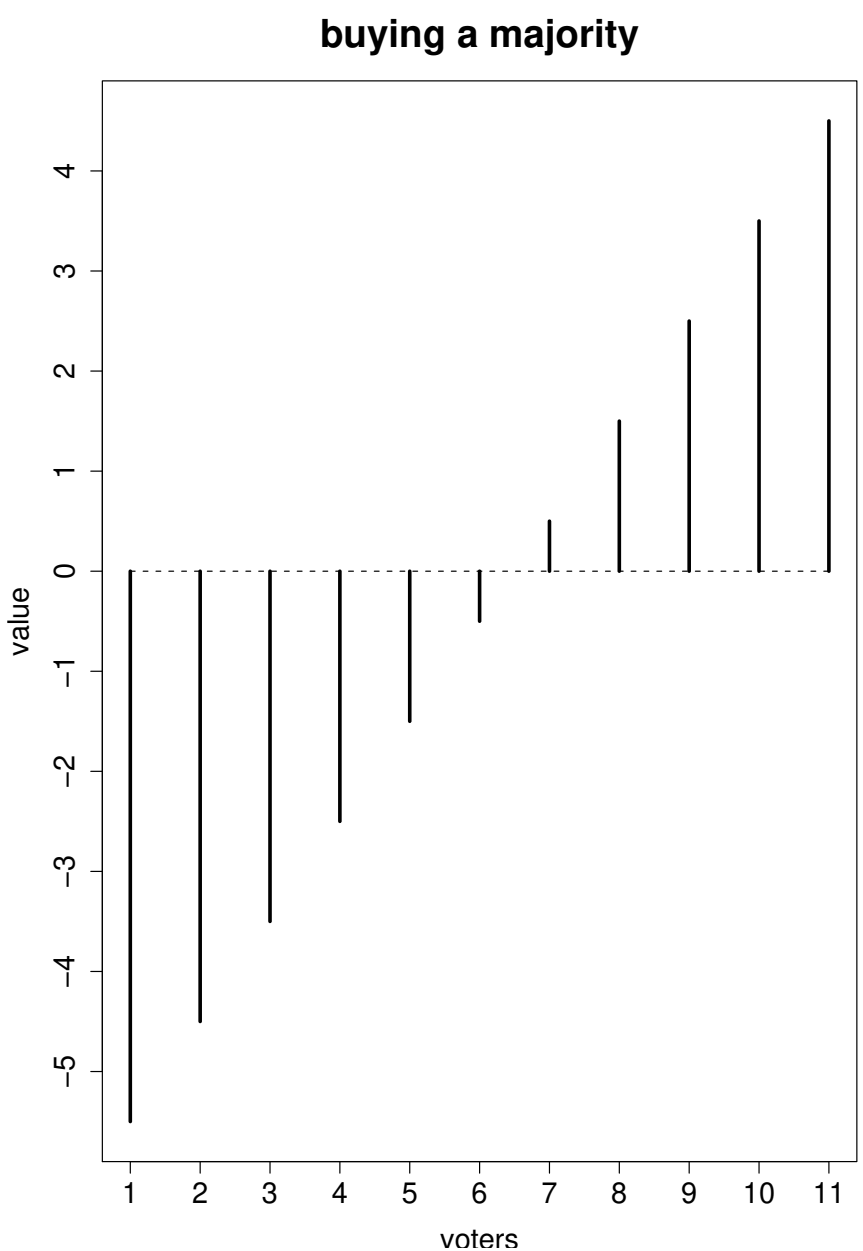
- who? legislators? bureaucrats? presidents?
- desirability of service:
  - is pork "pure profit" (Fiorina)?
    - incumbent advantage: "the bureaucracy did it"
  - legislating is "position taking" (Mayhew)
    - someone opposes every position
    - the "legislator's dilemma"


buying a majority
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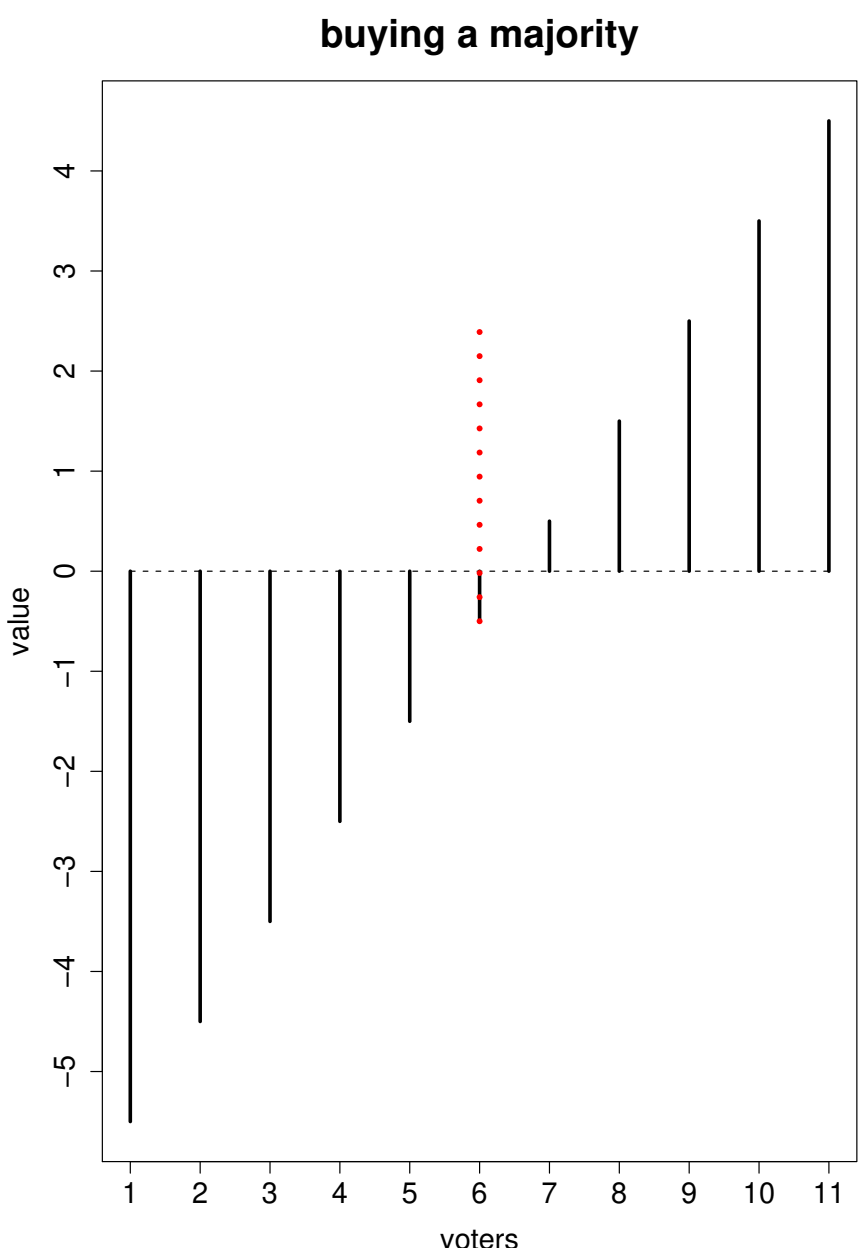
voters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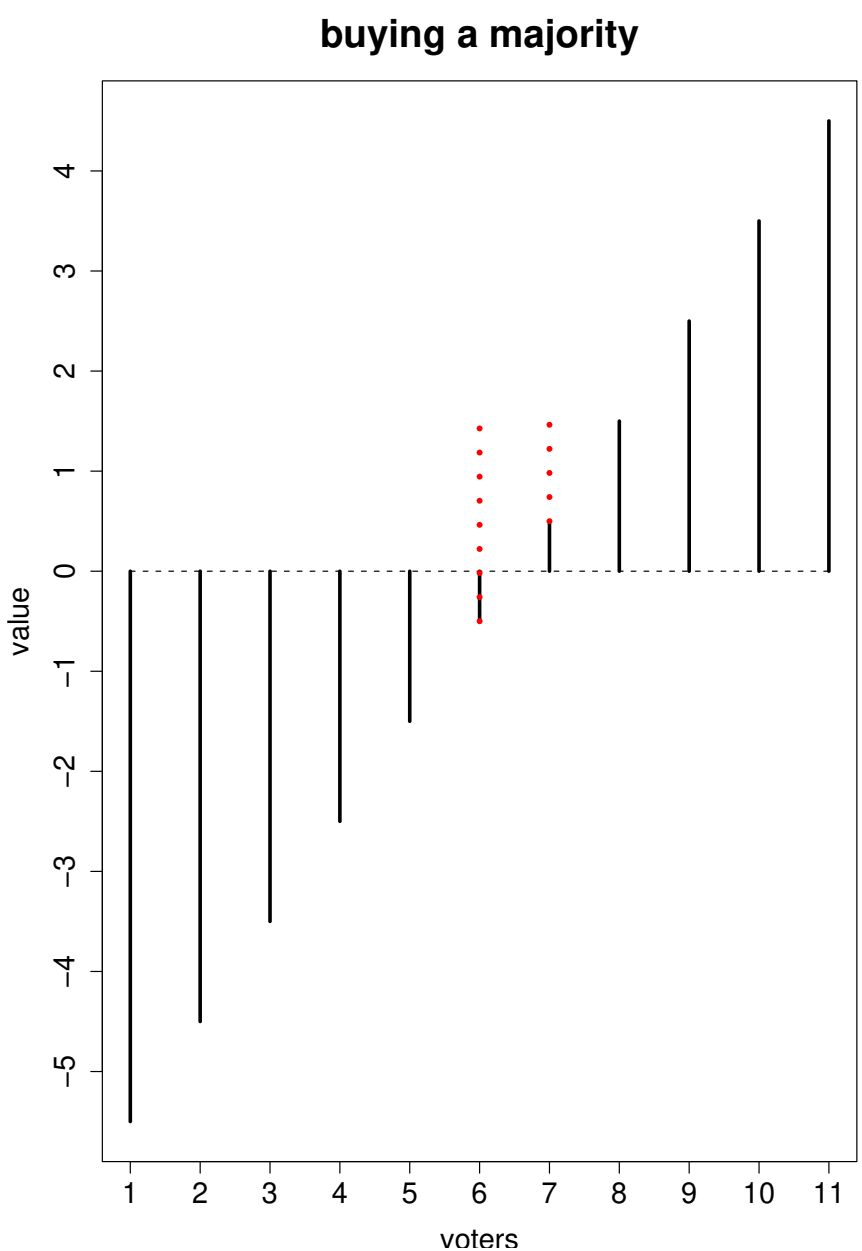
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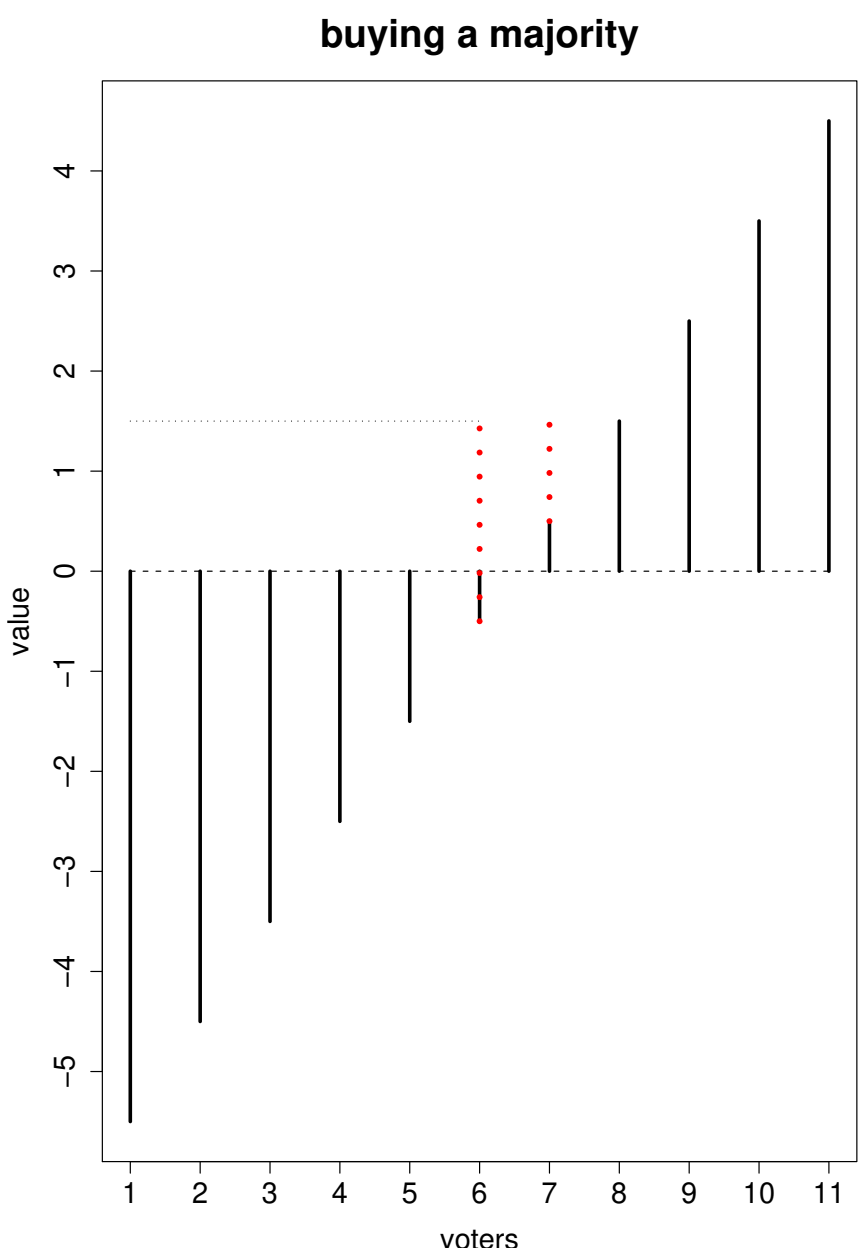
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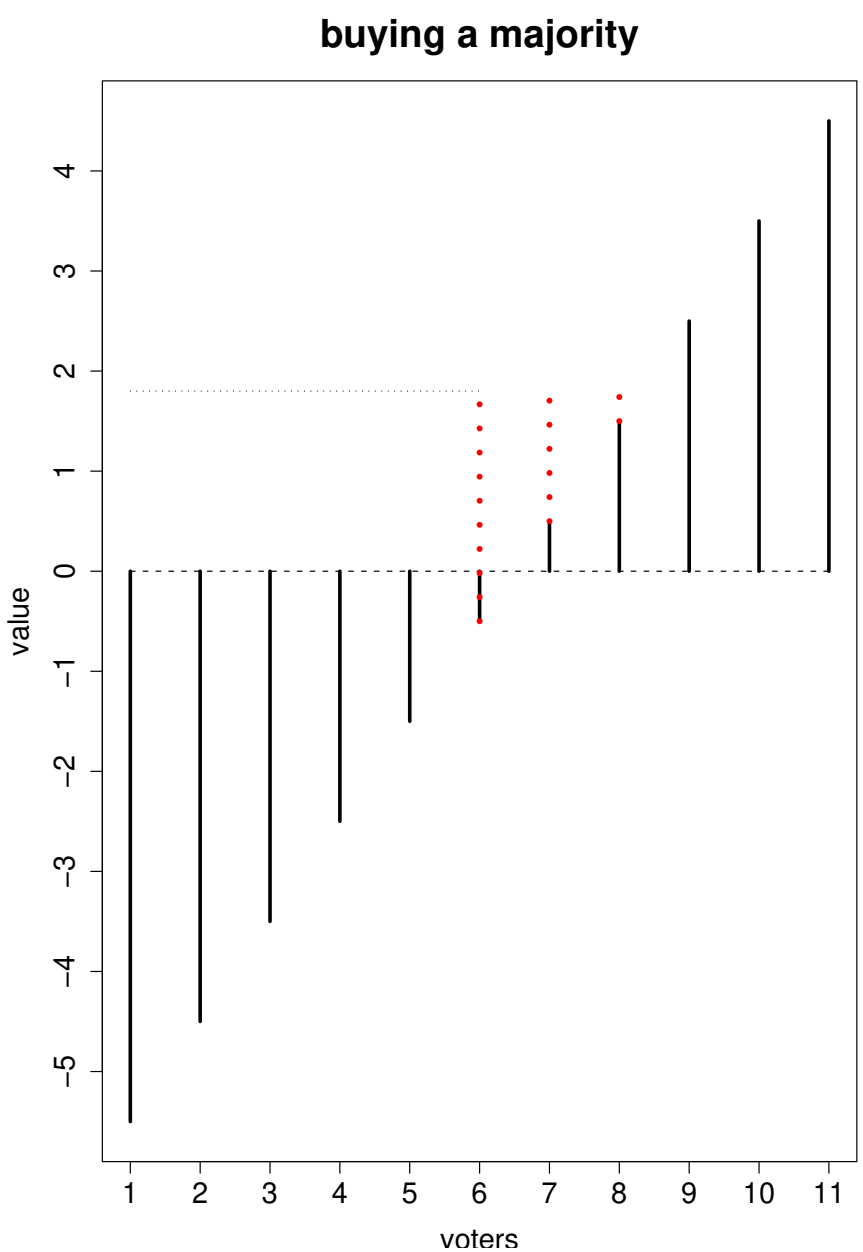
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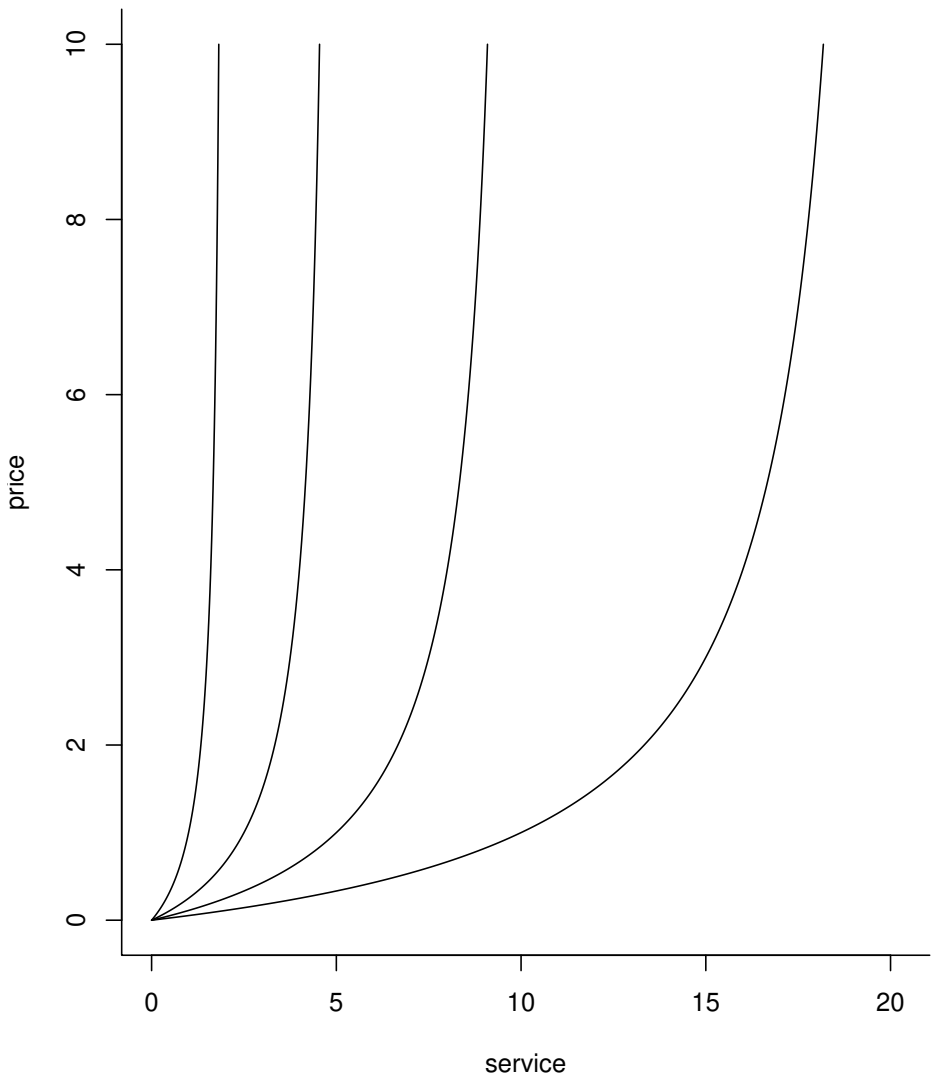
voters

- **one basic principle for investing: equate marginal costs across possible investments**


Price−service curves
price
service
0
2
4
6
8
10
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5
10
15
20

Figure 1: Price−service curves with maximum service limits

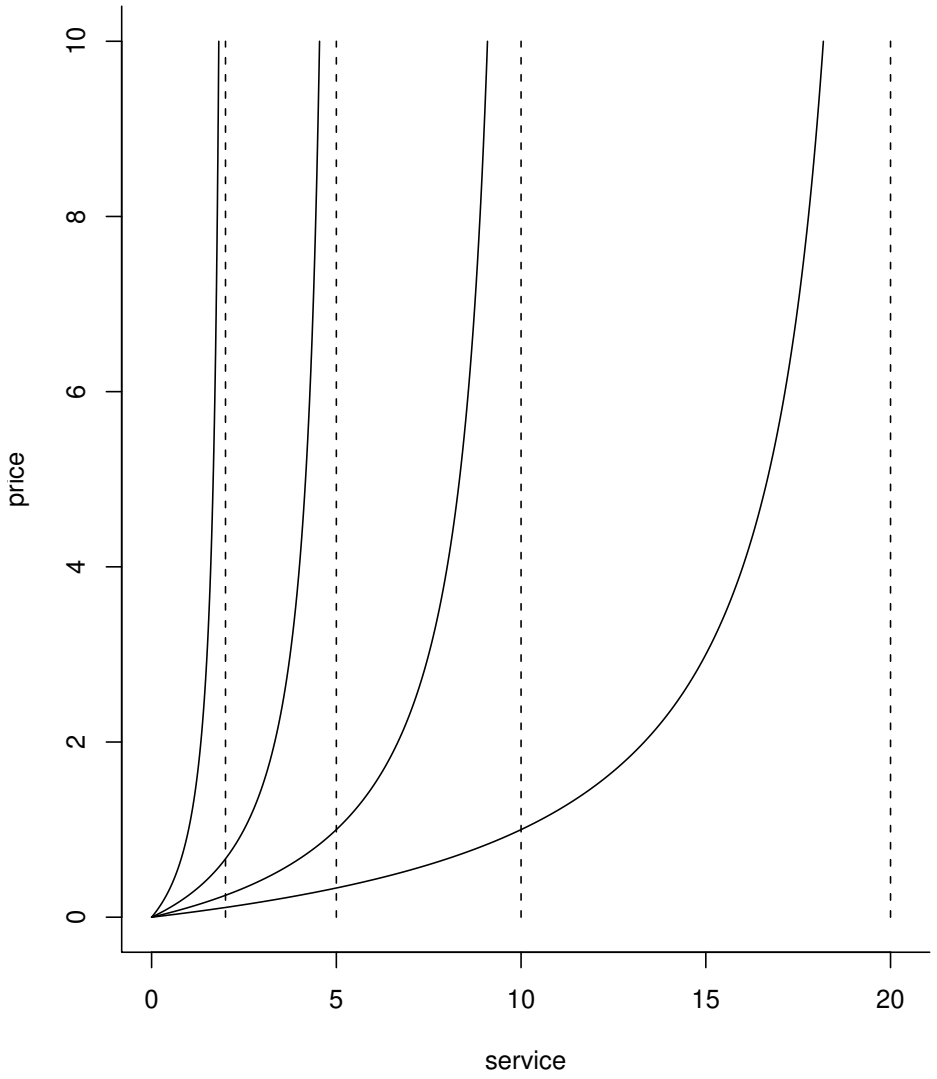


Figure 2: Service–price curves

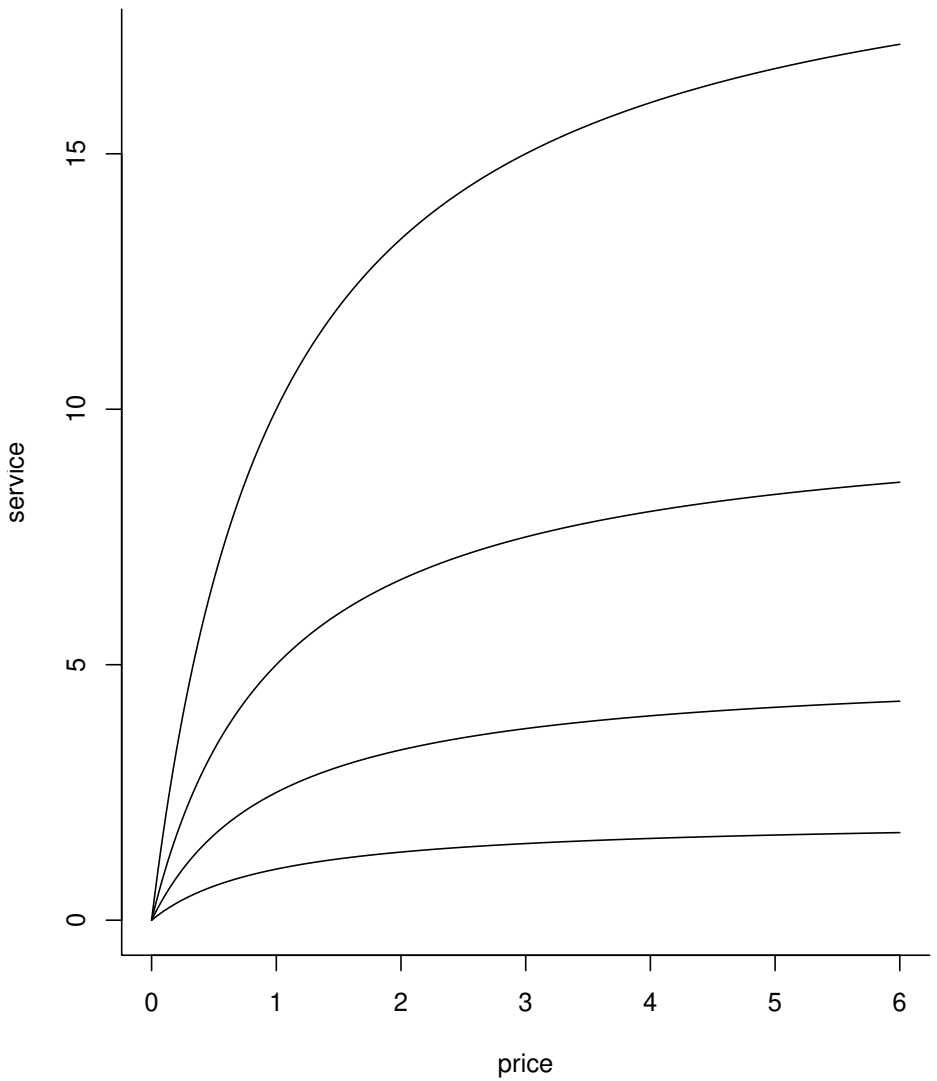


Figure 8: Service−price relationships with budget = 10

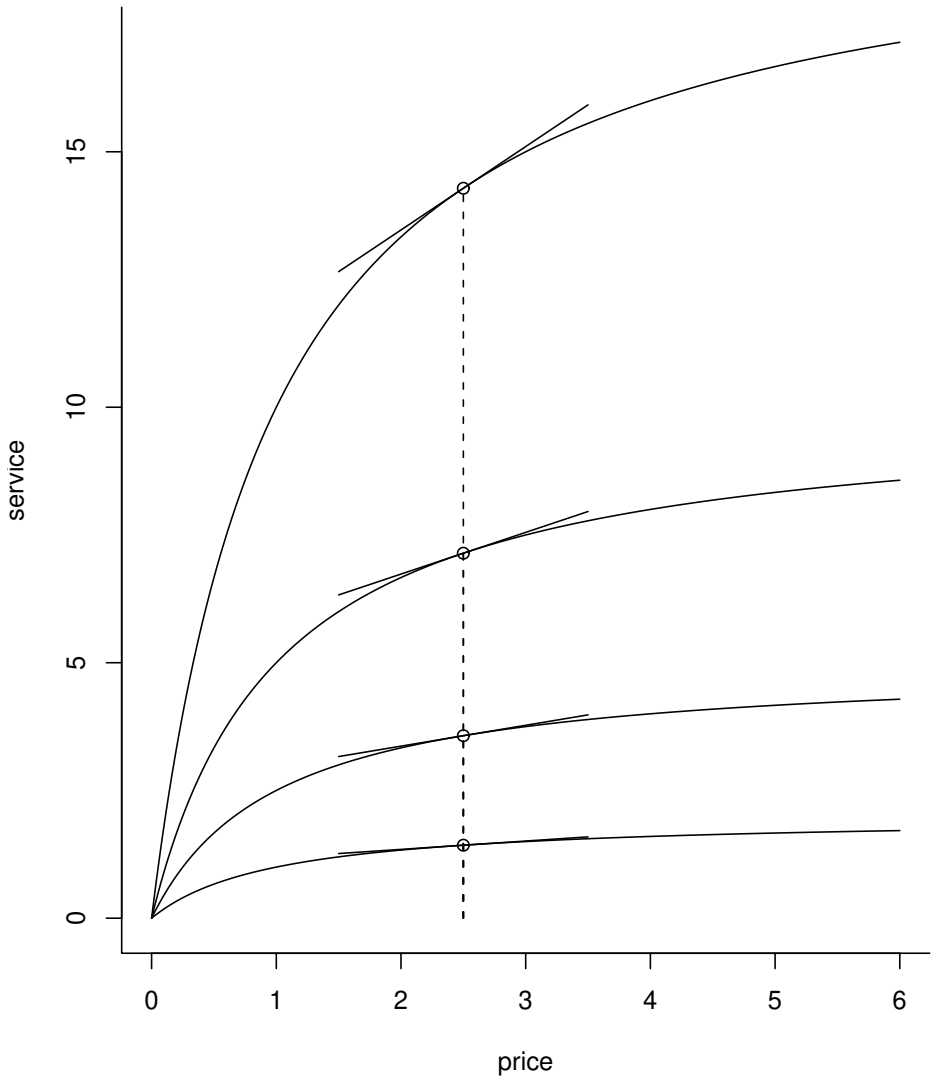


Figure 3: Service−price relationships with budget = 10

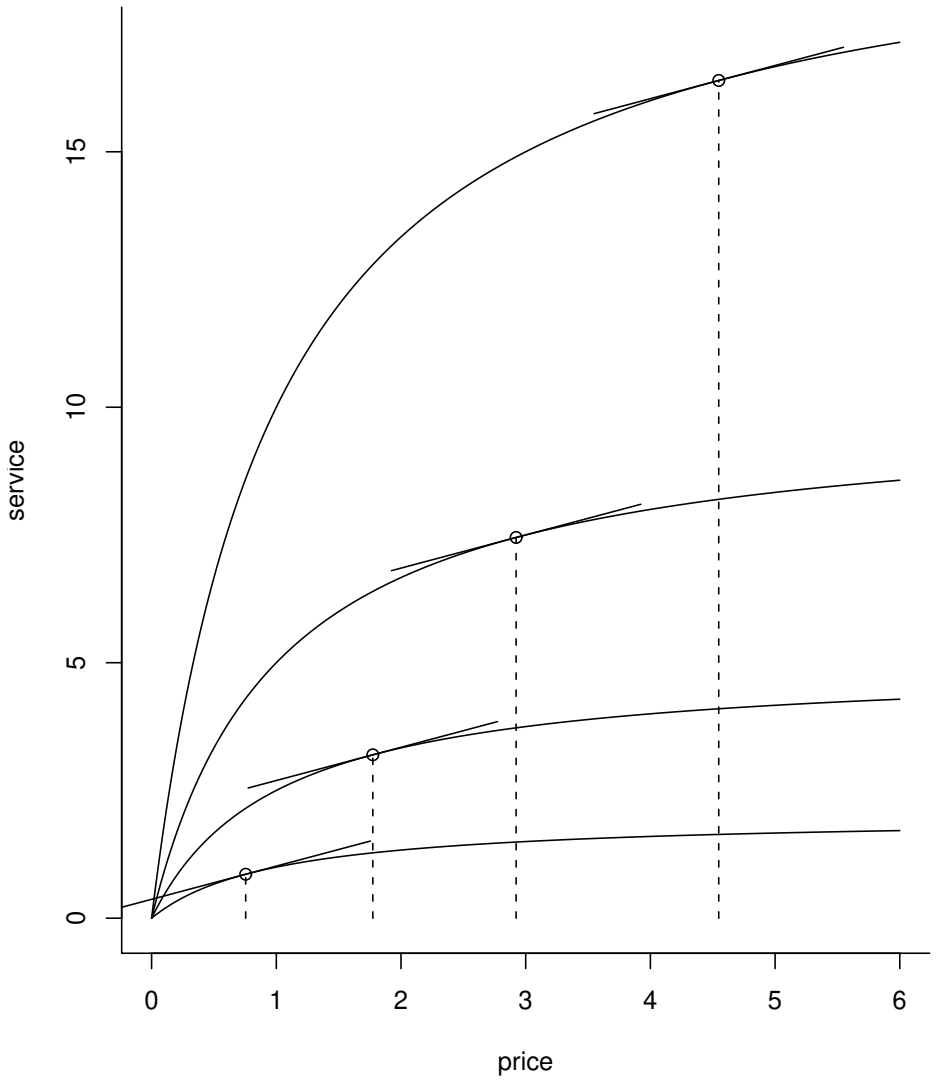


Figure 4: Service–price relationships with budget = 5

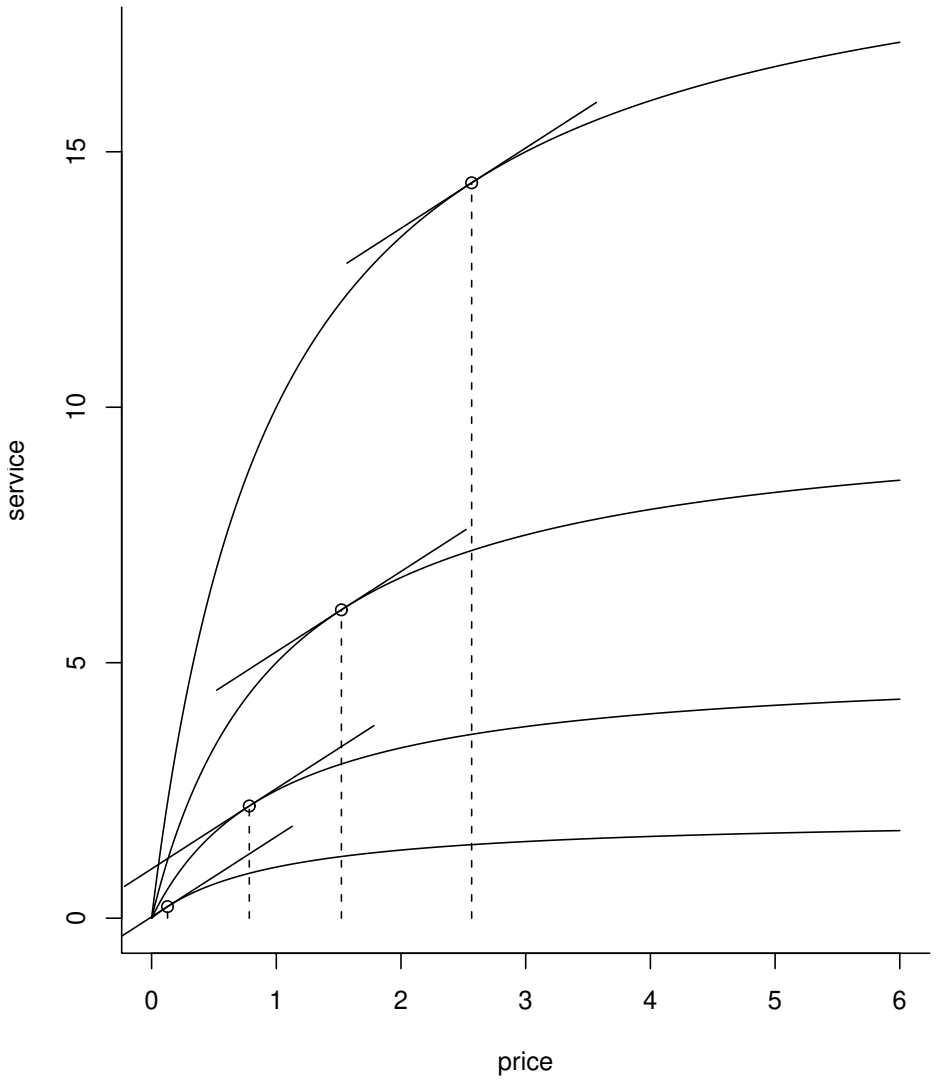


Figure 5: Service–price relationships with budget = 2

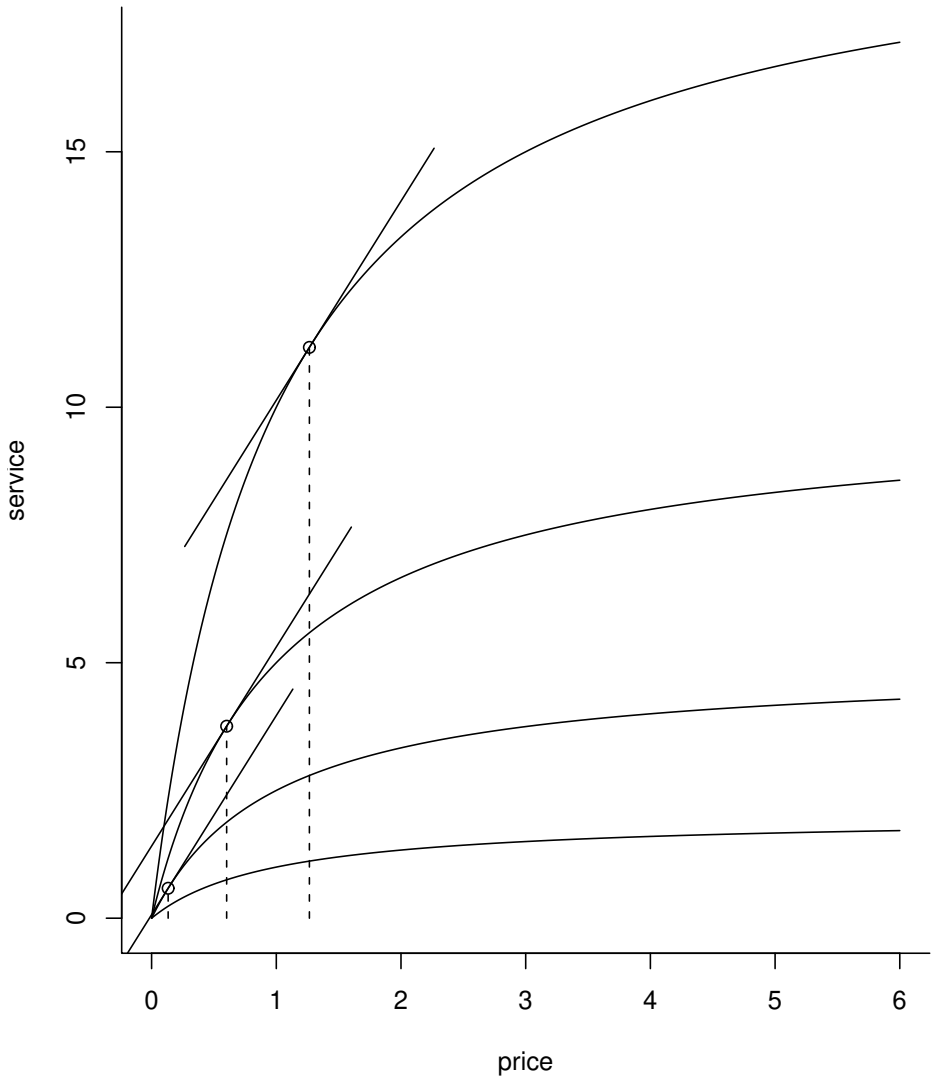
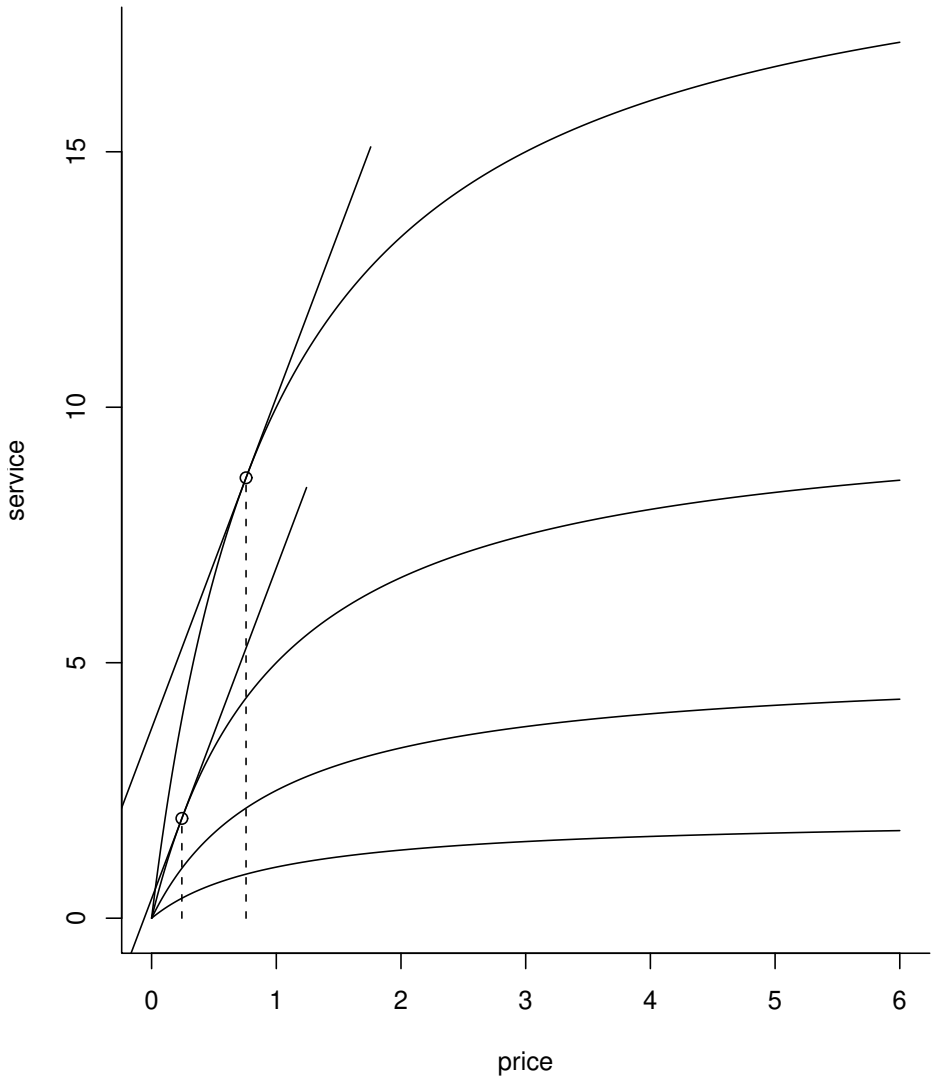


Figure 6: Service–price relationships with budget = 1



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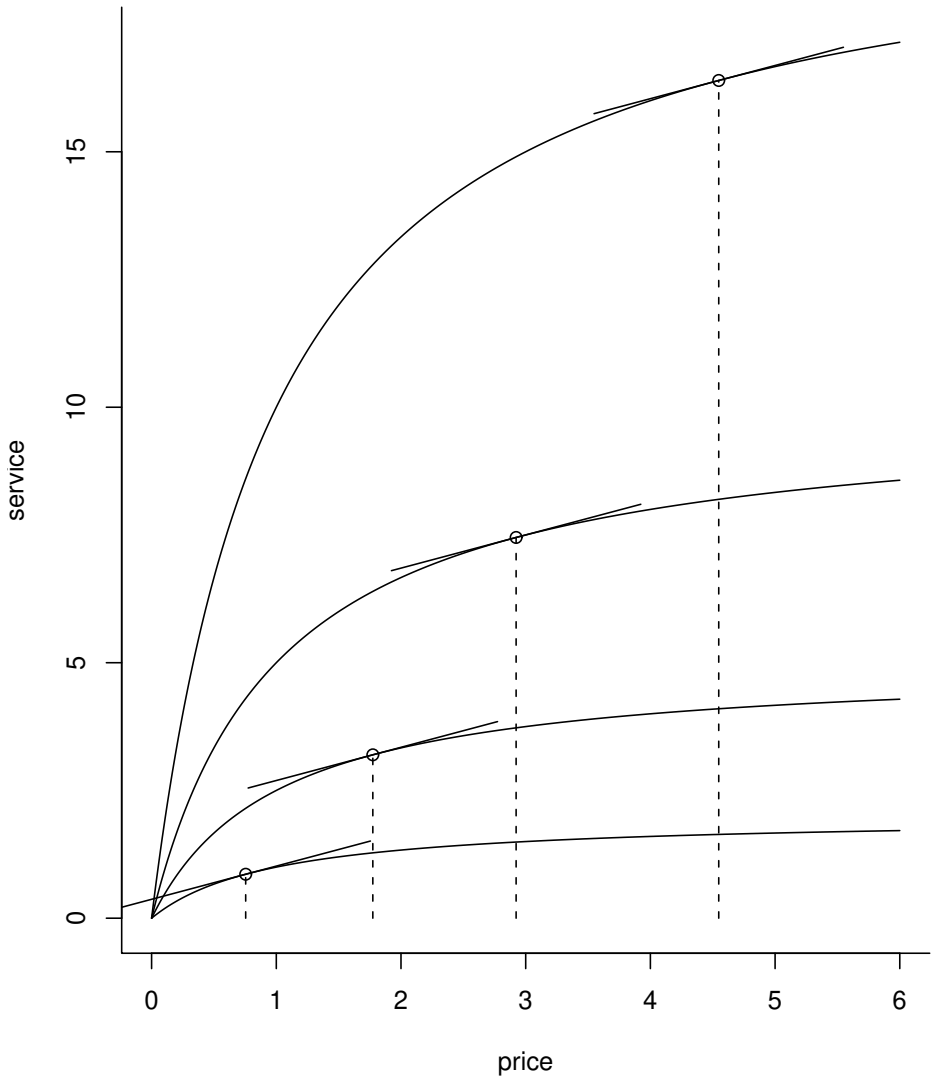


Figure 8: Service−price relationships with budget = 10
and maximum contribution = 4

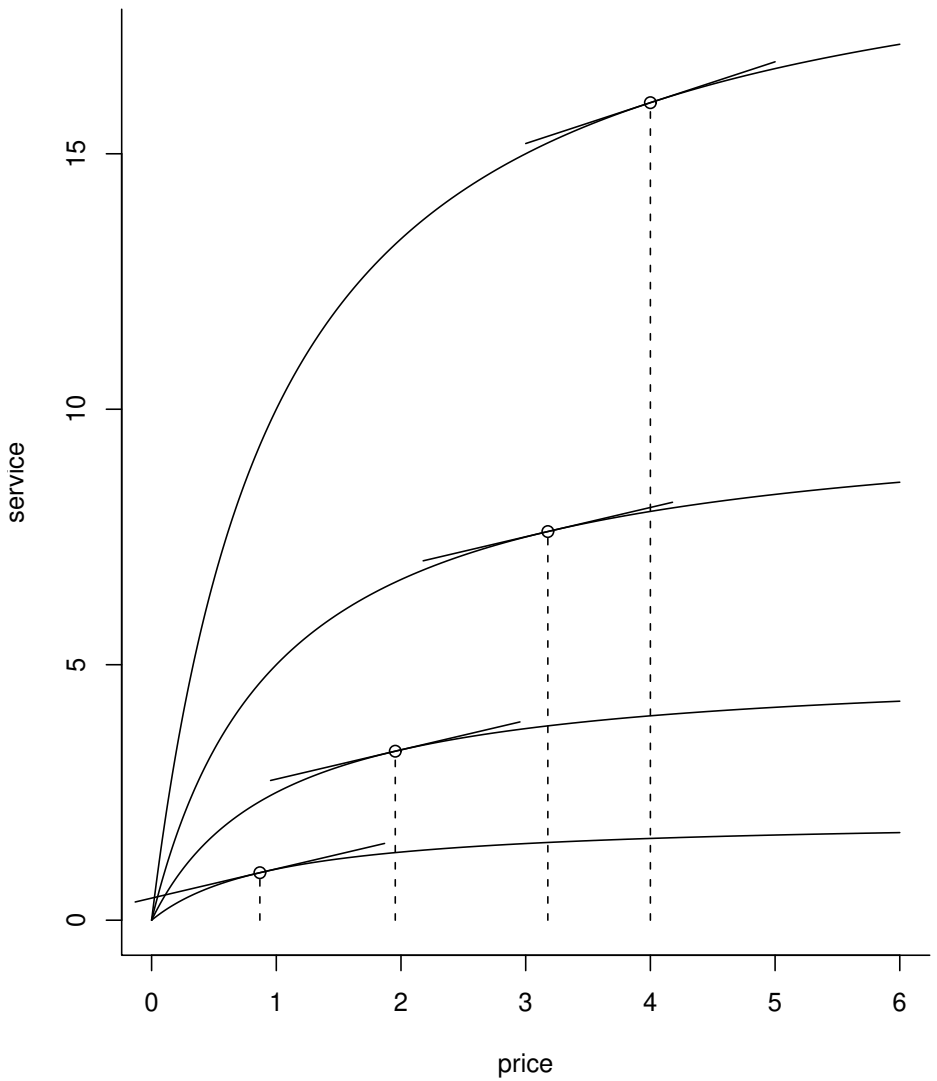
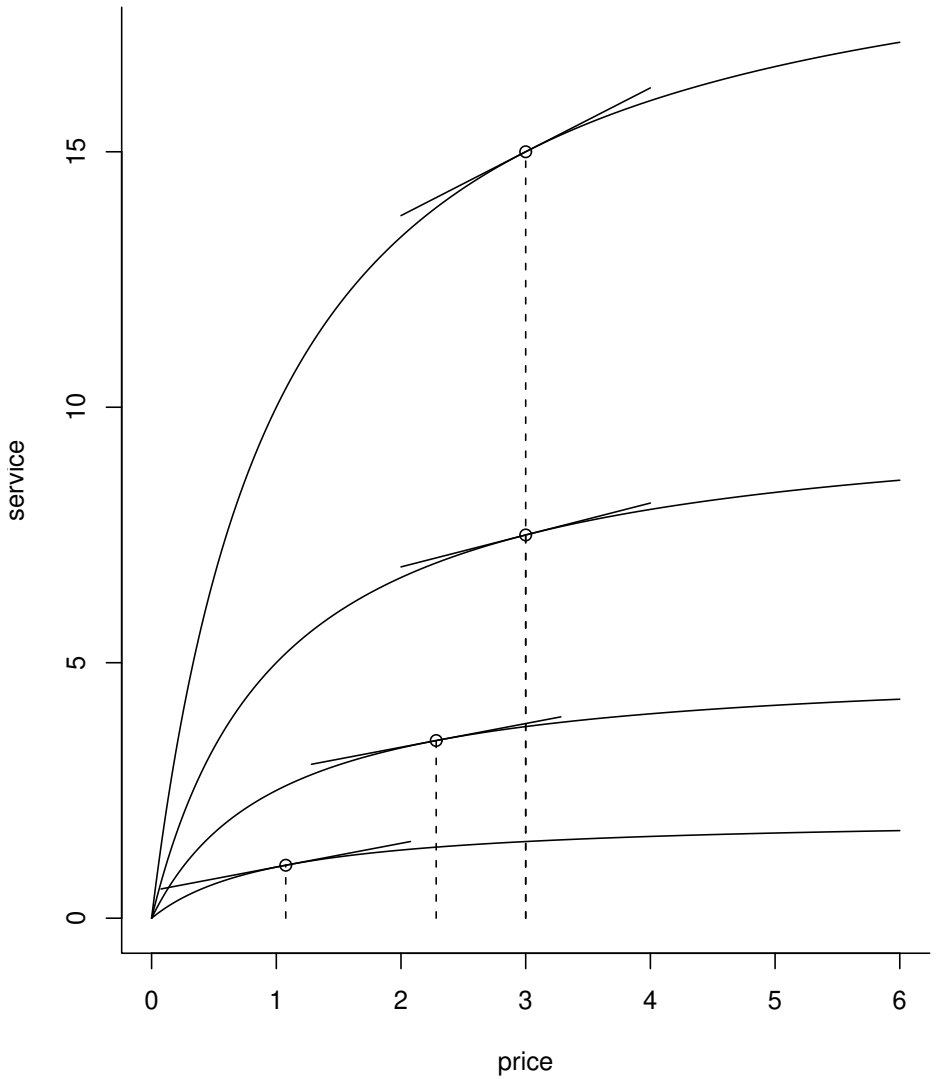


Figure 8: Service−price relationships with budget = 10
and maximum contribution = 3



- **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**

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- 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	Telecomunications 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

parameter	MLE	parameter	MLE
BizState	7.5	Chair3	−5.7
IsDem	27.9	SChair1	−4.6
R:AP	4.5	SRank1	−4.3
R:EN	4.3	DCCC	2.2
R:GO	2.6	MinLead	18.9
R:RU	6.2	R:IncProp	10.3
R:WA	5.3	D:PMoney	−.0
D:BA	−3.1	R:Terms	−.9
D:ED	−1.8	D:AFL-CIO	−.1
D:JU04	−7.7		
D:SC05	3.8		
D:SM03	−4.4		

Regional Holding Company ("Baby Bell") PACs (part 1)

parameter	MLE	parameter	MLE
BizState	22.4	D:SC	2.4
R:DC	−3.7	D:SM	2.6
R:ED	2.8	D:WA	6.9
R:JU	4.7	D:GO04	2.2
R:ST	4.9	D:JU01	−13.5
R:WA	6.9	D:SC05	3.3
D:DC	3.0	R:EN04	8.7
D:EN	7.2	R:GO04	7.7
D:HO	2.5	R:JU04	−7.8
D:JU	8.3	R:SC05	−3.9
D:ME	2.2	R:SM03	6.1
D:RU	4.7	R:WA01	−15.4

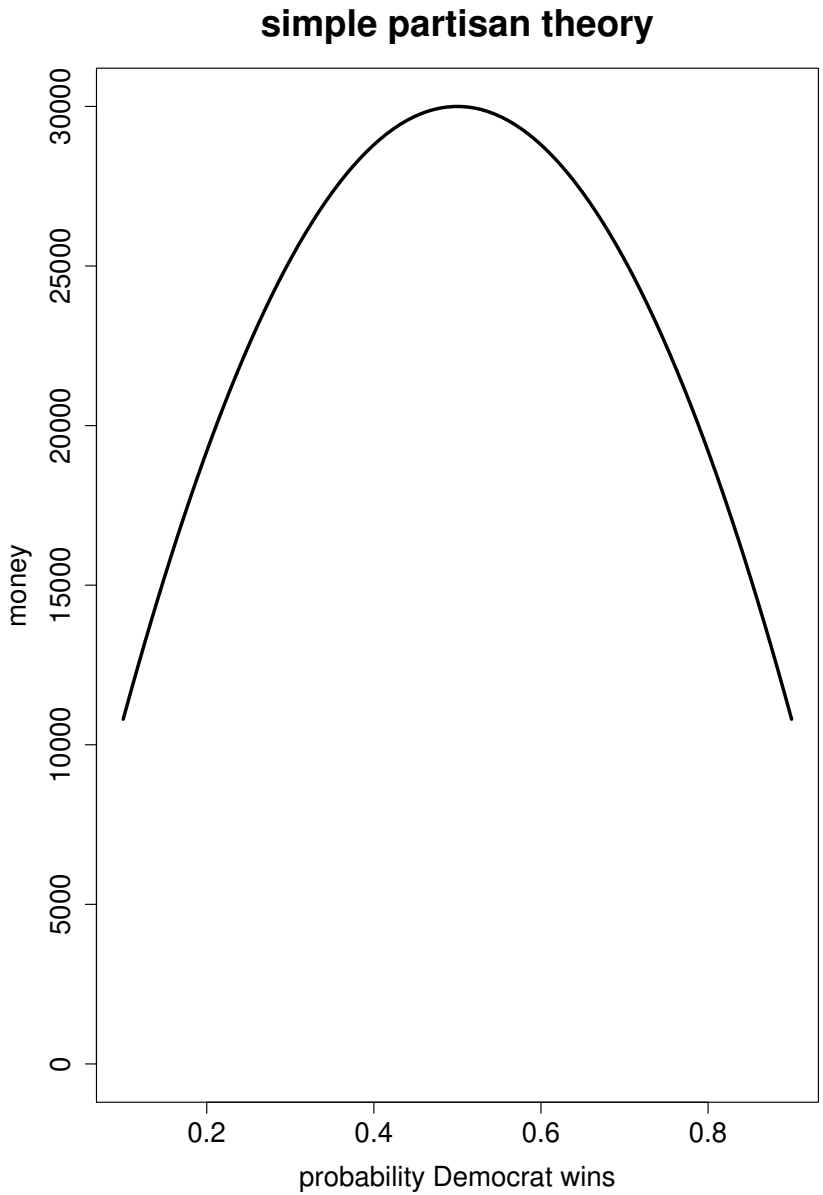
Regional Holding Company ("Baby Bell") PACs (part 2)

parameter	MLE	parameter	MLE
Chair3	−8.4	DCCC	3.1
SChair1	−10.3	Speaker	−11.9
SChair3	−4.6	D:IncProp	−7.1
D:Leader	14.4	D:IncClos	−25.4
ComPol	−3.6	D:PMoney	−.0
Steering	3.5	D:Terms	.5

- **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
money
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10000
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0.2
0.4
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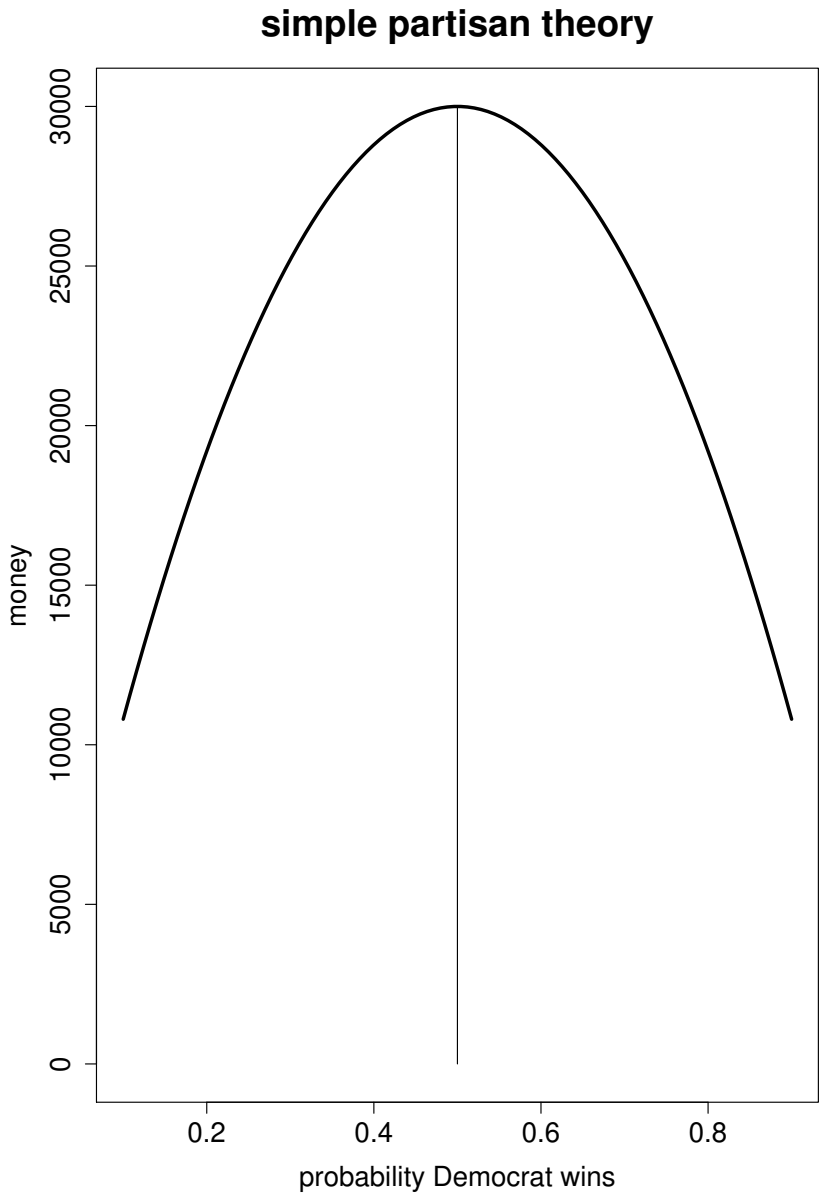
0.8
probability Democrat wins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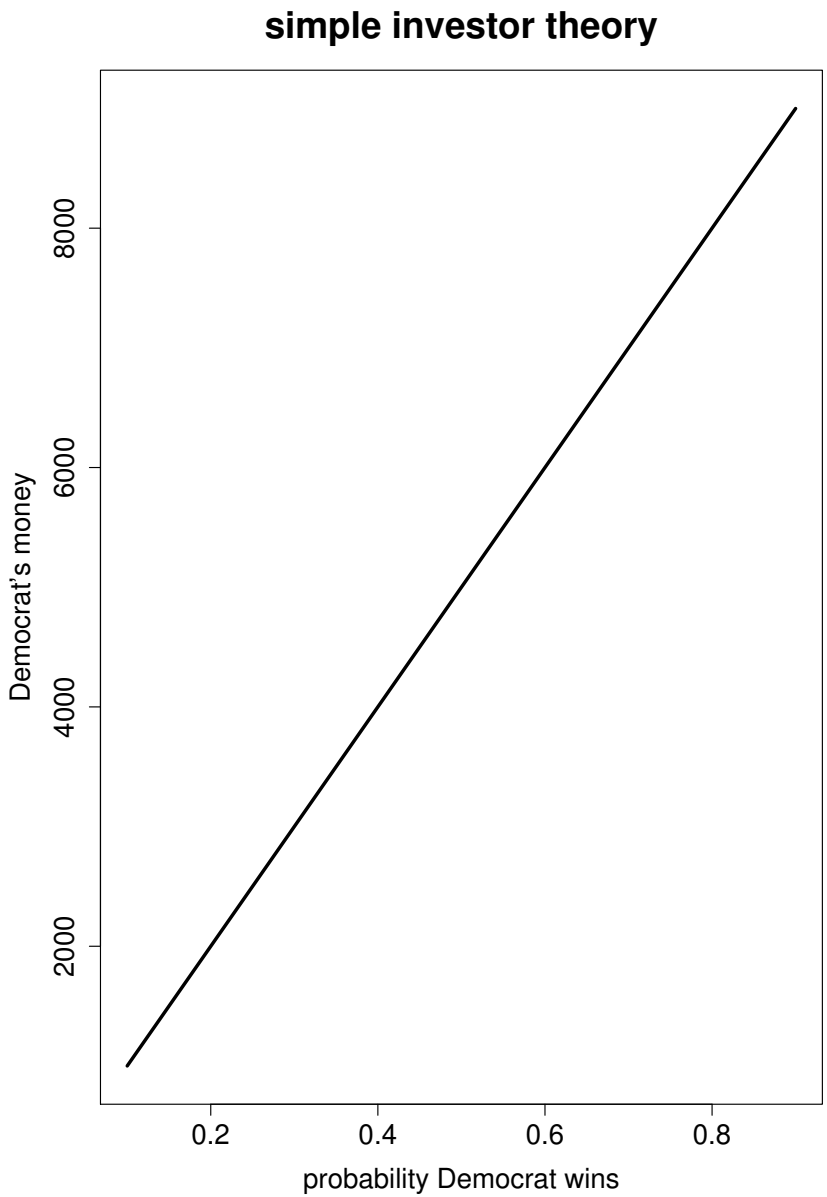
simple investor theory
Democrat's money
2000
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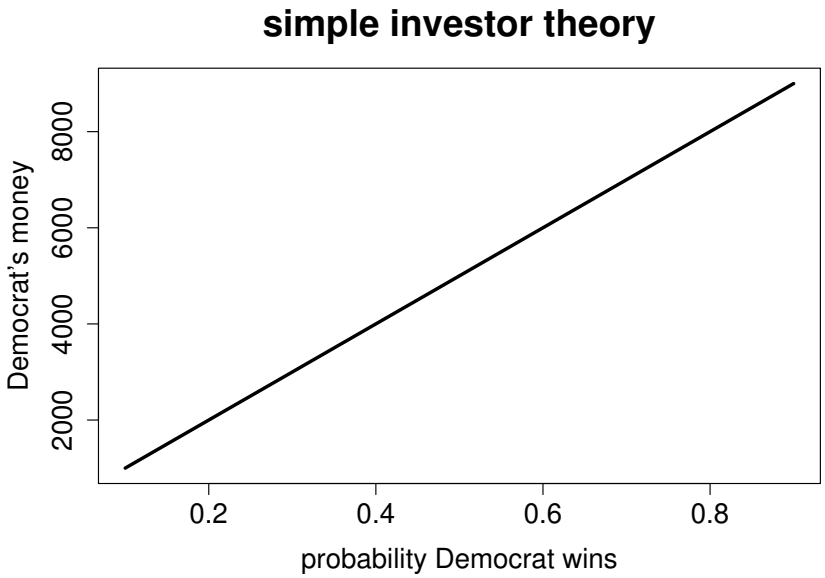
0.4
0.6
0.8
probability Democrat wins


simple investor theory
Democrat's money
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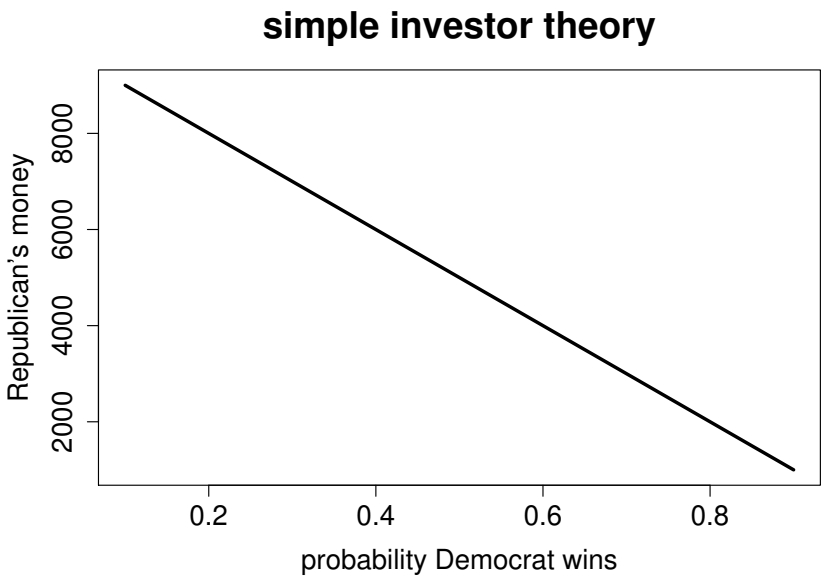
0.4
0.6
0.8
probability Democrat wins


simple investor theory
Republican's money
2000
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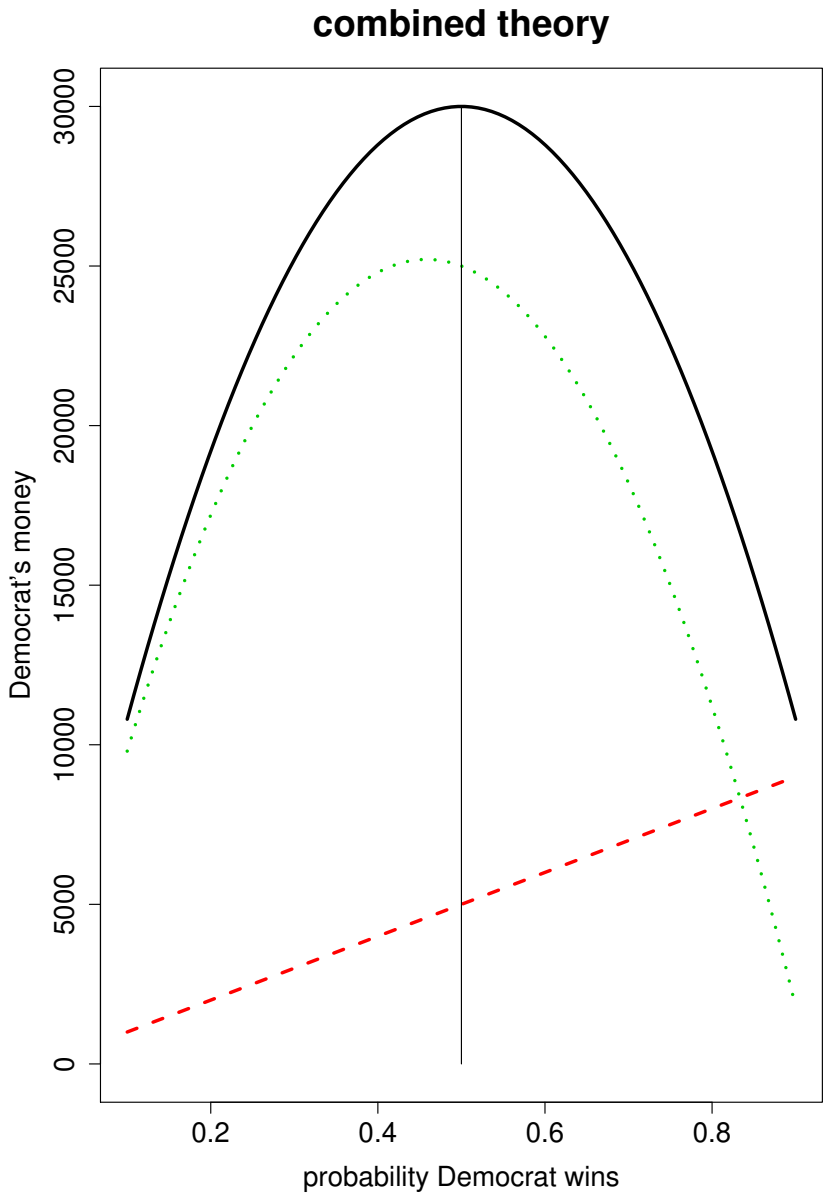
6000
8000
0.2
0.4
0.6
0.8
probability Democrat wins


combined theory
Democrat's money
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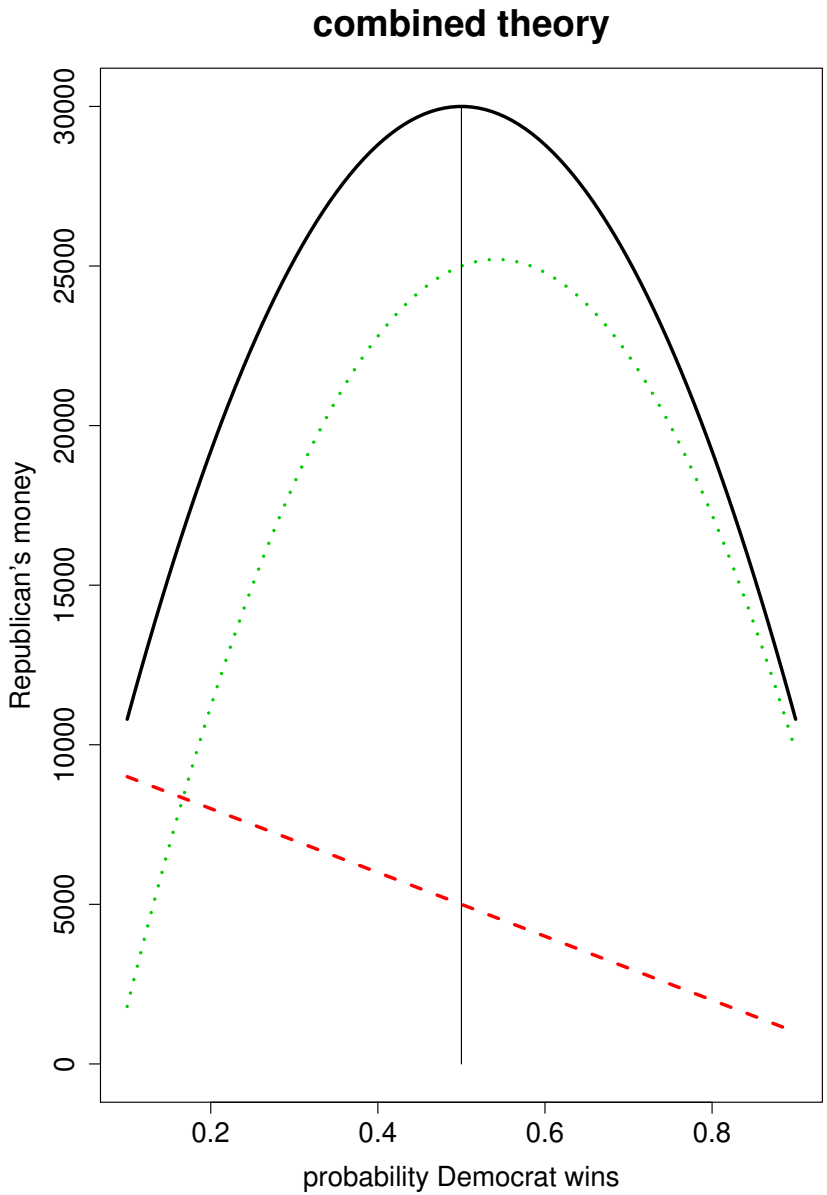
5000
10000
15000
20000
25000
30000
0.2
0.4
0.6
0.8
probability Democrat wins


combined theory
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Contributions Theory Equilibrium (Baron, Snyder, Wand)

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

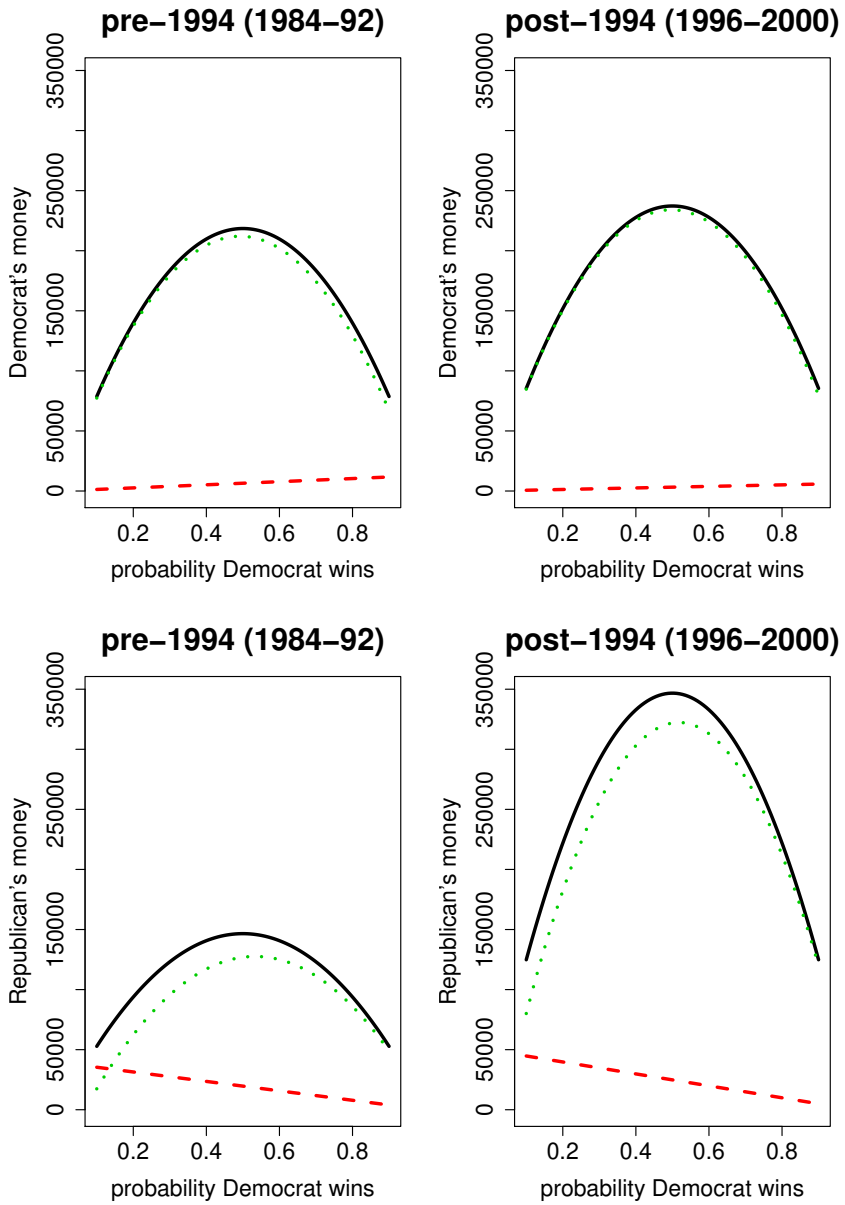
total of investor contributions, by party:

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

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


pre−1994 (1984−92)
post−1994 (1996−2000)
pre−1994 (1984−92)
post−1994 (1996−2000)
Democrat's money
Republican's money
0
50000
150000
250000
350000
0.2
0.4
0.6
0.8
probability Democrat wins

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**

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  - **patronage**
  - **post-election appointments**
  - **duration of appointments: 21 months (Heclo 1977)**

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  - **theory: a competitive lottery**
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  - **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**

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  - **appoint only after screening**
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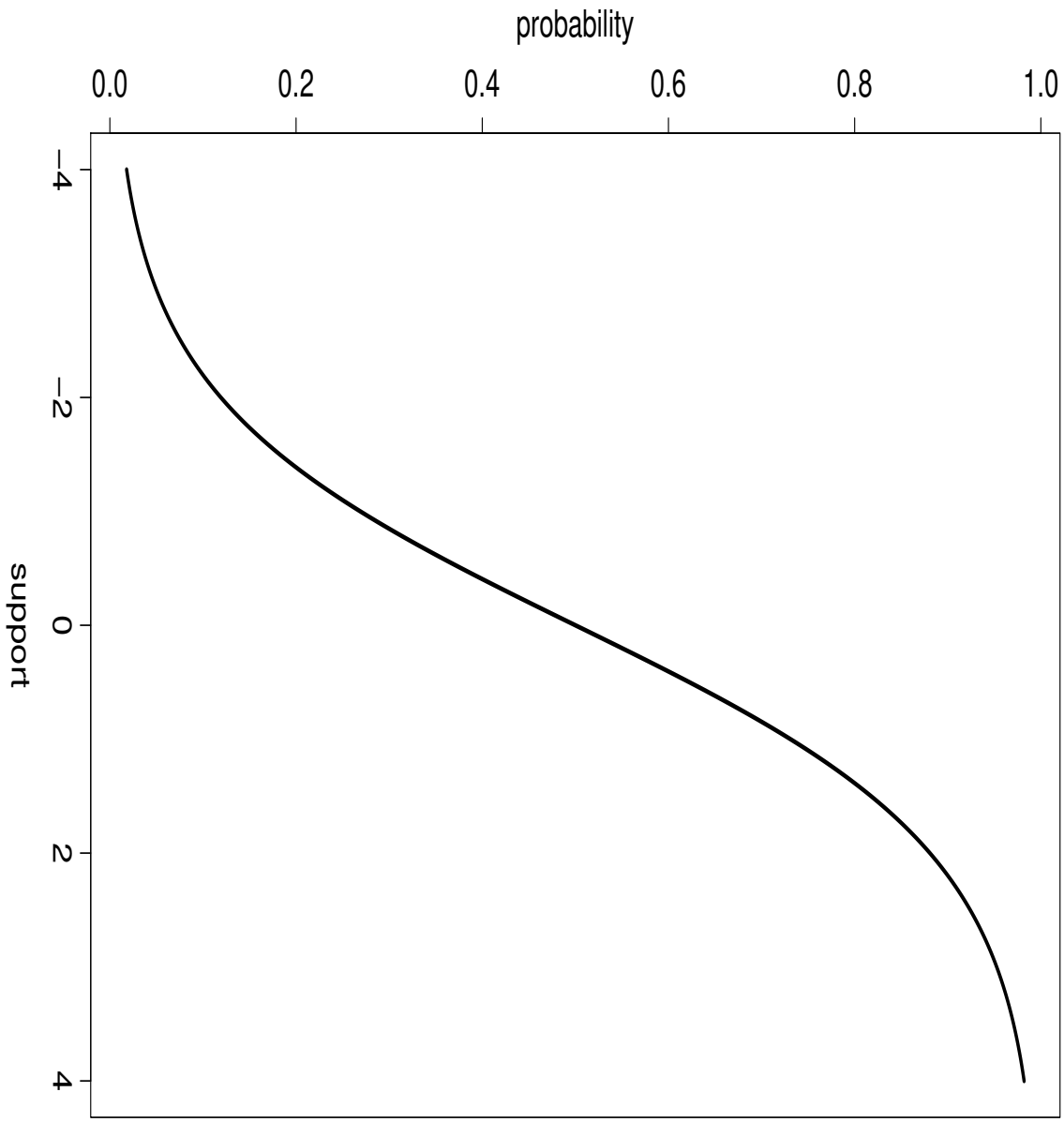
    - **for fit with relevant part of Congress**
  - **consequence: local elites exert the most effort in swing areas**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support
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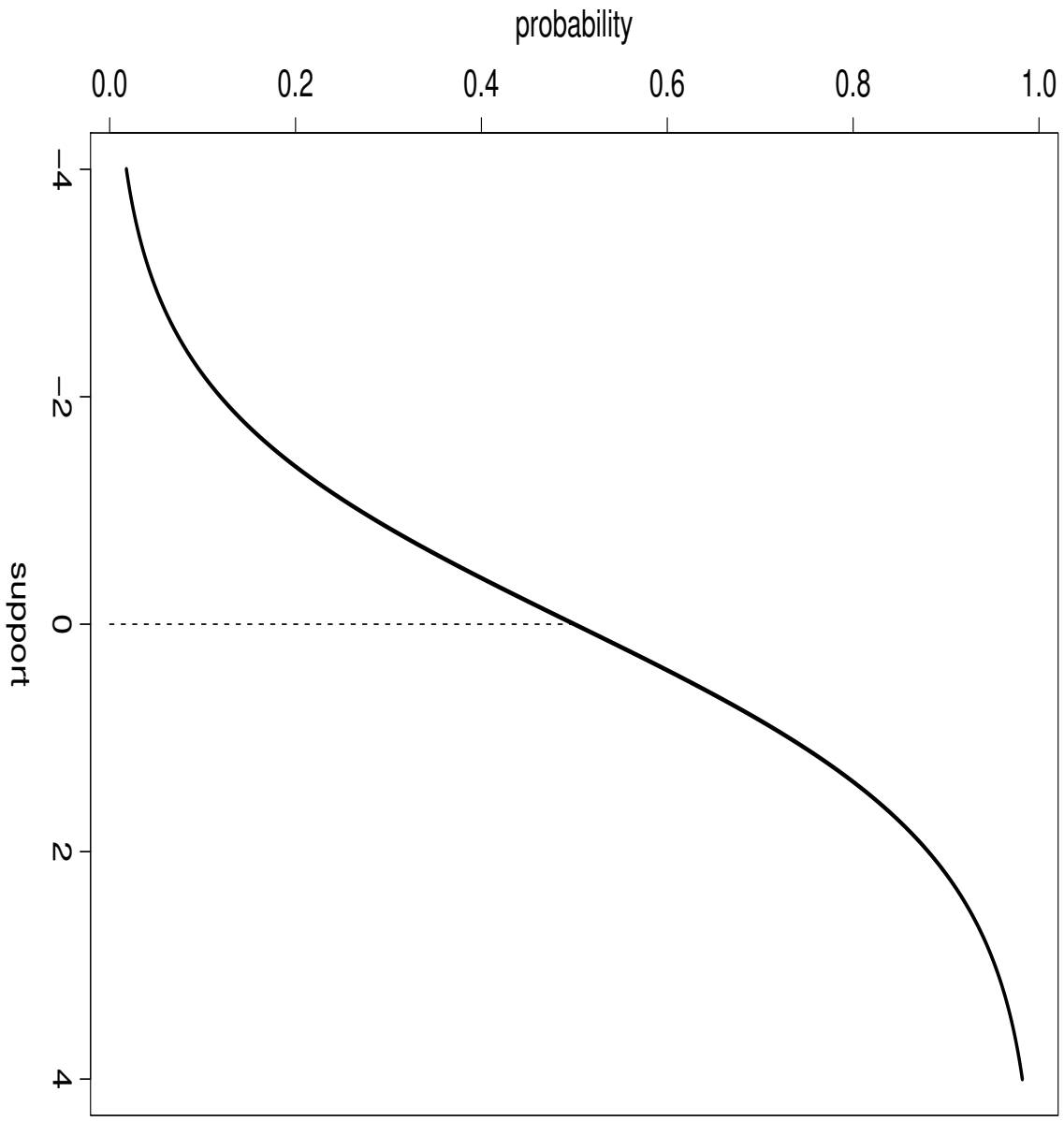
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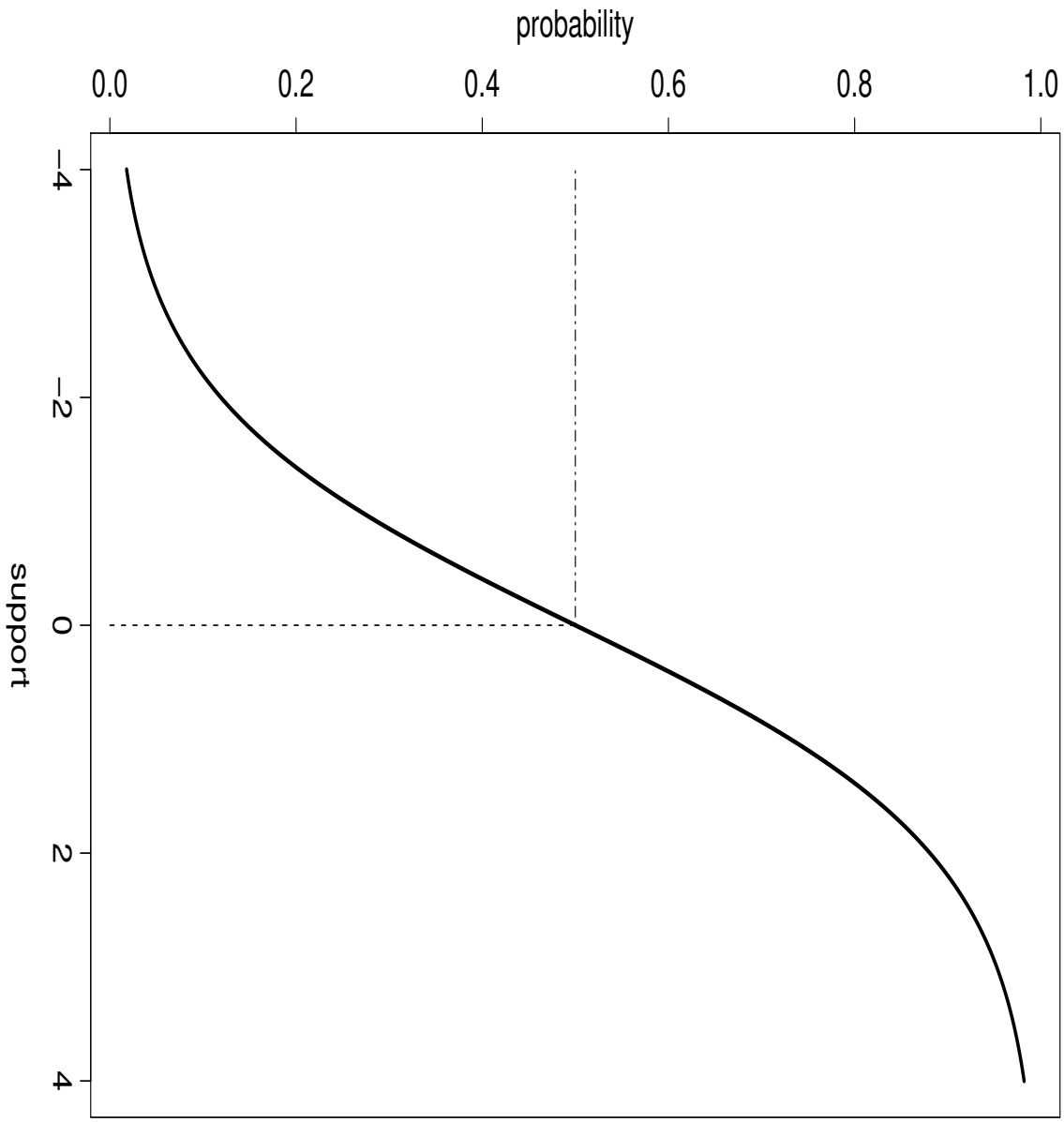
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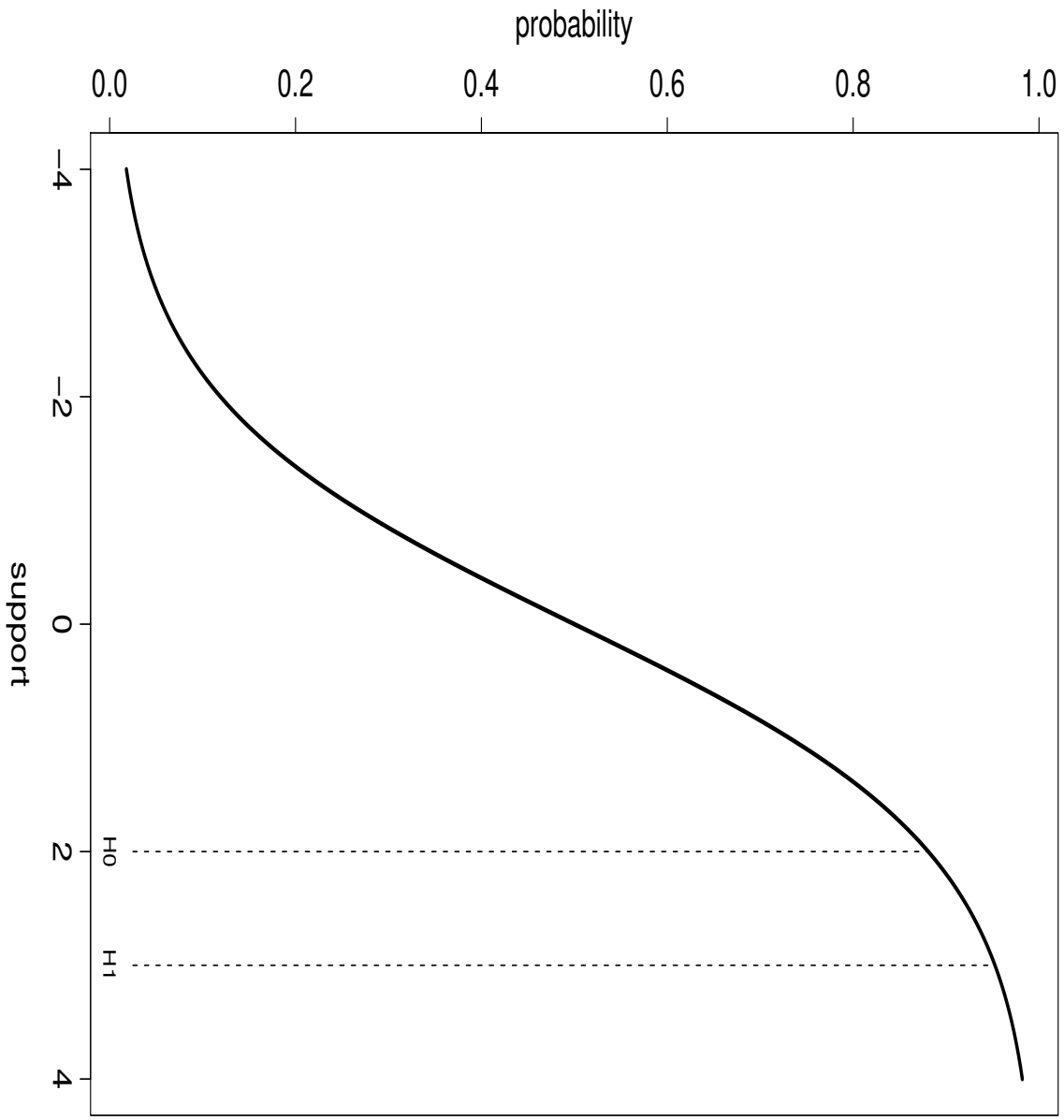
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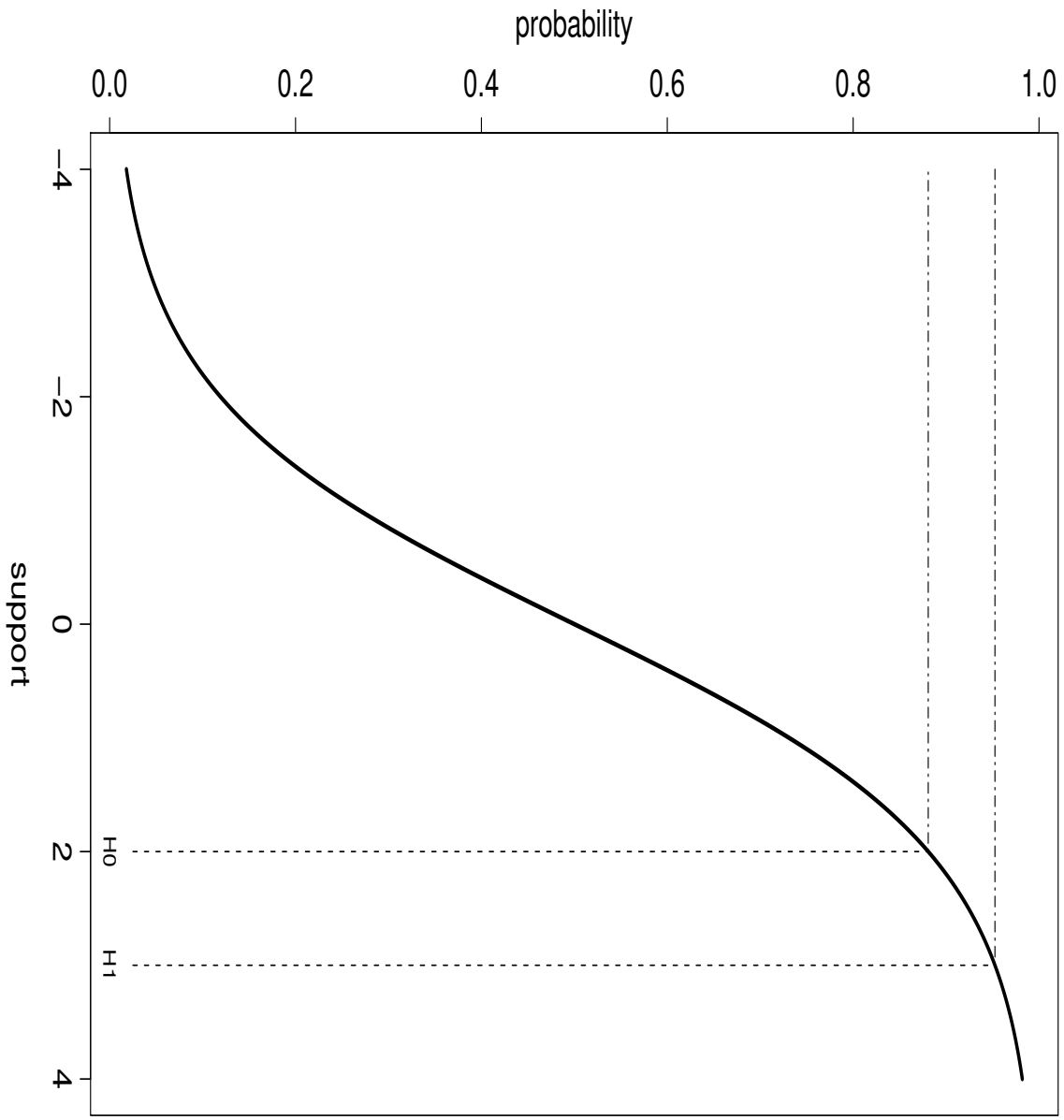
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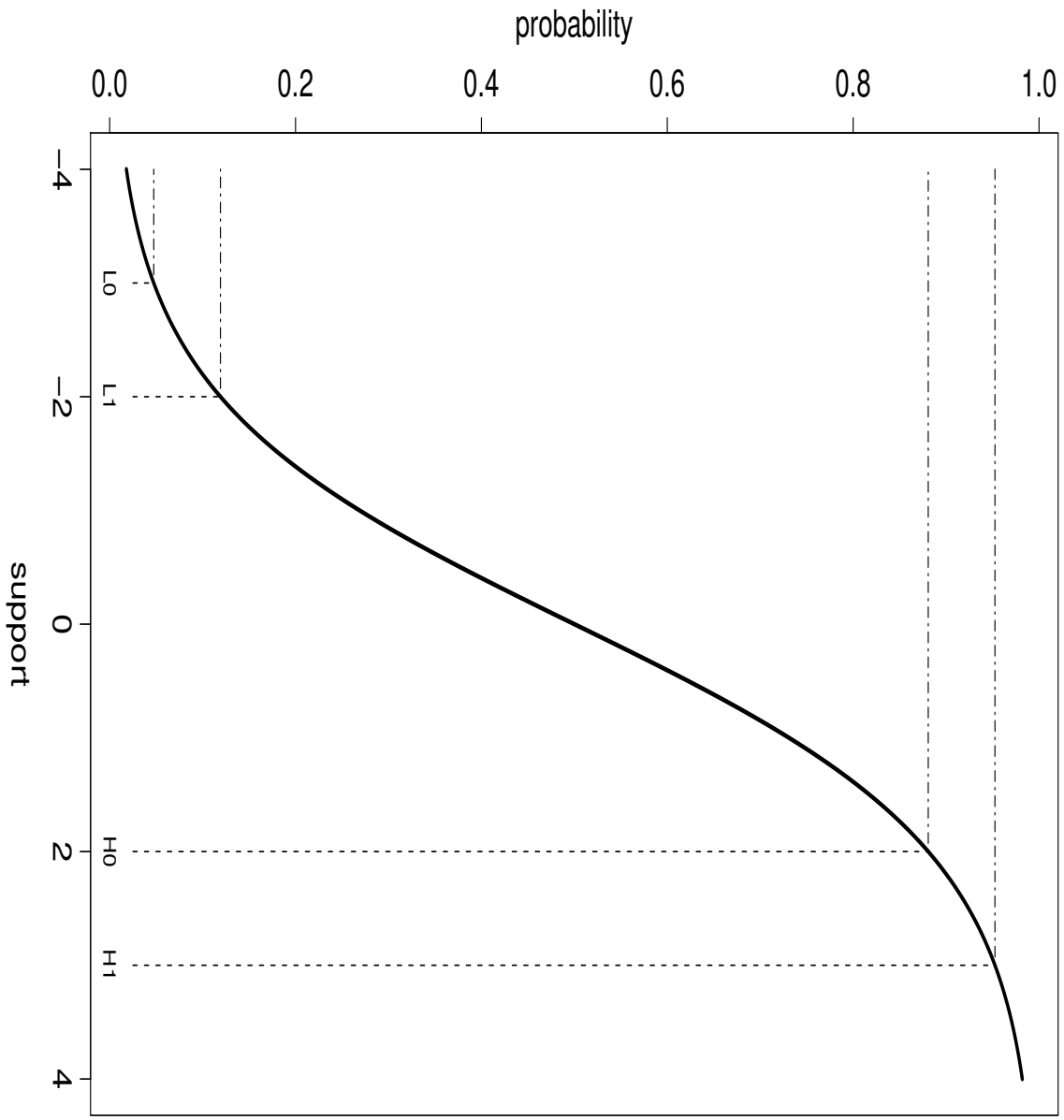
probability
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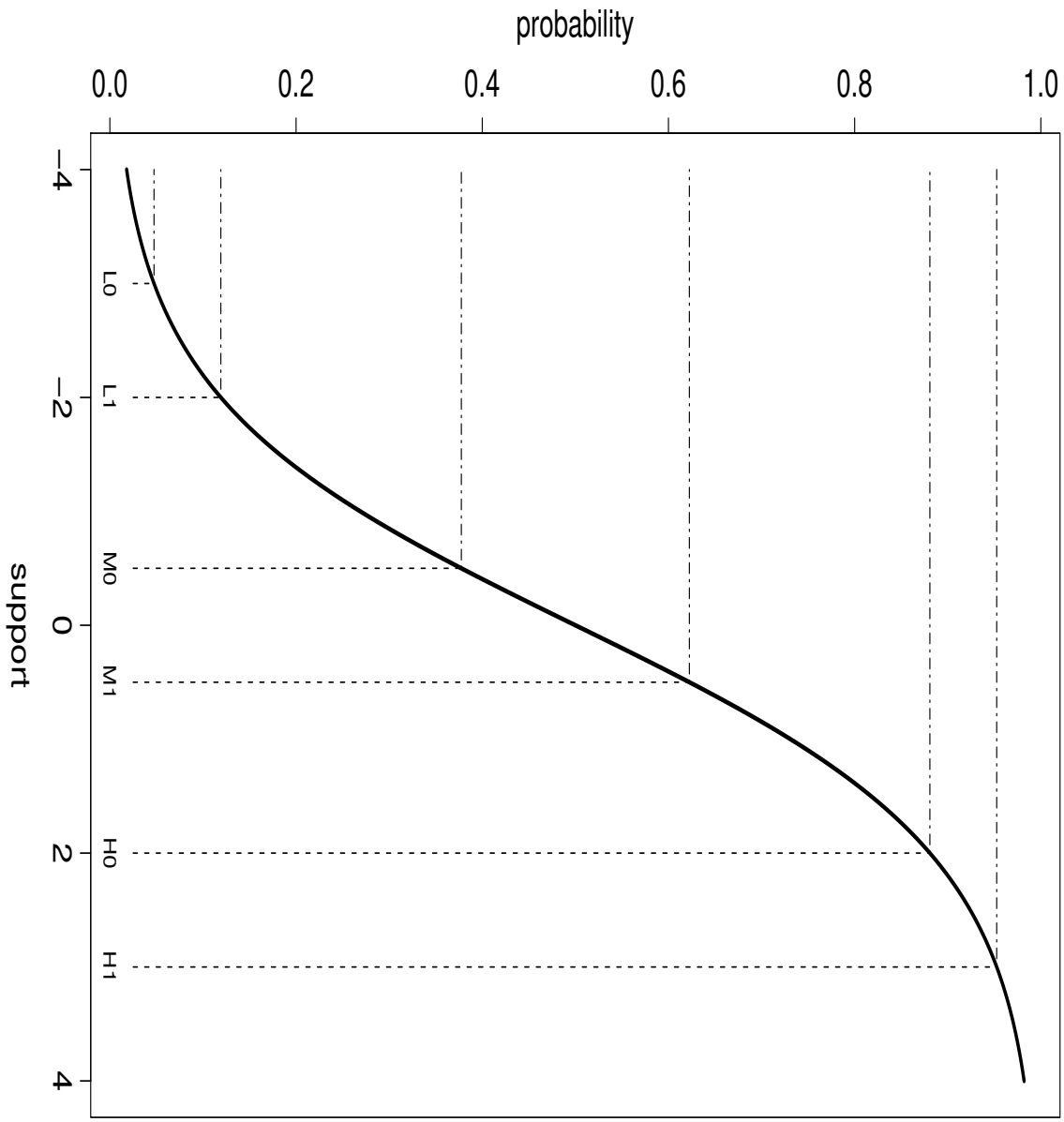
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support
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L1
M0
M1
H0
H1

- **the converted-loss appointment rule**
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  - **prediction: appointment is most likely from areas with election support in the range of 0.5–0.7**

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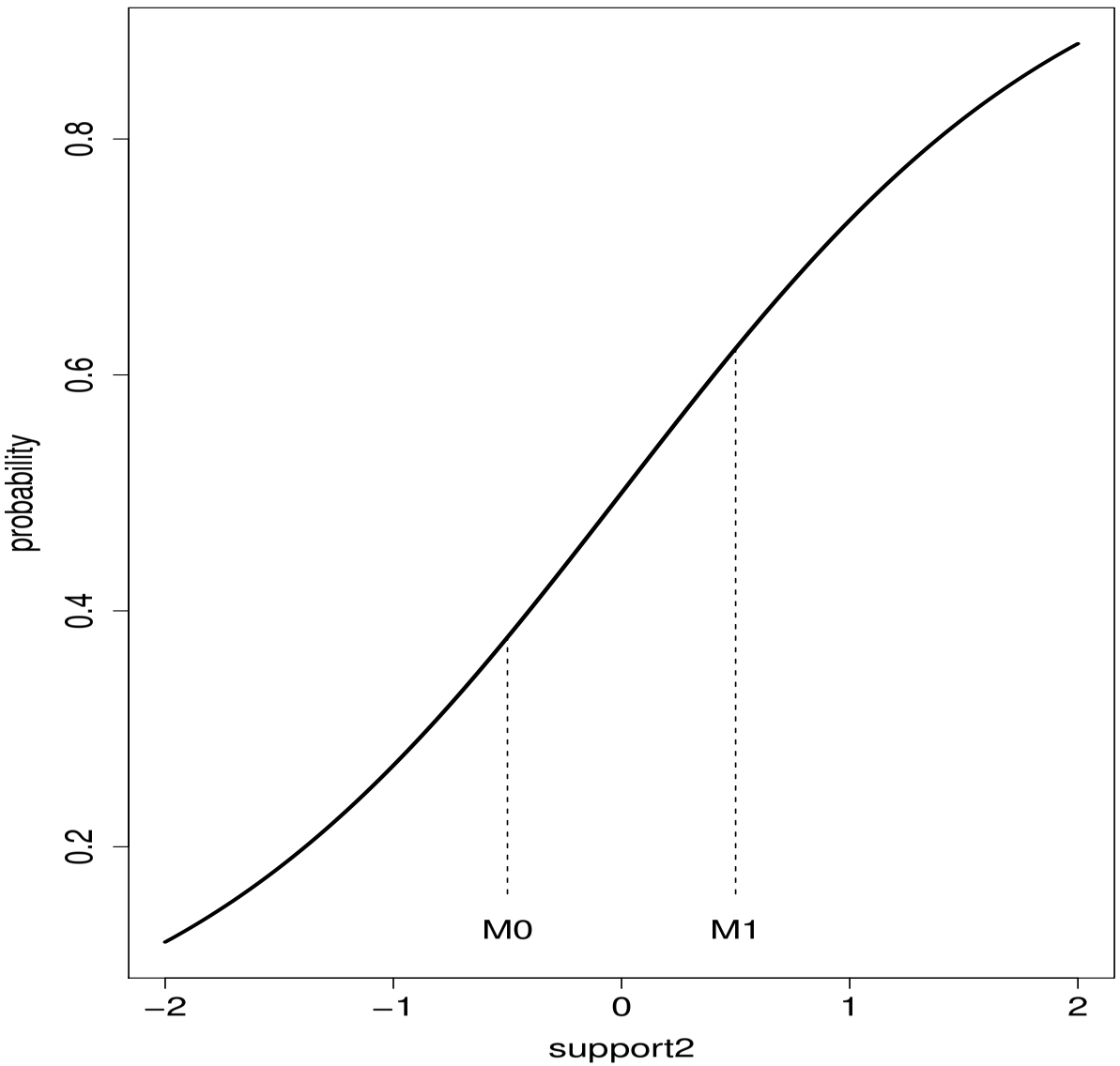
  - maximize appointments to those who produced the largest increase in support in their local area
  - consequence: local elites exert the most effort in swing areas
  - prediction: appointment is most likely from areas with election support in the range of 0.5–0.7
- side-effect: local elite work in each area is one-sided
  - the local elites in each area pick a side
  - hence, converted-loss patronage may partly explain local party affiliations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support2

- 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**

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    - **“what have you done for me lately?”**
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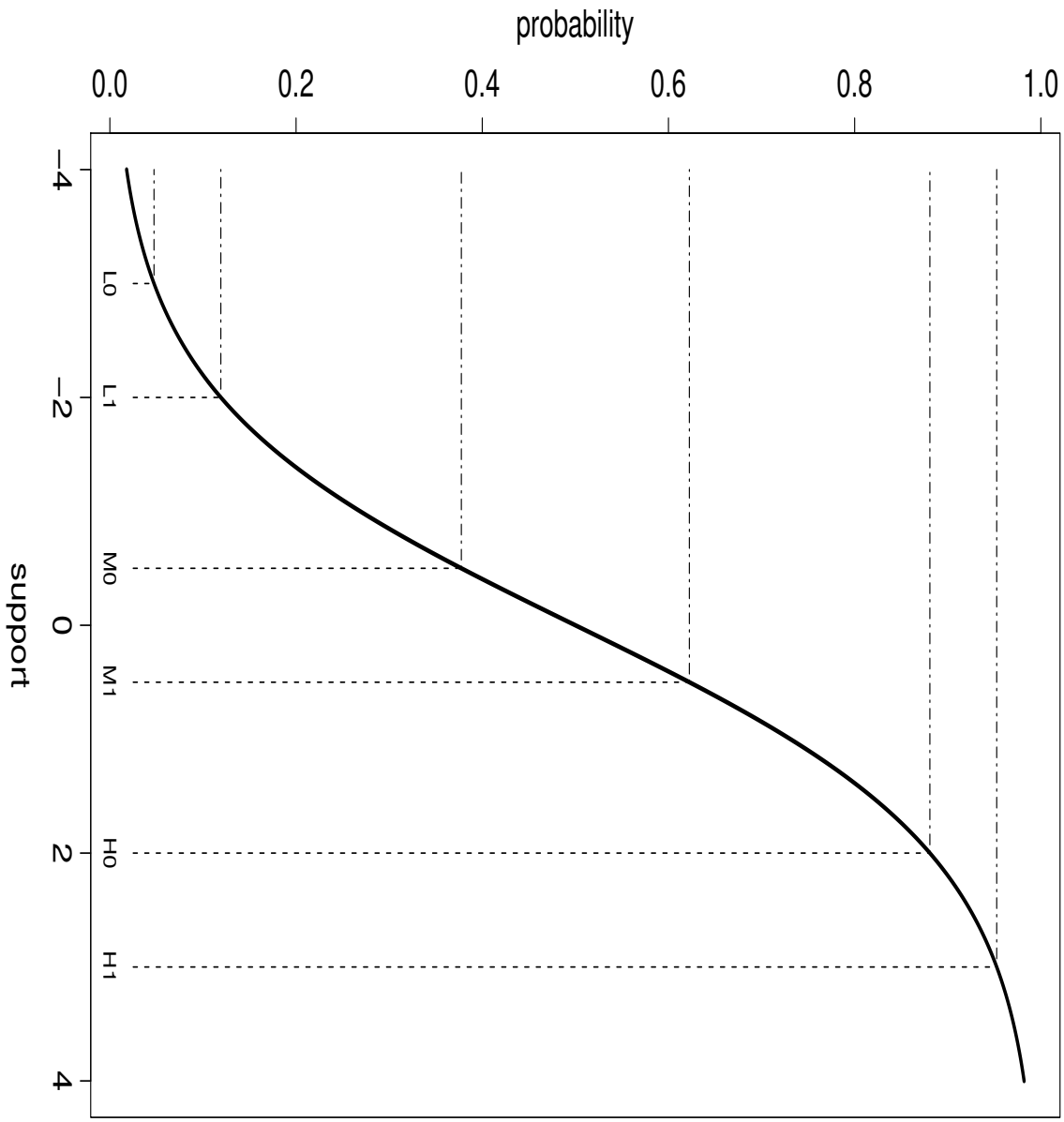
    - **institutionally complex LFEs are not traceable**
  - **testable prediction: pre-election LFEs should be higher in areas with election support in the range of 0.3–0.5**
    - **only for LFEs that are not institutionally complex**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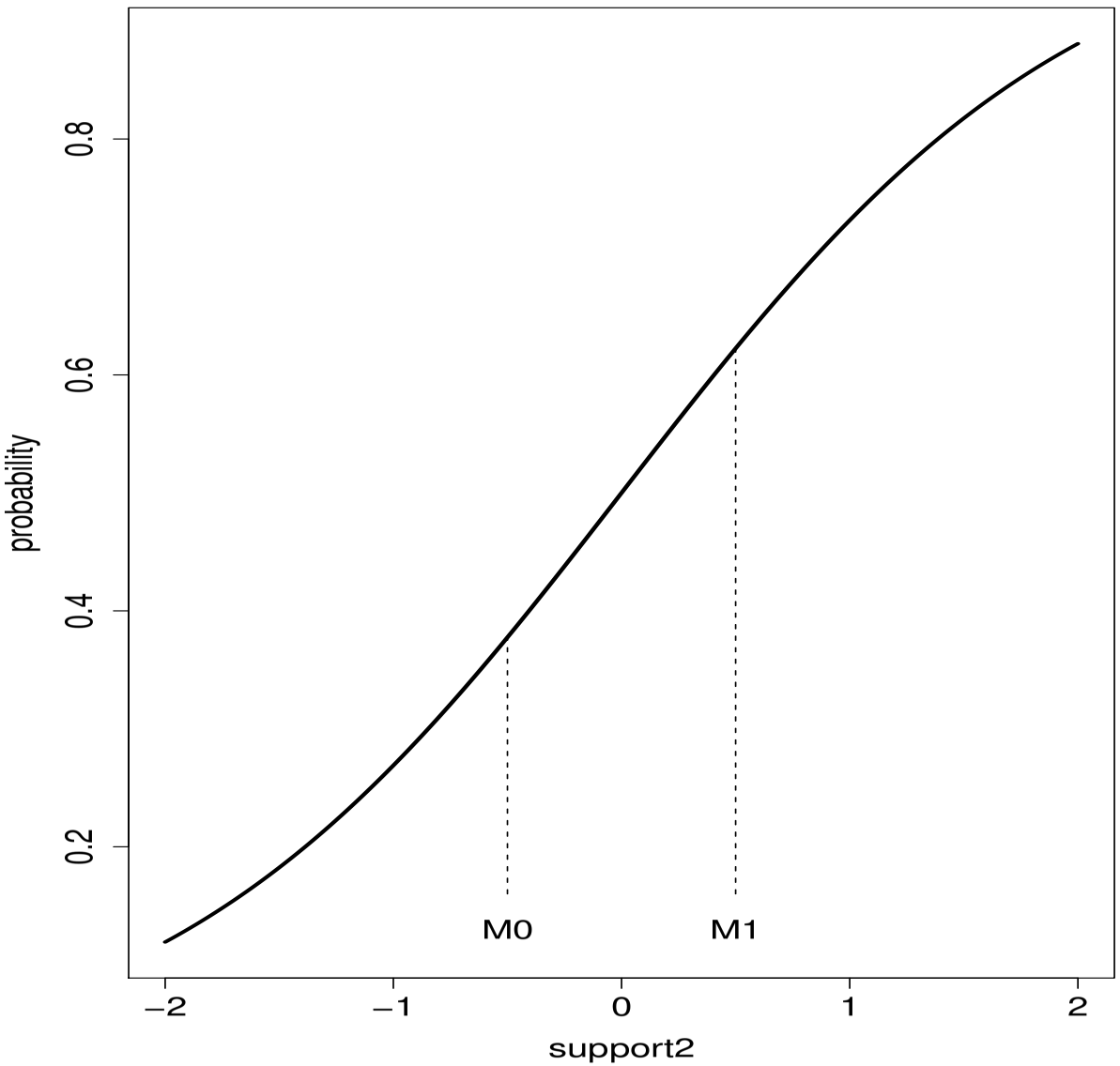
probability
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support2

- **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

Variable[a]	Description
transfer payments[e]	transfer payments to individuals
civilian employment[f]	Federal govt civilian employment
military employment[f]	Federal govt military employment
civilian salaries[e]	salaries and wages, all civilian and Postal Service employees
military salaries[e]	salaries and wages, all military personnel
civilian procurements[e]	procurement contracts, all except Defense Department
military procurements[e]	procurement contracts, Defense Department
direct payments[e]	direct payments other than forindividuals
education transfers[e]	transfers to local govts for education
highways transfers[e]	transfers to local govts for highways
social welfare transfers[e]	transfers to local govts for public, welfare employment security, health and hospitals, housing
other transfers[e]	all other transfers to local govts

[a] All variables are used per capita, based on county population.

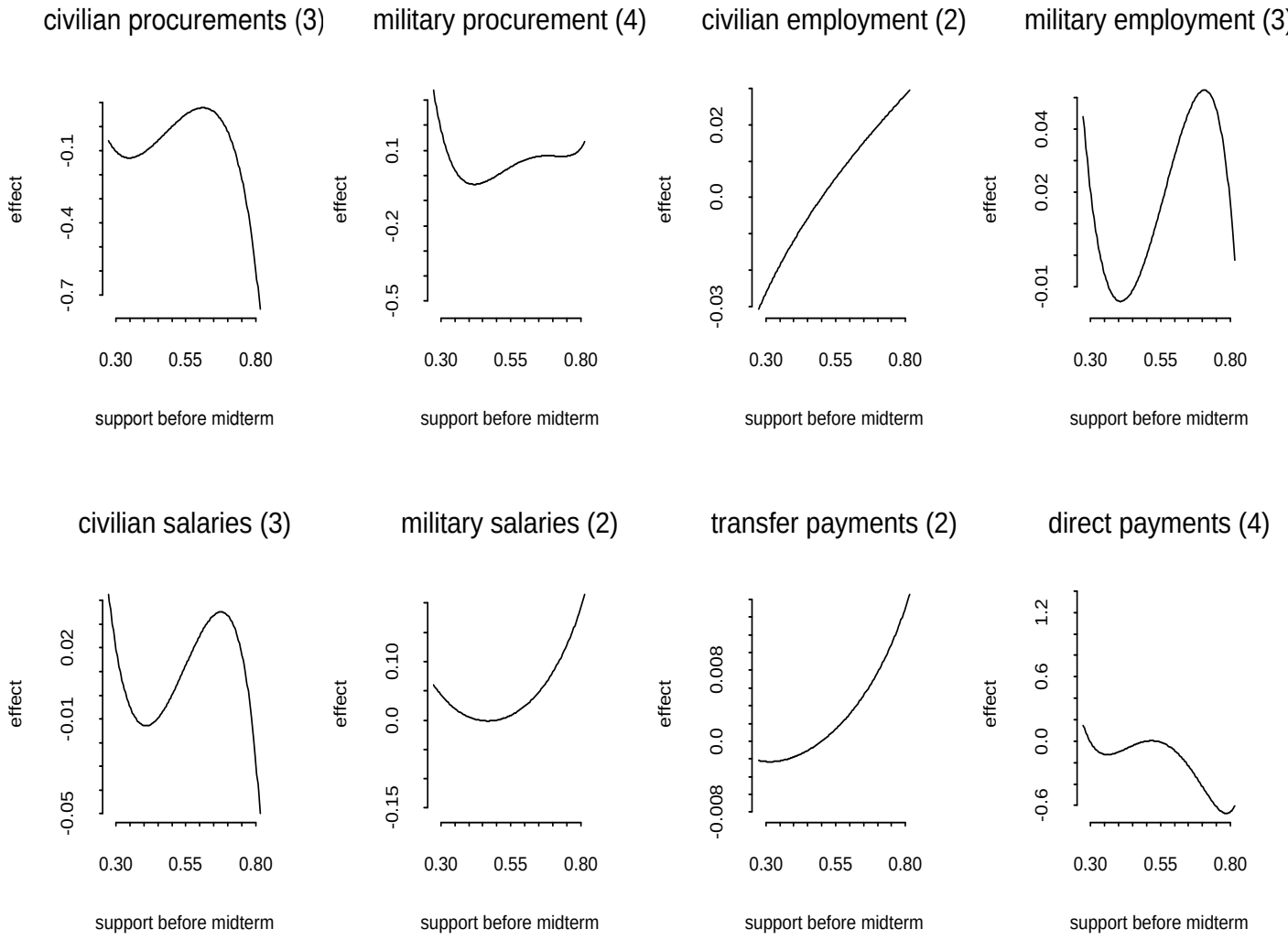
[e] units, $1000 per person.

[f] units, jobs per person.

Types of local federal expenditure

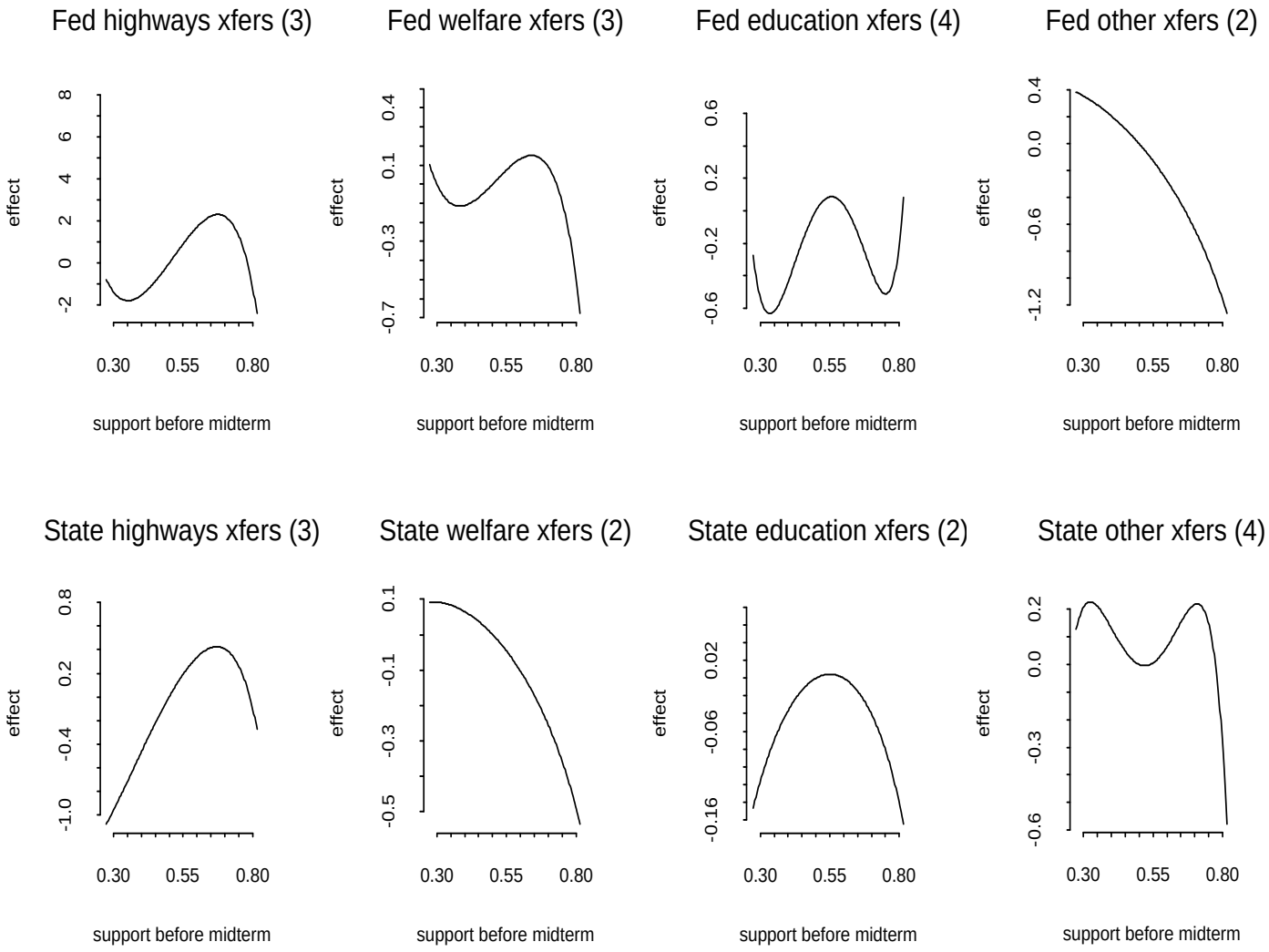
Institutional Complexity	
low	high
transfer payments	education transfers
civilian employment	highways transfers
military employment	social welfare transfers
civilian salaries	other transfers
military salaries	
civilian procurements	
military procurements	
direct payments	

Effects of Support on LFEs, Pre-midterm (Post-election for 1984)



The number in parentheses shows the degree of the targeting polynomial.

Effects of Support on LFEs, Pre-midterm (Post-election for 1984)

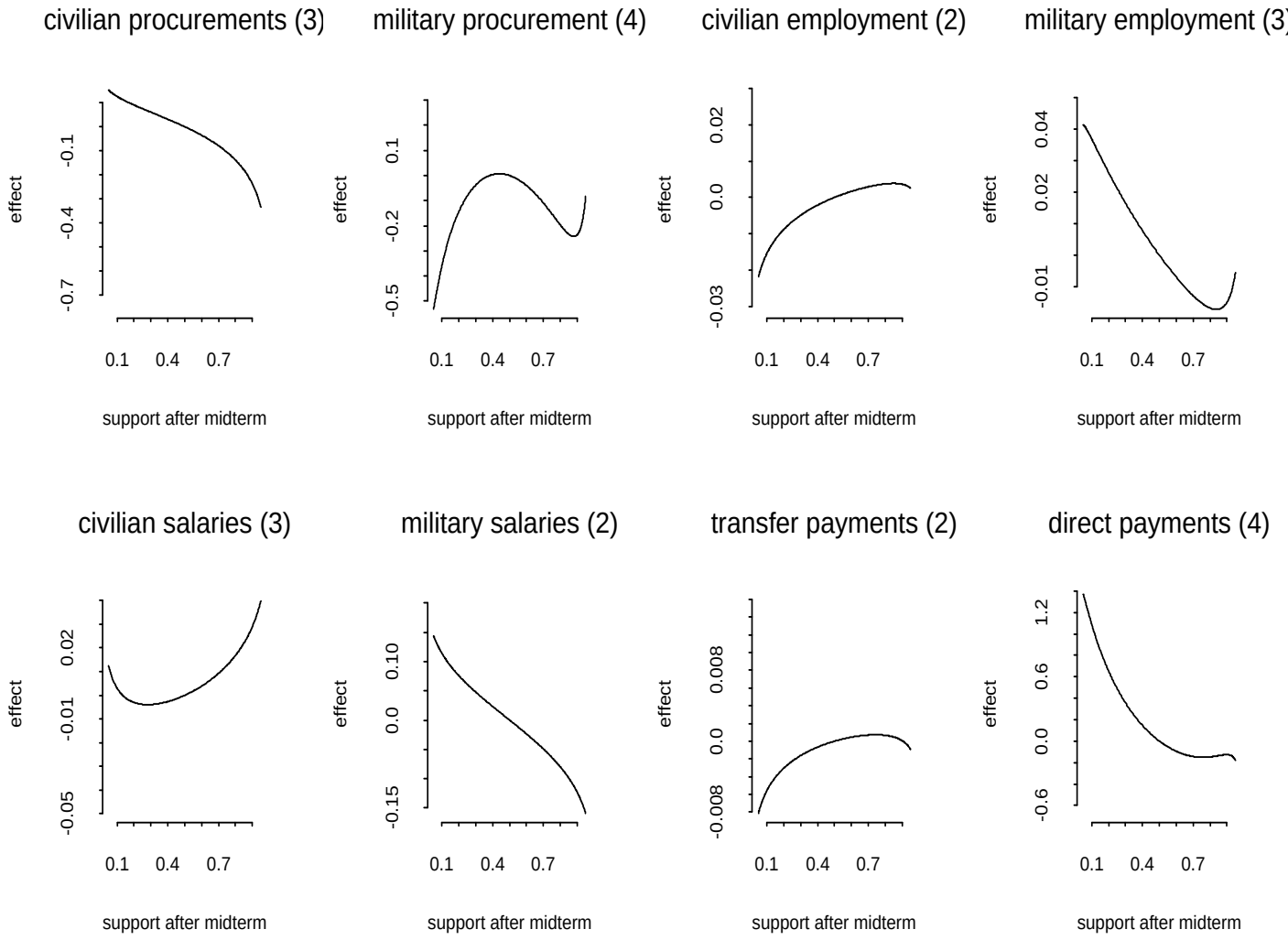


The number in parentheses shows the degree of the targeting polynomial.

Pre-Midterm (Post-election for 1984) Support Values That Maximize LFEs

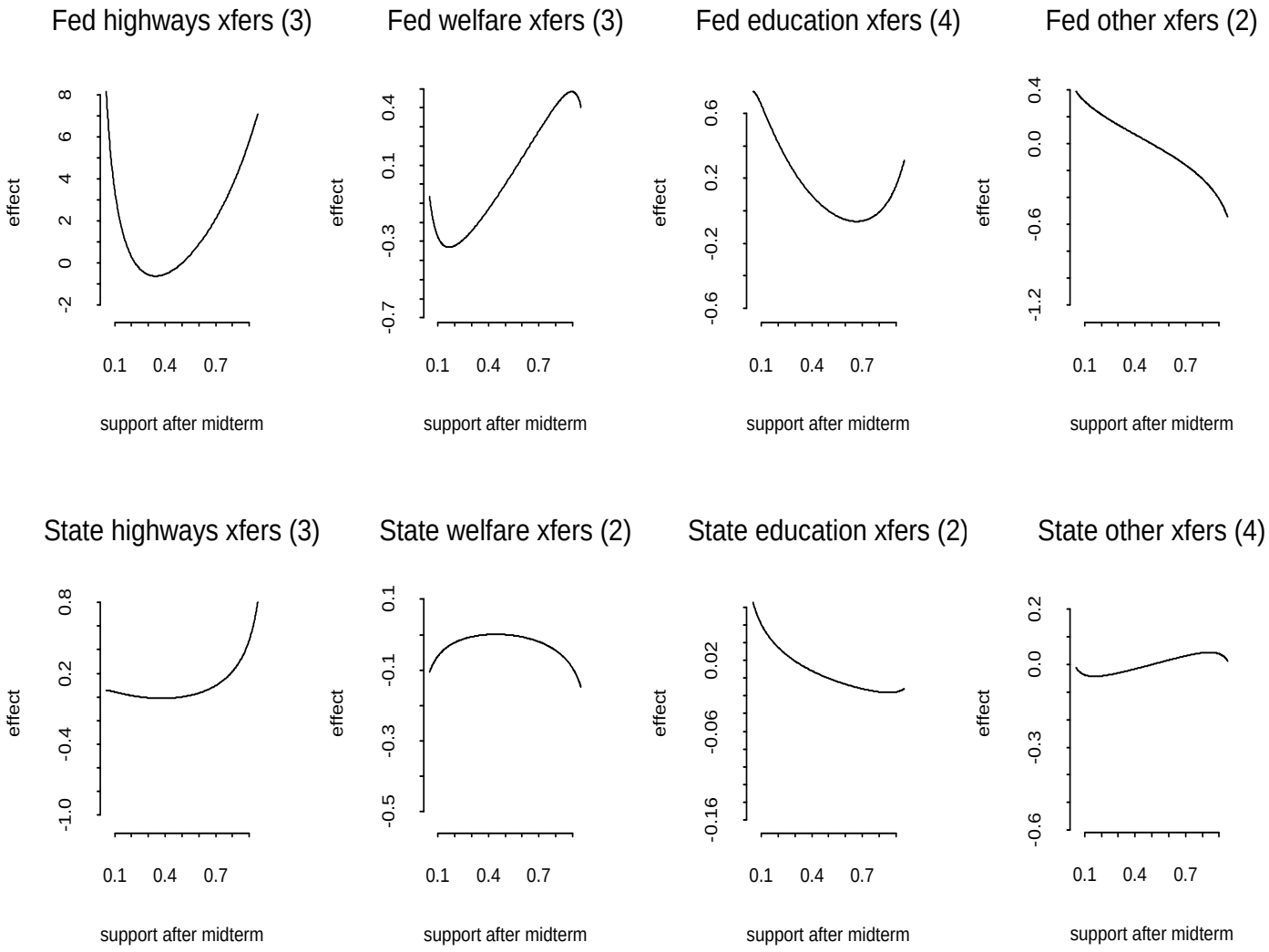
Maximum is an elite-oriented targeting value		
civilian procurements	.61	(.61, .61)
military procurements	.68	(.18, .97)
military employment	.71	(.71, .71)
civilian salaries	.68	(.67, .68)
direct payments	.52	(.46, .58)
Federal highways transfers	.67	(.00, 1.00)
Federal welfare transfers	.64	(.63, .65)
Federal education transfers	.56	(.52, .59)
State highways transfers	.67	(.67, .67)
State education transfers	.55	(.53, .57)
State other transfers	.71	(.68, .74)
Maximum is not in the elite-oriented range		
civilian employment	.96	(.00, 1.00)
military salaries	—	no max[a]
transfer payments	—	no max[a]
Federal other transfers	.18	(.02, .56)
State welfare transfers	.29	(.24, .35)

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)

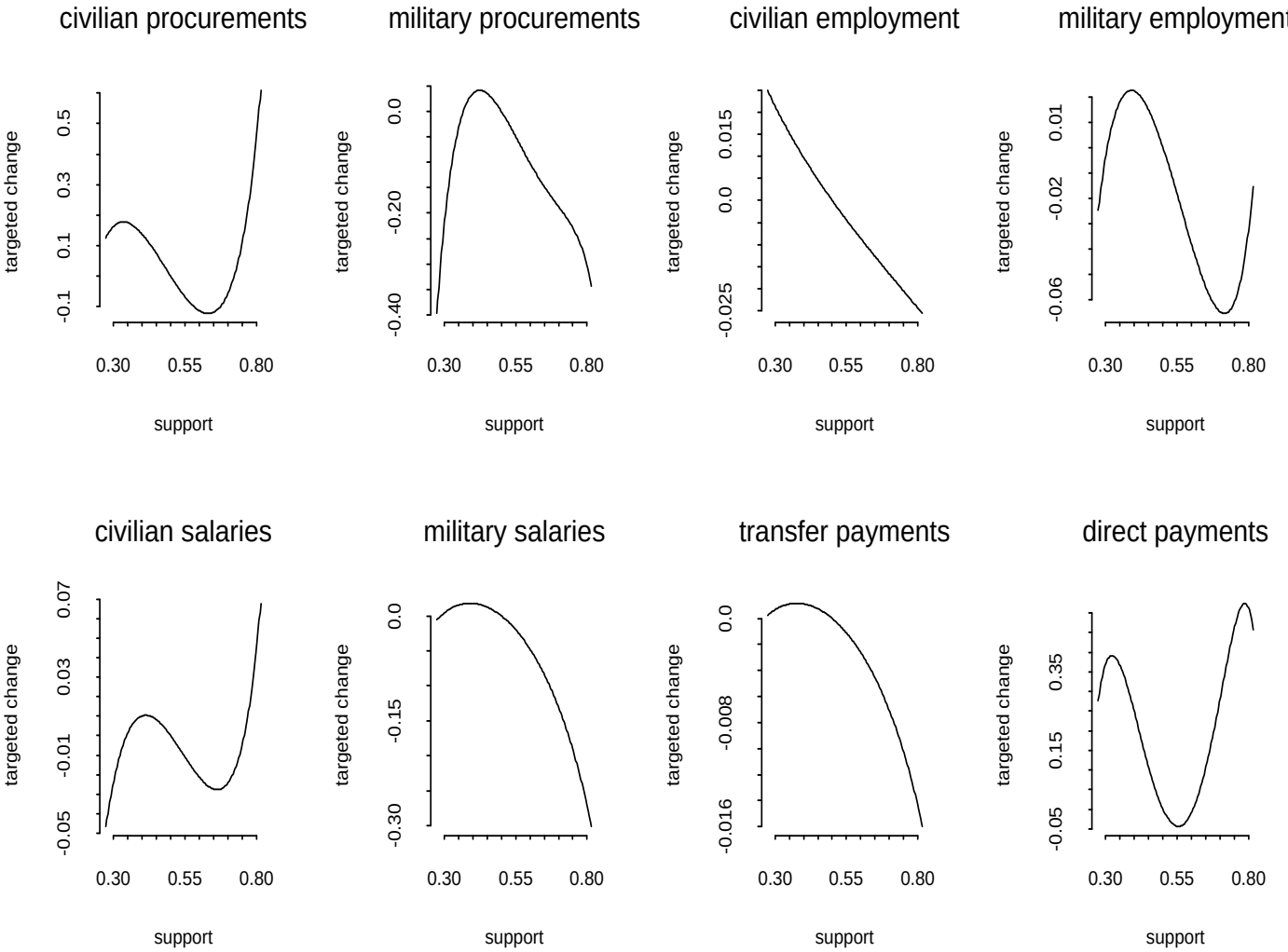


The number in parentheses shows the degree of the targeting polynomial.

Post-midterm (Pre-election for 1988) Support Values That Maximize LFEs

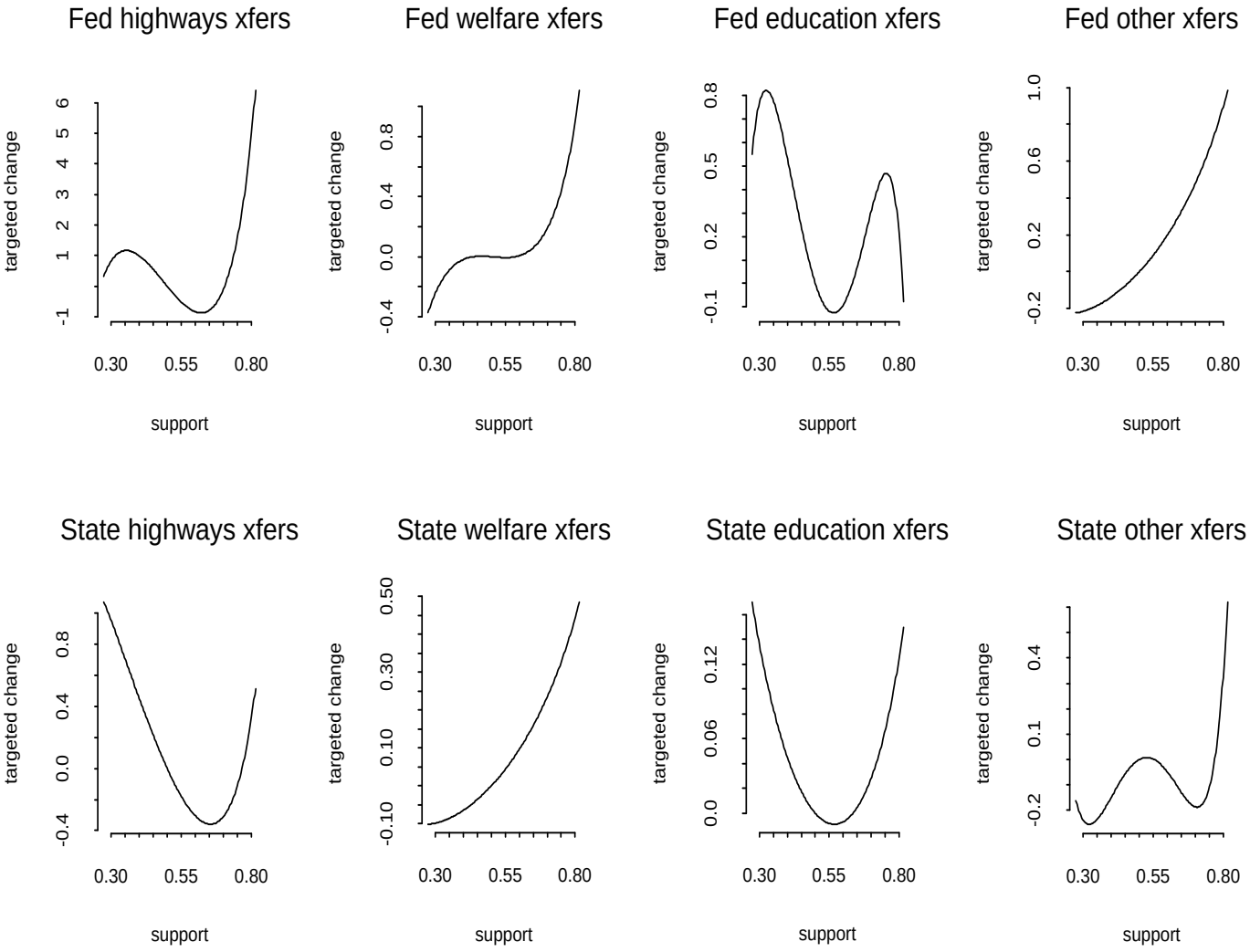
Maximum is an elite-oriented targeting value		
transfer payments	**.74**	**(.00, 1.00)**
Maximum is not in the elite-oriented range		
civilian procurements	**—**	**no max**[a]
military procurements	**.44**	**(.32, .57)**
civilian employment	**.85**	**(.00, 1.00)**
military employment	**.04**	**(.02, .06)**
civilian salaries	**—**	**no max**[a]
military salaries	**—**	**no max**[a]
direct payments	**.90**	**(.43, 1.00)**
Federal highways transfers	**.98**	**(.00, 1.00)**
Federal welfare transfers	**.90**	**(.89, .90)**
Federal education transfers	**.99**	**(.83, 1.00)**
Federal other transfers	**—**	**no max**[a]
State highways transfers	**.05**	**(.00, .87)**
State welfare transfers	**.44**	**(.32, .57)**
State education transfers	**—**	**no max**[a]
State other transfers	**.84**	**(.23, 1.00)**

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	**.39**	**(.39, .39)**
civilian procurements	**.33**	**(.32, .35)**
civilian salaries	**.41**	**(.41, .41)**
military procurements	**.42**	**(.34, .51)**
military salaries	**.39**	**(.26, .53)**
transfer payments	**.38**	**(.14, .67)**
direct payments	**.32**	**(.27, .38)**
Maximum is not in the voter-oriented range		
civilian employment	**.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

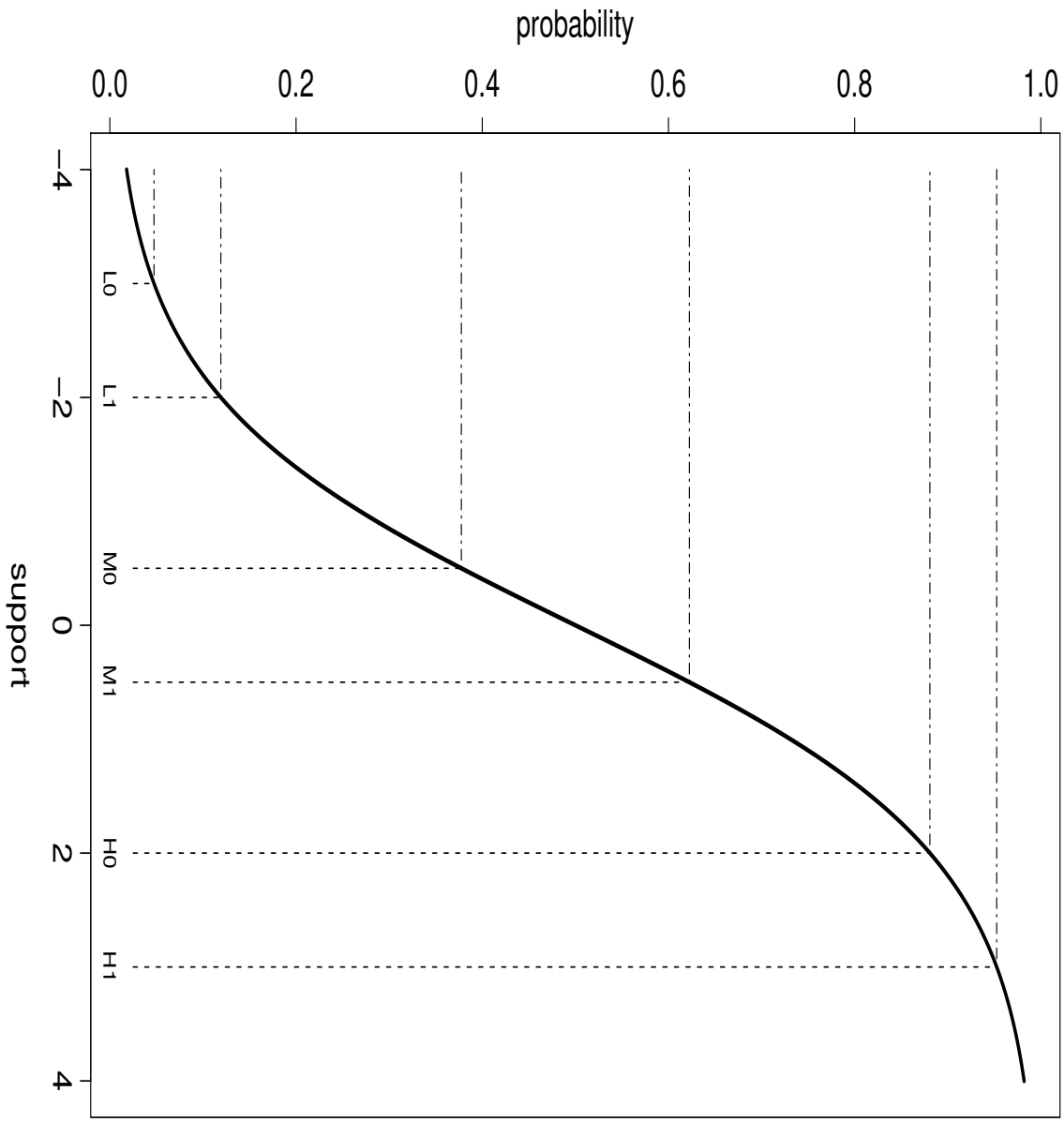
Maximum is a voter-oriented targeting value		
Federal welfare transfers	**.46**	**(.42, .51)**
Federal highways transfers	**.35**	**(.00, 1.00)**
Federal education transfers	**.32**	**(.27, .38)**
Maximum is not in the voter-oriented range		
Federal other transfers	**—**	**no max**[a]
State highways transfers	**.17**	**(.07, .33)**
State welfare transfers	**—**	**no max**[a]
State education transfers	**—**	**no max**[a]
State other transfers	**.53**	**(.49, .56)**

[a] **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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support
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L0
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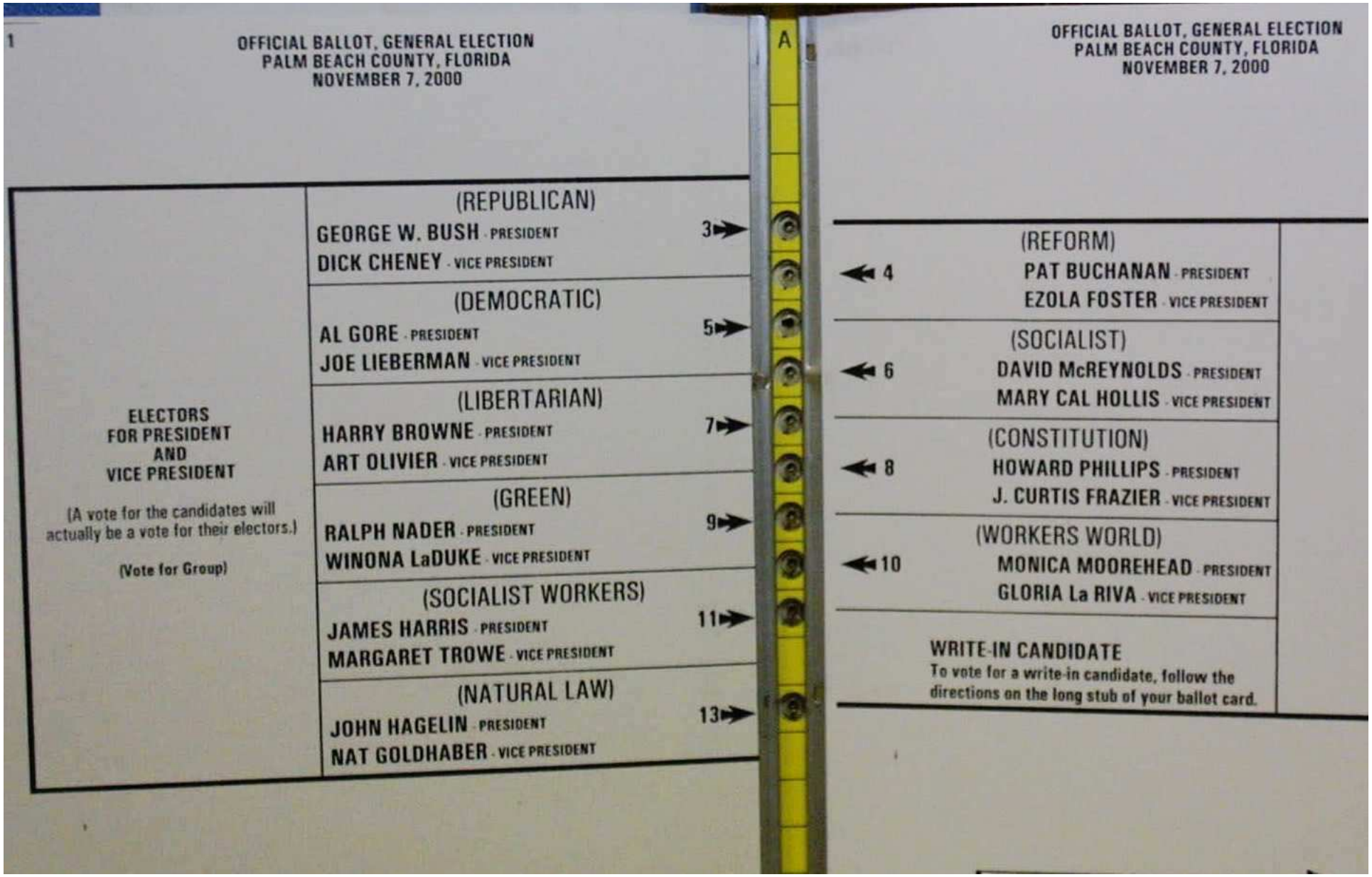
- **Florida 2000**
  - **Palm Beach County's butterfly ballot**



1

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

ELECTORS FOR PRESIDENT AND VICE PRESIDENT

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

(Vote for Group)

(REPUBLICAN)
GEORGE W. BUSH - PRESIDENT
DICK CHENEY - VICE PRESIDENT
3

(DEMOCRATIC)
AL GORE - PRESIDENT
JOE LIEBERMAN - VICE PRESIDENT
5

(LIBERTARIAN)
HARRY BROWNE - PRESIDENT
ART OLIVIER - VICE PRESIDENT
7

(GREEN)
RALPH NADER - PRESIDENT
WINONA LaDUKE - VICE PRESIDENT
9

(SOCIALIST WORKERS)
JAMES HARRIS - PRESIDENT
MARGARET TROWE - VICE PRESIDENT
11

(NATURAL LAW)
JOHN HAGELIN - PRESIDENT
NAT GOLDHABER - VICE PRESIDENT
13

A

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

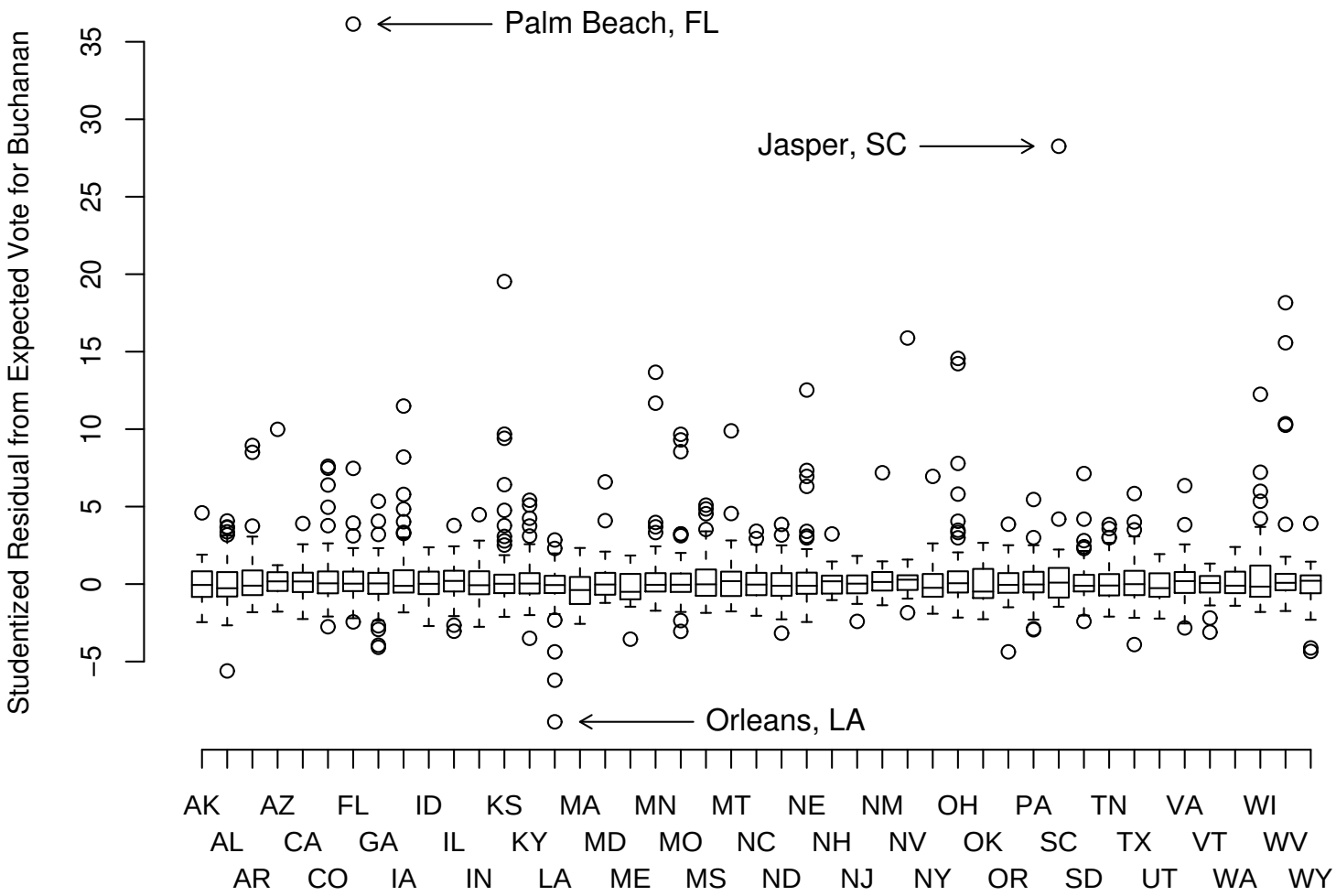
(REFORM)
4
PAT BUCHANAN - PRESIDENT
EZOLA FOSTER - VICE PRESIDENT

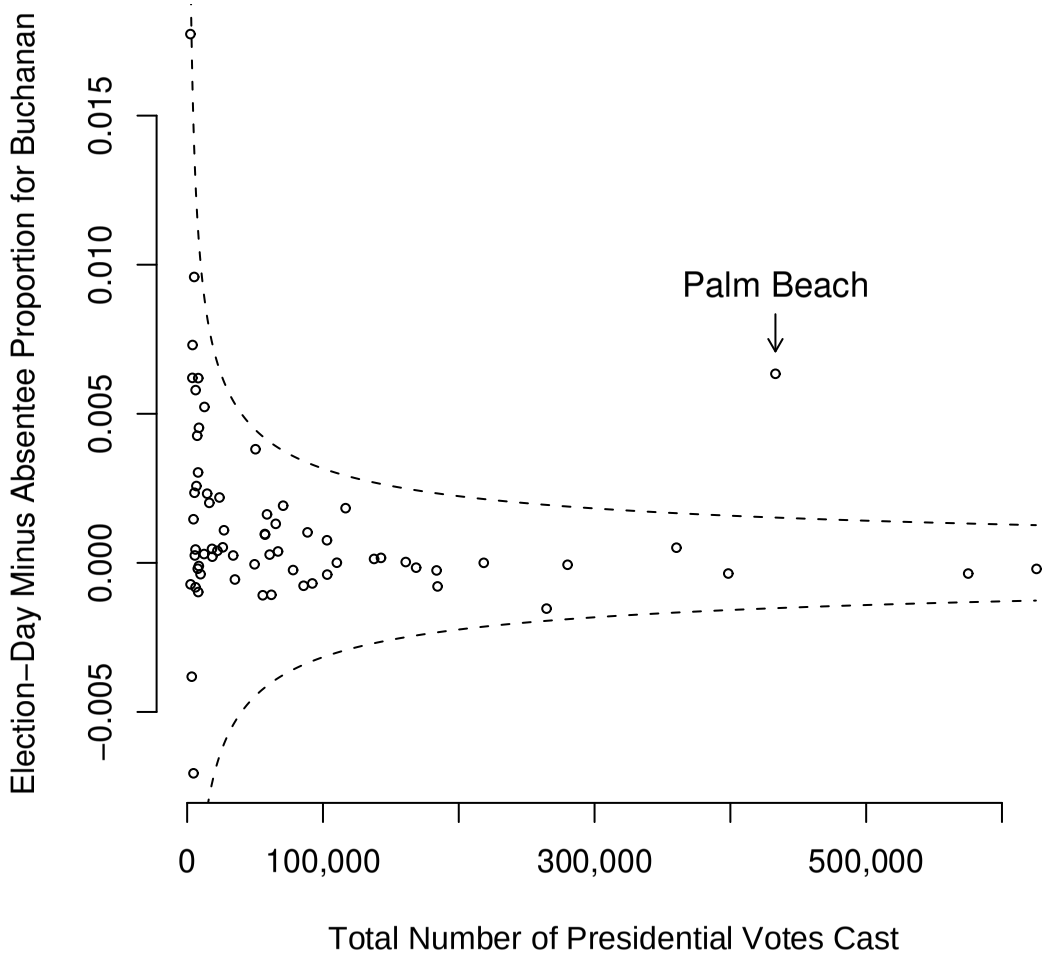
(SOCIALIST)
6
DAVID McREYNOLDS - PRESIDENT
MARY CAL HOLLIS - VICE PRESIDENT

(CONSTITUTION)
8
HOWARD PHILLIPS - PRESIDENT
J. CURTIS FRAZIER - VICE PRESIDENT

(WORKERS WORLD)
10
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.


Studentized Residual from Expected Vote for Buchanan
−5
0
5
10
15
20
25
30
35
Palm Beach, FL
Jasper, SC
Orleans, LA
AK AZ FL ID KS MA MN MT NE NM OH PA TN VA WI
AL CA GA IL KY MD MO NC NH NV OK SC TX VT WV
AR CO IA IN LA ME MS ND NJ NY OR SD UT WA WY


Election−Day Minus Absentee Proportion for Buchanan
−0.005
0.000
0.005
0.010
0.015
Palm Beach
0
100,000
300,000
500,000
Total Number of Presidential Votes Cast

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

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

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

Ballot Type	Intercept	Nelson (D)	Deckard (Ref)
Election-Day	-5.18 **(0.034)**	0.61 **(0.040)**	2.41 **(0.138)**
Absentee	-6.11 **(0.156)**	-0.21 **(0.236)**	3.68 **(0.400)**

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

	Election-Day Ballots		Absentee Ballots	
Senate Candidate	Proportion	N	Proportion	N
Bill Nelson (D)	0.0102	228,455	0.0017	17,779
Joel Deckard (Ref)	0.0590	1,000	0.0808	99

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**

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  - **at least 2,000 people voted by mistake for Buchanan instead of Gore**

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  - **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**

OFFICIAL BALLOT, GENERAL ELECTION
BROWARD COUNTY, FLORIDA
NOVEMBER 7, 2000

GENERAL ELECTION

ELECTORS FOR PRESIDENT AND VICE PRESIDENT

PRESIDENT AND VICE PRESIDENT
(Vote for ONE Group)

GEORGE W. BUSH - For PRESIDENT **DICK CHENEY** - For VICE PRESIDENT	REPUBLICAN	2
AL GORE - For PRESIDENT **JOE LIEBERMAN** - For VICE PRESIDENT	DEMOCRATIC	3
HARRY BROWNE - For PRESIDENT **ART OLIVIER** - For VICE PRESIDENT	LIBERTARIAN	4
RALPH NADER - For PRESIDENT **WINONA LADUKE** - For VICE PRESIDENT	GREEN	5
JAMES HARRIS - For PRESIDENT **MARGARET TROWE** - For VICE PRESIDENT	SOCIALIST WORKERS	6
JOHN HAGELIN - For PRESIDENT **NAT GOLDHABER** - For VICE PRESIDENT	NATURAL LAW	7
PAT BUCHANAN - For PRESIDENT **EZOLA FOSTER** - For VICE PRESIDENT	REFORM	8
DAVID MCREYNOLDS - For PRESIDENT **MARY CAL HOLLIS** - For VICE PRESIDENT	SOCIALIST	9
HOWARD PHILLIPS - For PRESIDENT **J. CURTIS FRAZIER** - For VICE PRESIDENT	CONSTITUTION	10
MONICA MOOREHEAD - For PRESIDENT **GLORIA LA RIVA** - For VICE PRESIDENT	WORKERS WORLD	11

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

1
A

OFFICIAL BALLOT, GENERAL ELECTION
LEE COUNTY, FLORIDA
NOVEMBER 7, 2000

FEDERAL

ELECTORS FOR PRESIDENT AND VICE PRESIDENT Vote for One Group	**GEORGE W. BUSH** for PRESIDENT **DICK CHENEY** for VICE PRESIDENT	(REP)	4 ➡
	AL GORE for PRESIDENT **JOE LIEBERMAN** for VICE PRESIDENT	(DEM)	5 ➡
	HARRY BROWNE for PRESIDENT **ART OLIVIER** for VICE PRESIDENT	(LIB)	6 ➡
	RALPH NADER for PRESIDENT **WINONA LaDUKE** for VICE PRESIDENT	(GRE)	7 ➡
	JAMES HARRIS for PRESIDENT **MARGARET TROWE** for VICE PRESIDENT	(SWP)	8 ➡
	JOHN HAGELIN for PRESIDENT **NAT GOLDHABER** for VICE PRESIDENT	(LAW)	9 ➡
	PAT BUCHANAN for PRESIDENT **EZOLA FOSTER** for VICE PRESIDENT	(REF)	10 ➡
	DAVID McREYNOLDS for PRESIDENT **MARY CAL HOLLIS** for VICE PRESIDENT	(SPF)	11 ➡
	HOWARD PHILLIPS for PRESIDENT **J. CURTIS FRAZIER** for VICE PRESIDENT	(CPF)	12 ➡
	MONICA MOOREHEAD for PRESIDENT **GLORIA LaRIVA** for VICE PRESIDENT	(WWP)	13 ➡
	To vote for a write-in candidate, follow the directions on the long stub of your ballot card.		14 ➡

2
A

OFFICIAL BALLOT, GENERAL ELECTION
LEE COUNTY, FLORIDA
NOVEMBER 7, 2000

CONGRESSIONAL

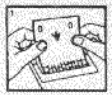
UNITED STATES SENATOR Vote for One	**BILL McCOLLUM**	(REP)	22 ➡
	BILL NELSON	(DEM)	23 ➡
	JOE SIMONETTA	(LAW)	24 ➡
	JOEL DECKARD	(REF)	25 ➡
	WILLIE LOGAN	(NPA)	26 ➡
	ANDY MARTIN	(NPA)	27 ➡
	DARRELL L. McCORMICK	(NPA)	28 ➡
	To vote for a write-in candidate, follow the directions on the long stub of your ballot card.		29 ➡

REPRESENTATIVE IN CONGRESS, 14th CONGRESSIONAL DISTRICT Vote for One	**PORTER GOSS**	(REP)	32 ➡
	SAM FARLING	(LAW)	33 ➡
	To vote for a write-in candidate, follow the directions on the long stub of your ballot card.		34 ➡

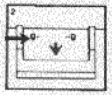
Official Sample Ballot, General Election, Pinellas County, FL

VOTING INSTRUCTIONS

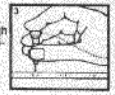
STEP 1. Using both hands, insert the ballot card all the way into the Votomatic.



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. Vote all pages.

STEP 5. After voting, remove the ballot card from the Votomatic.

NOTE: If you make a mistake, return your ballot card and obtain another.

OFFICIAL BALLOT
GENERAL ELECTION
PINELLAS COUNTY, FLORIDA
NOVEMBER 7, 2000

FEDERAL

THIS CONTEST WILL APPEAR IN ALL PRECINCTS

ELECTORS FOR PRESIDENT AND VICE PRESIDENT
(Vote for ONE Group)

GEORGE W. BUSH - PRESIDENT Dick Cheney - VICE PRESIDENT	(Republican)	3
AL GORE - PRESIDENT Joe Lieberman - VICE PRESIDENT	(Democratic)	4
HARRY BROWNE - PRESIDENT Art Olivier - VICE PRESIDENT	(Libertarian)	5
RALPH NADER - PRESIDENT Winona LaDuke - VICE PRESIDENT	(Green)	6
JAMES HARRIS - PRESIDENT Margaret Trowe - VICE PRESIDENT	(Socialist Workers)	7
JOHN HAGELIN - PRESIDENT Nat Goldhaber - VICE PRESIDENT	(Natural Law)	8
PAT BUCHANAN - PRESIDENT Ezola Foster - VICE PRESIDENT	(Reform)	9
DAVID McREYNOLDS - PRESIDENT Mary Cal Hollis - VICE PRESIDENT	(Socialist)	10
HOWARD PHILLIPS - PRESIDENT J. Curtis Frazier - VICE PRESIDENT	(Constitution)	11
MONICA MOOREHEAD - PRESIDENT Gloria La Riva - VICE PRESIDENT	(Workers World)	12
WRITE-IN CANDIDATE To vote for a write-in candidate, follow directions on the long stub of the ballot card.		

CONGRESSIONAL

THIS CONTEST WILL APPEAR IN ALL PRECINCTS

UNITED STATES SENATOR
(Vote for ONE)

BILL McCOLLUM	(Republican)	21
BILL NELSON	(Democratic)	22
JOE SIMONETTA	(Natural Law)	23
JOEL DECKARD	(Reform)	24
WILLIE LOGAN	(No Party)	25
ANDY MARTIN	(No Party)	26
DARRELL L. McCORMICK	(No Party)	27
WRITE-IN CANDIDATE To vote for a write-in candidate, follow directions on the long stub of the ballot card.		

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN THE 9TH CONGRESSIONAL DISTRICT

REPRESENTATIVE IN CONGRESS 9TH CONGRESSIONAL DISTRICT
(Vote for ONE)

MICHAEL BILIRAKIS	(Republican)	31
JON DUFFEY	(Reform)	32
WRITE-IN CANDIDATE To vote for a write-in candidate, follow directions on the long stub of the ballot card.		

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN THE 10TH CONGRESSIONAL DISTRICT

REPRESENTATIVE IN CONGRESS 10TH CONGRESSIONAL DISTRICT
(Vote for ONE)

C. W. BILL YOUNG	(Republican)	34
JOSETTE GREEN	(Natural Law)	35
RANDY HEINE	(No Party)	36
WRITE-IN CANDIDATE To vote for a write-in candidate, follow directions on the long stub of the ballot card.		

STATE

THESE CONTESTS WILL APPEAR IN ALL PRECINCTS

TREASURER
(Vote for ONE)

TOM GALLAGHER	(Republican)	42
JOHN COSGROVE	(Democratic)	43

COMMISSIONER OF EDUCATION
(Vote for ONE)

CHARLIE CRIST	(Republican)	46
GEORGE H. SHELDON	(Democratic)	47
VASSILIA GAZETAS	(No Party)	48

LEGISLATIVE

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE SENATE DISTRICT 21

STATE SENATOR 21ST SENATORIAL DISTRICT
(Vote for ONE)

RUDOLPH 'RUDY' BRADLEY	(Republican)	52
LESLEY 'LES' MILLER	(Democratic)	53
KIM COLJOHN	(No Party)	54

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE HOUSE DISTRICT 47

STATE REPRESENTATIVE 47TH HOUSE DISTRICT
(Vote for ONE)

ROB WALLACE	(Republican)	60
MONTE BELOTE	(Democratic)	61

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE HOUSE DISTRICT 48

STATE REPRESENTATIVE 48TH HOUSE DISTRICT
(Vote for ONE)

GUS MICHAEL BILIRAKIS	(Republican)	62
CHRIS GREGG	(No Party)	63

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE HOUSE DISTRICT 49

STATE REPRESENTATIVE 49TH HOUSE DISTRICT
(Vote for ONE)

LARRY CROW	(Republican)	64
SUE HUMPHREYS	(Democratic)	65

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE HOUSE DISTRICT 50

STATE REPRESENTATIVE 50TH HOUSE DISTRICT
(Vote for ONE)

KIM BERFIELD	(Republican)	66
AVA VanNAHMEN	(Democratic)	67

THIS CONTEST WILL APPEAR IN PRECINCTS WITHIN STATE HOUSE DISTRICT 51

STATE REPRESENTATIVE 51ST HOUSE DISTRICT
(Vote for ONE)

LESLIE WATERS	(Republican)	68
MARY BRENNAN	(Democratic)	69

NOVEMBER 7, 2000

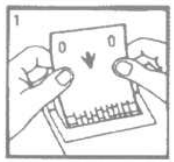
For Additional Information, Contact:

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.



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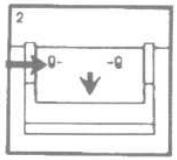
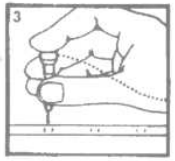


STEP 3. To vote, hold the punching stylus straight up. Punch straight down through the ballot card for the candidates, or issues of your choice.

DO NOT USE PEN OR PENCIL.

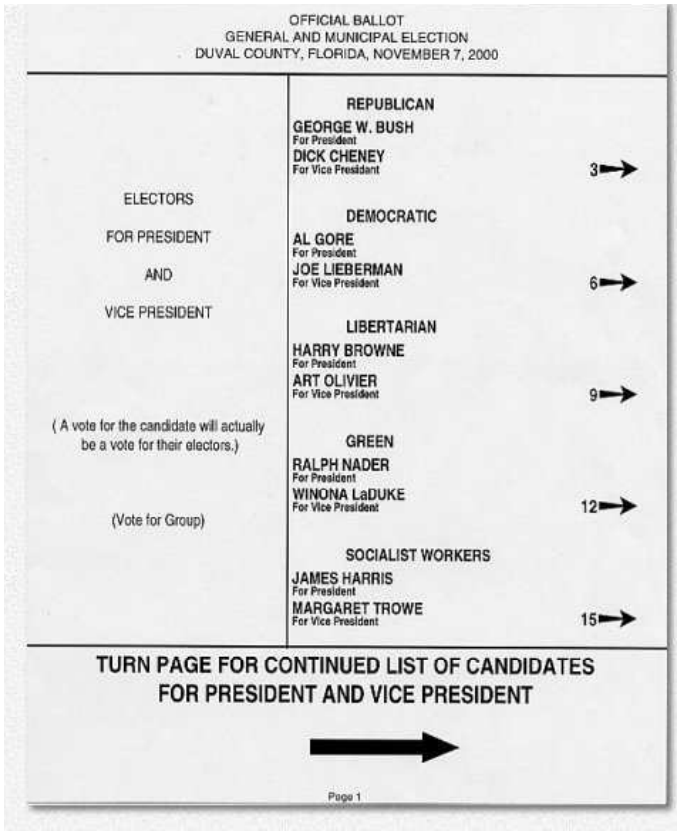


STEP 4. You may vote all pages.

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"**



OFFICIAL BALLOT
GENERAL AND MUNICIPAL ELECTION
DUVAL COUNTY, FLORIDA, NOVEMBER 7, 2000

ELECTORS

FOR PRESIDENT

AND

VICE PRESIDENT

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

(Vote for Group)

REPUBLICAN
GEORGE W. BUSH
For President
DICK CHENEY
For Vice President
3

DEMOCRATIC
AL GORE
For President
JOE LIEBERMAN
For Vice President
6

LIBERTARIAN
HARRY BROWNE
For President
ART OLIVIER
For Vice President
9

GREEN
RALPH NADER
For President
WINONA LaDUKE
For Vice President
12

SOCIALIST WORKERS
JAMES HARRIS
For President
MARGARET TROWE
For Vice President
15

TURN PAGE FOR CONTINUED LIST OF CANDIDATES
FOR PRESIDENT AND VICE PRESIDENT

Page 1

OFFICIAL BALLOT
GENERAL AND MUNICIPAL ELECTION
DUVAL COUNTY, FLORIDA, NOVEMBER 7, 2000

ELECTORS

FOR PRESIDENT

AND

VICE PRESIDENT

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

(Continued from previous page)

NATURAL LAW
JOHN HAGELIN
For President
NAT GOLDHABER
For Vice President
22 →

REFORM
PAT BUCHANAN
For President
EZOLA FOSTER
For Vice President
25 →

SOCIALIST
DAVID McREYNOLDS
For President
MARY CAL HOLLIS
For Vice President
28 →

CONSTITUTION
HOWARD PHILLIPS
For President
J. CURTIS FRAZIER
For Vice President
31 →

WORKERS WORLD
MONICA MOOREHEAD
For President
GLORIA LA RIVA
For Vice President
34 →

WRITE-IN CANDIDATE
For President
For Vice President
36 →

- **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**

SAMPLE

BALLOT

OFFICIAL GENERAL ELECTION
HERNANDO COUNTY, FLORIDA
NOVEMBER 7, 2000

ANN S. MAU
SUPERVISOR OF ELECTIONS
20 NORTH MAIN STREET, ROOM 463
BROOKSVILLE, FL 34601
(352) 754-4125

CHECKLIST FOR VOTERS

1. ***Picture ID or Affidavit is required*** to be issued a ballot and vote.
2. To ***find your polling place***, see list on this sample ballot.
3. ***Have you moved or changed your name since you last voted?*** If you did, please make change in writing to the SOE Office to save you time on election day.
4. According to Florida law, ***you must vote in the precinct where you live.***
5. For ***absentee ballot*** information, call the Elections Office.
6. ***YES, you may take this sample ballot into the voting booth for reference.***

DIRECTIONS: ● TO VOTE, COMPLETELY FILL IN THE OVAL TO THE LEFT OF YOUR CHOICE, AS SHOWN. TO VOTE FOR A WRITE-IN CANDIDATE, WRITE THE NAME OF THE CANDIDATE IN THE BLANK SPACE PROVIDED FOR THAT

VOTERS IN ALL PRECINCTS

ELECTORS FOR PRESIDENT AND VICE PRESIDENT

ELECTORS FOR PRESIDENT AND VICE PRESIDENT
Vote for Group

REPUBLICAN
◯ GEORGE W. BUSH
DICK CHENEY

DEMOCRATIC
◯ AL GORE
JOE LIEBERMAN

LIBERTARIAN
◯ HARRY BROWNE
ART OLIVIER

GREEN
◯ RALPH NADER
WINONA LADUKE

SOCIALIST WORKERS
◯ JAMES HARRIS
MARGARET TROWE

NATURAL LAW
◯ JOHN HAGELIN
NAT GOLDHABER

REFORM
◯ PAT BUCHANAN
EZOLA FOSTER

SOCIALIST
◯ DAVID McREYNOLDS
MARY CAL HOLLIS

CONSTITUTION
◯ HOWARD PHILLIPS
J. CURTIS FRAZIER

WORKERS WORLD
◯ MONICA MOOREHEAD
GLORIA LA RIVA

◯ _____
Write-in

VOTERS IN ALL PRECINCTS

CONGRESSIONAL

UNITED STATES SENATOR
Vote for One

◯ BILL McCOLLUM — REP
◯ BILL NELSON — DEM
◯ JOE SIMONETTA — LAW
◯ JOEL DECKARD — REF
◯ WILLIE LOGAN — NPA
◯ ANDY MARTIN — NPA
◯ DARRELL McCORMICK — NPA
◯ _____
Write-in

REPRESENTATIVE IN CONGRESS
5th Congressional District
Vote for One

◯ PETE ENWALL — REP
◯ KAREN L. THURMAN — DEM
◯ _____
Write-in

STATE

TREASURER
Vote for One

◯ TOM GALLAGHER — REP
◯ JOHN COSGROVE — DEM

COMMISSIONER OF EDUCATION
Vote for One

◯ CHARLIE CRIST — REP
◯ GEORGE H. SHELDON — DEM
◯ VASSILIA GAZETAS — NPA

VOTERS IN ALL PRECINCTS

COUNTY

SHERIFF
Vote for One

◯ RICHARD B. (RICH) NUGENT — REP
◯ JAMES E. "EDDIE" McCONNELL — DEM
◯ MICHAEL JOSEPH ROBINSON SR. — NPA

TAX COLLECTOR
Vote for One

◯ GARRY ALLEN — REP
◯ JUANITA B. SIKES — DEM

SUPERVISOR OF ELECTIONS
Vote for One

◯ "GUS" GUSTAVE GUADAGNINO — REP
◯ ANNIE "PAT" WILLIAMS — DEM

COUNTY COMMISSIONER
DISTRICT 1
Vote for One

◯ MARTHA JANE "JANEY" BALDWIN — REP
◯ MARY E. (BETTY) WHITEHOUSE — DEM

COUNTY COMMISSIONER
DISTRICT 3
Vote for One

◯ CAREY CARLSON — REP
◯ DIANE ROWDEN — DEM

COUNTY COMMISSIONER
DISTRICT 5
Vote for One

◯ WILLIAM ALONZO MERRITT — REP
◯ MARY C. AIKEN — DEM

VOTERS IN ALL PRECINCTS

NON PARTISAN JUDICIAL/SCHOOL BOARD SUPREME COURT

Shall Justice R. FRED LEWIS of the Supreme Court be retained in office?
◯ YES
◯ NO

Shall Justice BARBARA J. PARIENTE of the Supreme Court be retained in office?
◯ YES
◯ NO

Shall Justice PEGGY A. QUINCE of the Supreme Court be retained in office?
◯ YES
◯ NO

VOTERS IN ALL PRECINCTS

DISTRICT COURT OF APPEAL 5th DISTRICT

Shall Judge EMERSON R. THOMPSON, JR. of the 5th District Court of Appeal be retained in office?
◯ YES
◯ NO

VOTERS IN ALL PRECINCTS

SCHOOL BOARD MEMBER
District 2
Vote for One

◯ GAIL M. COLEMAN
◯ SHANNON LAVIANO

VOTERS IN ALL PRECINCTS

PROPOSED CONSTITUTIONAL AMENDMENTS AND OTHER PUBLIC MEASURES

NO. 1 CONSTITUTIONAL AMENDMENT
ARTICLE X, SECTION 19
(Initiative)

Florida Transportation Initiative for statewide high-speed monorail, fixed guideway or magnetic levitation system.

To reduce traffic and increase travel alternatives, this amendment provides for development of a high speed monorail, fixed guideway or magnetic levitation system linking Florida's five largest urban areas and providing for access to existing airport and seaport passenger facilities and directed by directing the state and/or state authorized private entity to implement the financing, acquisition of rights-of-way, design, construction and operation of the system, with construction beginning by November 11, 2003.

◯ YES FOR A PPROVAL ◯ NO FOR REJECTION

NO. 2 CIRCUIT COURT JUDGE REFERENDUM
(Implementing Article V, Section 10)

Local Option for Selection of Circuit Judges

Shall the method of selecting circuit court judges in the 5th Judicial Circuit be changed from election by a vote of the people to selection by the Judicial Nominating Commission and appointment by the Governor with subsequent terms determined by a retention vote of the people?

◯ YES ◯ NO

NO. 3 COUNTY COURT JUDGE REFERENDUM
(Implementing Article V, Section 10)

Local Option for Selection of County Judges

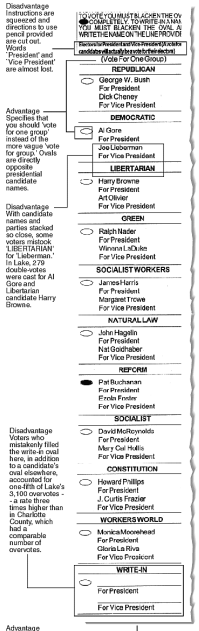
Shall the method of selecting county court judges in Hernando County be changed from election by a vote of the people to selection by the Judicial Nominating Commission and appointment by the Governor with subsequent terms determined by a retention vote of the people?

◯ YES ◯ NO

- **Florida 2000: better ballots**
  - **optical scan ballots**
    - **not so good in Lake County**
    - **choices too compressed (see the Orlando Sentinel clip)**

Lake County's solution -- and more problems

Among the 15 counties studied by the Sentinel, Lake County was alone in keeping all 10 presidential choices plus a write-in slot to one column on the ballot. But in order to accomplish that on a ballot of exactly the same size, sacrifices were made. Some of the trade-offs:



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- **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**

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  - **undervotes**
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    - **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+**

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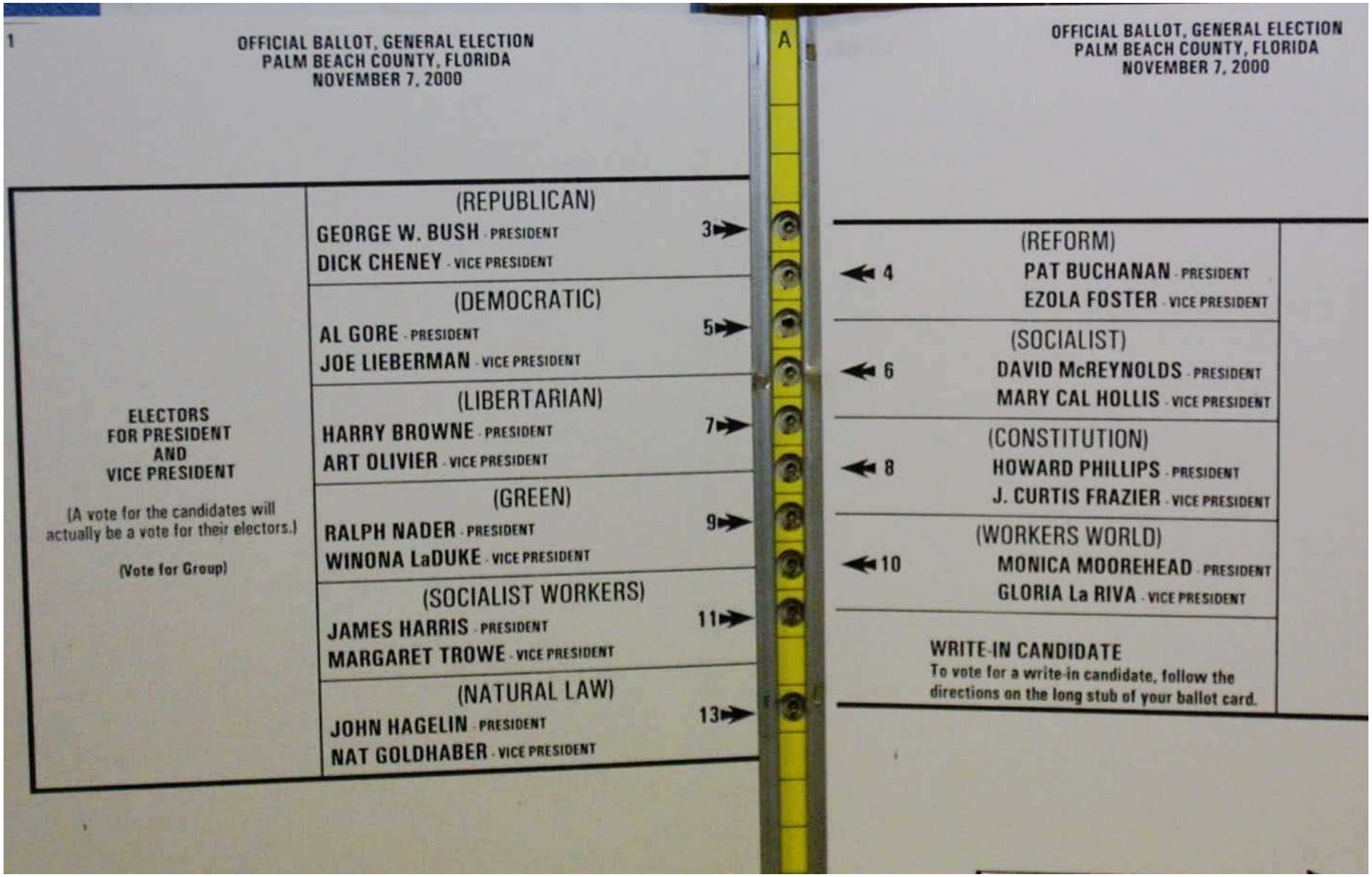
  - **adjacent holes (e.g., on the butterfly ballot)**



1

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

ELECTORS FOR PRESIDENT AND VICE PRESIDENT

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

(Vote for Group)

(REPUBLICAN)
GEORGE W. BUSH - PRESIDENT
DICK CHENEY - VICE PRESIDENT
3

(DEMOCRATIC)
AL GORE - PRESIDENT
JOE LIEBERMAN - VICE PRESIDENT
5

(LIBERTARIAN)
HARRY BROWNE - PRESIDENT
ART OLIVIER - VICE PRESIDENT
7

(GREEN)
RALPH NADER - PRESIDENT
WINONA LaDUKE - VICE PRESIDENT
9

(SOCIALIST WORKERS)
JAMES HARRIS - PRESIDENT
MARGARET TROWE - VICE PRESIDENT
11

(NATURAL LAW)
JOHN HAGELIN - PRESIDENT
NAT GOLDHABER - VICE PRESIDENT
13

A

OFFICIAL BALLOT, GENERAL ELECTION
PALM BEACH COUNTY, FLORIDA
NOVEMBER 7, 2000

(REFORM)
4
PAT BUCHANAN - PRESIDENT
EZOLA FOSTER - VICE PRESIDENT

(SOCIALIST)
6
DAVID McREYNOLDS - PRESIDENT
MARY CAL HOLLIS - VICE PRESIDENT

(CONSTITUTION)
8
HOWARD PHILLIPS - PRESIDENT
J. CURTIS FRAZIER - VICE PRESIDENT

(WORKERS WORLD)
10
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)**

Lake County's solution -- and more problems

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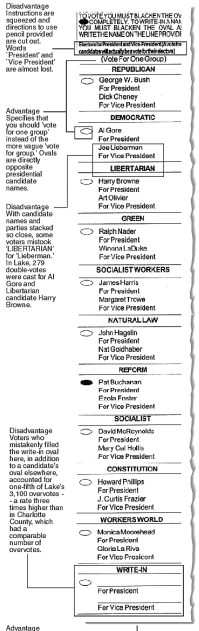

- **many overvotes were Bush+ or Gore+**
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  - **corrected mistakes (e.g., Leon County, see leonovervote.pdf)**
  - **redundant write-ins (e.g., Leon County, see leonovervote.pdf)**

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  - **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

	Vote Counts	
	Bush	Gore
Certified Results:[a]		
Florida Total	2,911,215	2,911,417
Federal Absentee	1,575	836
Certified Total	2,912,790	2,912,253
Uncounted Election-day Ballots:[b]		
Unambiguous Write-ins	477	732
Ambiguous Write-ins	220	812
Two-mark Overvotes	15,236	39,148
Multiple-mark Overvotes	8,355	29,328
All Allocated Overvotes	24,288	70,020

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

	Unambiguous		Ambiguous		Ratio: Write-in to Certified	
Tabulation	Bush	Gore	Bush	Gore	Bush	Gore
Central	251	419	162	567	0.0029	0.0087
Precinct	222	308	50	219	0.0003	0.0006

Write-in Overvotes in Florida Counties with Optical Scan Machines, NORC Data

	Unambiguous		Ambiguous		Ratio: Write-in to Certified		
County	Bush	Gore	Bush	Gore	Bush	Gore	Tabulation
Bradford	9	16	11	19	0.0037	0.0114	Central
Charlotte	62	107	31	77	0.0026	0.0062	Central
Franklin	2	3	3	5	0.0020	0.0039	Central
Gadsden	1	1	3	122	0.0008	0.0126	Central
Gulf	0	0	0	0	0.0000	0.0000	Central
Hamilton	0	0	5	8	0.0023	0.0046	Central
Hendry	5	4	7	2	0.0025	0.0019	Central
Jackson	1	0	12	44	0.0014	0.0064	Central
Lafayette	0	0	1	6	0.0006	0.0076	Central
Lake	158	258	50	177	0.0042	0.0119	Central
Levy	1	0	15	29	0.0023	0.0054	Central
Liberty	0	0	2	4	0.0015	0.0039	Central
Okeechobee	9	20	10	27	0.0038	0.0102	Central
Suwannee	2	5	9	31	0.0014	0.0088	Central
Taylor	1	5	3	16	0.0010	0.0079	Central

	Unambiguous		Ambiguous		Ratio		
County	Bush	Gore	Bush	Gore	Bush	Gore	Tabulation
Alachua	1	3	0	1	0.0000	0.0001	Precinct
Baker	1	1	1	0	0.0004	0.0004	Precinct
Bay	15	9	3	6	0.0005	0.0008	Precinct
Brevard	7	6	0	1	0.0001	0.0001	Precinct
Clay	5	3	1	2	0.0001	0.0003	Precinct
Columbia	0	0	1	0	0.0001	0.0000	Precinct
Escambia	44	108	25	144	0.0009	0.0062	Precinct
Manatee	109	146	2	11	0.0019	0.0032	Precinct
Monroe	0	1	0	2	0.0000	0.0002	Precinct
Okaloosa	32	16	0	5	0.0006	0.0012	Precinct
Orange	0	4	2	14	0.0000	0.0001	Precinct
Polk	2	3	5	23	0.0001	0.0003	Precinct
Santa Rosa	0	0	3	2	0.0001	0.0002	Precinct
St. Johns	3	2	4	7	0.0002	0.0005	Precinct
St. Lucie	2	2	0	0	0.0001	0.0000	Precinct
Walton	1	1	0	0	0.0001	0.0002	Precinct
Washington	0	1	3	1	0.0006	0.0007	Precinct

Allocated Overvotes in Florida Counties, 2000 Presidential Election, NORC Data

	Number of Allocated Ballots			
	Two Marks		Multiple	
Tabulation	Bush	Gore	Bush	Gore
Votomatic—Duval	4,868	8,480	1,512	5,617
Votomatic—Miami-Dade	1,932	5,103	1,235	5,731
Votomatic—Palm Beach	2,258	10,687	811	3,882
Votomatic—Other	2,419	8,472	1,456	5,603
Datavote—One Page	248	407	377	1,053
Datavote—Two Pages	385	390	317	533
Optical Central—One Column	262	557	441	908
Optical Central—Two Columns	1,996	2,998	1,195	3,096
Optical Precinct	510	942	436	1,120
Opt. Prec.—Columbia, Escambia	339	1,093	528	1,723
Hand (Union)	19	18	47	62

Allocated Overvotes in Florida Counties, 2000 Presidential Election, NORC Data

	Ratio of Allocated Ballots to Certified Vote Counts			
	Two Marks		Multiple	
Tabulation	Bush	Gore	Bush	Gore
Votomatic—Duval	0.032	0.079	0.010	0.052
Votomatic—Miami-Dade	0.007	0.016	0.004	0.017
Votomatic—Palm Beach	0.015	0.040	0.005	0.014
Votomatic—Other	0.002	0.008	0.001	0.005
Datavote—One Page	0.011	0.023	0.017	0.060
Datavote—Two Pages	0.019	0.038	0.015	0.052
Optical Central—One Column	0.005	0.015	0.009	0.025
Optical Central—Two Columns	0.021	0.039	0.013	0.040
Optical Precinct	0.001	0.001	0.000	0.001
Opt. Prec.—Columbia, Escambia	0.004	0.023	0.006	0.036
Hand (Union)	0.008	0.013	0.020	0.044

- **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**

Senate Voting Behavior Given Presidential Vote, Ballot Image Data

	Proportion with Major Party Senate Vote (P_1, P_2)					
	One Mark		Two Marks		Multiple	
County	Bush	Gore	Bush	Gore	Bush	Gore
Broward	0.96	0.95	0.69	0.81	0.39	0.45
Highlands	0.96	0.95	0.78	0.78	0.46	0.59
Hillsborough	0.95	0.94	0.67	0.76	0.37	0.46
Lee	0.96	0.94	0.74	0.79	0.42	0.36
Marion	0.96	0.96	0.61	0.77	0.47	0.43
Miami-Dade	0.89	0.89	0.62	0.69	0.54	0.56
Palm Beach	0.95	0.93	0.81	0.87	0.64	0.66
Pasco	0.95	0.94	0.70	0.82	0.53	0.51
Pinellas	0.95	0.94	0.82	0.81	0.54	0.50
Sarasota	0.95	0.93	0.65	0.73	0.37	0.41

Senate Voting Behavior Given Presidential Vote, Ballot Image Data

	Proportion with Same-party Senate Vote (S_1, S_2)					
	One Mark		Two Marks		Multiple	
County	Bush	Gore	Bush	Gore	Bush	Gore
Broward	0.86	0.94	0.74	0.95	0.75	0.92
Highlands	0.88	0.89	0.75	0.80	0.88	0.93
Hillsborough	0.85	0.93	0.72	0.93	0.63	0.94
Lee	0.91	0.83	0.85	0.77	0.81	0.66
Marion	0.85	0.92	0.72	0.82	0.52	0.79
Miami-Dade	0.92	0.93	0.85	0.89	0.80	0.90
Palm Beach	0.87	0.92	0.77	0.90	0.68	0.84
Pasco	0.84	0.91	0.61	0.88	0.69	0.85
Pinellas	0.84	0.92	0.72	0.87	0.74	0.90
Sarasota	0.89	0.89	0.72	0.75	0.77	0.78

- **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** β **denote that proportion**

$$P_2 = \beta P_1 + (1 - \beta)H$$

- **for the additional information needed to find β...**
  - **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** α **denote that proportion**

$$S_2 = \alpha S_1 + (1 - \alpha)R$$

- **given**

$$P_2 = \beta P_1 + (1 - \beta) H \tag{1}$$

$$S_2 = \alpha S_1 + (1 - \alpha) R \tag{2}$$

- **solve for** β

- **given**

$$P_2 = \beta P_1 + (1 - \beta)H \tag{1}$$

$$S_2 = \alpha S_1 + (1 - \alpha)R \tag{2}$$

- **solve for β**
  - **α is the proportion of true voters among the two-mark Bush voters who also voted for either McCollum or Nelson**

- **given**

$$P_2 = \beta P_1 + (1 - \beta)H \tag{1}$$

$$S_2 = \alpha S_1 + (1 - \alpha)R \tag{2}$$

- **solve for** β
  - α **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**

$$P_2 = \beta P_1 + (1 - \beta)H \tag{1}$$

$$S_2 = \alpha S_1 + (1 - \alpha)R \tag{2}$$

- **solve for β**
  - **α 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 α, equation (2) can be solved for β**

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

- **computing β**

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

- **computing β**

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

- **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 β**

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

- **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 β**

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

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- **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 Presidental Overvotes, Ballot Image Data

	Proportion True Votes			
	Two Marks		Multiple	
County	Bush	Gore	Bush	Gore
Broward	0.48	0.87	0.28	0.45
Highlands	0.53	0.63	0.47	0.68
Hillsborough	0.44	0.81	0.15	0.51
Lee	0.65	0.70	0.33	0.19
Marion	0.40	0.61	0.03	0.30
Miami-Dade	0.58	0.69	0.43	0.58
Palm Beach	0.63	0.89	0.33	0.57
Pasco	0.24	0.82	0.31	0.47
Pinellas	0.54	0.76	0.40	0.50
Sarasota	0.39	0.51	0.27	0.31

Estimated True Votes Among the Presidental Overvotes, Ballot Image Data

	Estimated True Votes Among the Overvotes					
	Two Marks		Multiple		Total	
County	Bush	Gore	Bush	Gore	Bush	Gore
Broward	211	2,676	84	945	295	3,620
Highlands	25	48	16	47	41	95
Hillsborough	146	913	33	492	179	1,404
Lee	144	387	29	32	173	420
Marion	57	161	1	50	59	211
Miami-Dade	1,112	3,536	512	3,319	1,623	6,855
Palm Beach	1,435	9,522	254	2,133	1,689	11,654
Pasco	59	602	55	182	114	784
Pinellas	260	1,224	98	497	357	1,720
Sarasota	63	117	16	41	79	159
Total	3,512	19,185	1,098	7,738	4,610	26,922

Estimated True Votes Among the Presidental Overvotes, NORC Data

	Proportion True Votes			
	Two Marks		Multiple	
Tabulation	Bush	Gore	Bush	Gore
Votomatic	0.48	0.70	0.28	0.42
Votomatic—Duval	0.74	0.85	0.48	0.82
Datavote—One Page	0.32	0.82	0.06	0.74
Datavote—Two Pages	0.58	0.73	0.33	0.72
Optical Central—One Column	0.70	0.87	0.71	0.78
Optical Central—Two Columns	0.33	0.78	0.15	0.71
Optical Precinct	0.53	0.81	0.19	0.66
Opt. Prec.—Columbia, Escambia	0.42	0.86	0.36	0.81

Estimated True Votes Among the Presidental Overvotes, NORC Data

	Estimated True Votes Among the Overvotes					
	Two Marks		Multiple		Total	
Tabulation	Bush	Gore	Bush	Gore	Bush	Gore
Votomatic	3,184	16,944	980	6,421	4,164	23,364
Votomatic—Duval	3,586	7,168	728	4,609	4,314	11,777
Datavote—One Page	71	284	20	603	91	887
Datavote—Two Pages	225	283	106	385	331	668
Optical Central—One Column	185	485	314	709	499	1,194
Optical Central—Two Columns	653	2,331	180	2,209	833	4,541
Optical Precinct	285	807	92	893	378	1,701
Opt. Prec.—Columbia, Escambia	141	936	188	1,397	329	2,333
Total	8,330	29,238	2,608	17,226	10,939	46,465

- **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**
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  - **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
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- **election reform**
- **Help America Vote Act of 2002 (HAVA)**
  - **money for new machines**
  - **Election Administation 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**

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  - are preferences single peaked?
  - example: NO (even after reordering)

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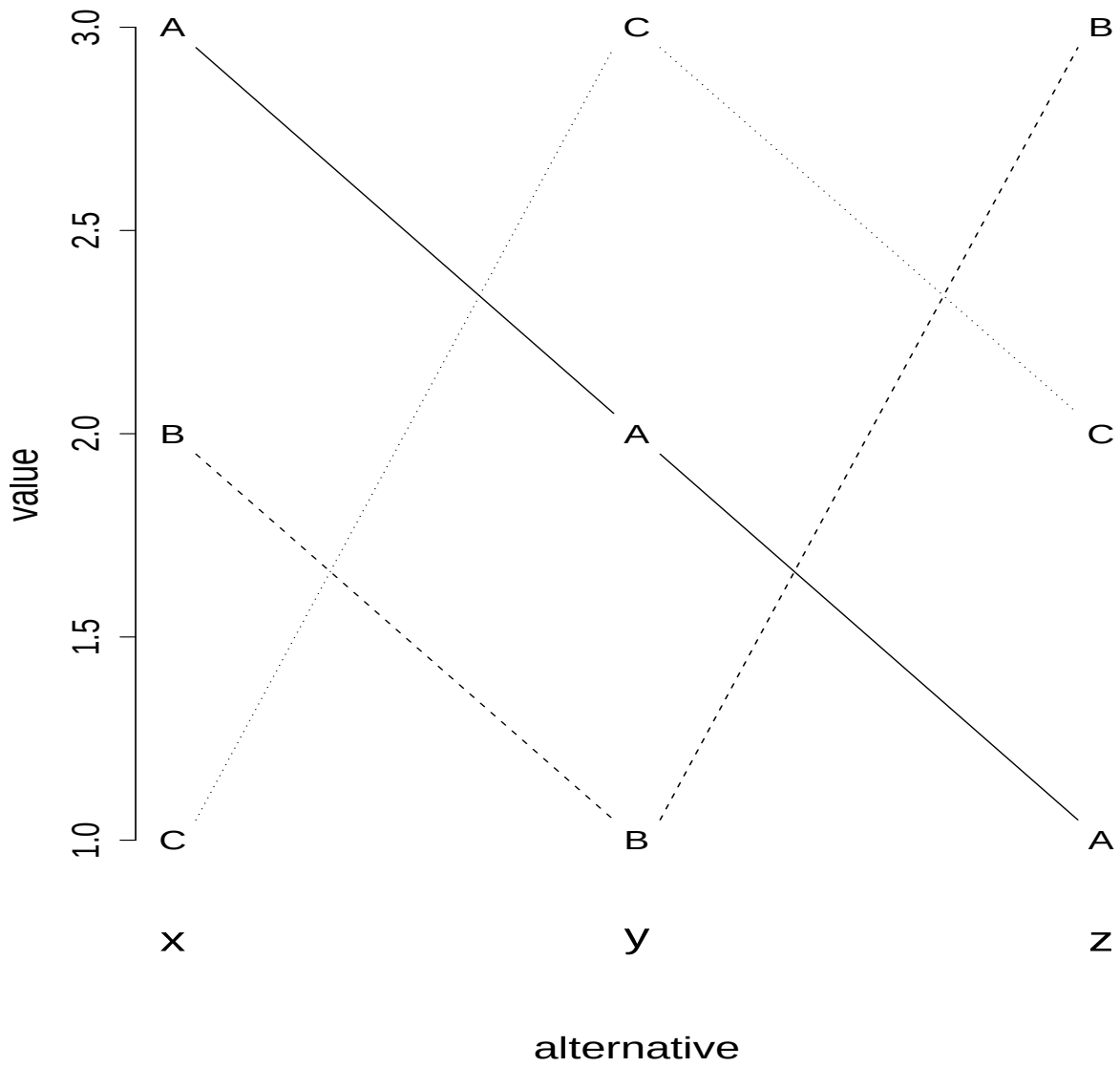
  - **example: NO (even after reordering)**
  - **preferences ($x > y$ means x is preferred to y):**
    - **person A:** $x > y > z$
    - **person B:** $z > x > y$
    - **person C:** $y > z > x$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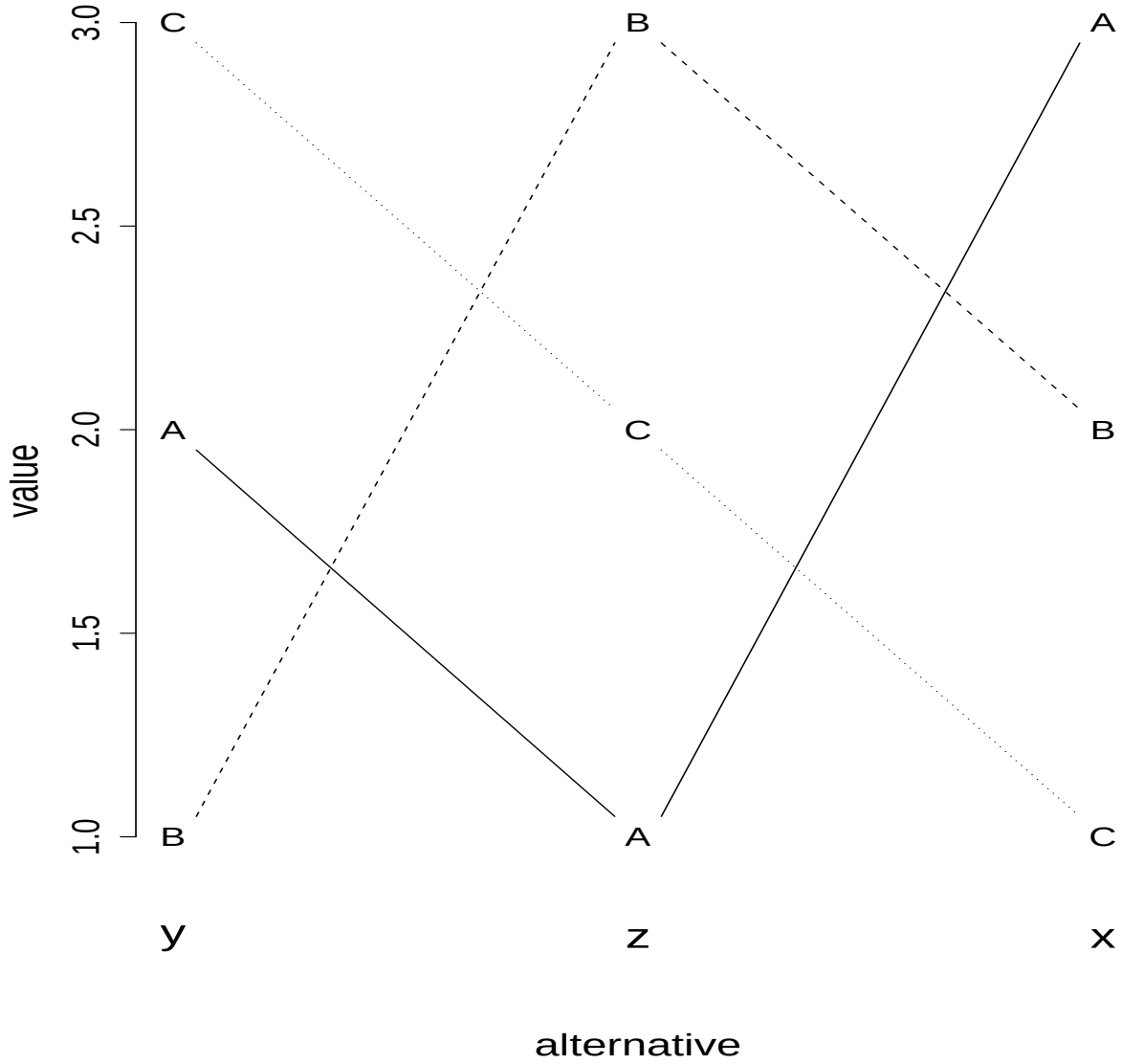
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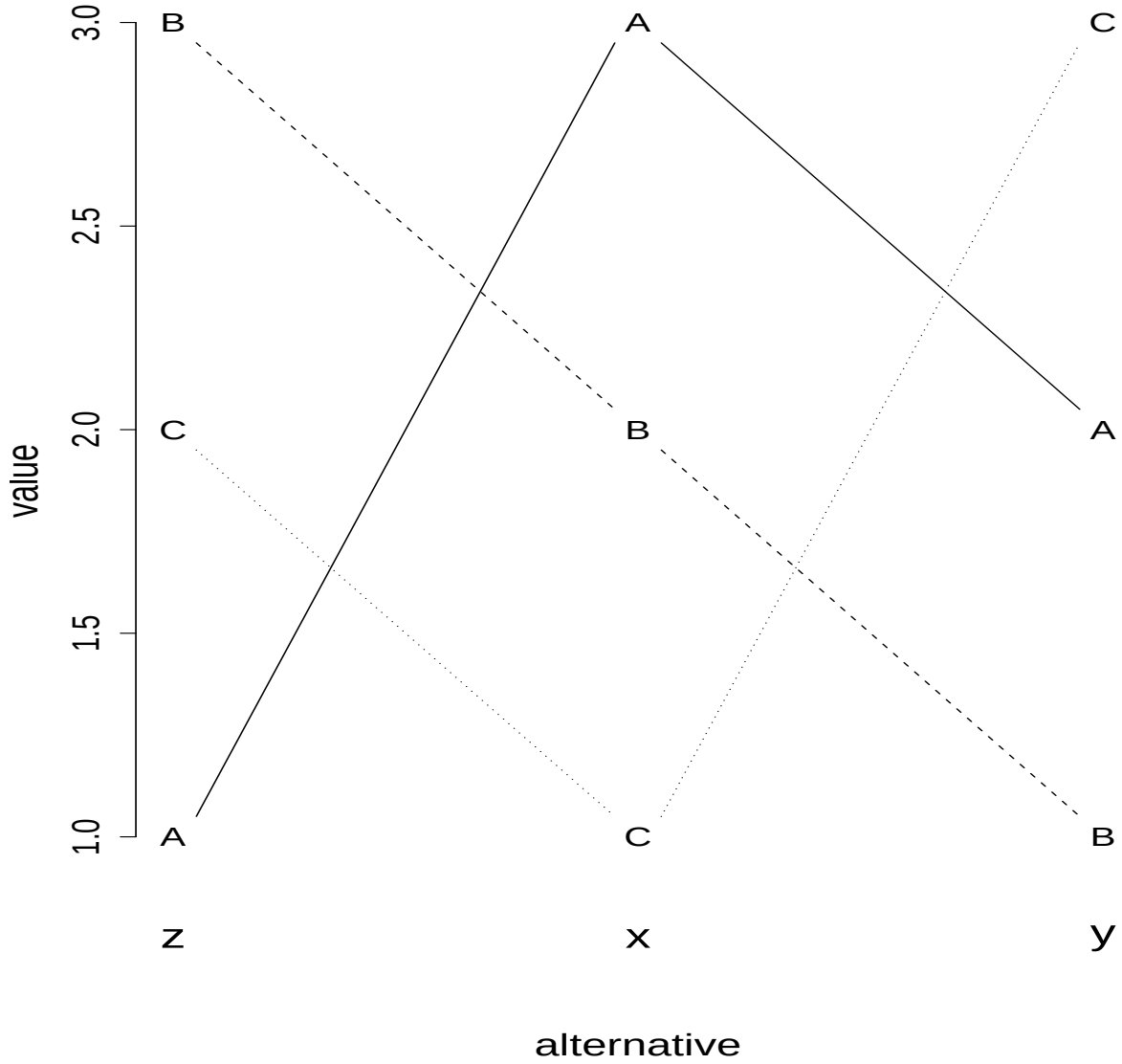
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  - **preferences:**
    - **person D:** $x > y > z$
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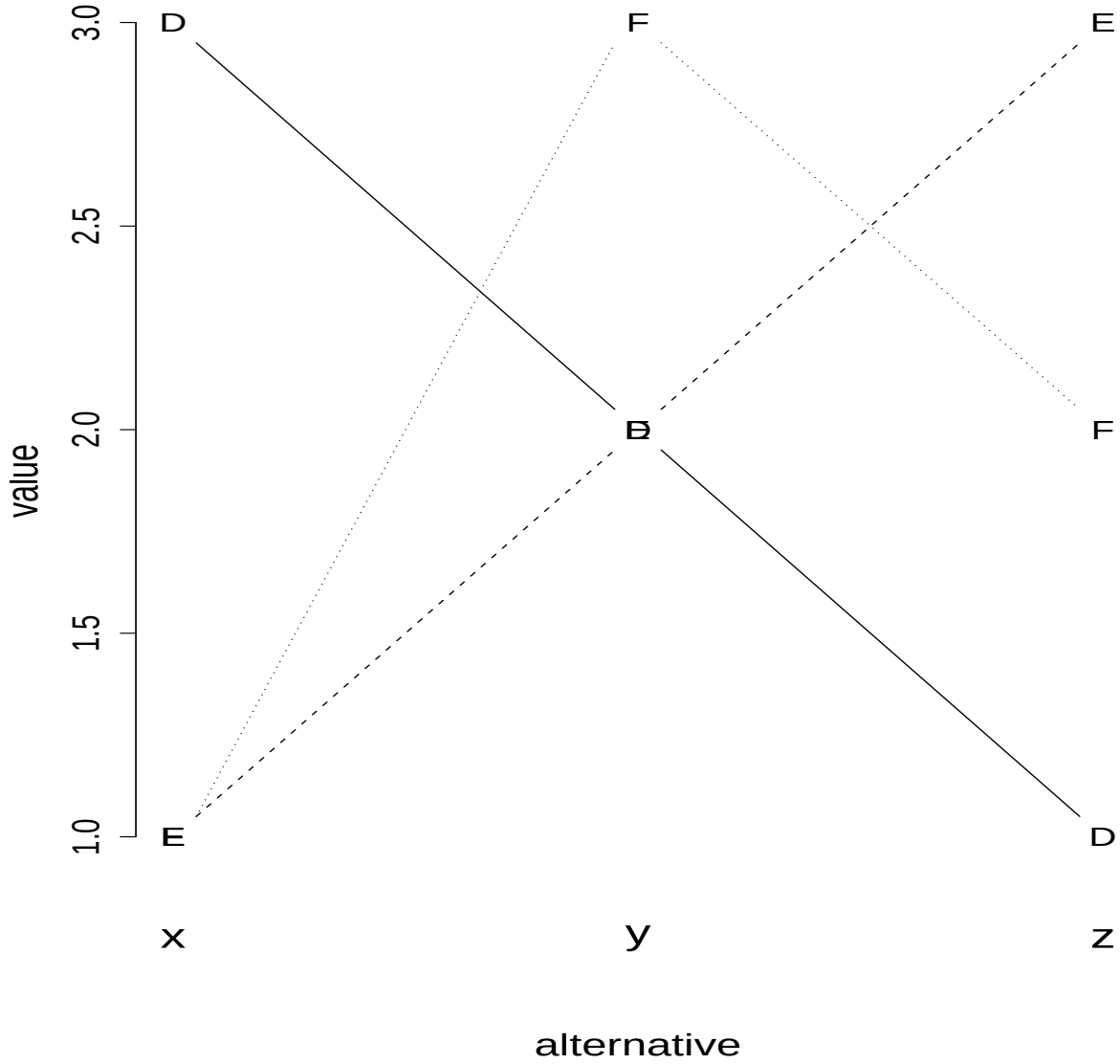
  - **each person has an IDEAL POINT**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  - **preferences (same as before):**
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    - **person E:** $z > y > x$
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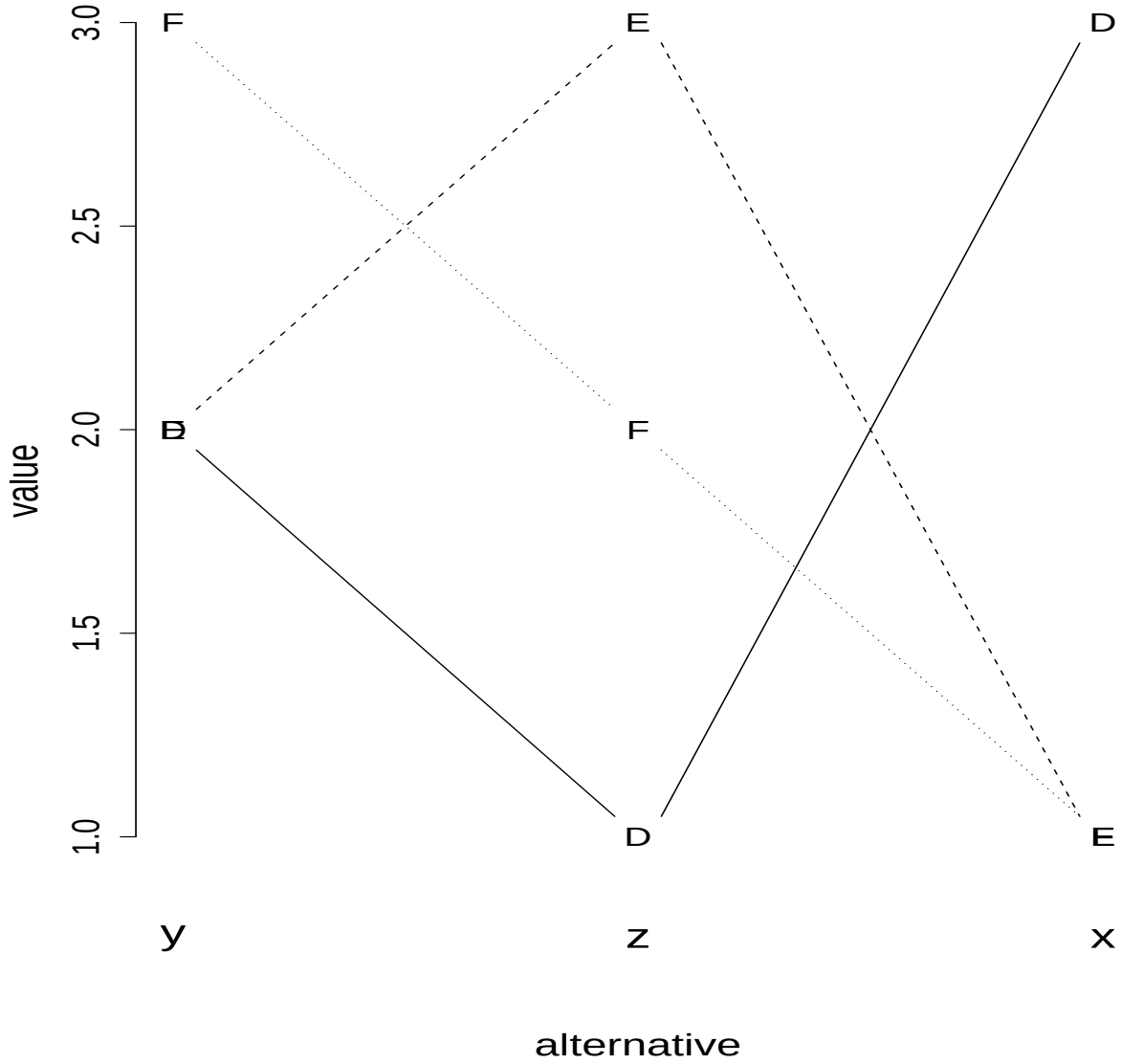
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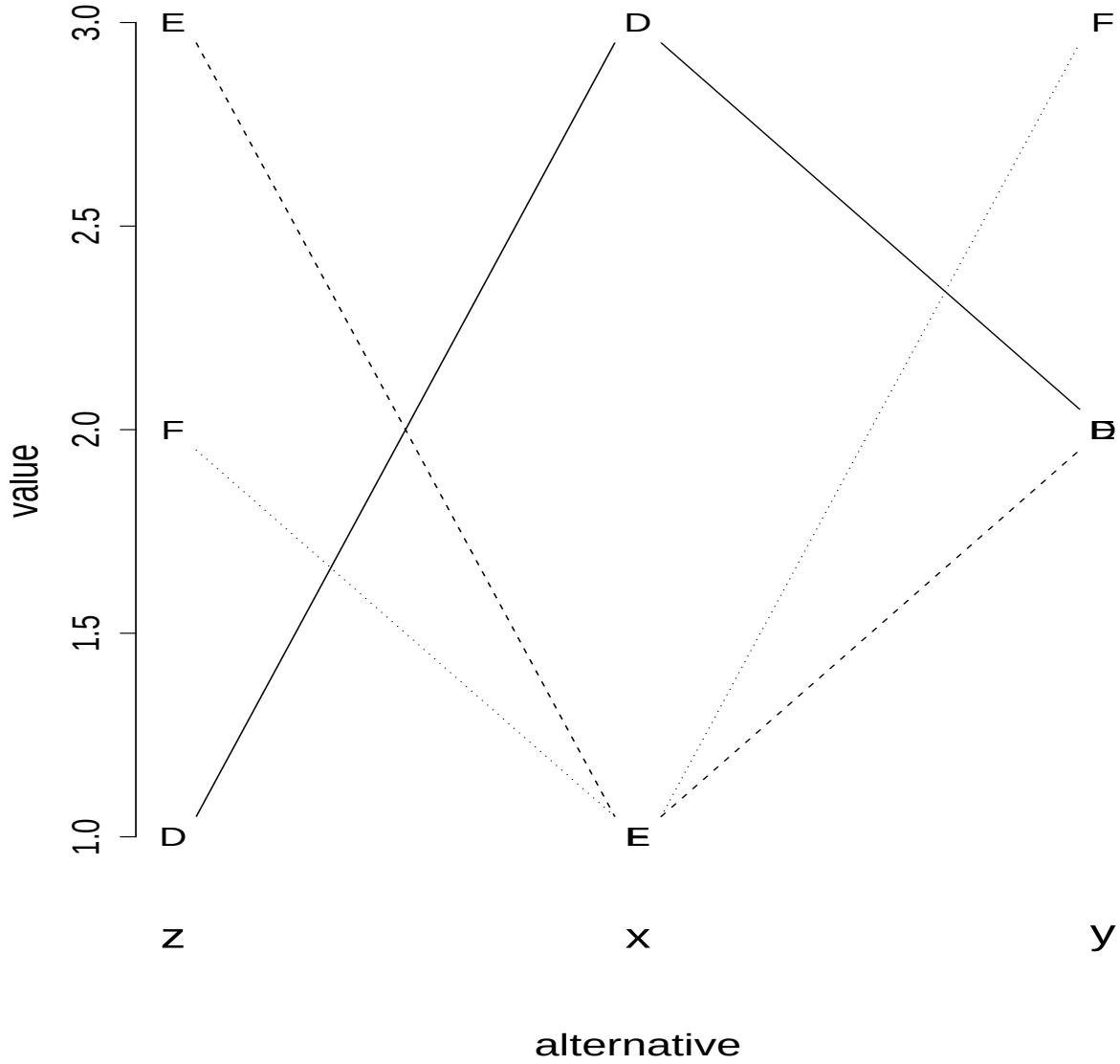
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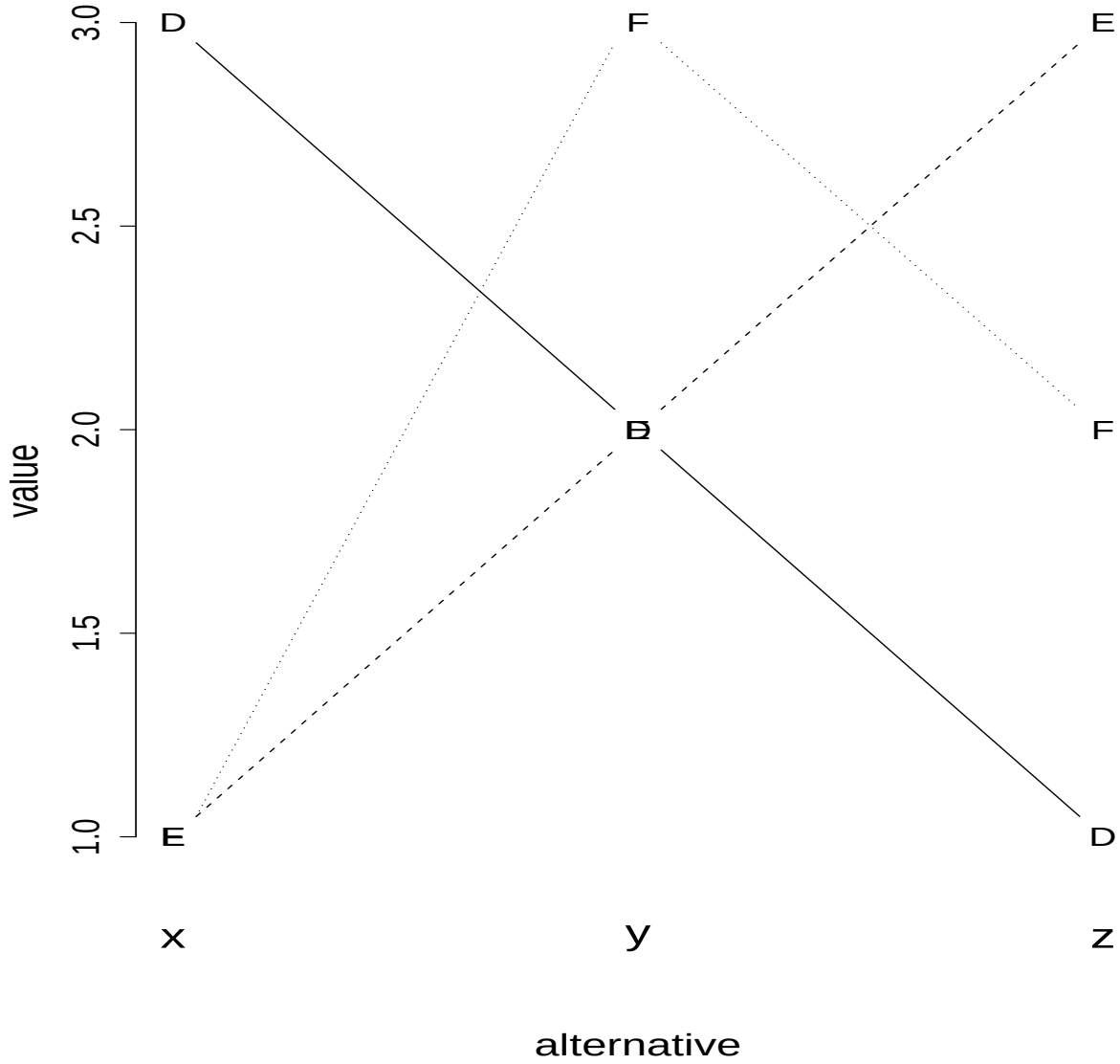
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  - **there is a one-dimensional spatial model when preferences are single peaked**
- **which alternative wins in a series of pairwise votes with single-peaked preferences?**
  - **with single-peaked preferences, the alternative that coincides with the median voter's ideal point beats every other alternative**
  - **this is the MEDIAN VOTER THEOREM**

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  - **tent metrics**
  - **example with asymmetries and different distances for different people**

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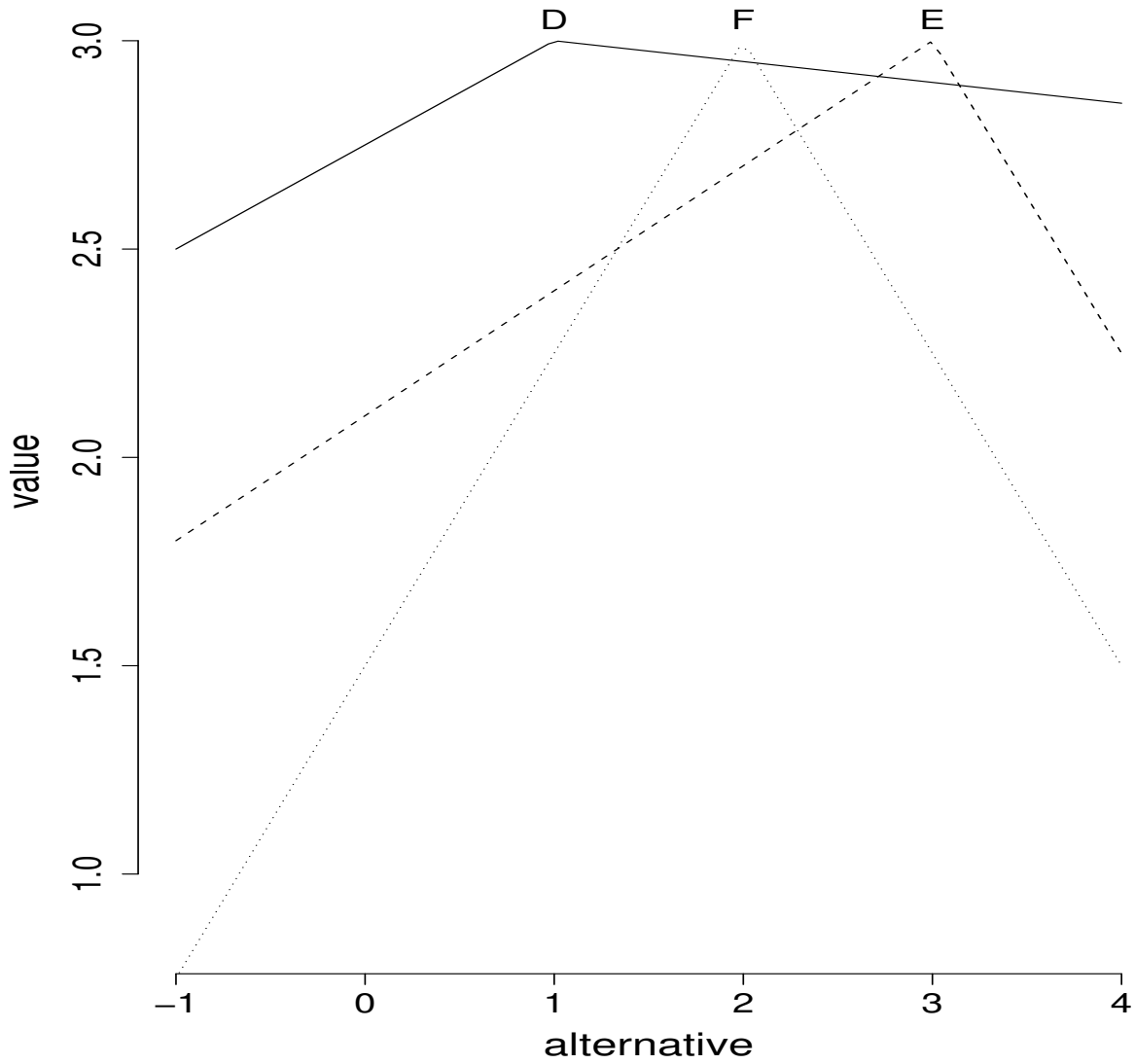
  - example with asymmetries and different distances for different people
- which alternative wins in a series of pairwise votes?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alternative

- **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**

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- **single-peaked preferences and measures of distance**
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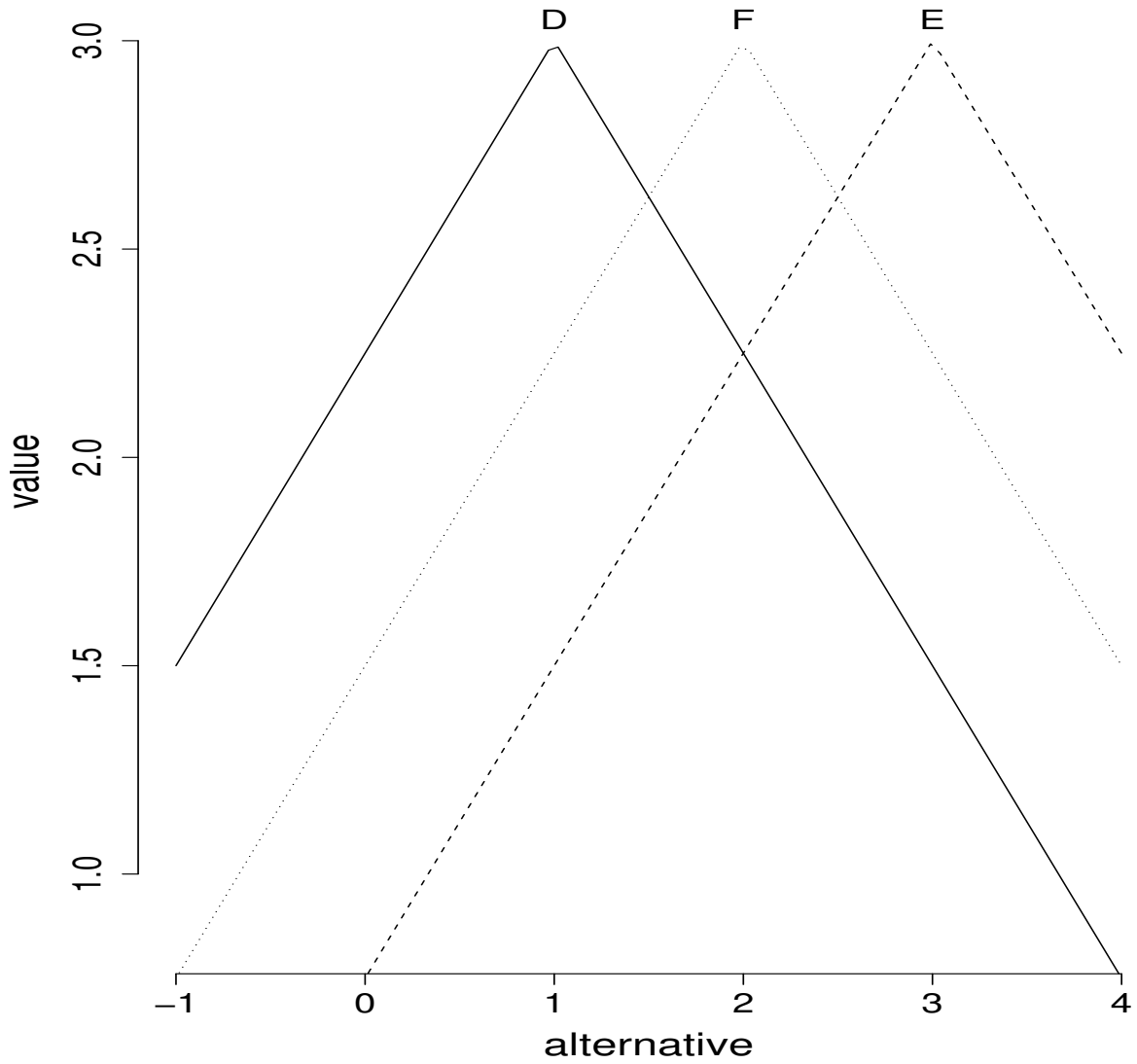
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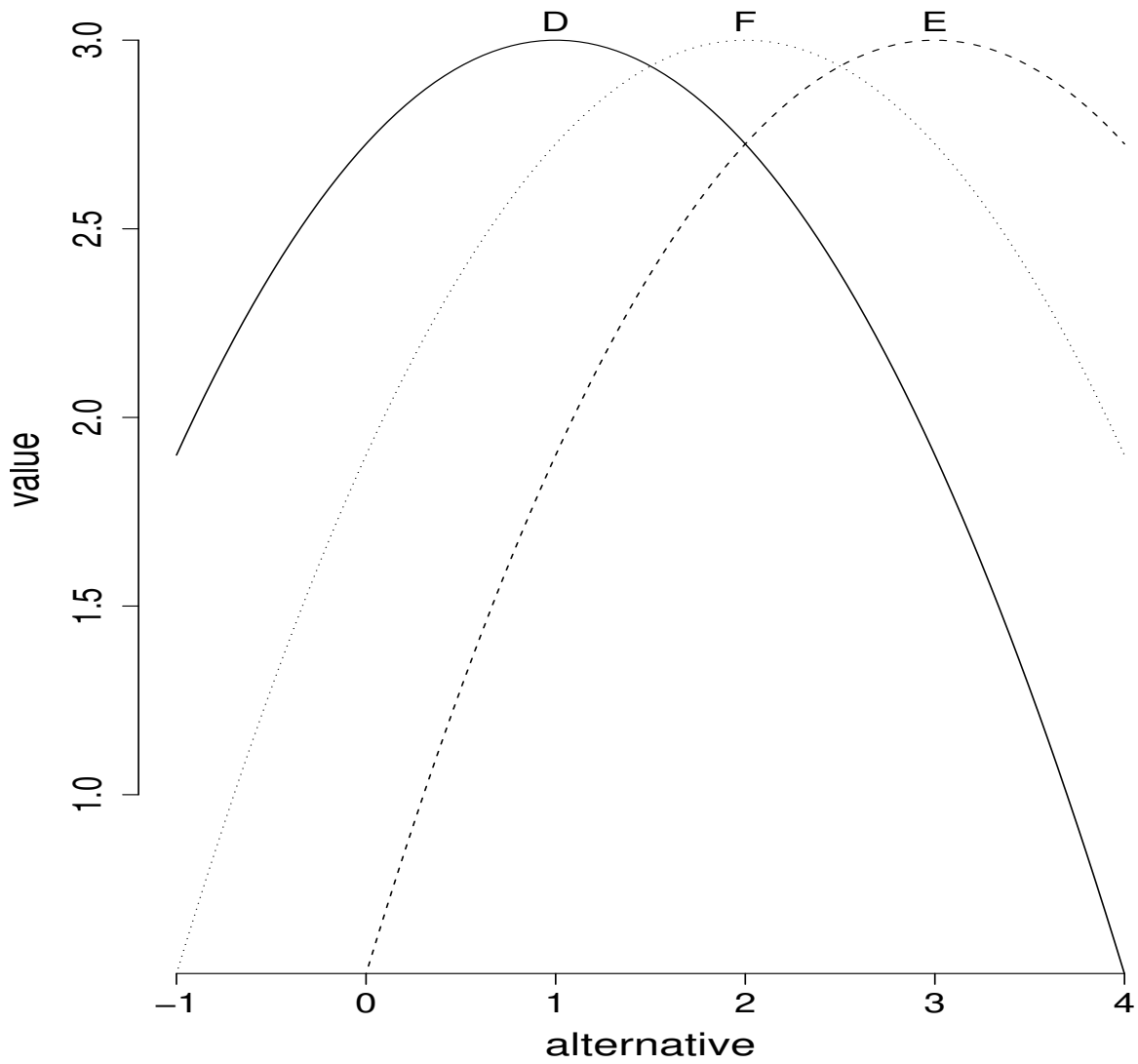
- **the spatial model**
- **single-peaked preferences and measures of distance**
  - **euclidean metrics:** $d = -b(x_k - x_i)^2$
  - **symmetry**
  - **example with same distances for different people**

- **the spatial model**
- **single-peaked preferences and measures of distance**
  - **euclidean metrics:** $d = -b(x_k - x_i)^2$
  - **symmetry**
  - **example with same distances for different people**
- **which alternative wins in a series of pairwise votes?**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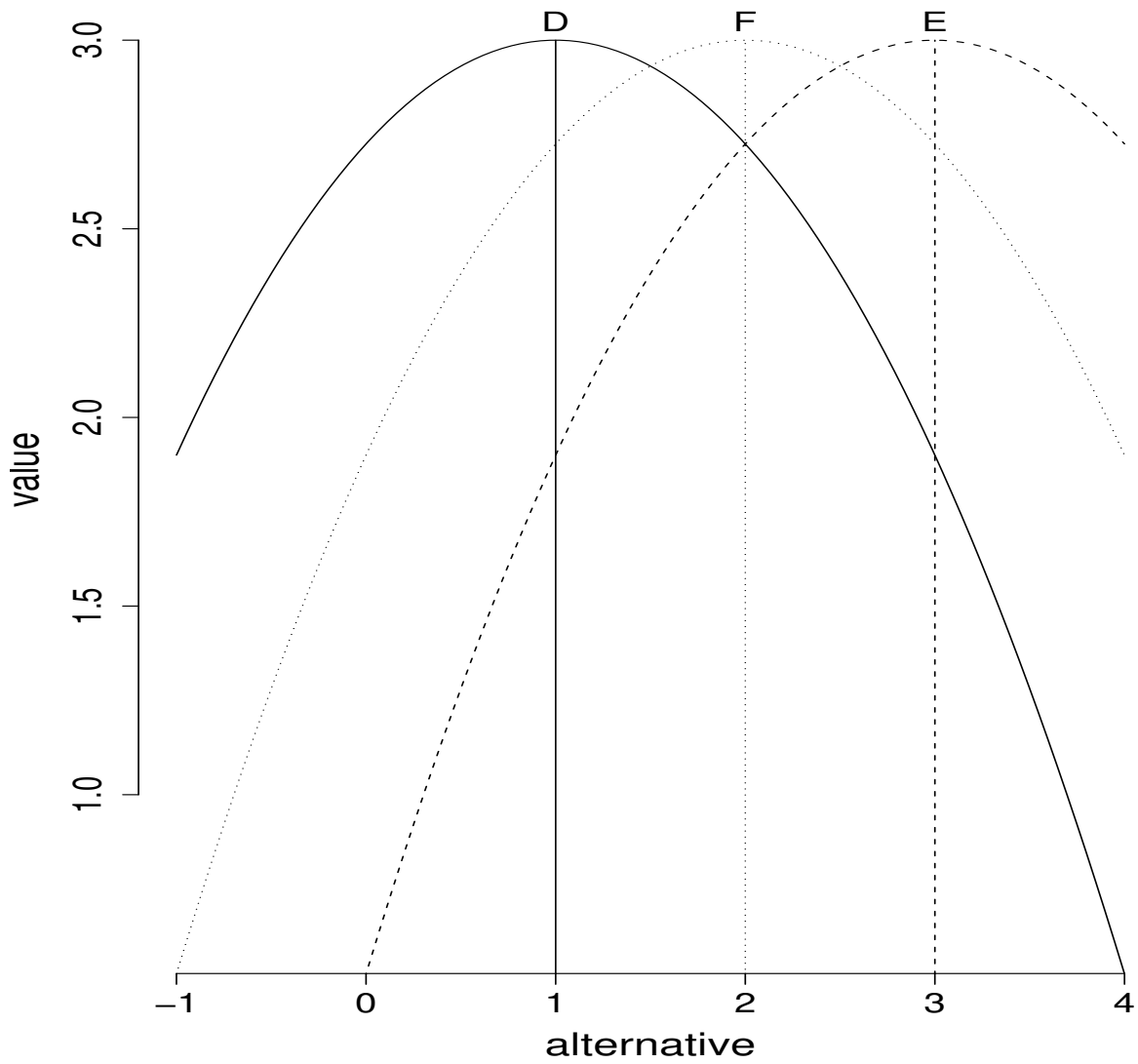
- **the spatial model**
- **with symmetric single-peaked preferences**
- **which is to say, in a pure one-dimensional spatial model...**

- **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**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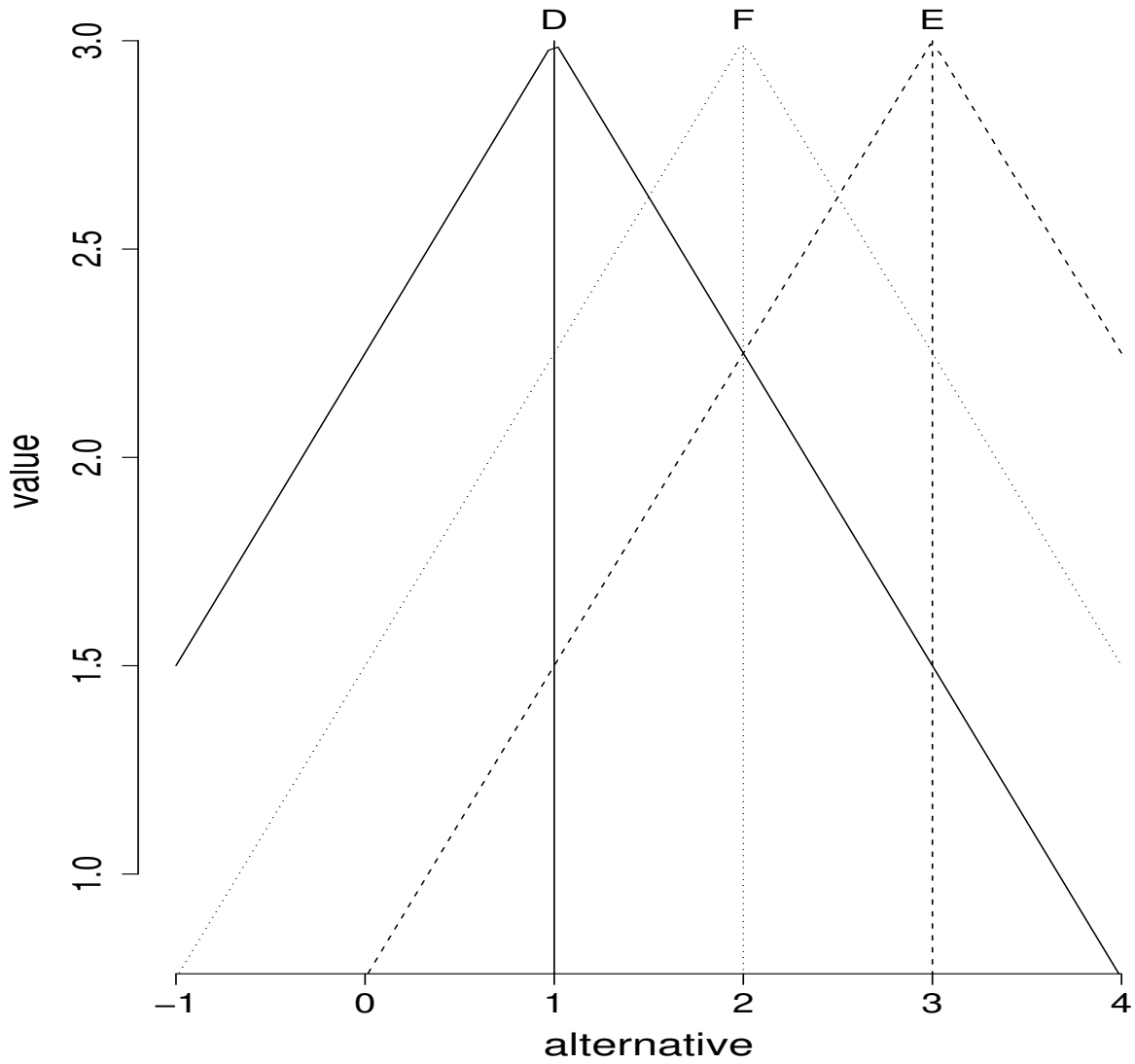
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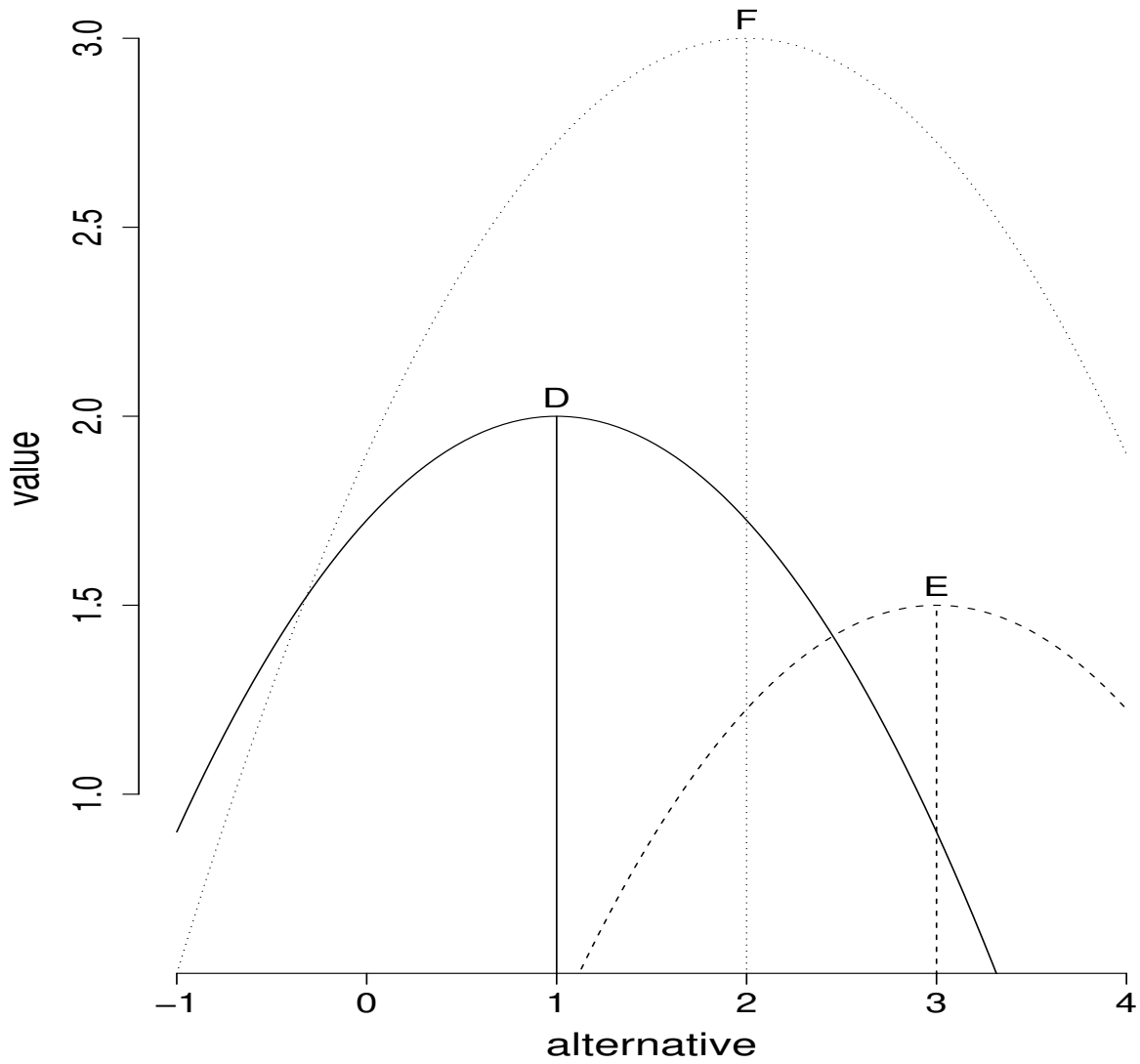
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- **the spatial model**
- **representing a continuum of voters with symmetric, single-peaked preferences**
- **in other words, a one-dimensional spatial electorate**

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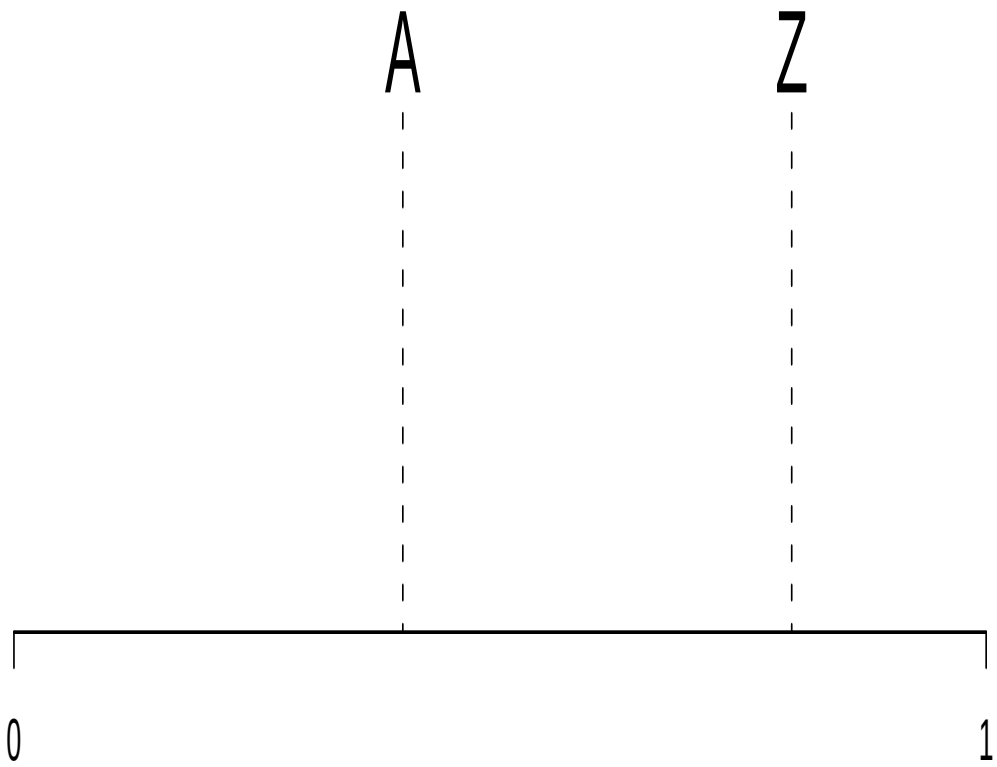
- **the spatial model**
- **a one-dimensional spatial electorate**
- **adding party "policy" locations**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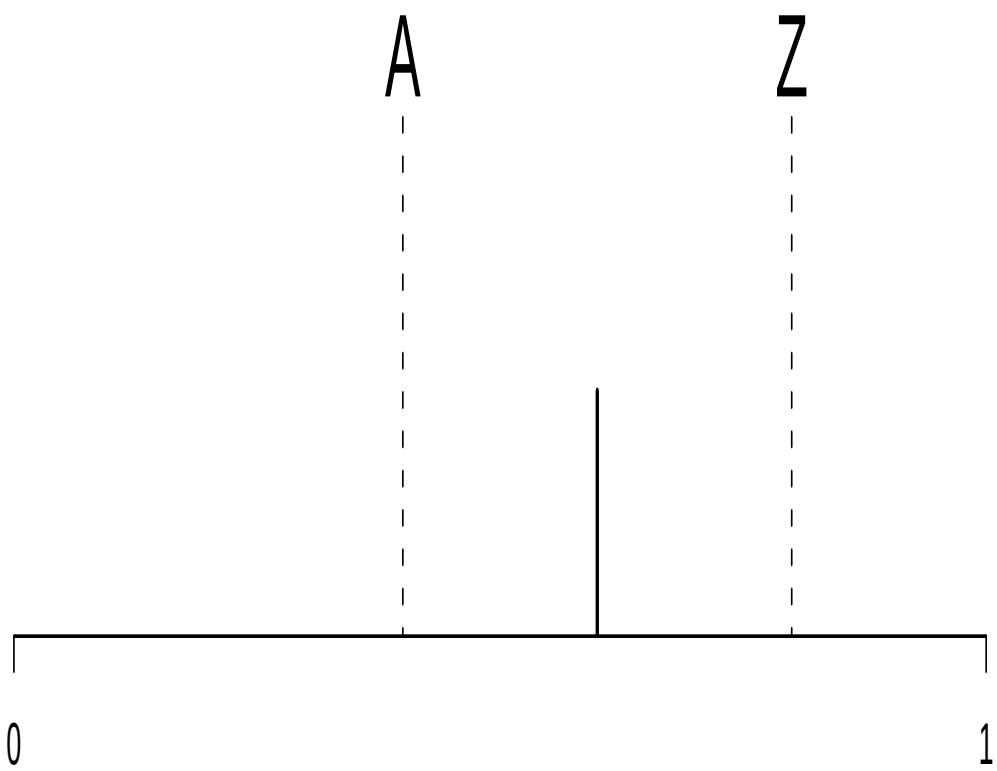
- **the spatial model**
- **a one-dimensional spatial electorate**
- **adding party "policy" locations**
- **counting votes**
  - **assume: everyone votes in accord with his or her preferences, which means everyone votes for the closest alternative**
  - **if two alternatives are equally close, the voter chooses each alternative with probability $1/2$**
    - **i.e., the voter flips a (fair) coin**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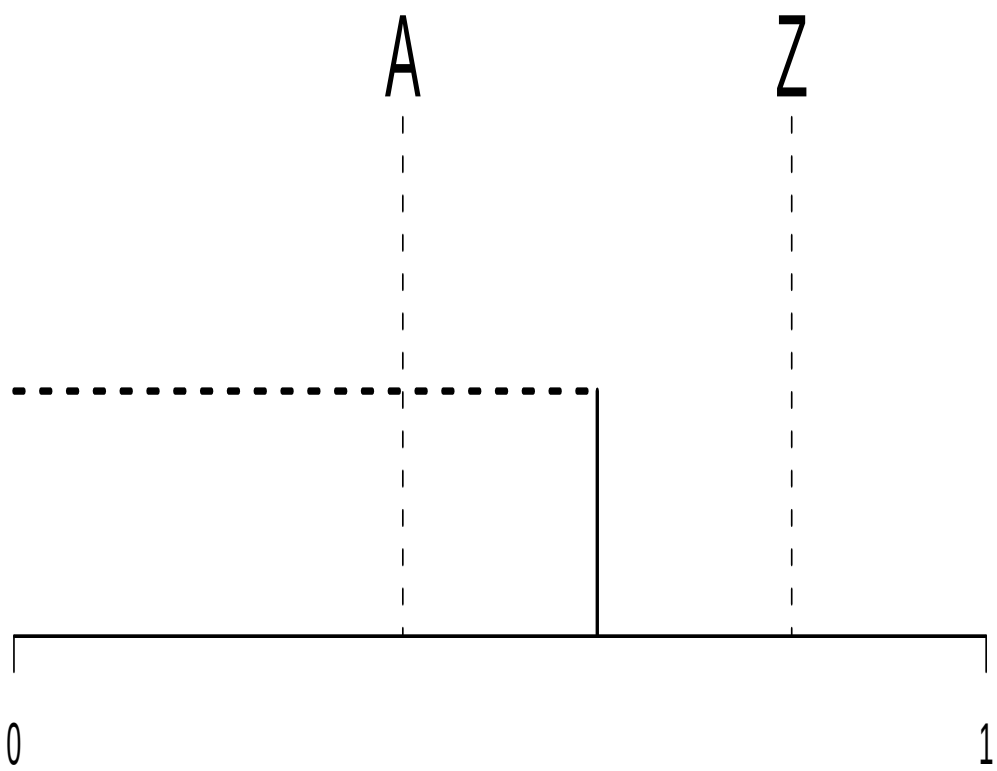
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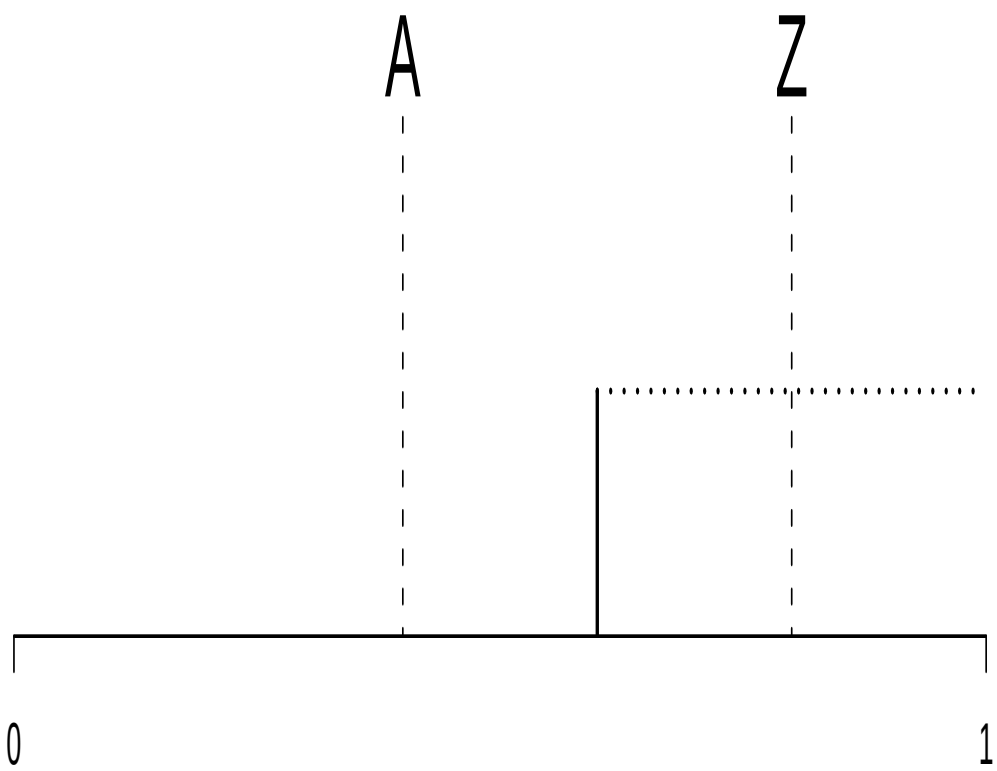
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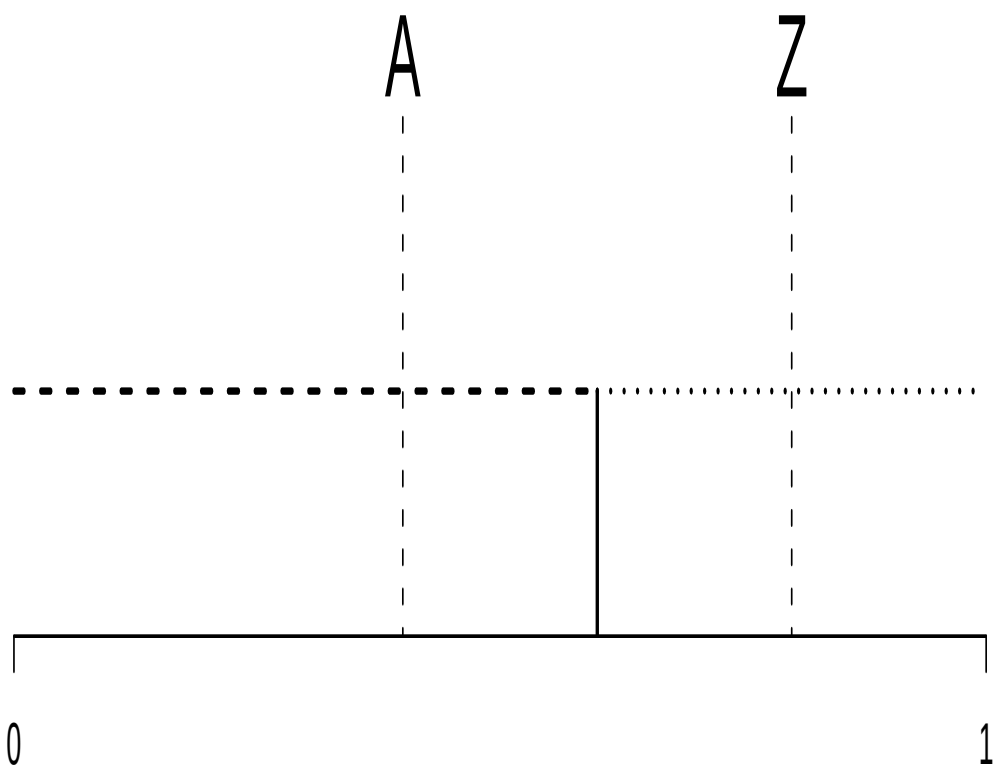
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- **a one-dimensional spatial electorate**
- **where will two parties locate?**

- 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

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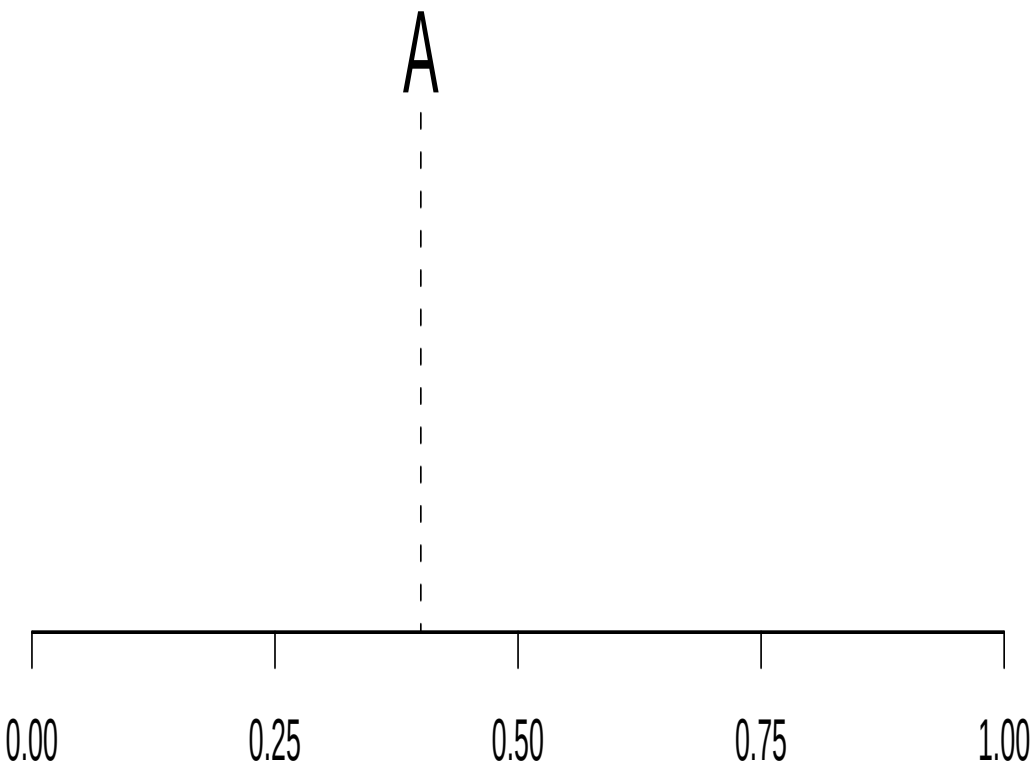
- a one-dimensional spatial electorate
- where will two parties locate?
- assume:
  - parties care only about winning the election
  - the voters act purely in accord with one-dimensional spatial preferences
- examples of inferior choices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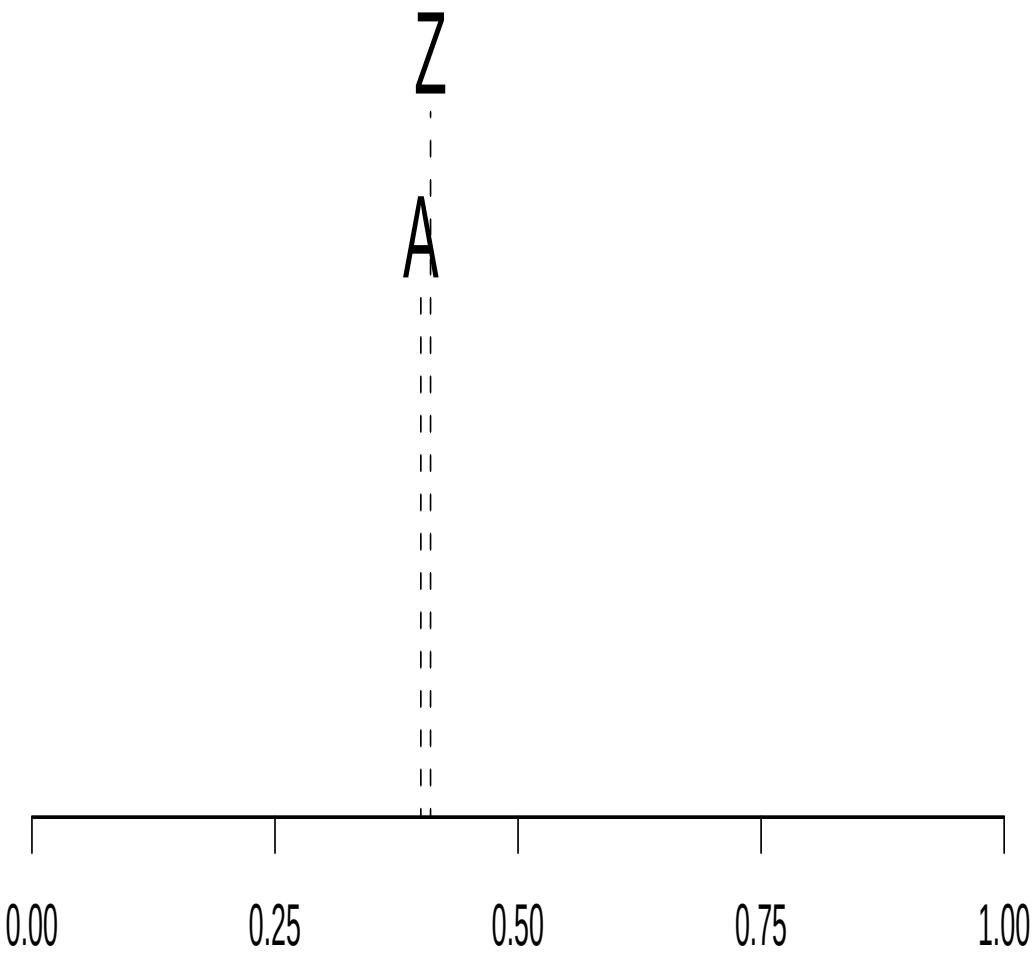
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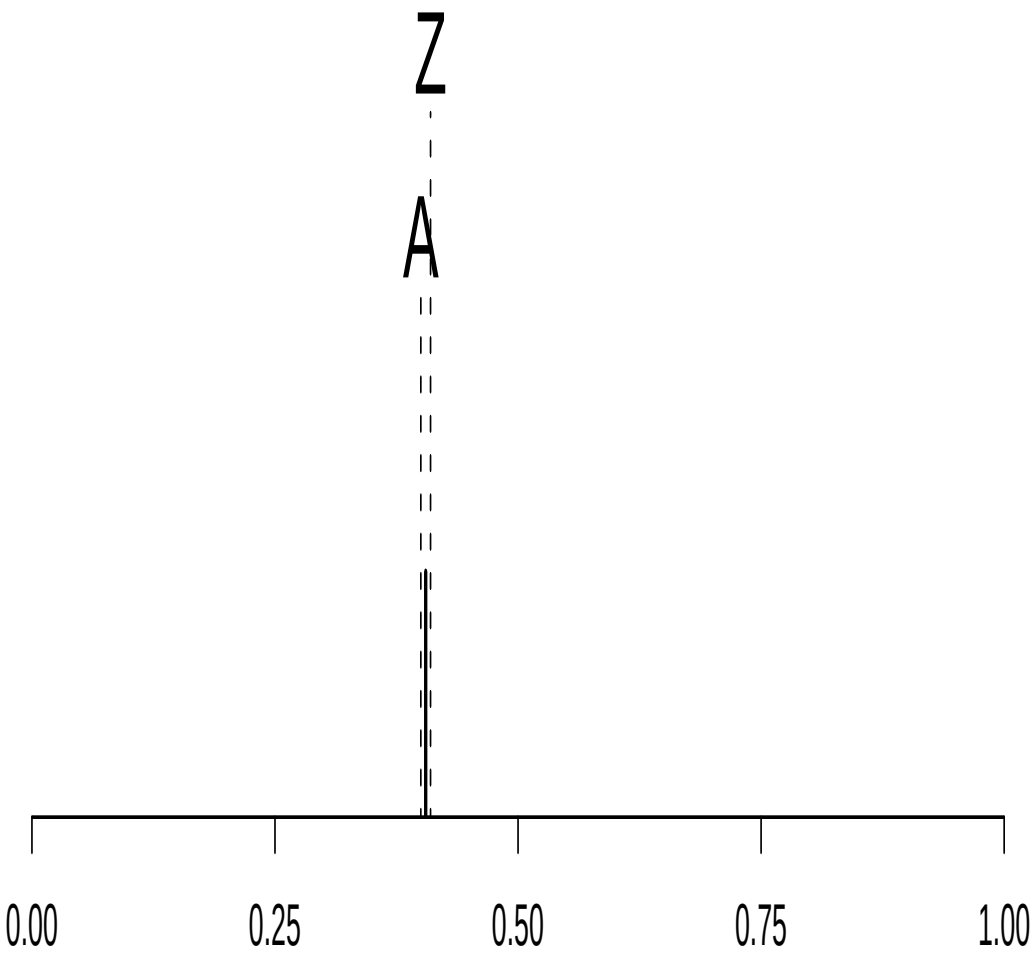
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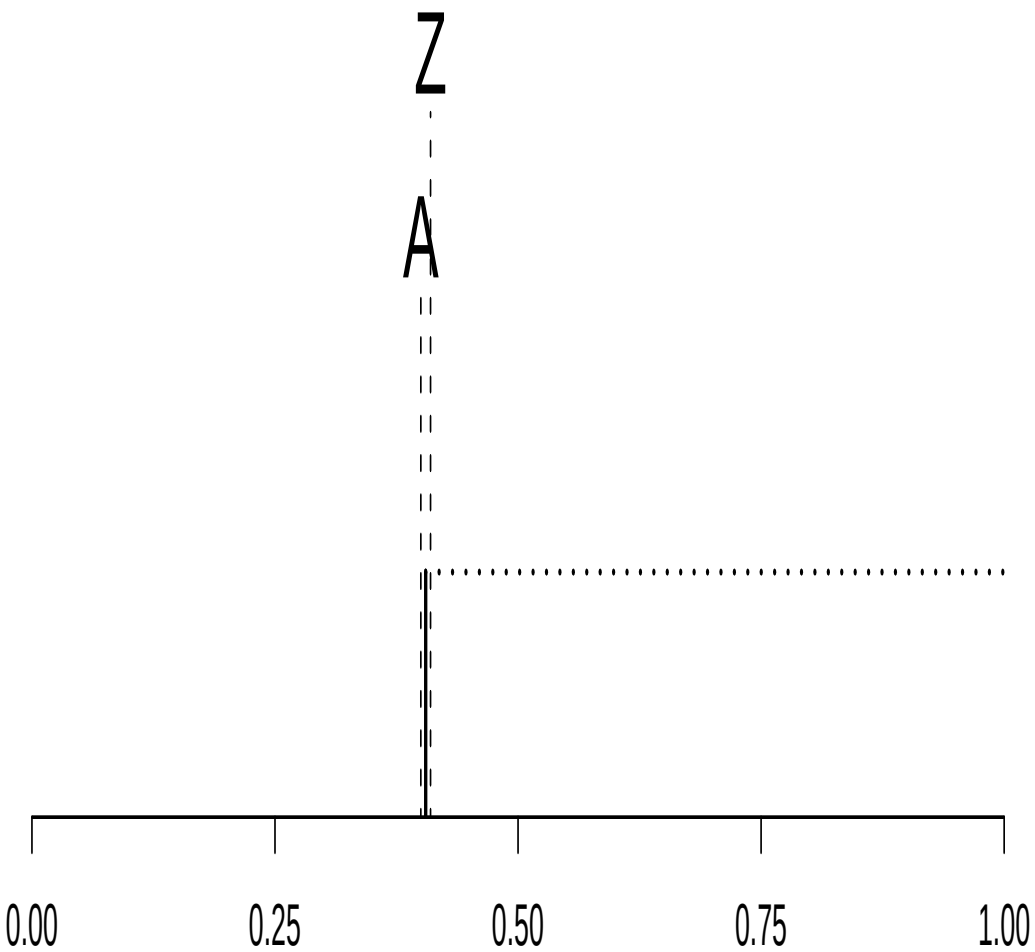
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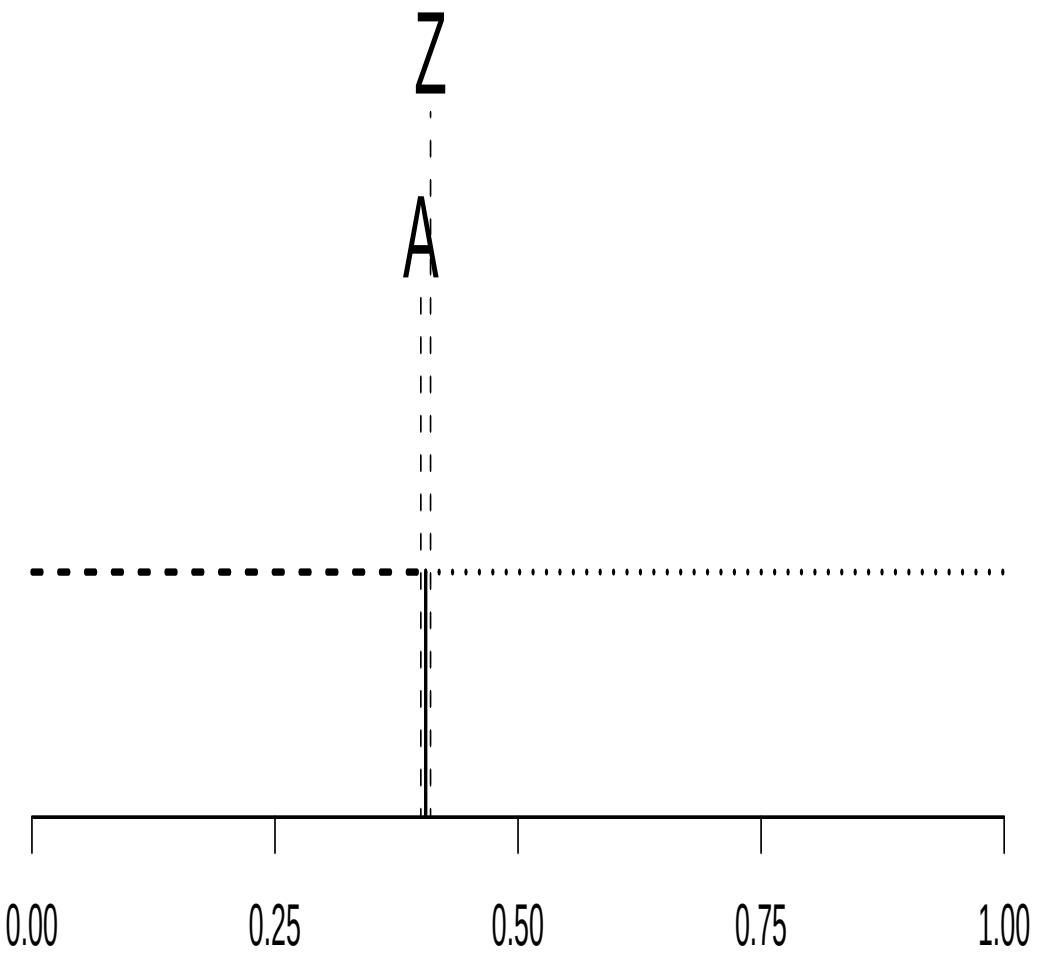
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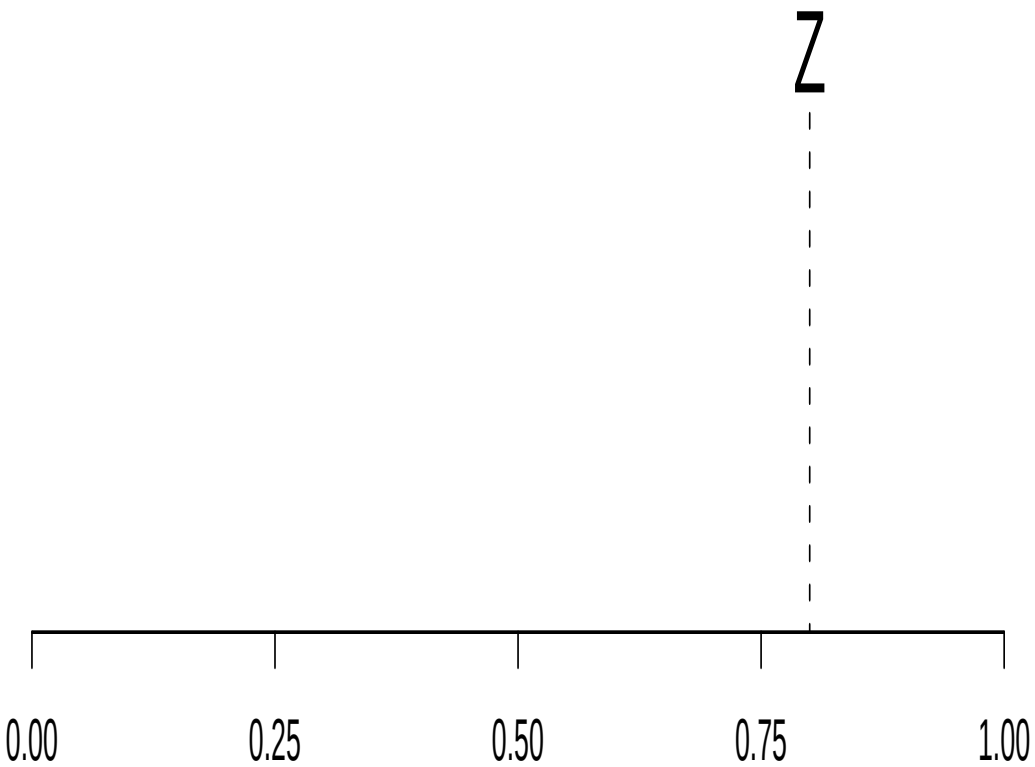
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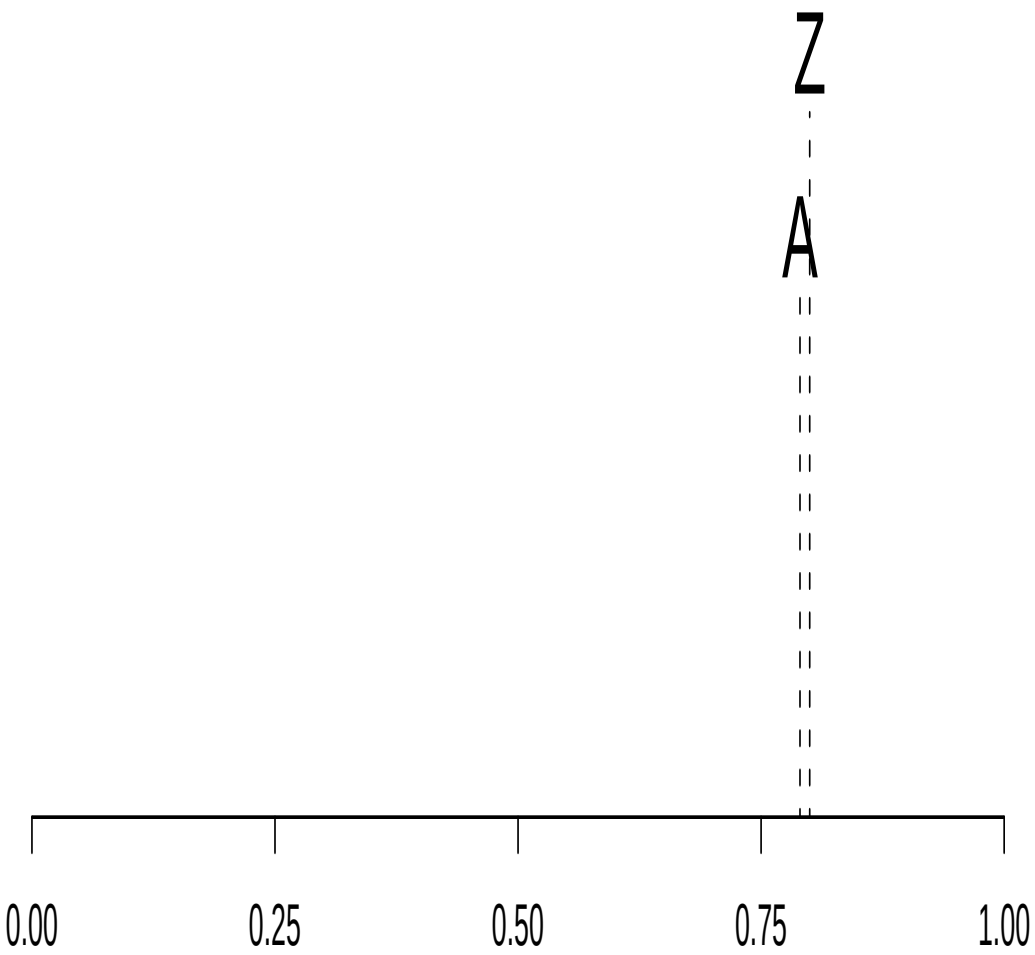
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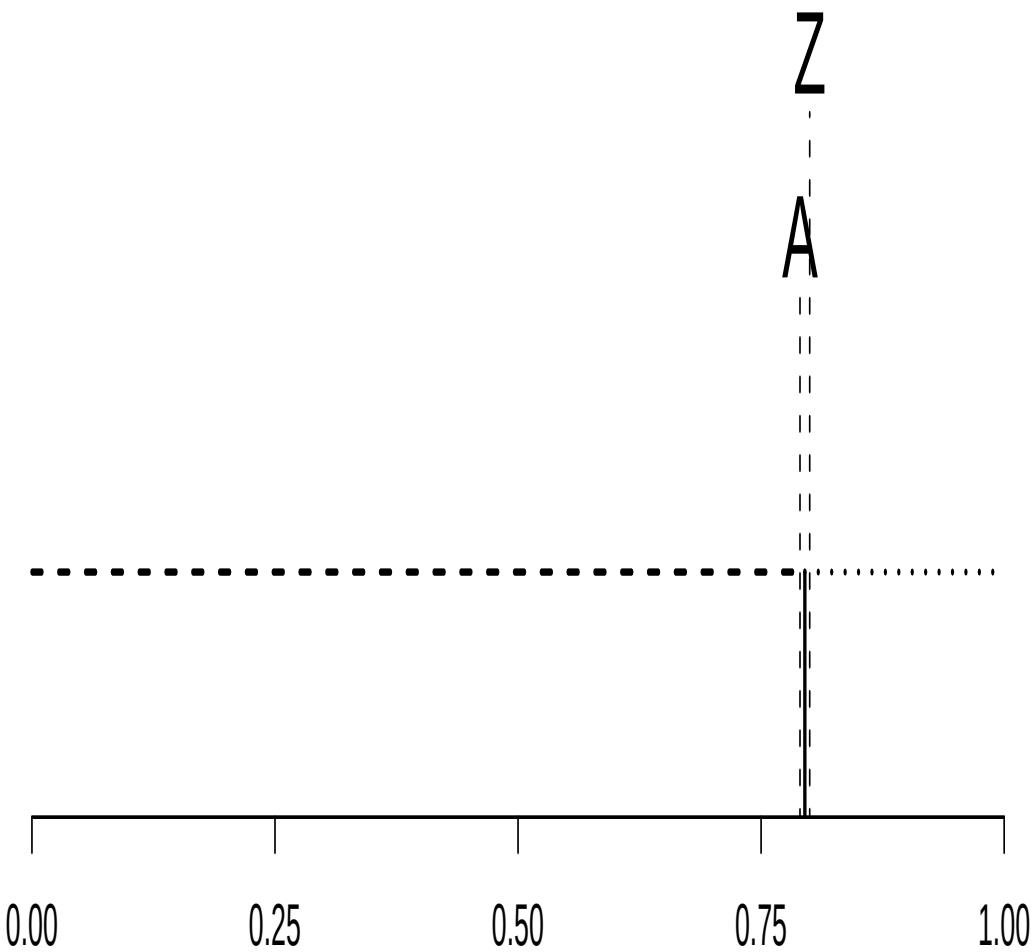
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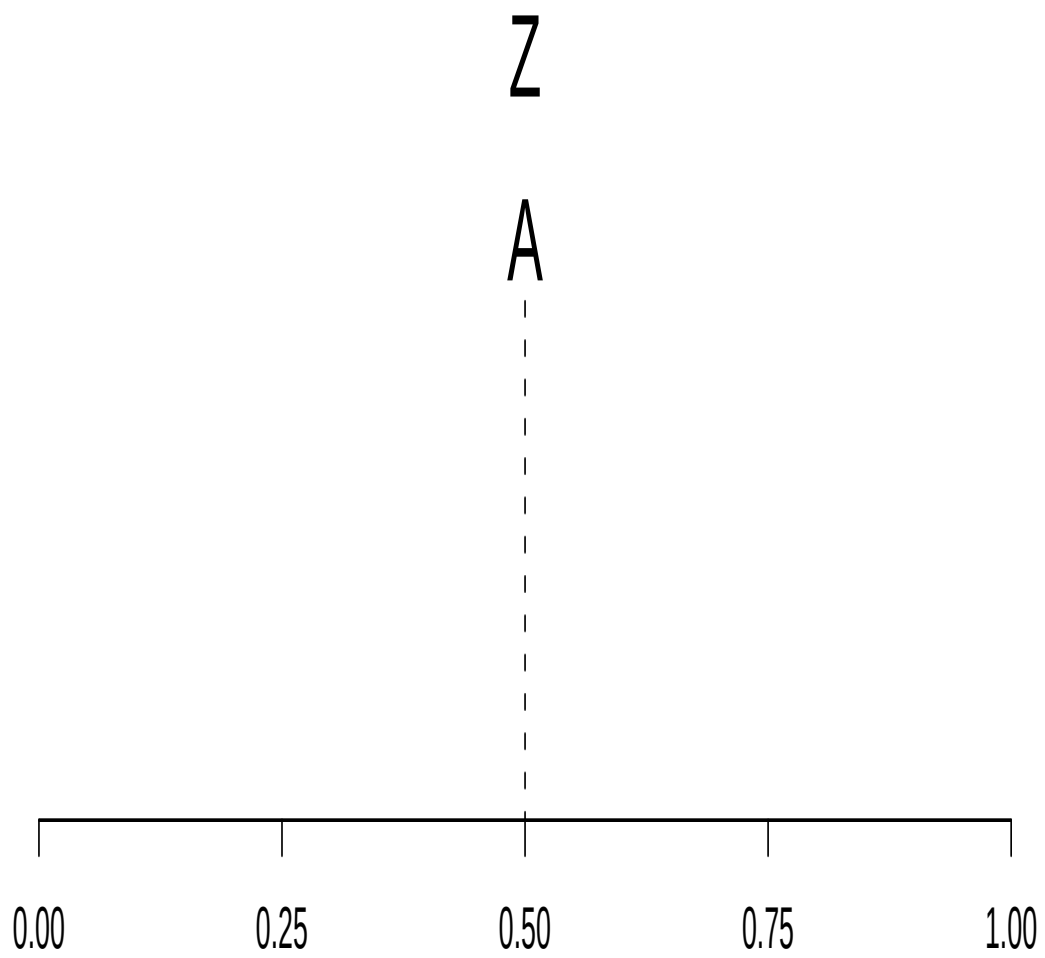
- a one-dimensional spatial electorate
- where will two parties locate?
- assume:
  - parties care only about winning the election
  - the voters act purely in accord with one-dimensional spatial preferences
- unique equilibrium result: median convergence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- **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**

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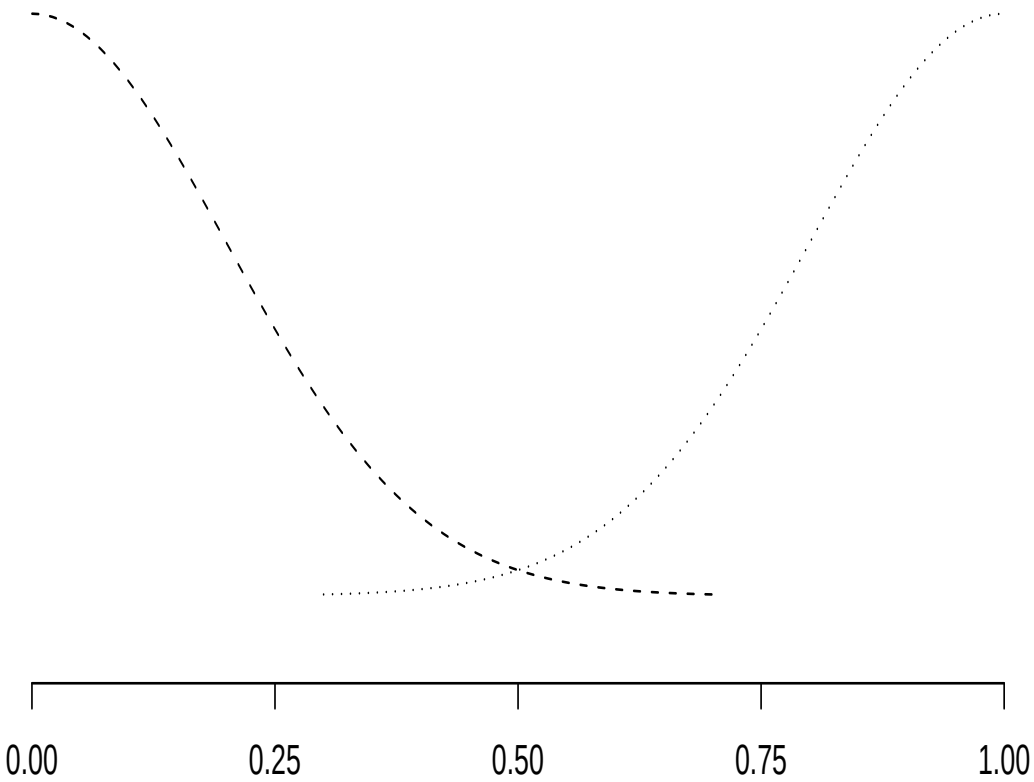
  - given that both are at the median, neither party can do better by choosing a different location
- sequential moves: the first party anticipates the second party's response
- simultaneous moves: each party anticipates the other's best response to every possible choice of location

- **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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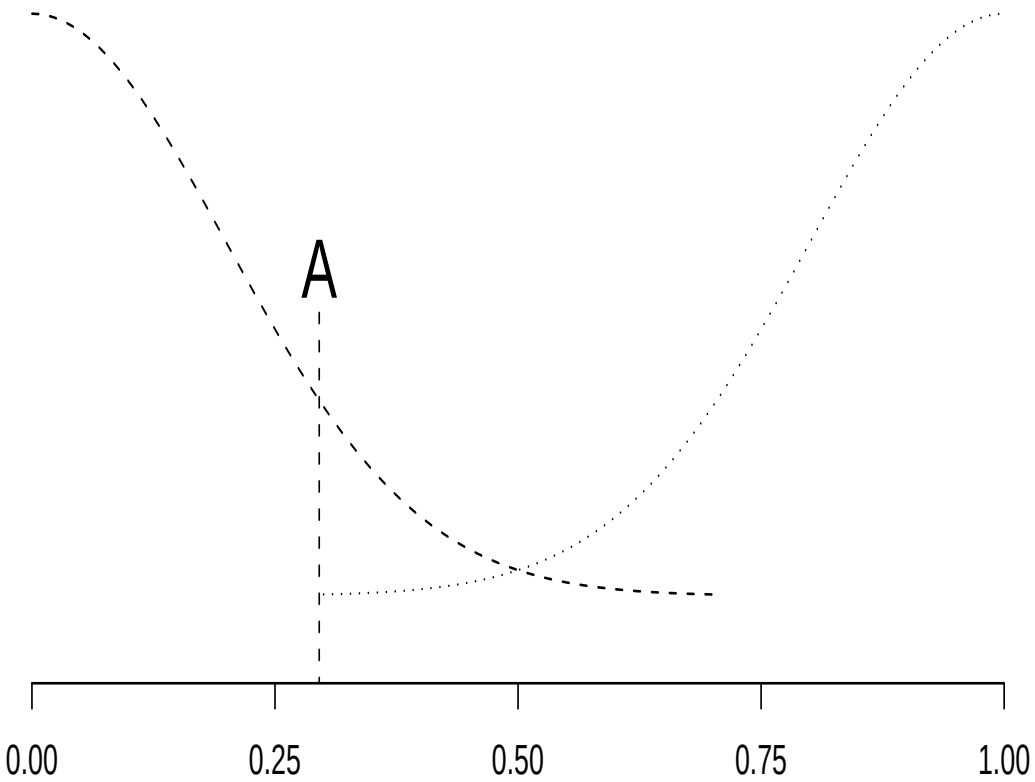
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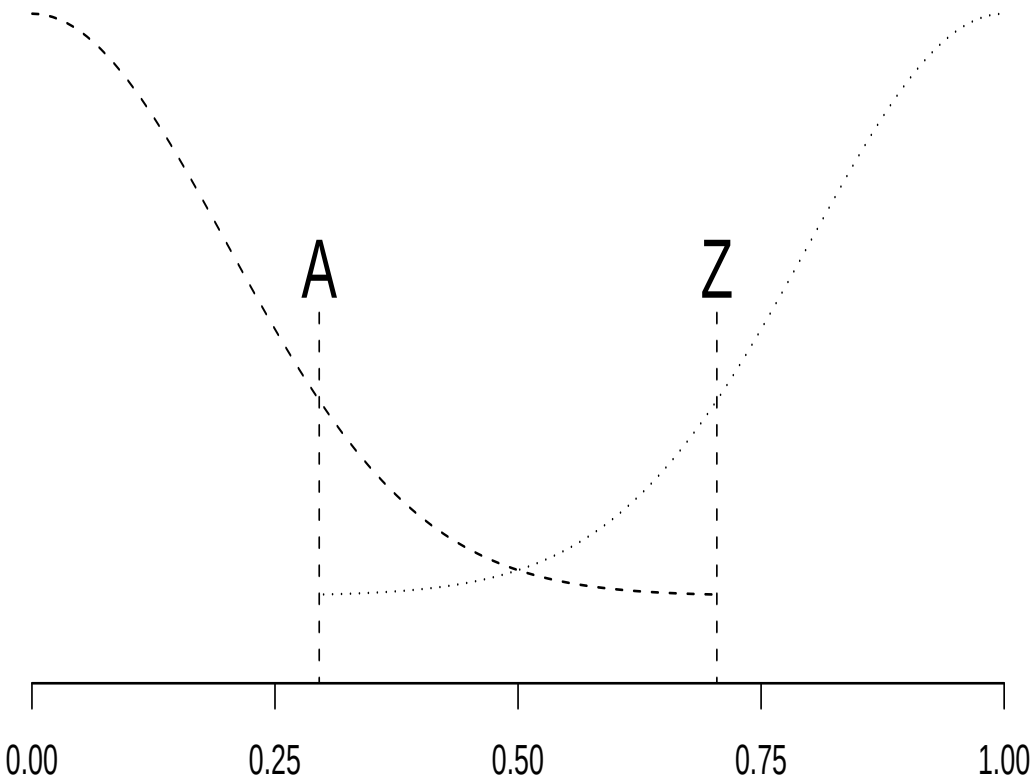
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- why do parties diverge?
- primary elections
- assume:
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  - primary voters act purely in accord with one-dimensional spatial preferences

- 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

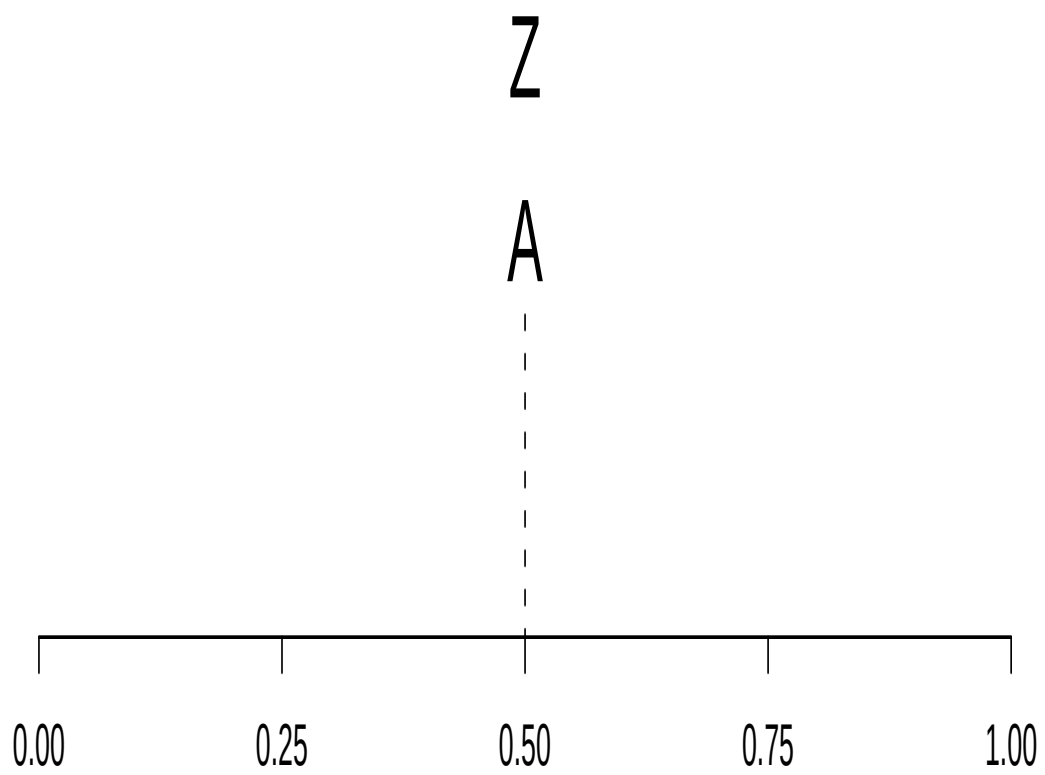
- **why do parties diverge?**

- **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**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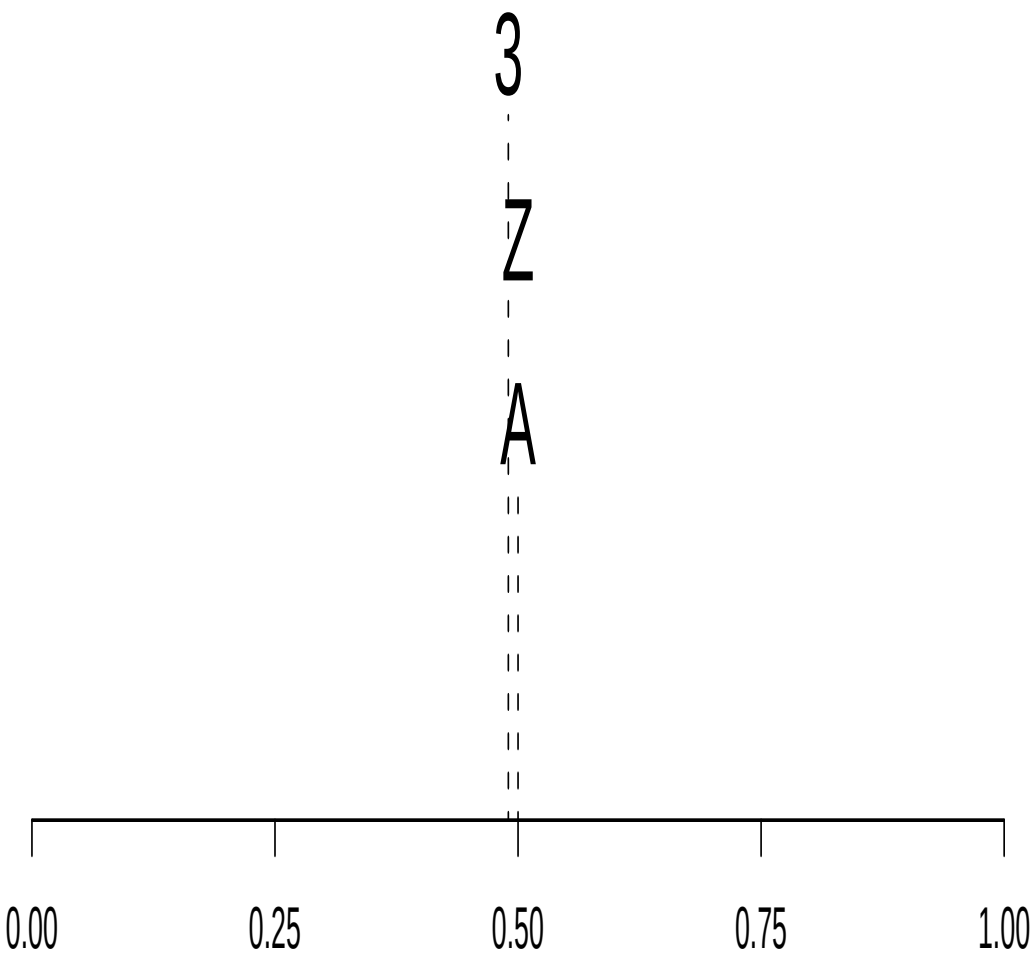
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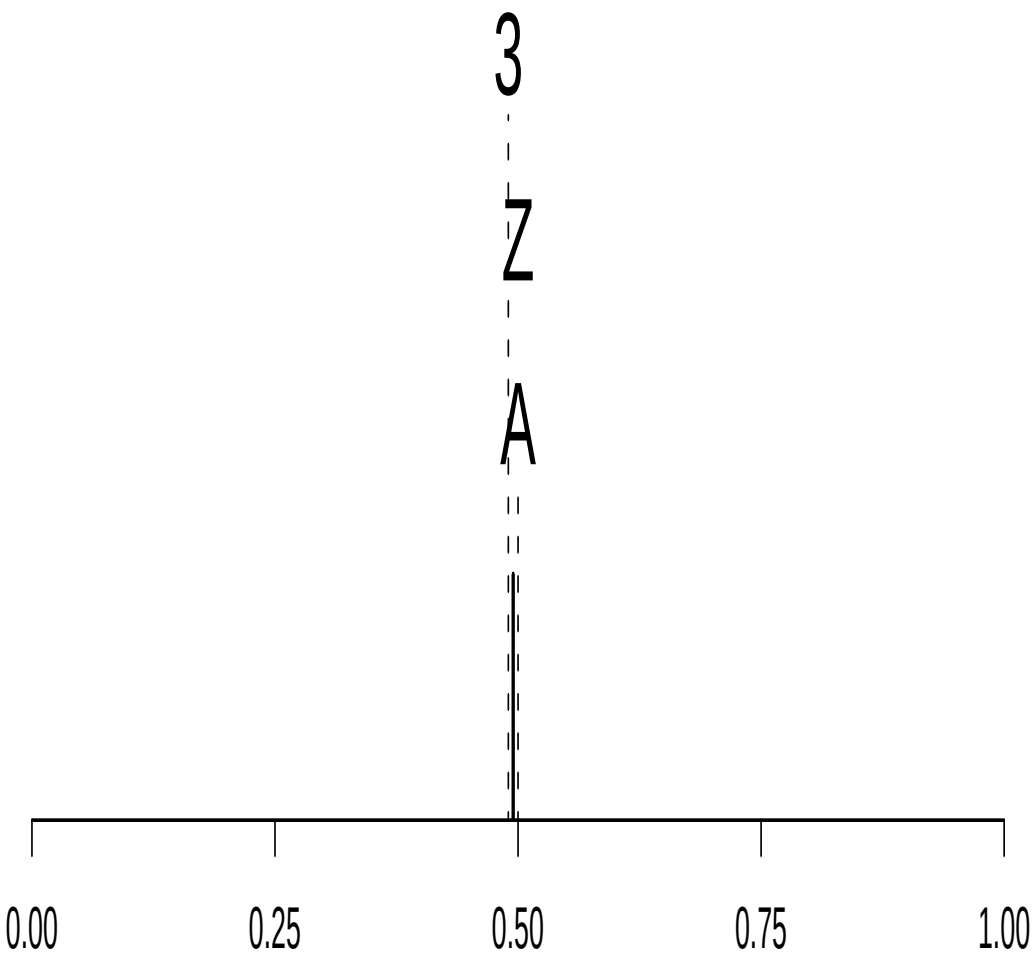
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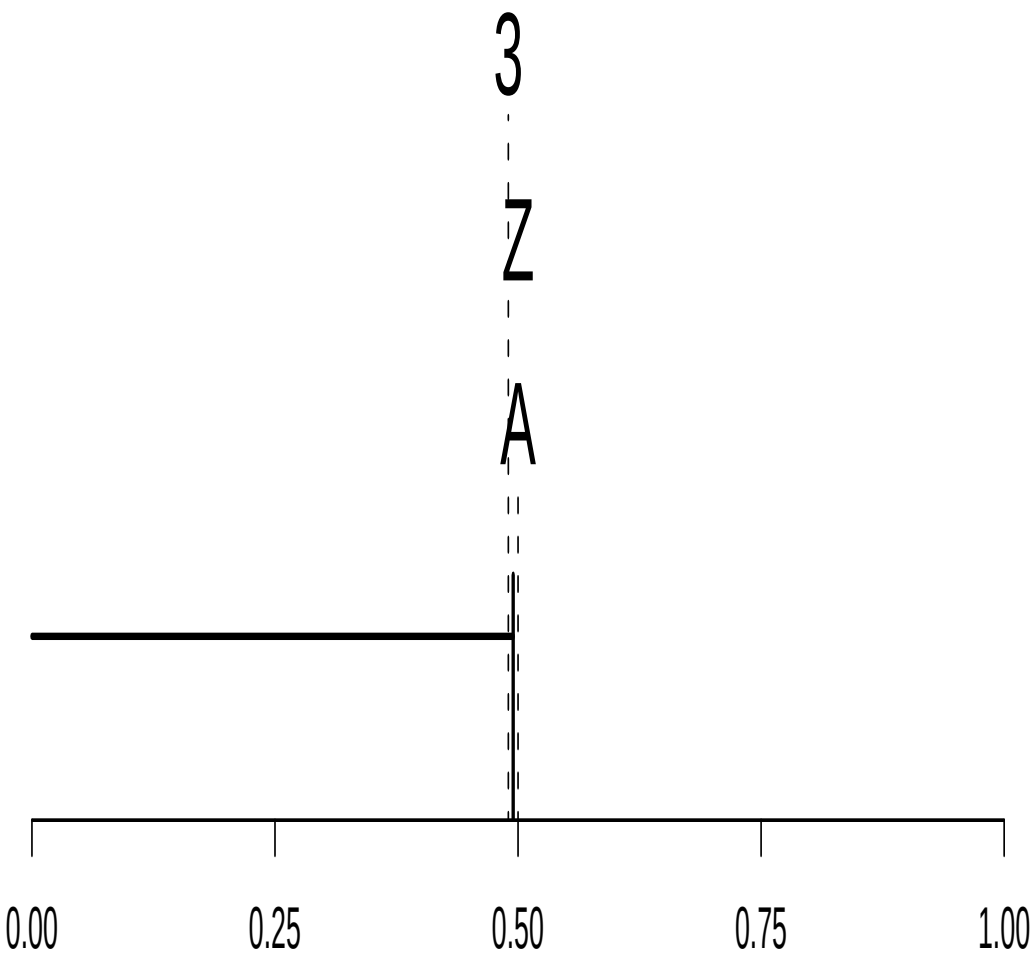
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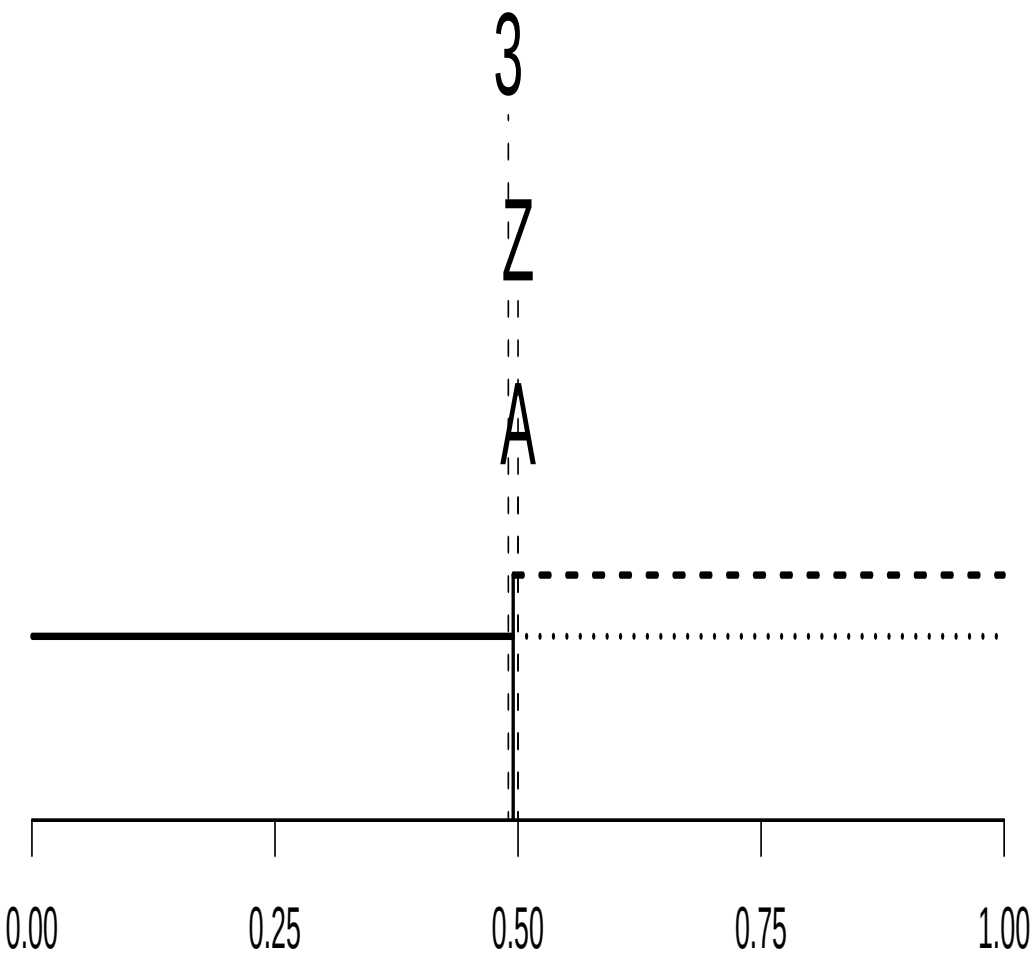
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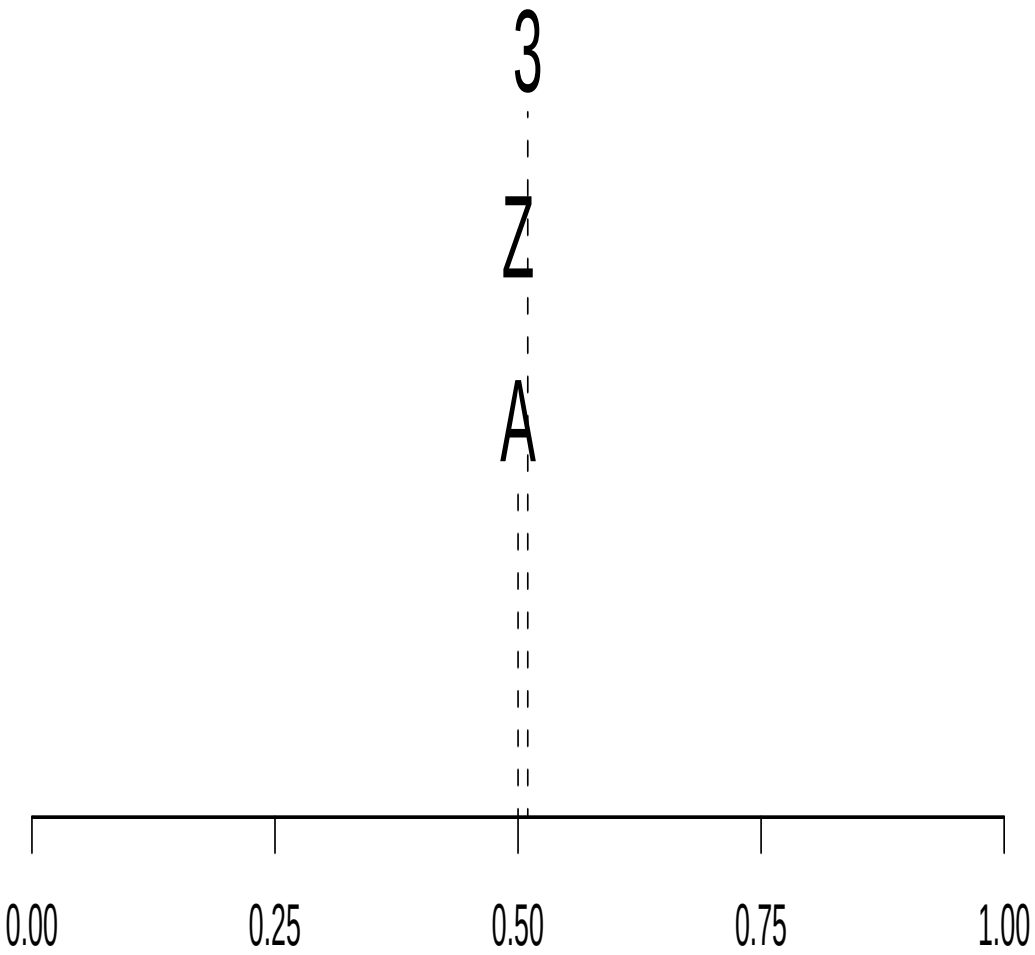
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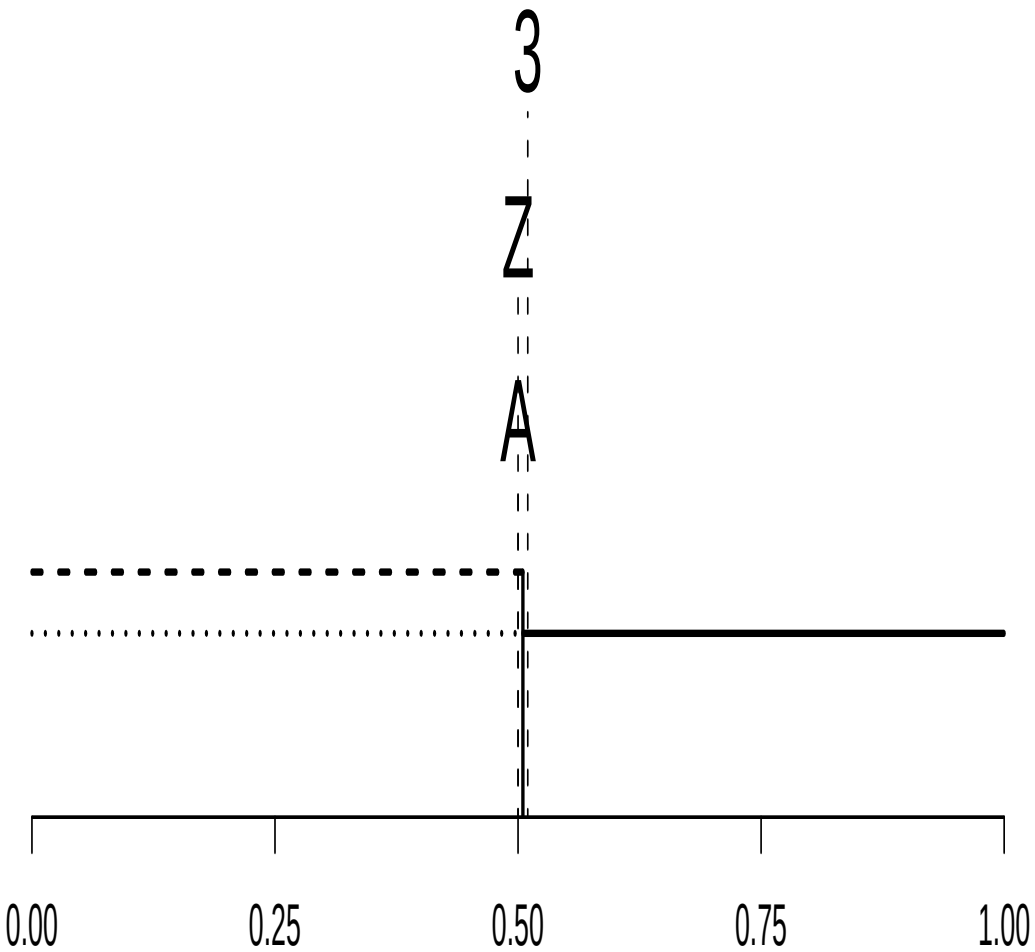
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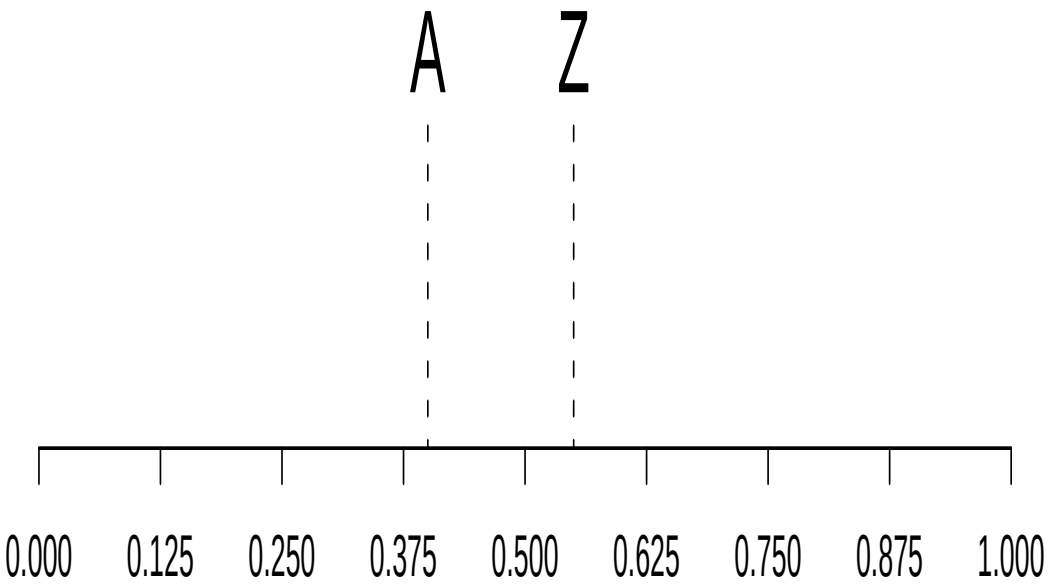
- **third parties and major party divergence**
- **suppose the major parties enter stacked up at the median**
  - **a third party entering slightly to either side wins**

- **third parties and major party divergence**
- **suppose the major parties enter stacked up at the median**
  - **a third party entering slightly to either side wins**
- **suppose the major parties diverge slightly from the median**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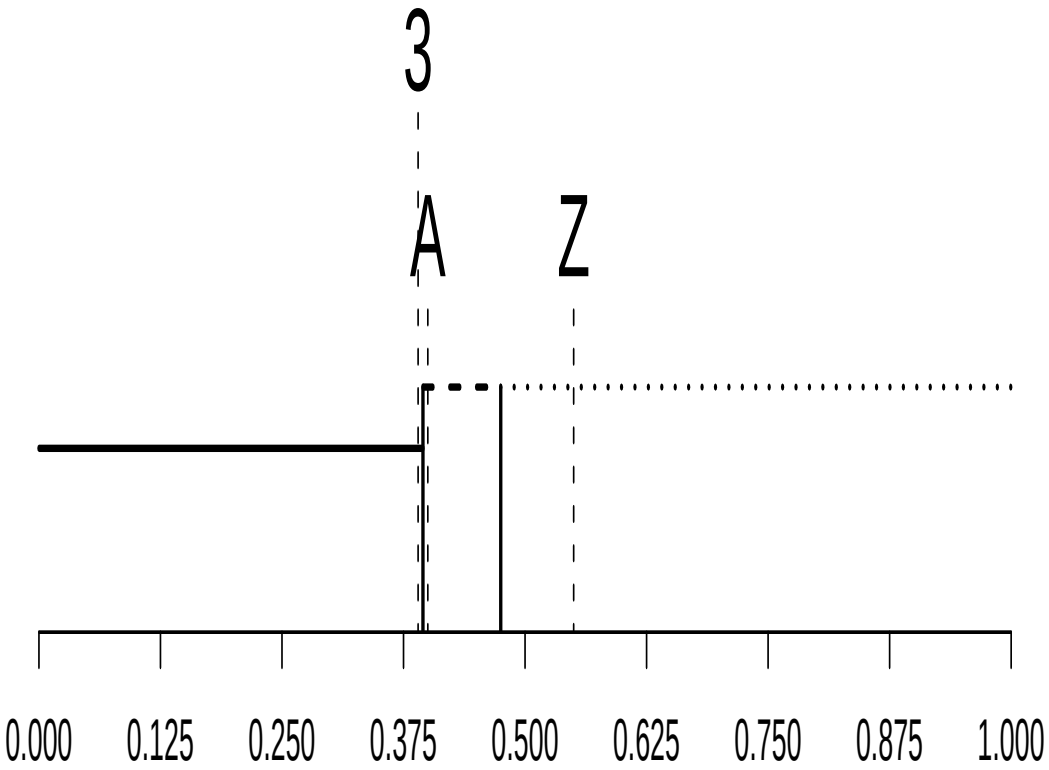
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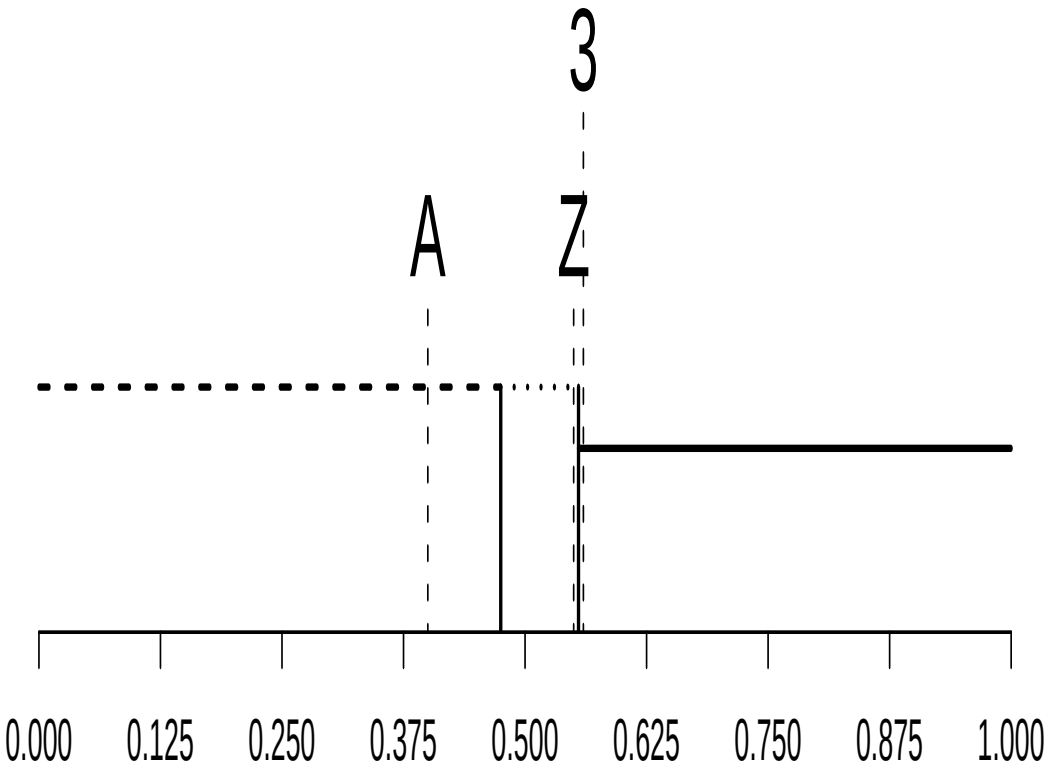
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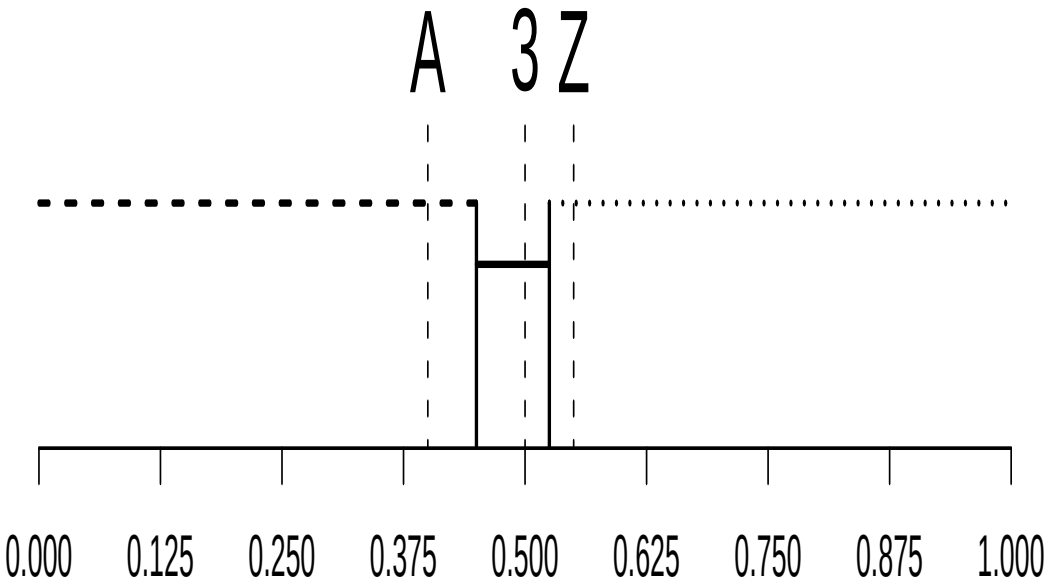
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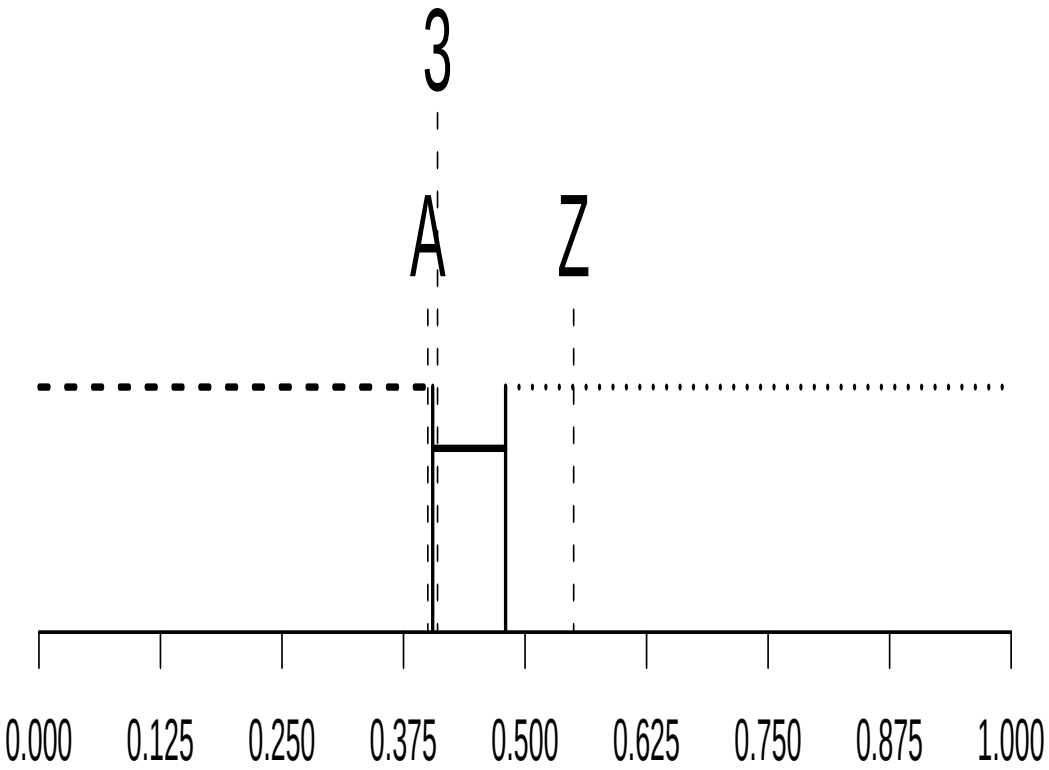
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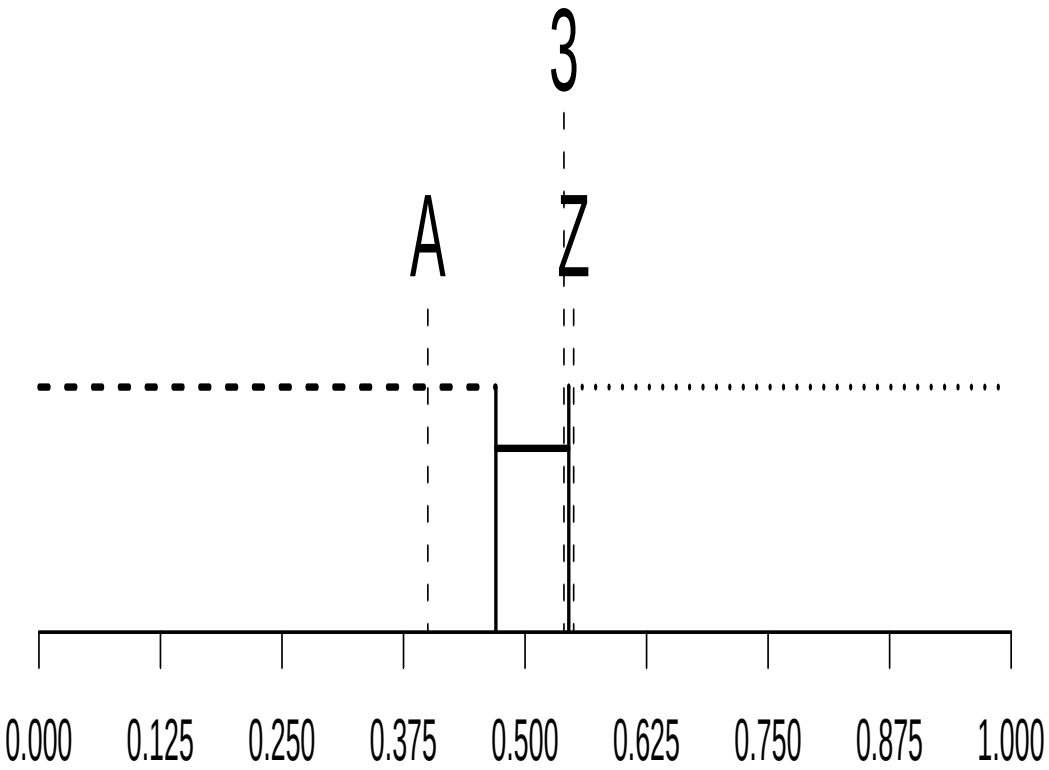
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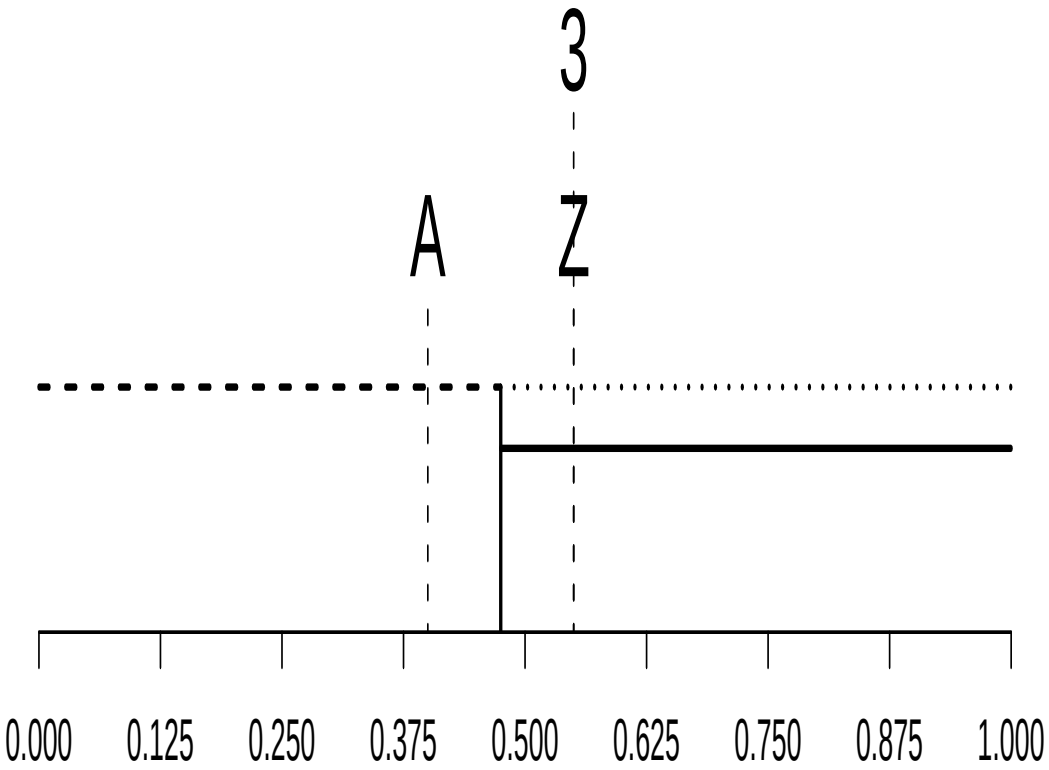
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- **third parties and major party divergence**
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- third parties and major party divergence
- suppose the major parties enter stacked up at the median
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- suppose the major parties diverge slightly from the median
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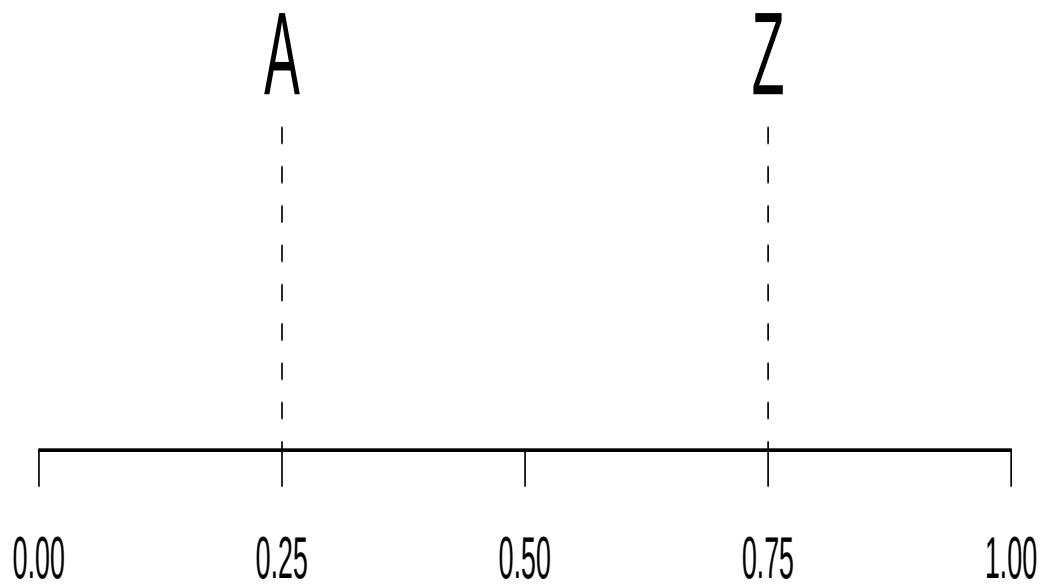
- are there positions where the major parties can avoid being outflanked?

- **third parties and major party divergence**
- **suppose the major parties locate at the first and third quartiles**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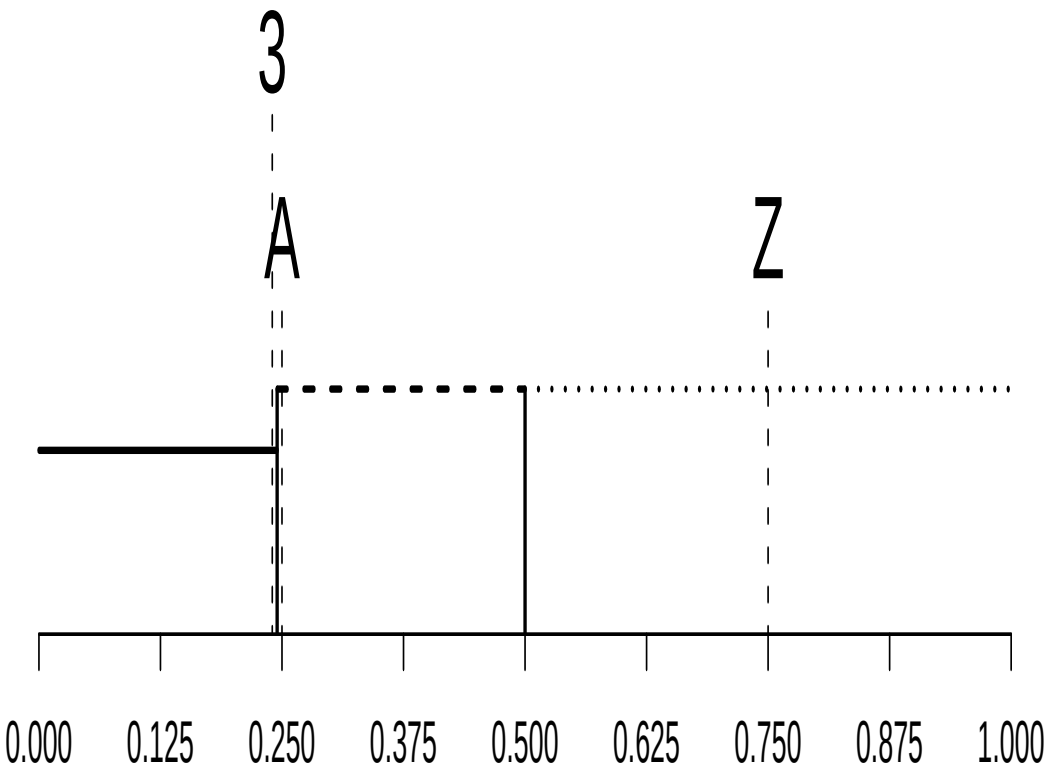
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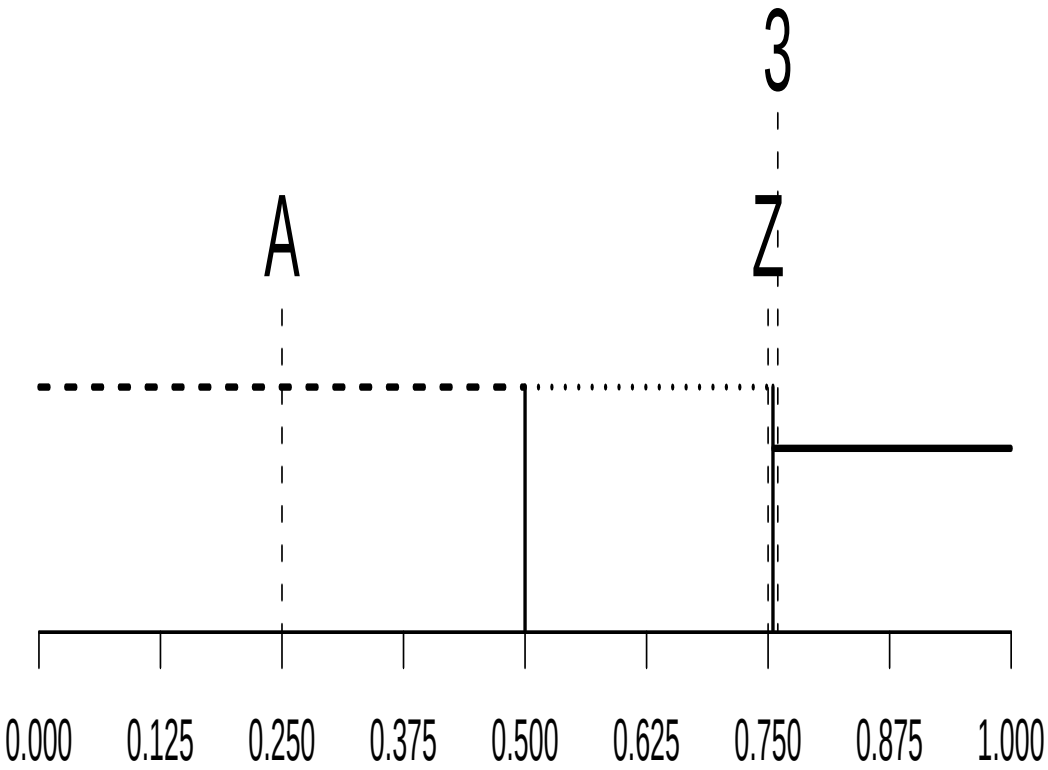
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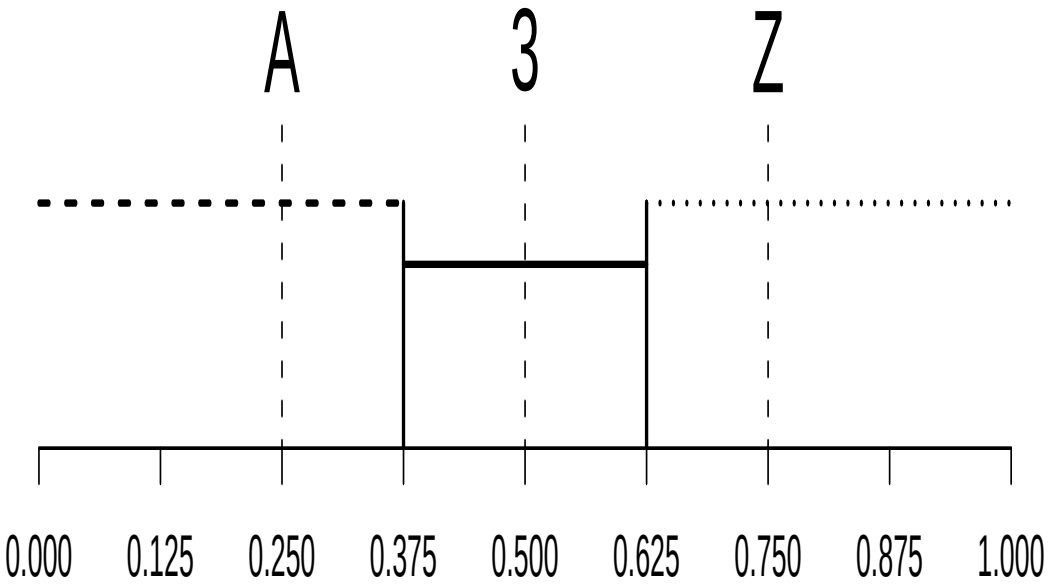
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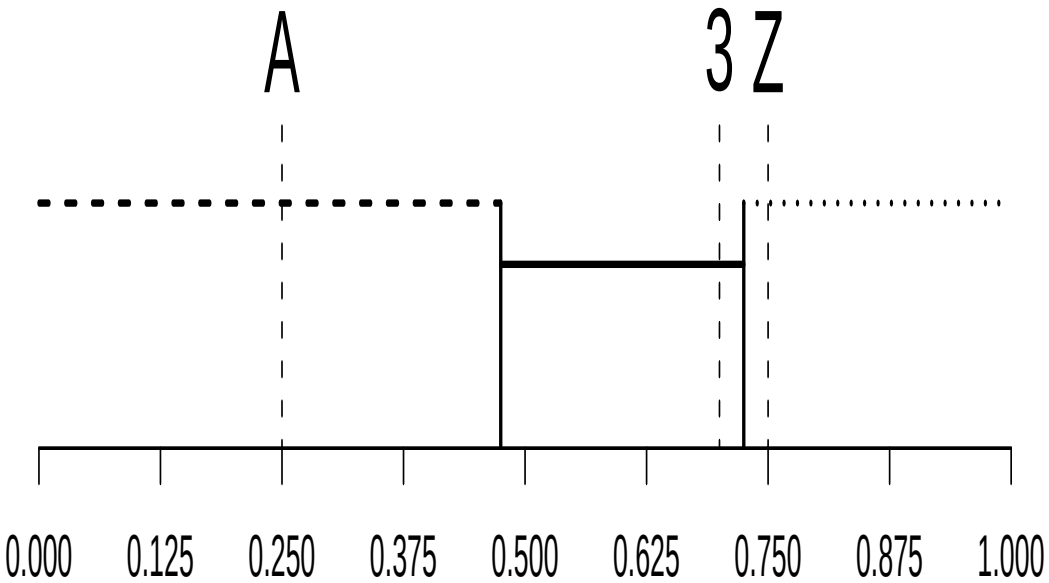
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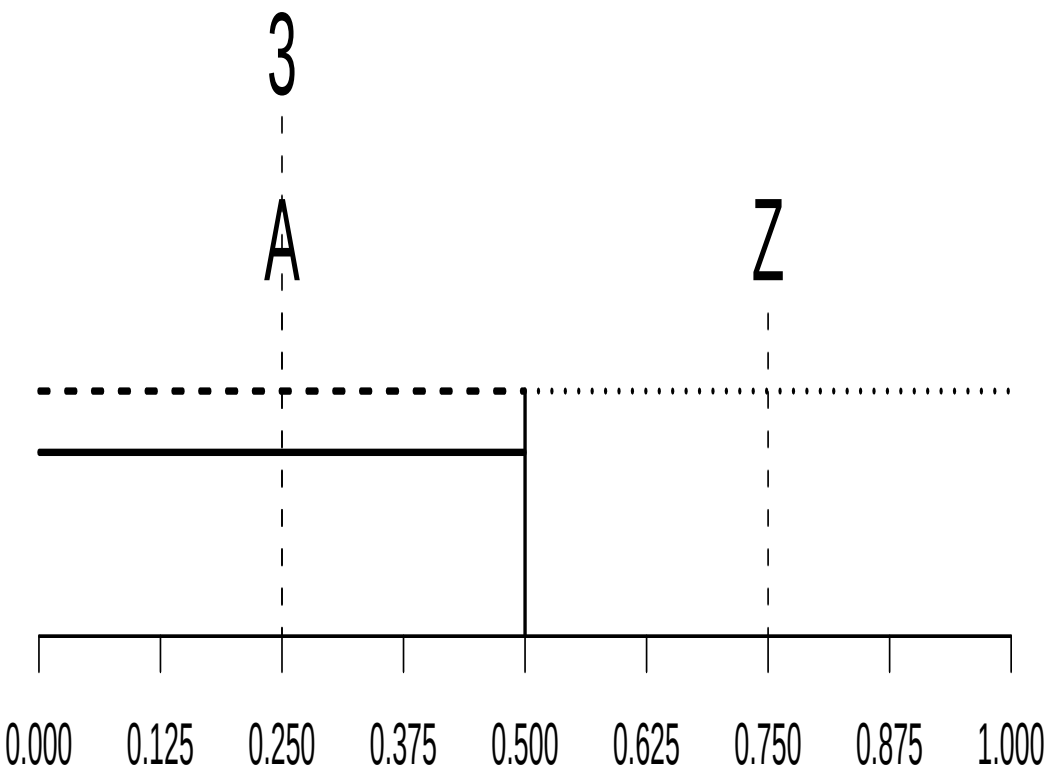
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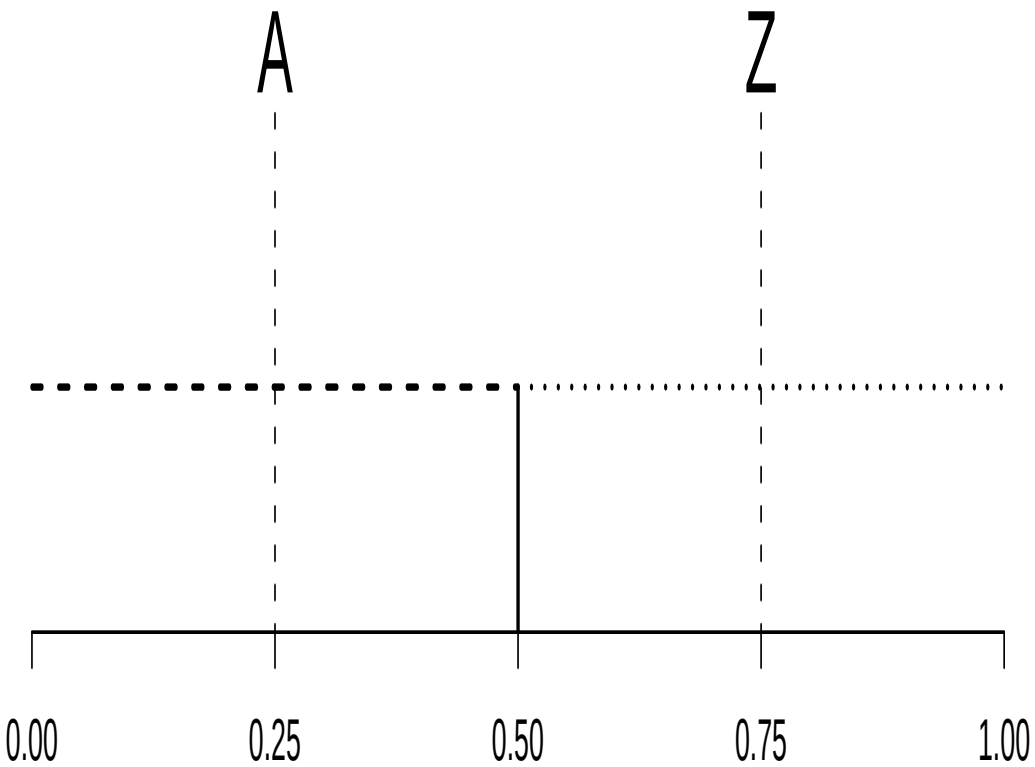
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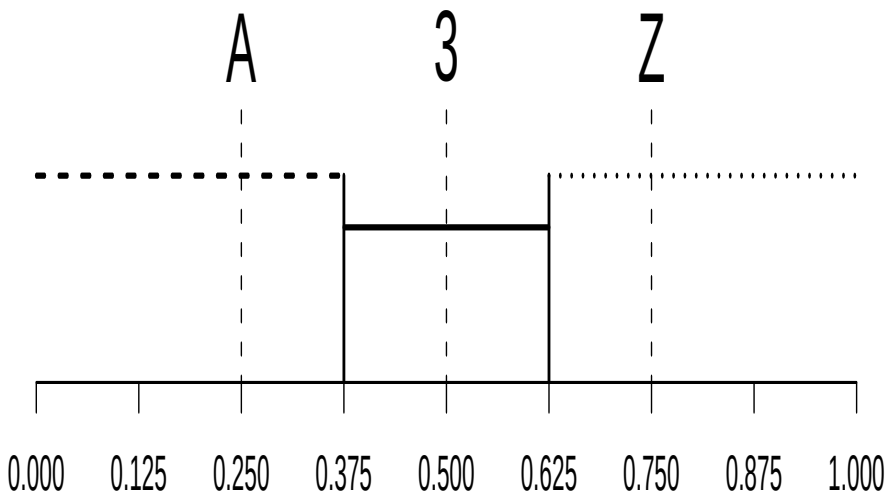
Perot in 1992?



- **third parties and major party divergence**
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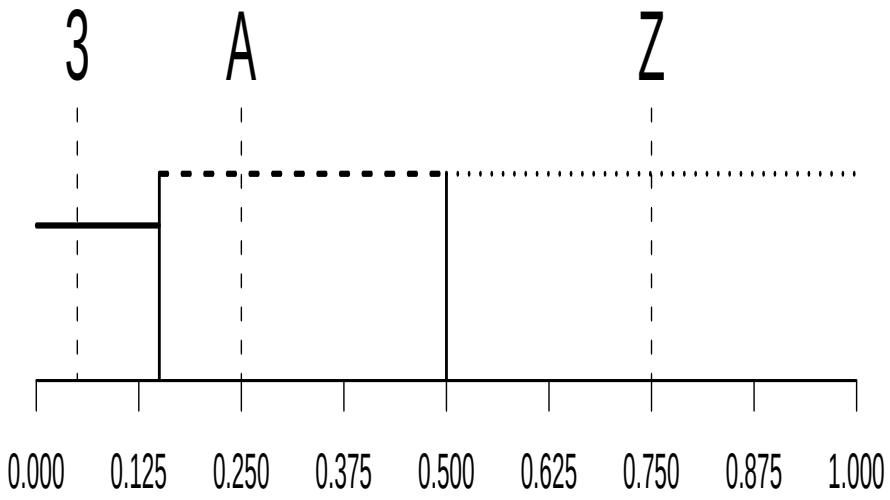
St. Ralph in 2000?



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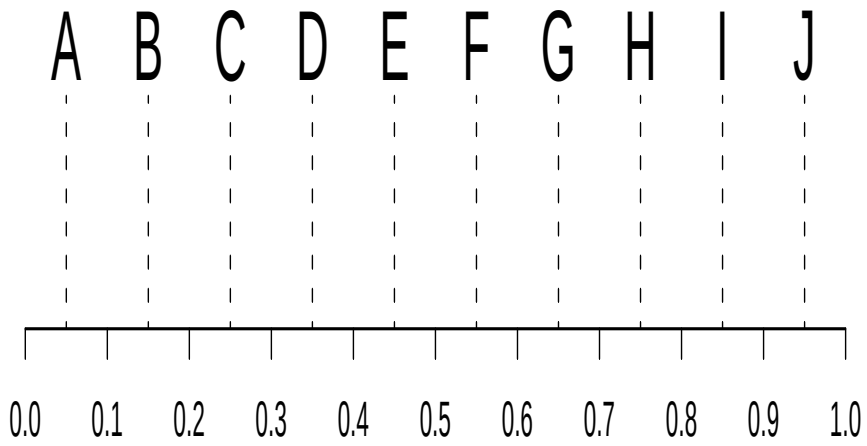
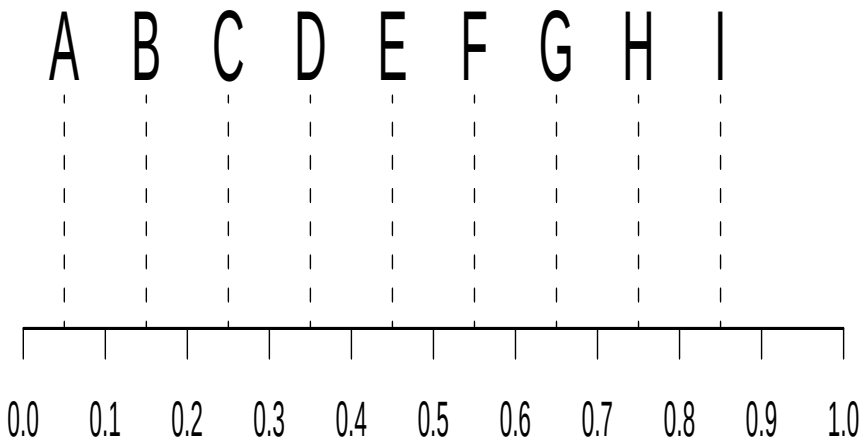
- the Stackelberg entry model result suggests that if initially there are two, and those two are in strategic equilibrium locations, no more will enter
- what happens if initially there are more than two?
- assume:
  - all parties know the voters' preferences and know one another's proposed positions

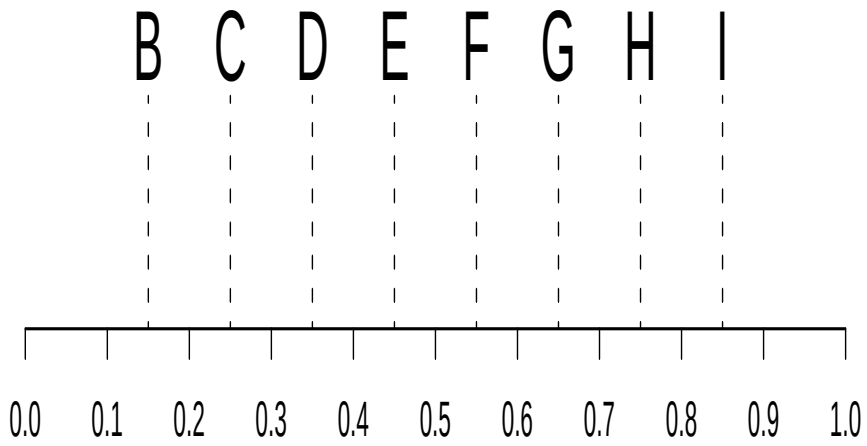
how many parties? start with 10, each with 1/10 chance to win



J coalesces with I and wins



AB coalition answers IJ coalition, gaining 1/2 chance to win



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- **assume:**
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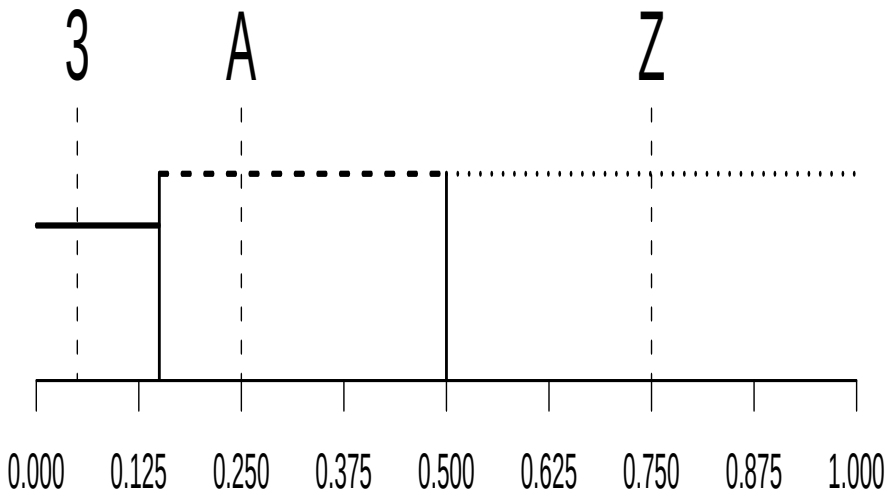
- **this is a special case of Duverger's Law: a plurality election rule implies a two-party system**
- **in this special case, the reduction to two parties has been forced by elite coalitionmaking**

- **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?



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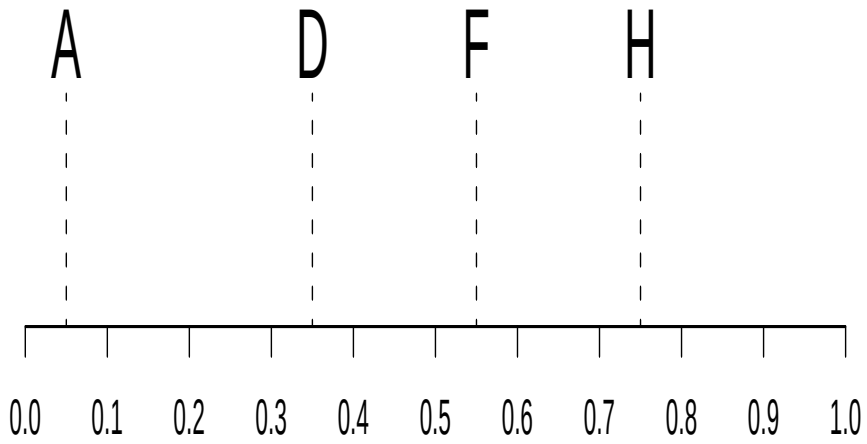
- **this is another path to Duverger's Law, driven by voters, not elites**

how many parties? start with 4



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- **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 postive 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**
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  - **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**

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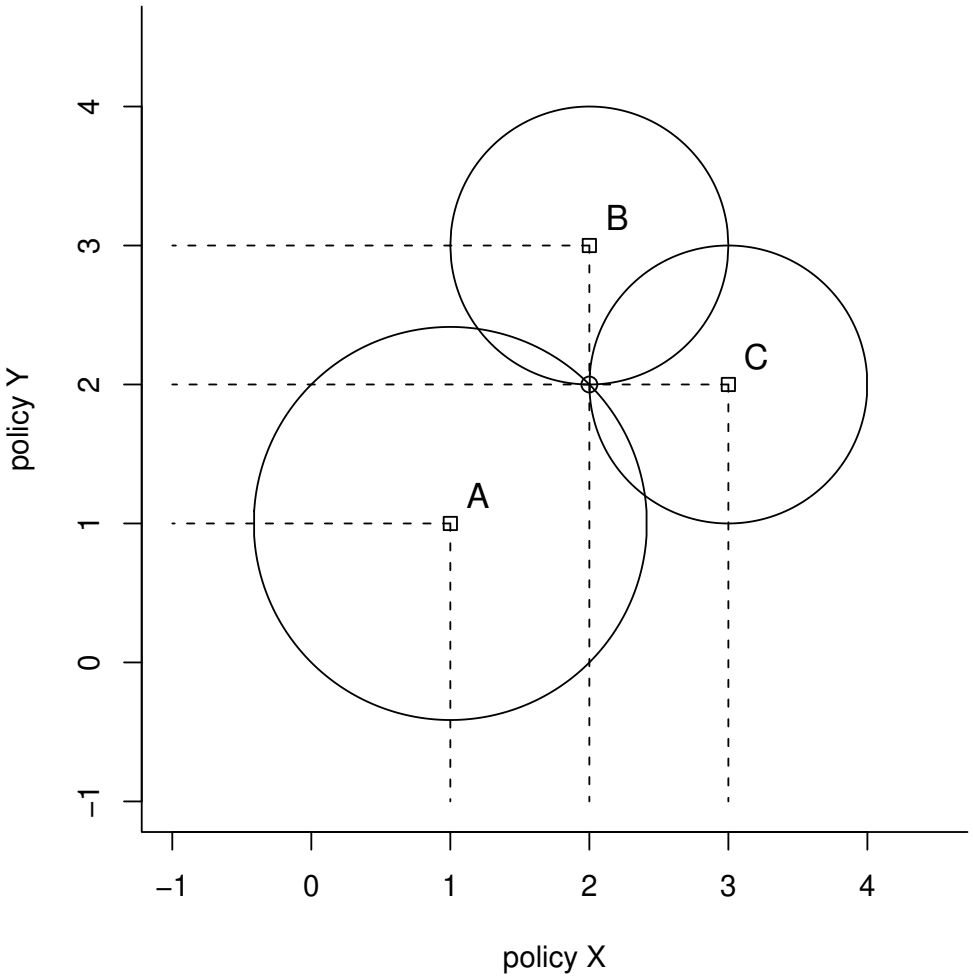
- **a two-dimensional spatial model**
- **two-dimensional separable euclidean preferences:**

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

- **an example with three voters**

Three Voters with Separable Euclidean Preferences



- **a two-dimensional spatial model**
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- **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:**

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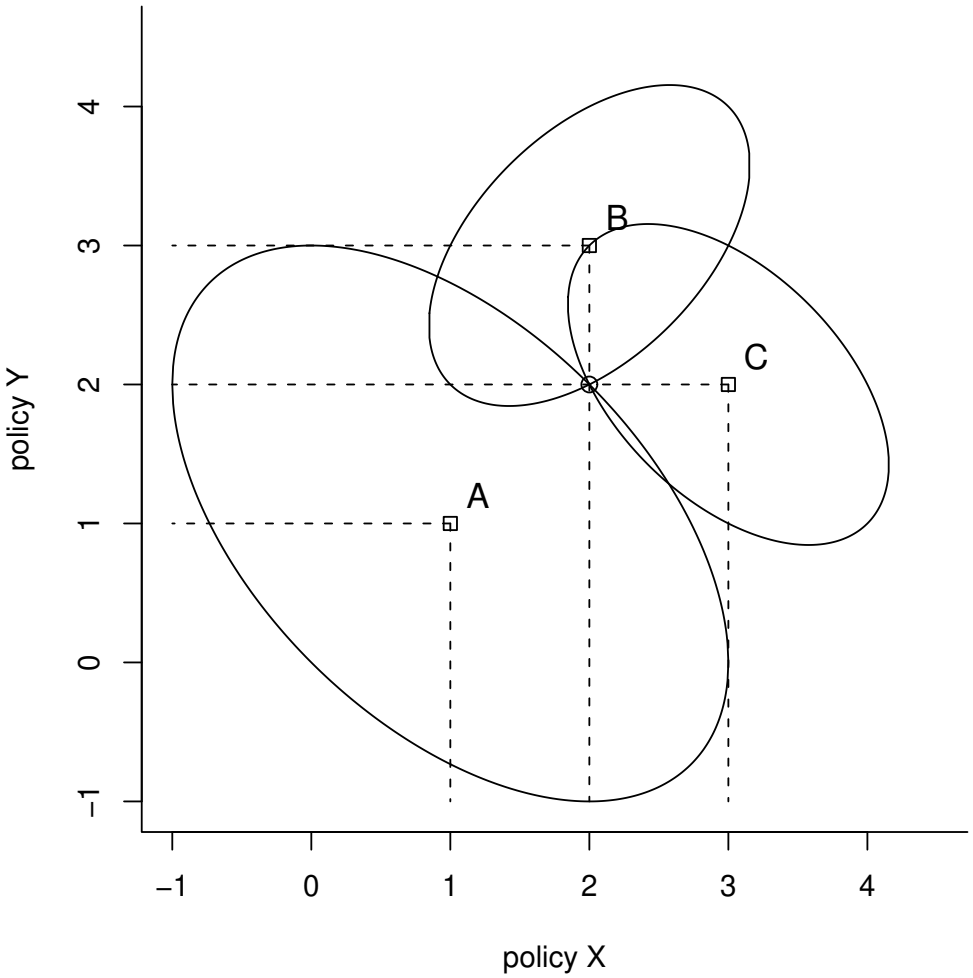

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- **with two-dimensional spatial preferences, whether separable or nonseparable, in general the winset of any point x is not empty**

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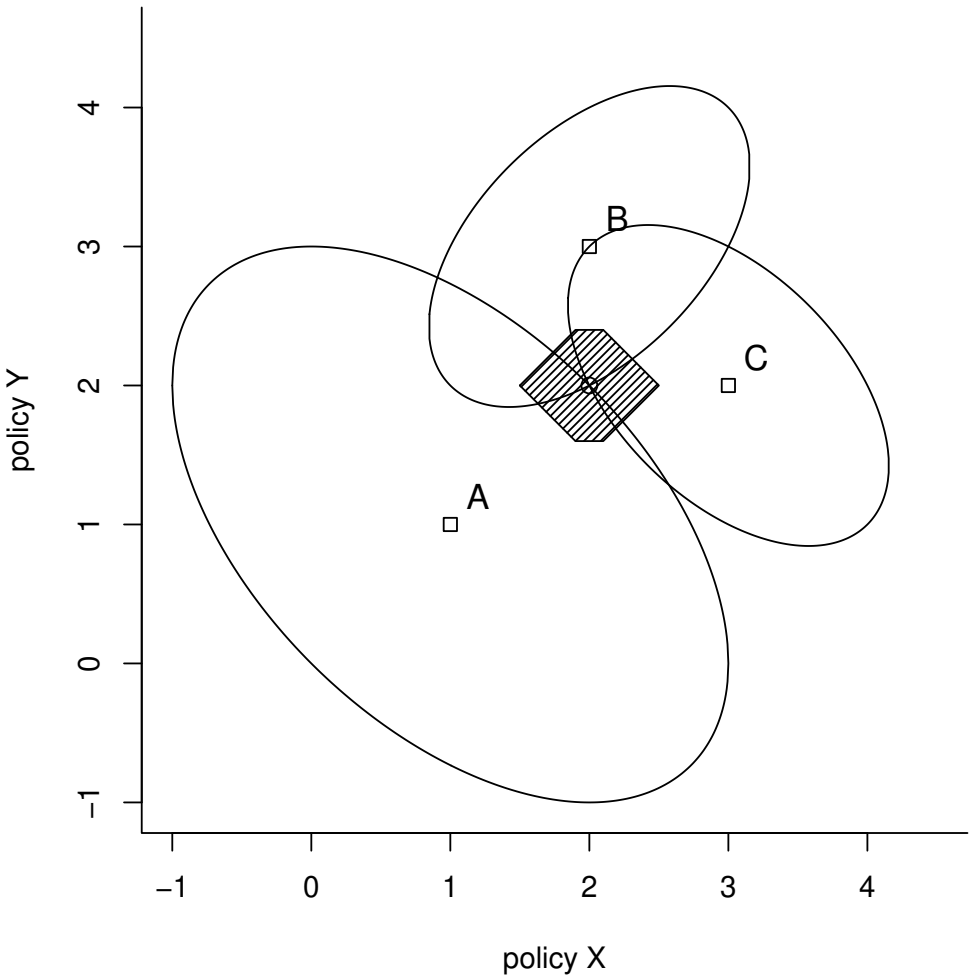
Strategy of Ambiguity



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- **the strategy of matching**
- **response: the strategy of ambiguity**
- **the strategy of ambiguity fails, if voters are risk averse**

- **three types of negative campaigning**
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  1. highlighting nonspatial characteristics
  2. matching
  3. asserting the opponent is ambiguous ("flip-flop")

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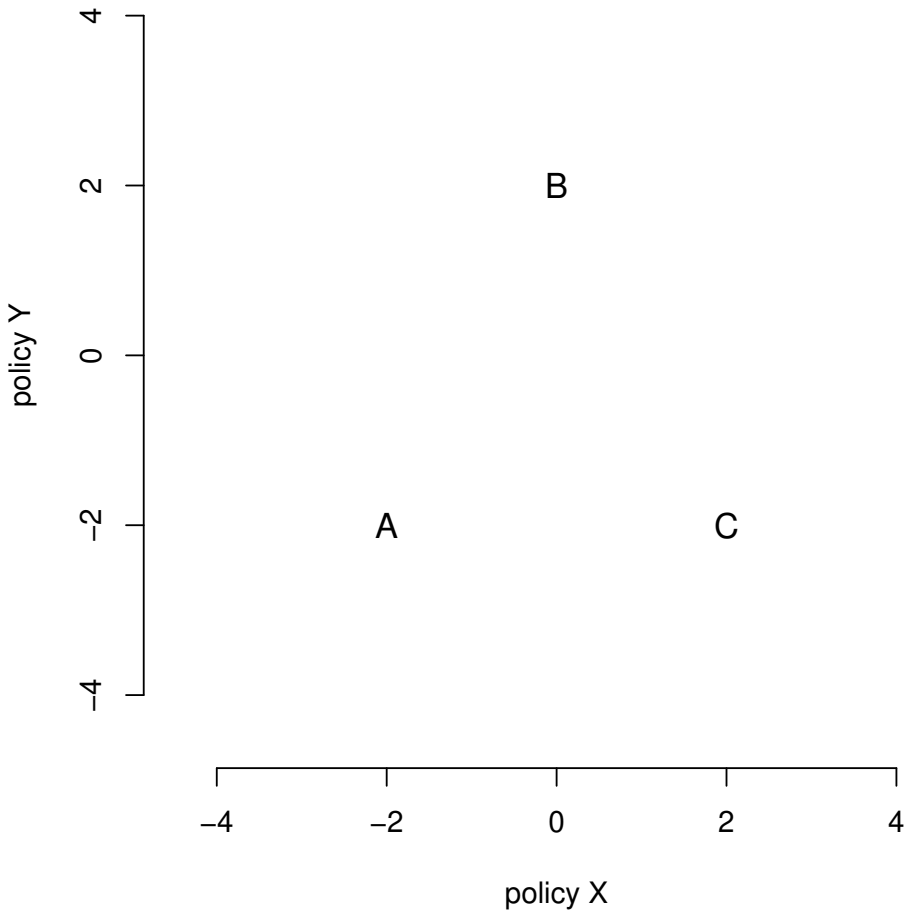
Three Voters



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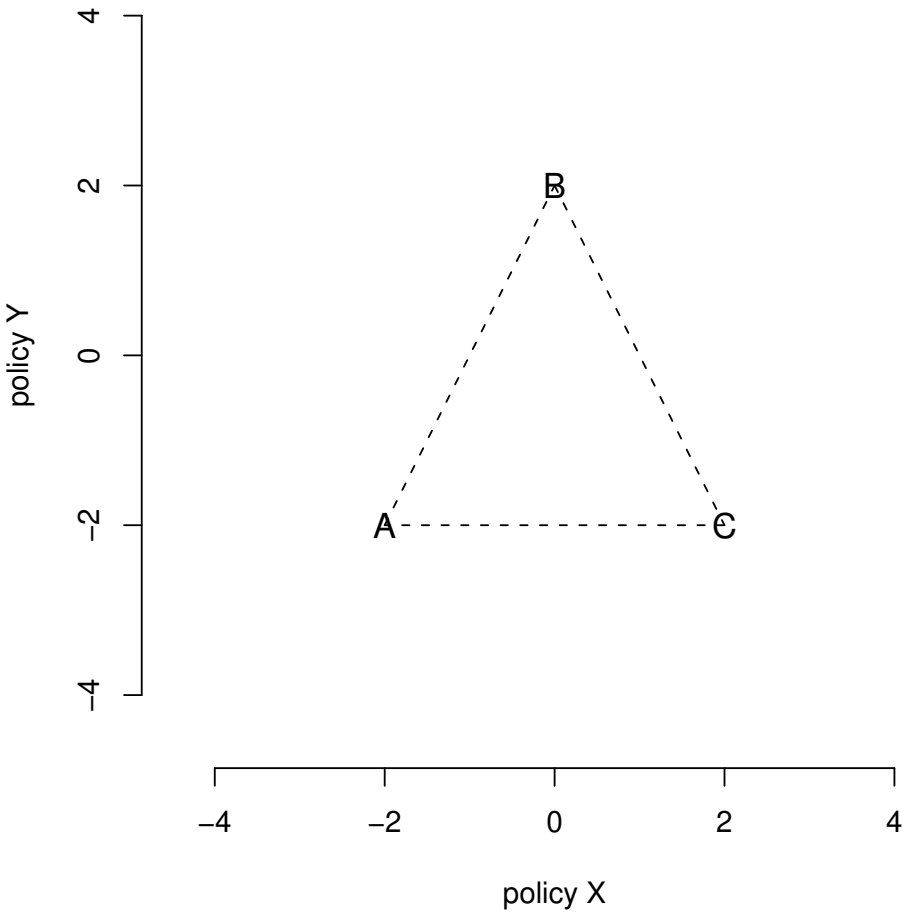
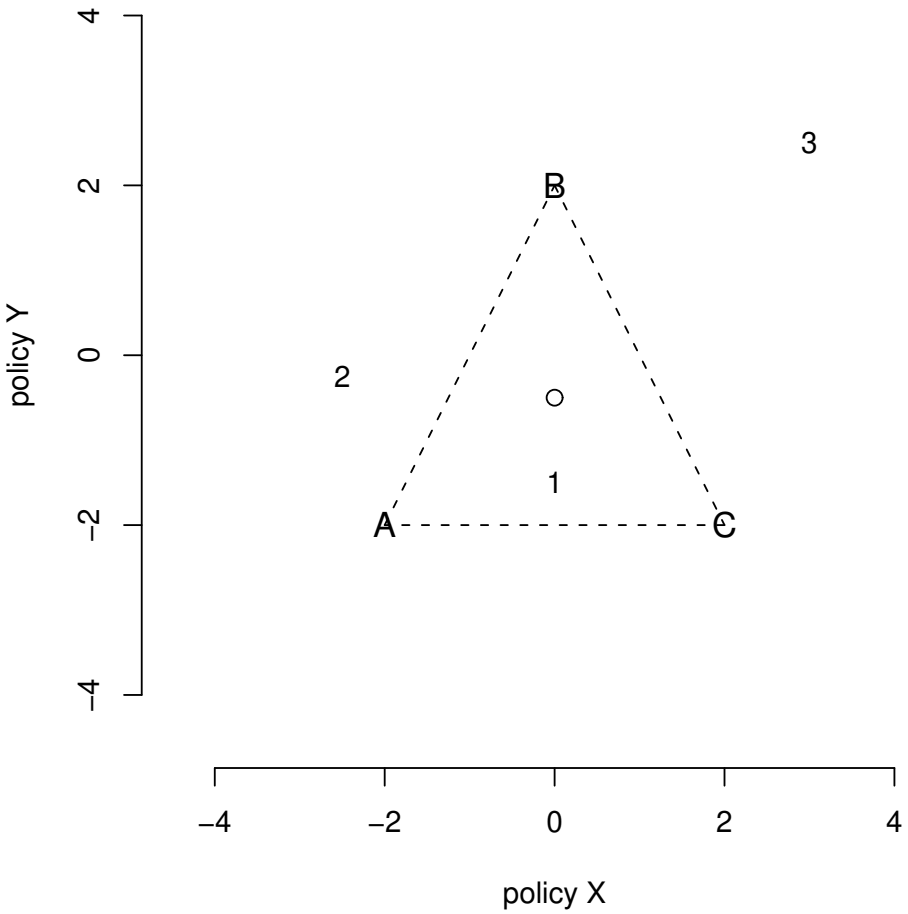
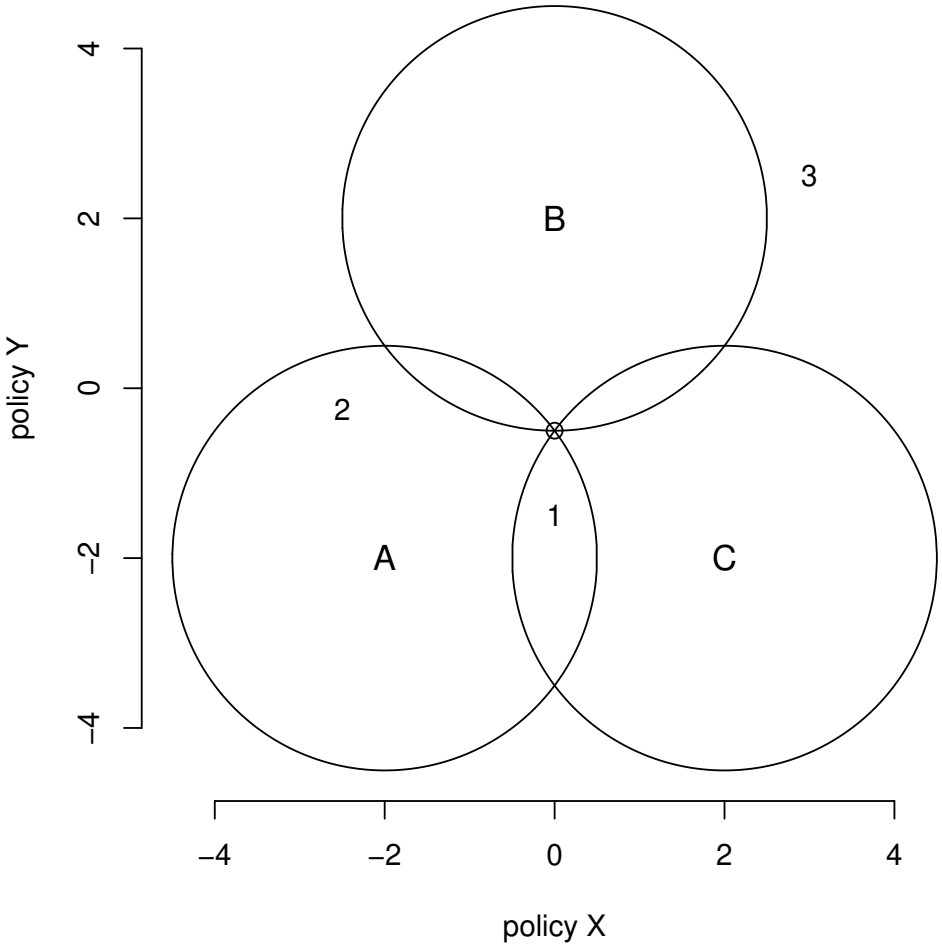
Three Voters with Pareto Set



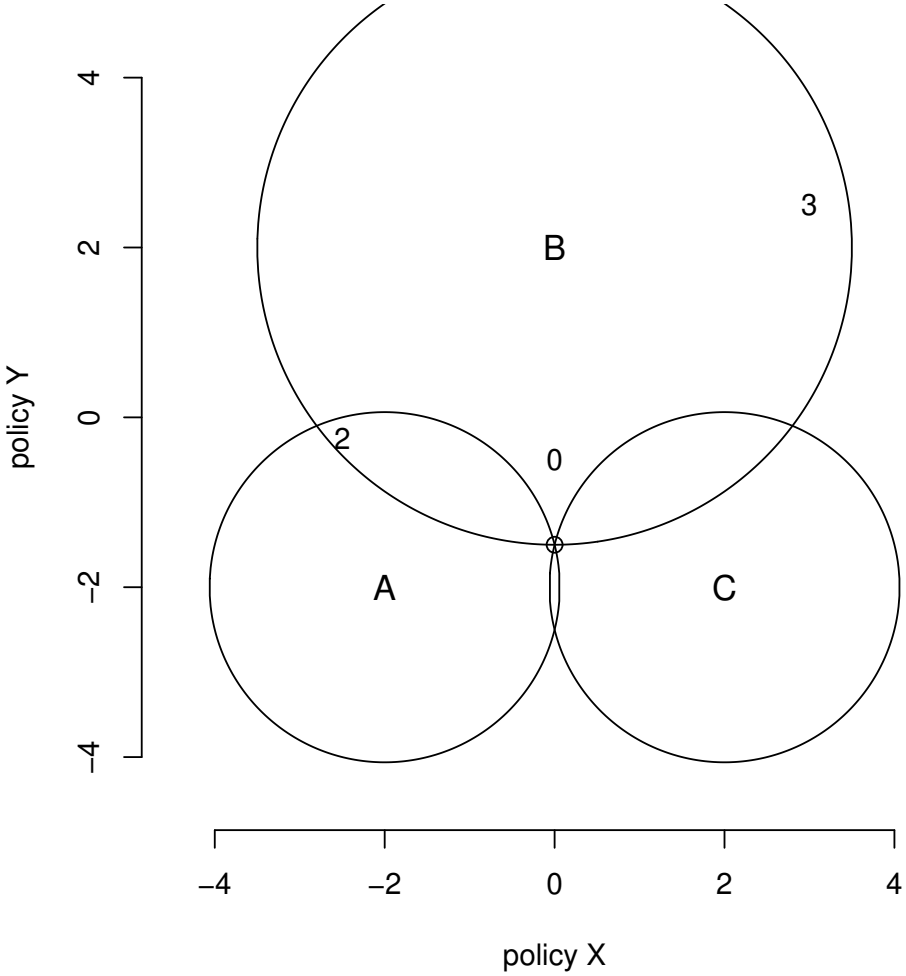
Three Voters Facing an Agenda



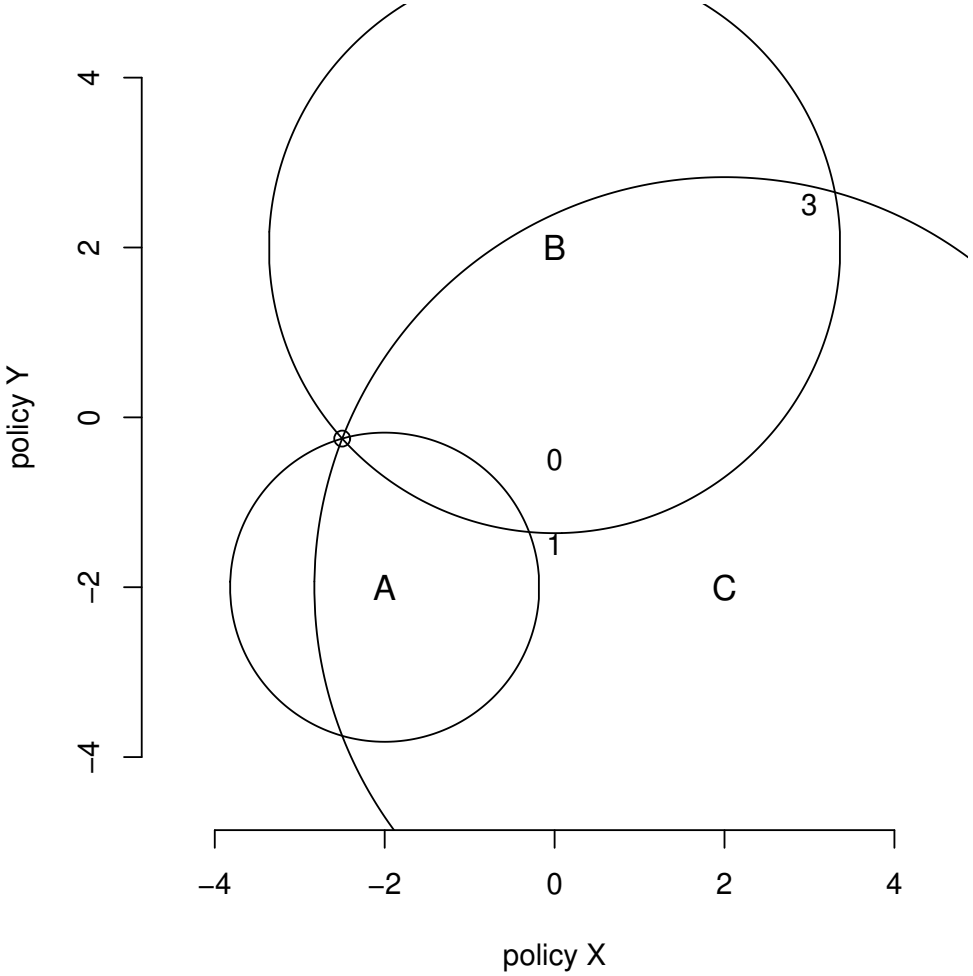
Indifference Curves At Status Quo



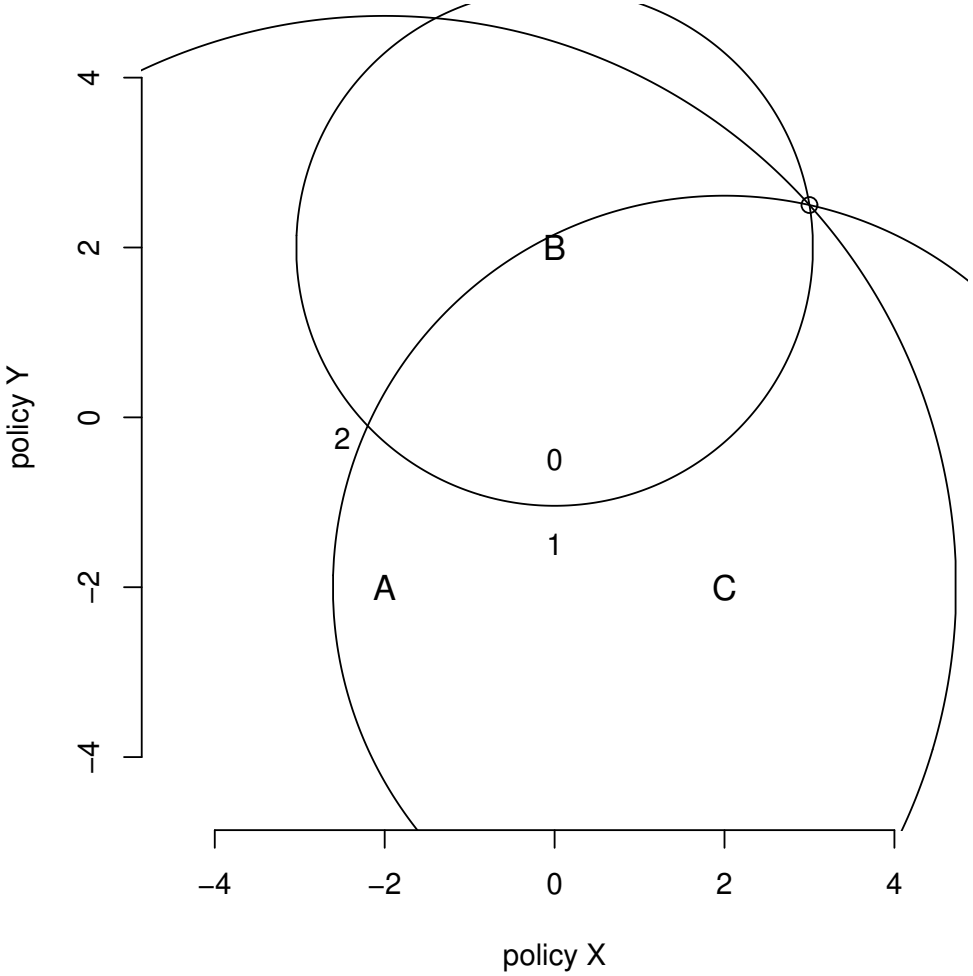
Indifference Curves At First Alternative



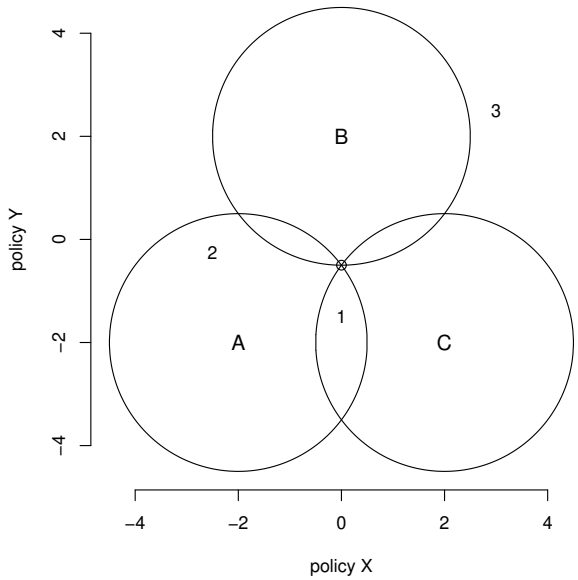
Indifference Curves At Second Alternative



Indifference Curves At Third Alternative



At Status Quo



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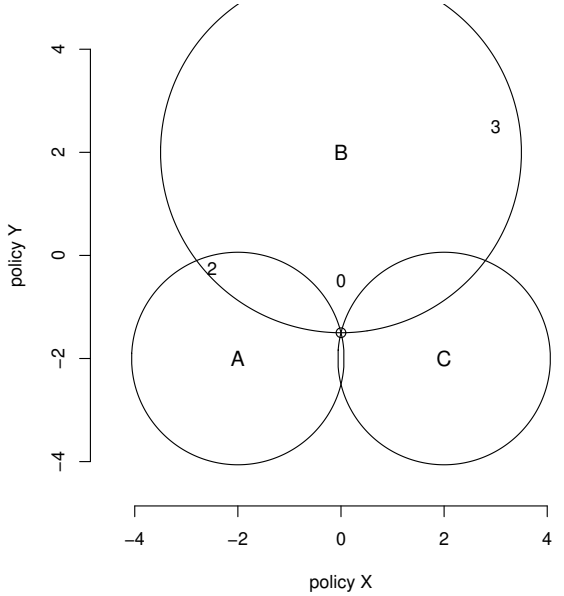

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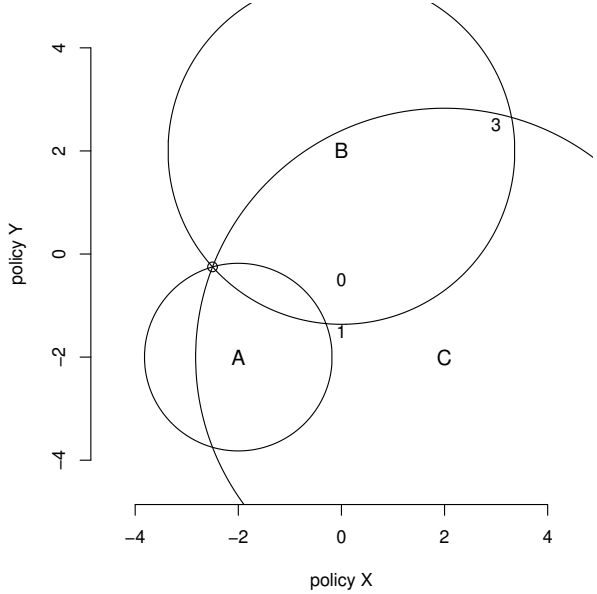
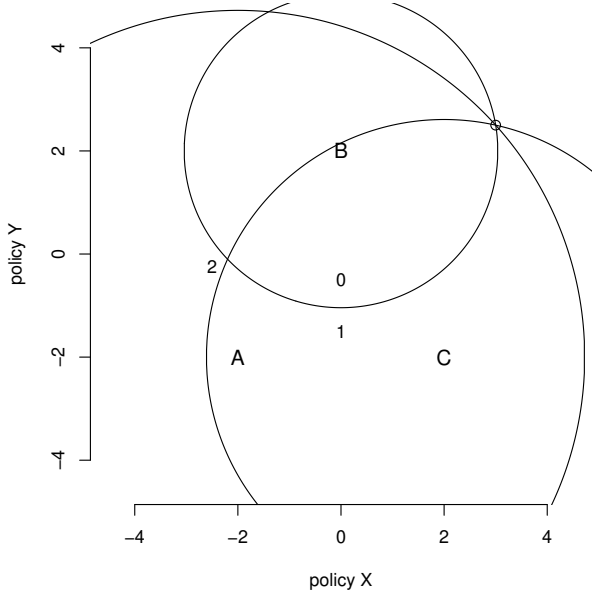


At Final Alternative



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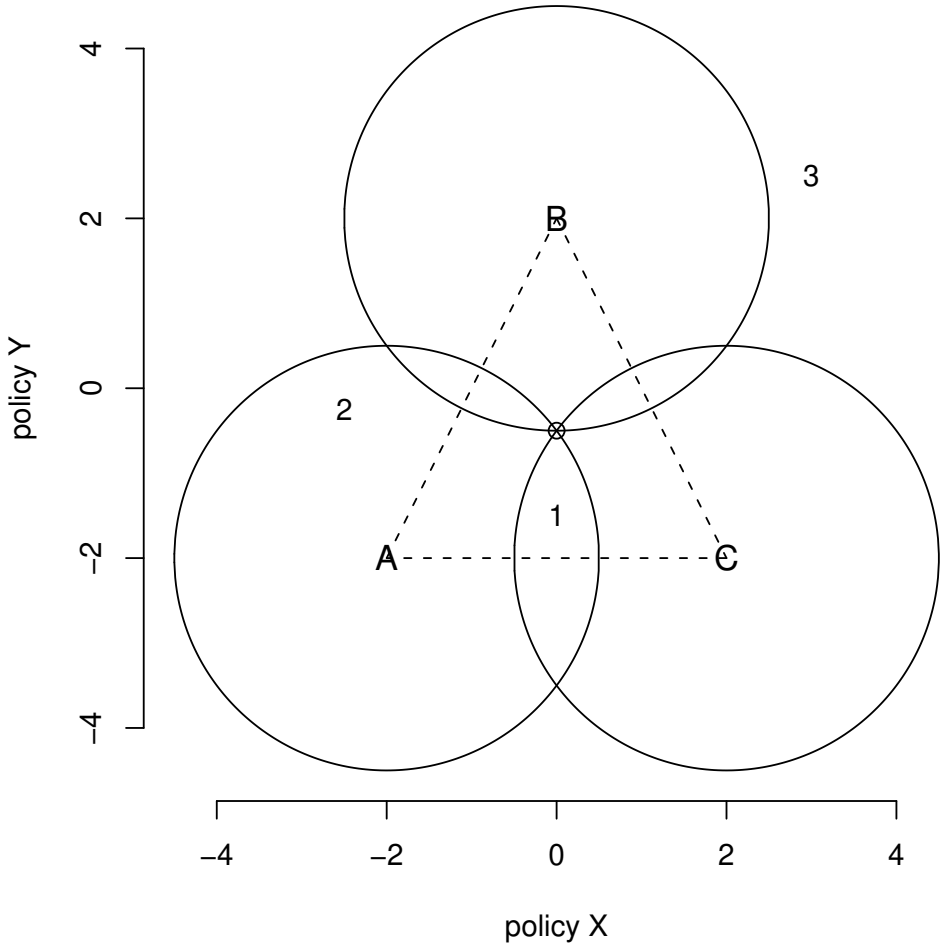
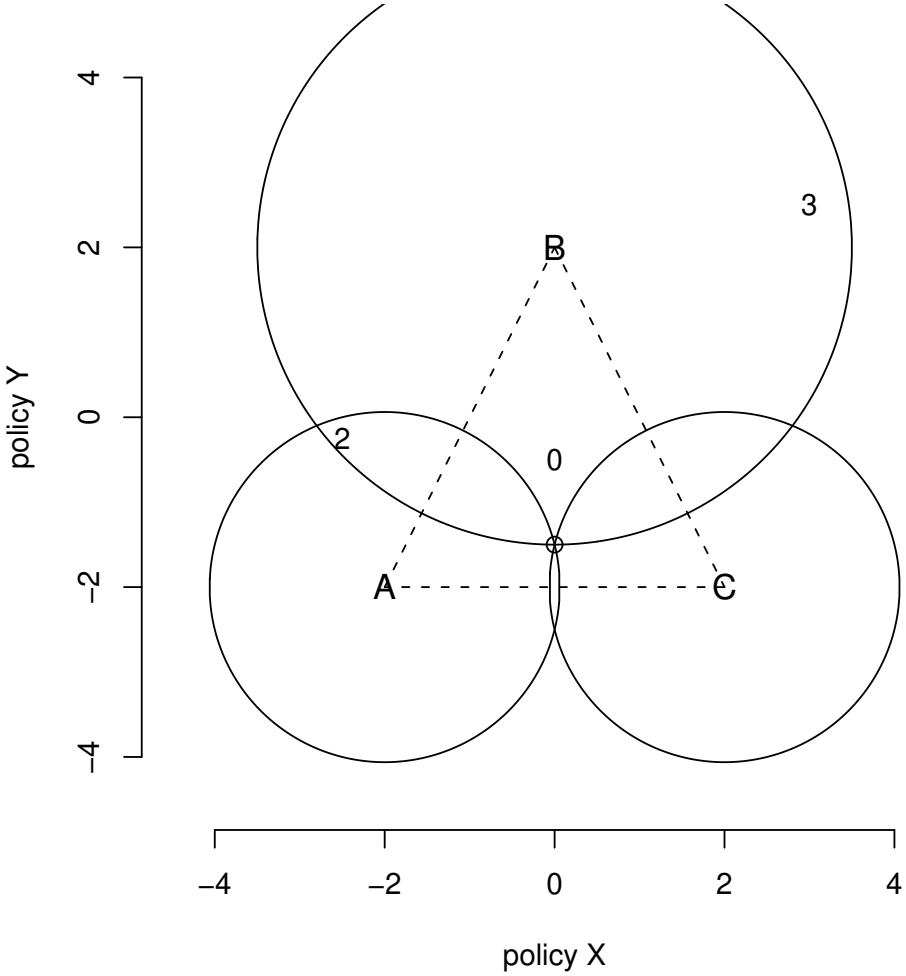
Indifference Curves At Status Quo, with Pareto Set



Indifference Curves At First Alternative, with Pareto Set



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- 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**

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  - **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**
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  - **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**
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- 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

Forecaster	Predicted Vote for G. W. Bush	Date of Forecast	Probability of Vote > 50% for Favored Candidate
Abramowitz	53.7	7/31/04	—
Campbell	53.8	9/6/04	97%
Wlezian and Erikson	51.7 to 52.9	8/27/04	75%
Holbrook	54.5	8/30/04	92%
Lewis-Beck and Tien	49.9	8/27/04	50%
Lockerbie	57.6	5/21/04	92%
Norpoth	54.7	1/29/04	95%
The Median Forecast	53.8		

- **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

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- **define for each potential voter**
  - V_A**: value of candidate** A
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  - 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** $V_A > V_Z$
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  - **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**
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- **decision rule:**
  - **vote Dem if** $S > 0$
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  - **if** $S = 0$**, use party identification to break the tie**

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- **performance: in NES data from 1952, 1956, 1960 and 1964 they correctly predicted about 88 percent of respondents' self-reports of their vote choices**

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- **concerns**

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- 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

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- **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

NES Party Identification, Percentage within Study Year

PID	'84	'86	'88	'90	'92	'94	'96	'98	'00
Strong Democrat	17	18	17	20	18	15	18	19	19
Weak Democrat	20	22	18	19	18	19	19	18	15
Independent Democrat	11	10	12	12	14	13	14	14	15
Independent	11	12	11	10	12	11	9	11	12
Independent Republican	12	11	13	12	12	12	12	11	13
Weak Republican	15	15	14	15	14	15	15	16	12
Strong Republican	12	10	14	10	11	15	12	10	12
Apolitical	2	2	2	2	1	1	1	2	1

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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:**

$$y_i = \begin{cases} REP & \textbf{if } y_i^* > 0 \\ DEM & \textbf{if } y_i^* < 0 \end{cases}$$

$$y_i^* = b_0 + b_1 PID_i + b_2 POLD_i + b_3 POLR_i + b_4 CAND_i + b_5 CANR_i + b_6 ECON_i + e_i$$

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- **measure the attitudes with survey data, estimate the coefficients**
- **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, 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:**

  $\mathrm{vote\ choice}$ **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:**

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

$$
y_i = \begin{cases} REP & \textbf{if } y_i^* > 0 \\ DEM & \textbf{if } y_i^* < 0 \end{cases}
$$

2000 Presidential Vote Choices (NES, Probit)

	Estimate	SE	t-stat.
(Intercept)	−2.18	.64	−3.4
PID: weak Dem	1.04	.48	2.1
PID: lean Dem	1.49	.47	3.2
PID: Independent	1.21	.51	2.4
PID: lean Rep	2.73	.47	5.8
PID: weak Rep	2.65	.48	5.5
PID: strong Rep	3.44	.56	6.1
Intelligent Dem	−0.34	.14	−2.4
Intelligent Rep	0.66	.15	4.5
Dem Distance	0.23	.08	2.8
Rep Distance	−0.43	.09	−4.5
National Economy	−0.13	.17	−0.8

- **the Michigan model**
- **concerns**
  - **predictive ability: not bad, but not terrific; circa 70%–85% correctly classified**

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- concerns
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  - **complexity**
    - **for voters: do people really think like that? are decisions vectors?**
    - **for analysts: models! statistics! ick!**

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    - **nonresponse**

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  - **meaningfulness: do the attitudes exist?**
    - **nonresponse**
    - **nonattitudes: symptom, choosing the middle of the scale**

NES Libcon Self Placements, Percentage within Study Year

Self-placement	'84	'86	'88	'90	'92	'94	'96	'98	'00
Extremely Liberal	3	1	3	1	3	1	1	3	3
Liberal	10	8	9	10	11	8	9	9	12
Slightly Liberal	13	15	13	12	14	9	13	12	12
Moderate, Middle of Road	33	37	31	36	32	34	32	36	32
Slightly Conservative	20	20	21	21	21	18	20	19	16
Conservative	19	17	20	15	18	25	20	17	21
Extremely Conservative	3	3	4	3	4	4	4	3	4

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    - **nonattitudes: symptom, response instability over time**

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  - **meaningfulness: do the attitudes exist?**
    - **nonresponse**
    - **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?**
    - **nonresponse**
    - **nonattitudes**
  - **spuriousness: voters' opinions are for the most part strongly correlated with party ID**

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    - **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 $V_A > V_Z$**
  - **choose Z if $V_Z > V_A$**
- **the spatial model (i.e., it's almost all spatial)**

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- **distinguish spatial from nonspatial characteristics of candidates**
  - **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:**

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    - **economic performance (complicated: growth, unemployment, inflation, income)**

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  - **voter i's ideal point:** x_i
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$$V_{Ai} = -|x_i - x_A| + w_A + e_{Ai}$$
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- **several (m) spatial dimensions:**
  - **voter i's ideal point:** $(x_{1i}, \ldots, x_{mi})$
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$$V_{Ai} = -\left[\sum_{k=1}^{m}(x_{ki} - x_{kA})^2\right]^{1/2} + w_A + e_{Ai}$$

$$V_{Zi} = -\left[\sum_{k=1}^{m}(x_{ki} - x_{kZ})^2\right]^{1/2} + w_Z + e_{Zi}$$

- **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 are corresponding to distinct issue positions**
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- **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.**

  Where would you place the Democratic Party on this scale? (7-POINT SCALE SHOWN TO R) [used in 1980–1988, 1990–1996, 2000]

- **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"**

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- **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

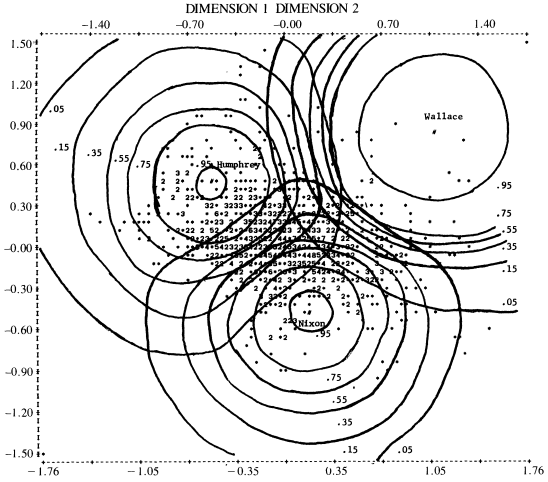
Scaling Model, Poole and Rosenthal AJPS 1984

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.[2] Two corroborative pieces of evidence, however, buttress the

FIGURE 1

1968 Voters

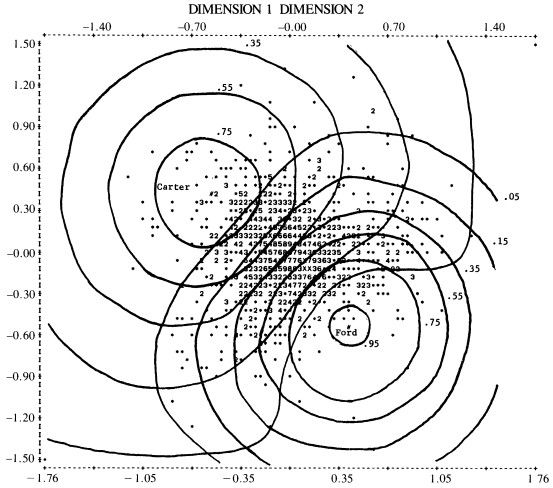


[2] One possibility for methodological artifact can be ruled out. Suppose the thermometers measured not distance but utility and that reported utilities were some nonlinear function of distance, say distance squared. Suppose further that the candidates had converged to a common position. Using

Scaling Model, Poole and Rosenthal AJPS 1984

FIGURE 3

1976 Voters



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.[3] 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

[3] 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.

Scaling Model, Poole and Rosenthal AJPS 1984

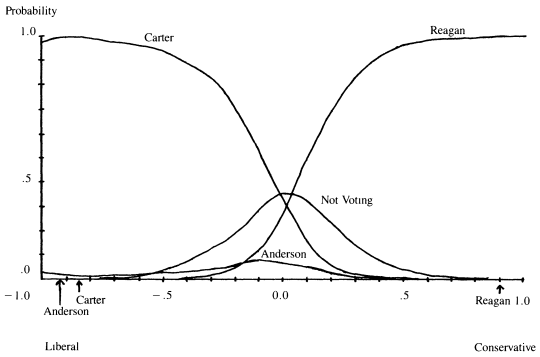
vented convergence in all runs except one. In that case, on the second wave, a one-dimensional model gave the highest geometric mean. The estimated choice probabilities along the dimension are graphed in Figure 5.

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.[8] 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



[8] See Weisberg (1968) for a discussion of literature demonstrating that when error is present a variety of multivariate techniques will find excessive dimensionality.

- **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 prefered 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**
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  - D: **"duty"**
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  - **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 captial (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**

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- 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**

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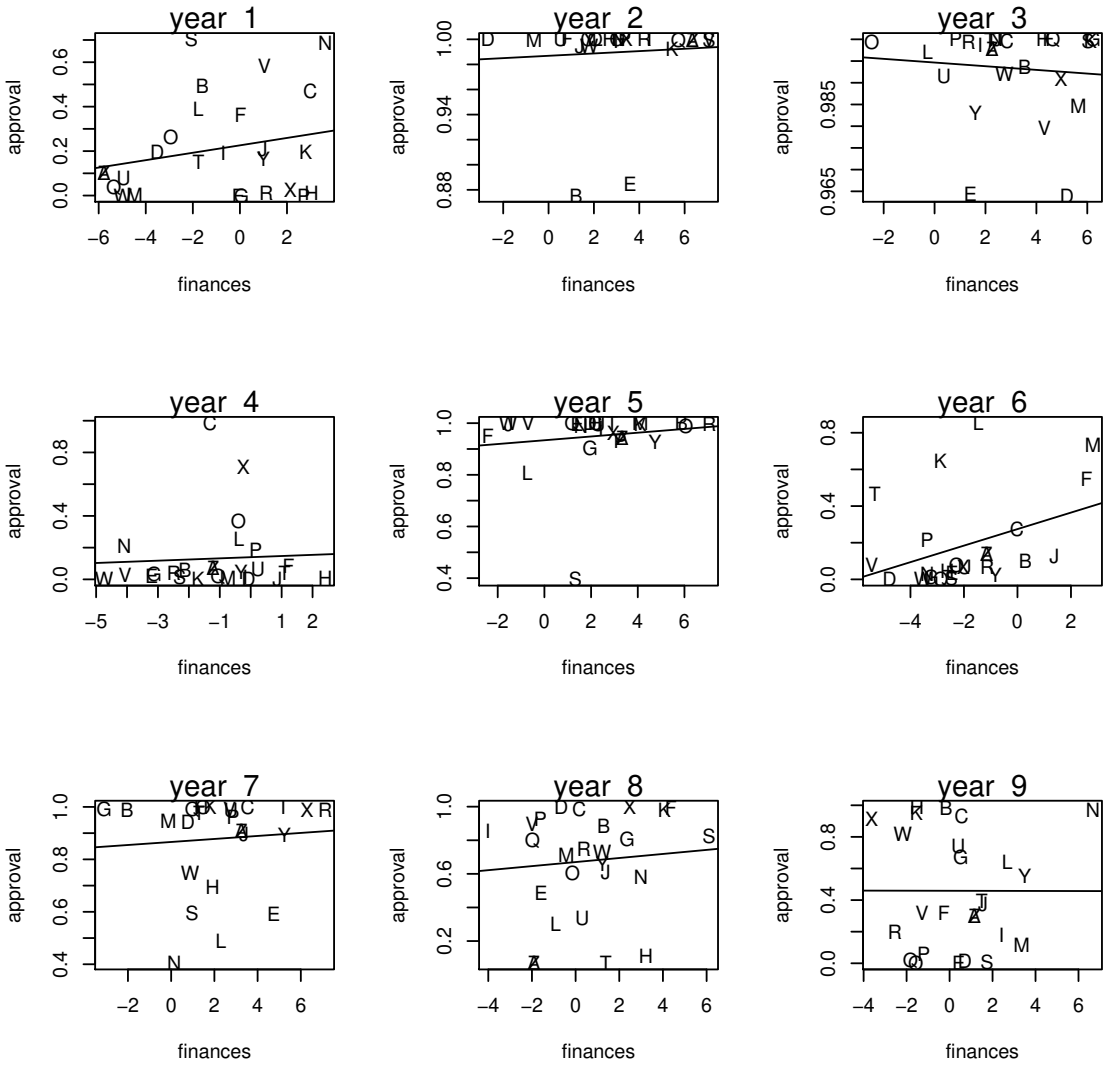
- **cross-sectional data: consider relationship between x_{ti} and y_{ti} across i (people) for each t (time)**

Cross-sectional relations for a simulated population



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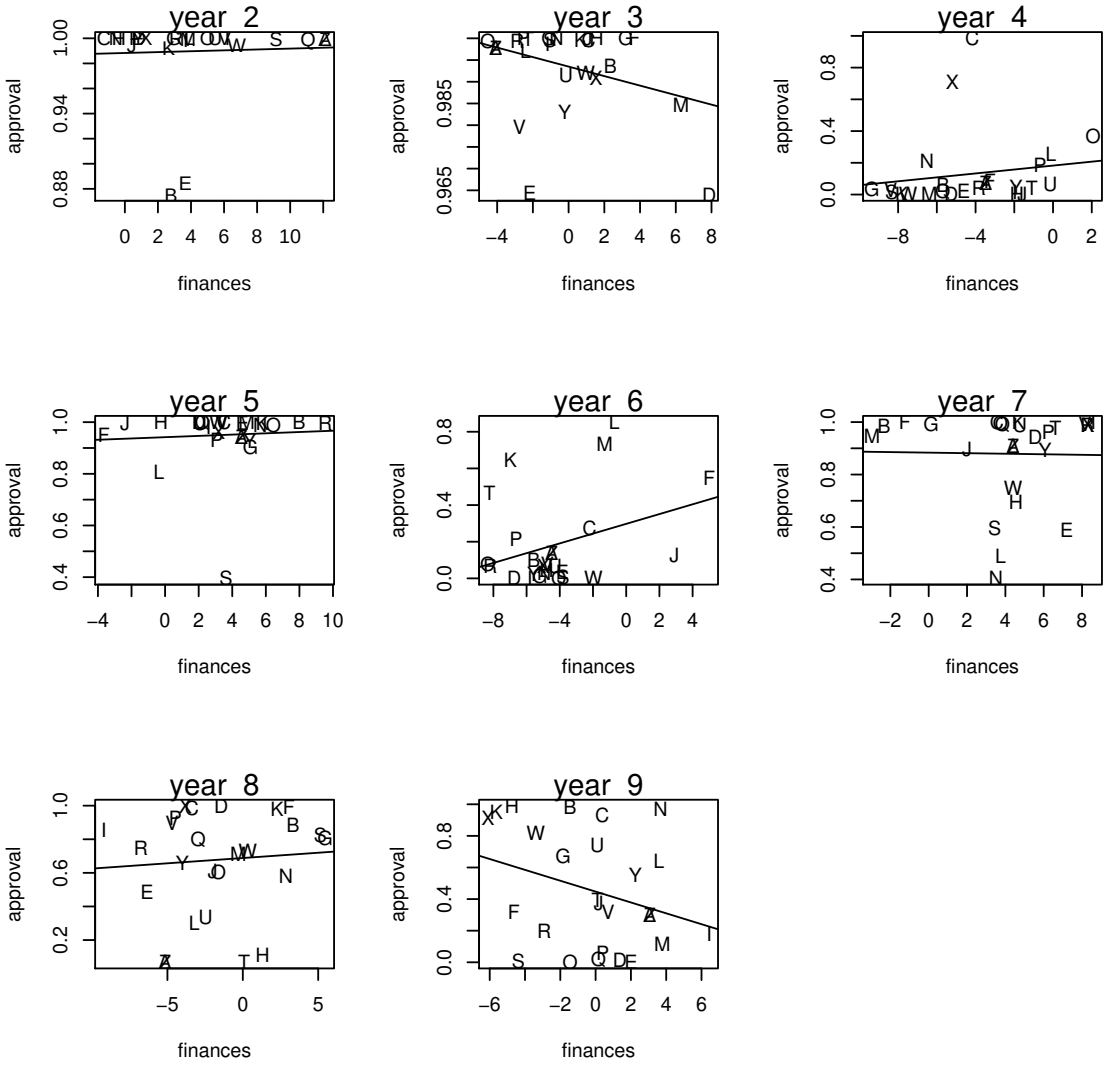
Cross-sectional changes in x for a simulated population



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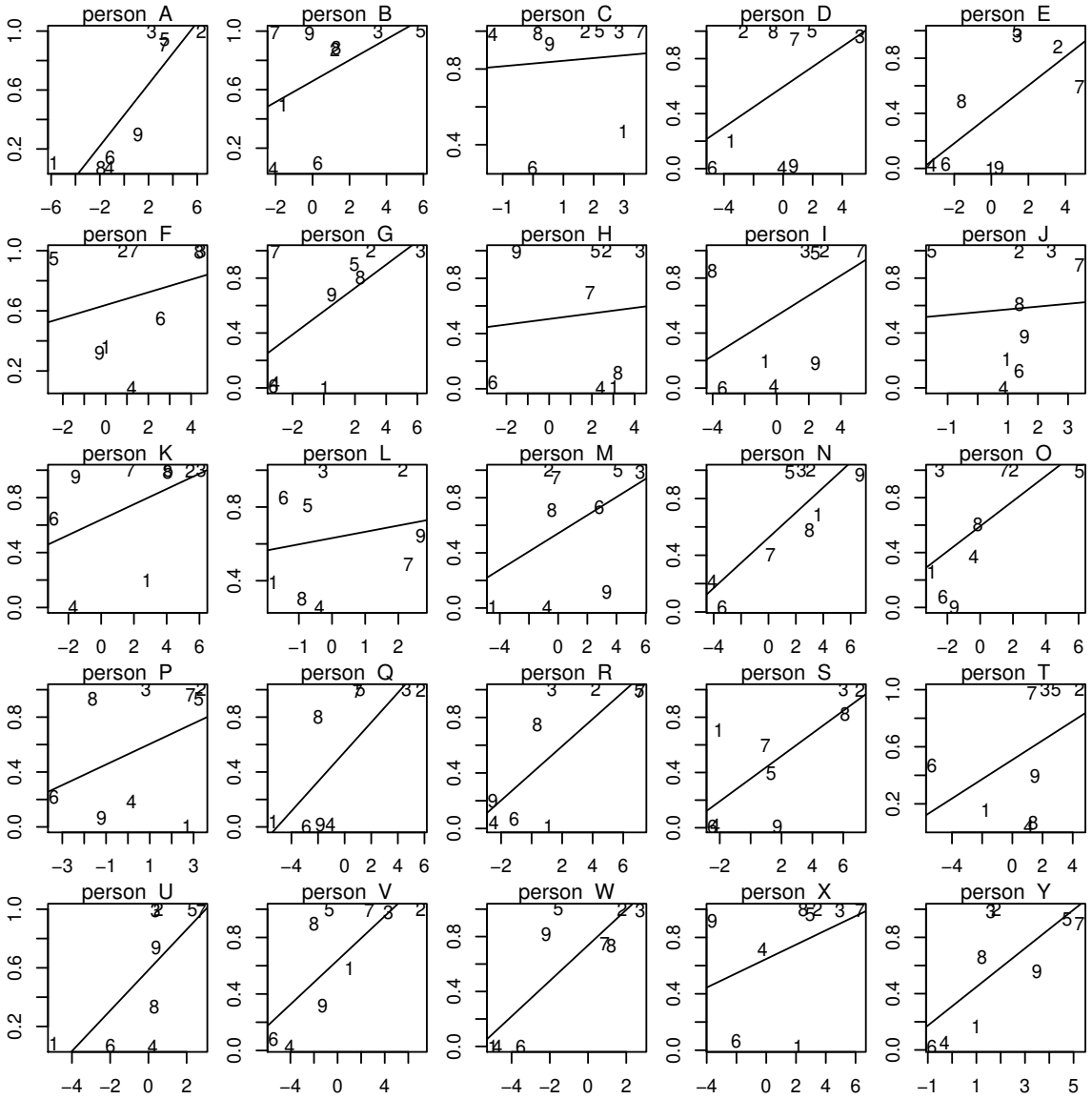
- **panel data: consider relationship between x_{ti} and y_{ti} across t (time) for each i (people)**

Individual-level time series relations for a simulated population



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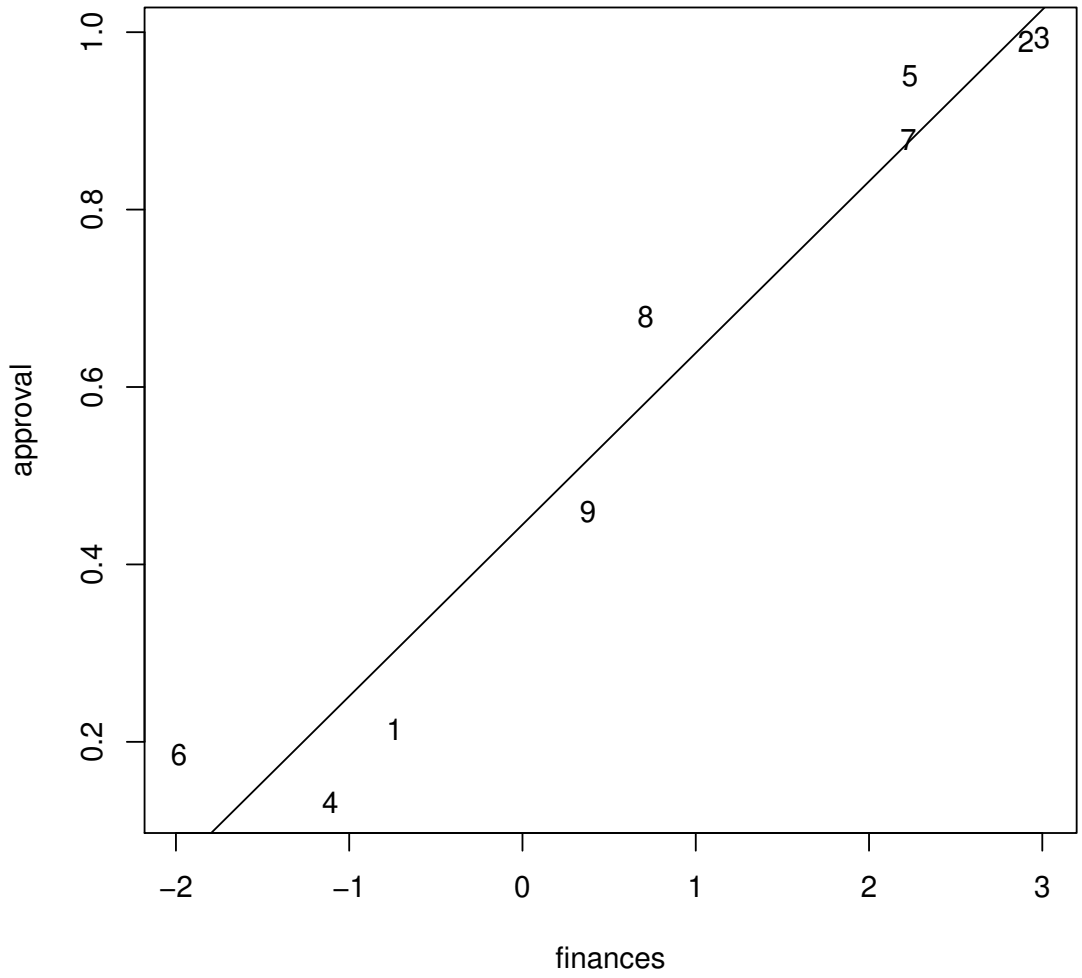
$$y^*_{ti} = b_0 + r_{ti} + s_t$$
$$y_{ti} = \Phi(y^*_{ti})$$

- **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**

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- 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, competitve race but incumbent advantage (.47)

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- **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

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- **a president and a legislature (treated as unicameral)**

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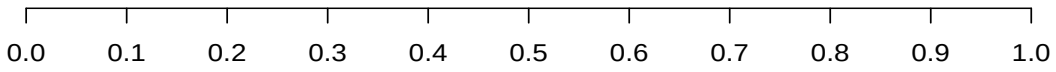
voting model example



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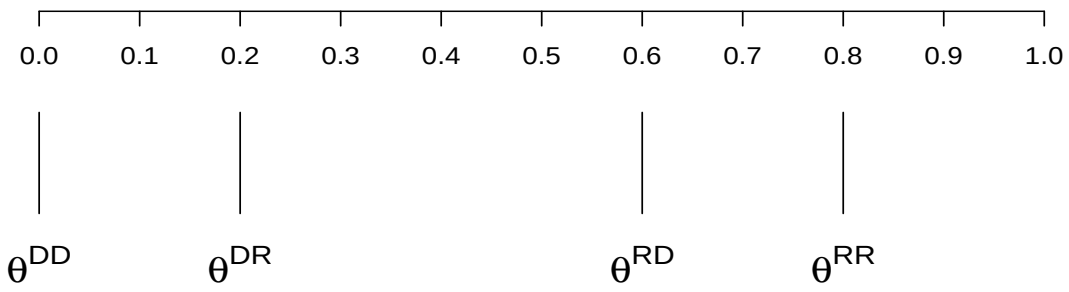

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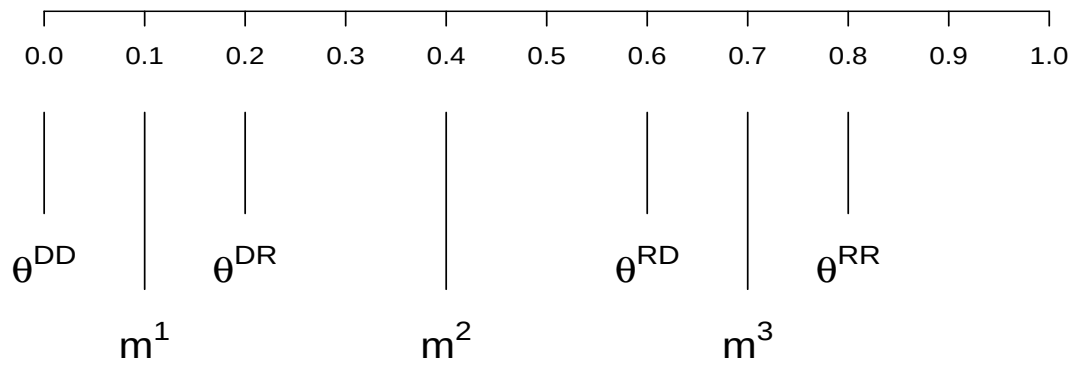
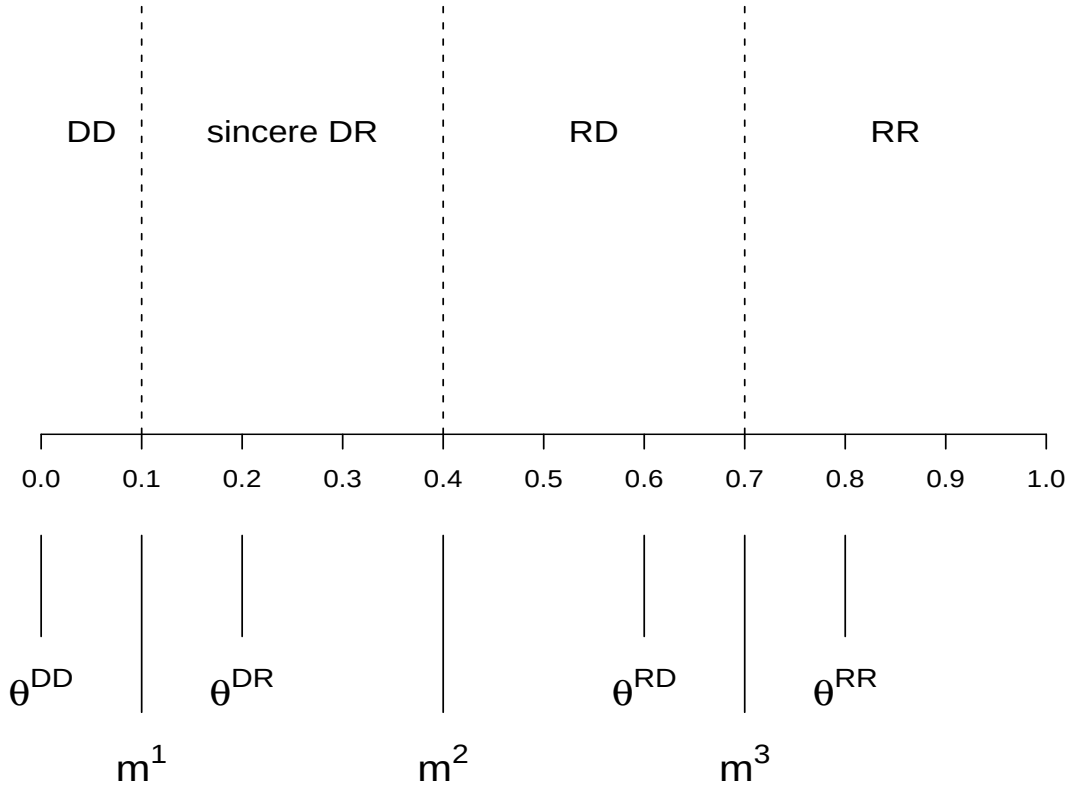


Fiorina model example



- **models of institutional balancing**
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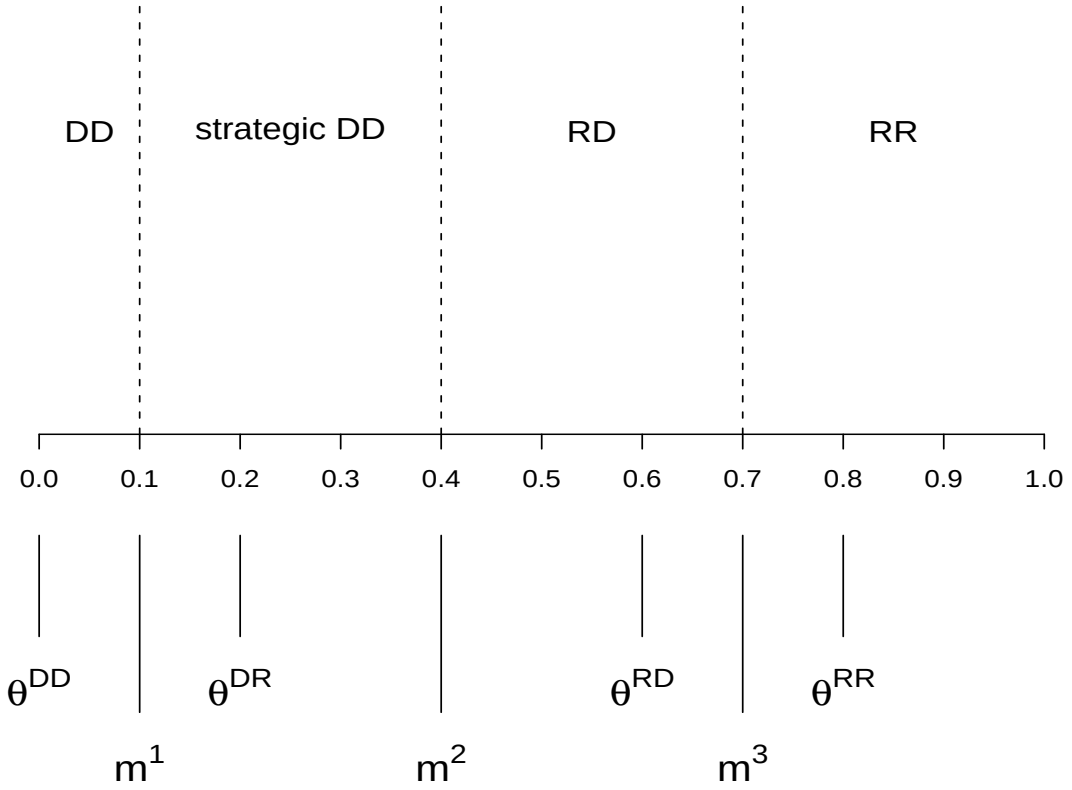
  - **four possible policies: θ_{DD}, θ_{DR}, θ_{RD}, θ_{RR}**
  - **Fiorina's model with strategic voting: voters choose the closest policy, taking into account how others will vote**

strategic model example



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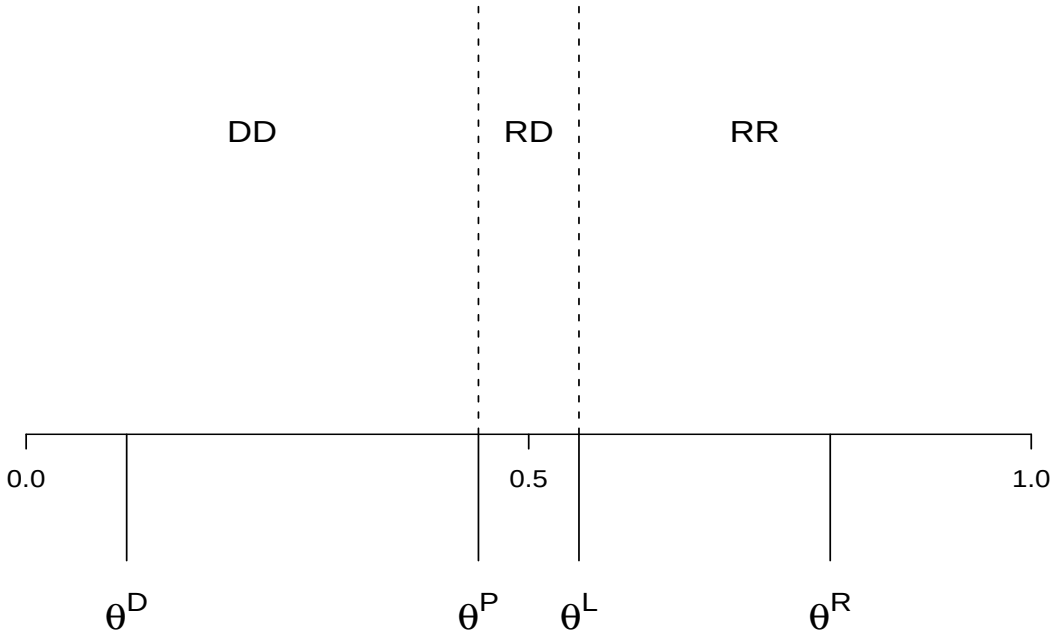
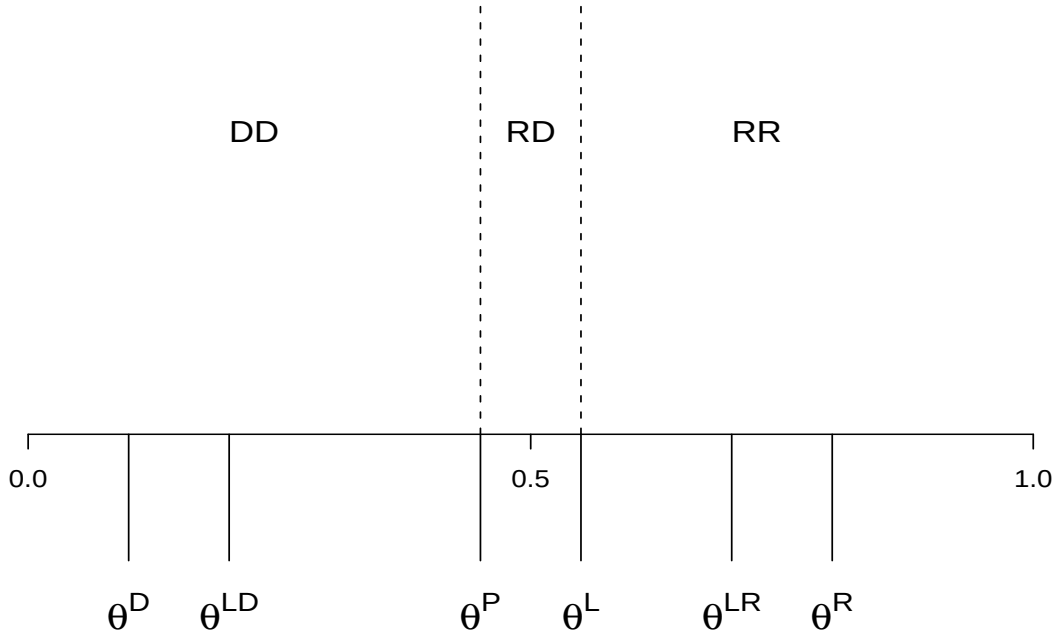
- **ticket splits go only one way**

Alesina-Rosenthal model: presidential year, uncertain



A-R model: pres. year with post-election policies



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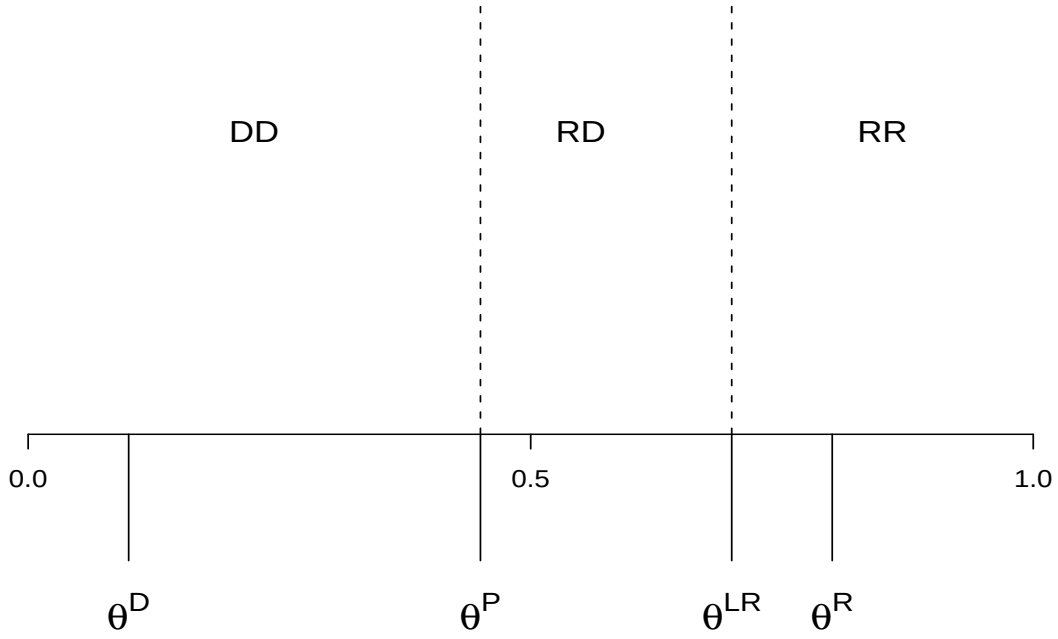
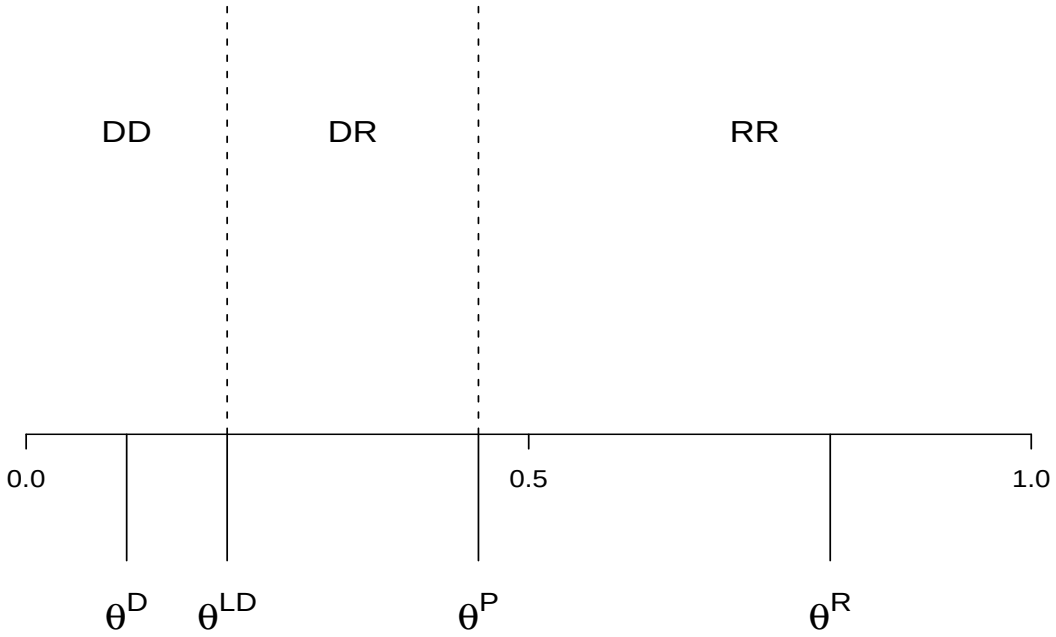
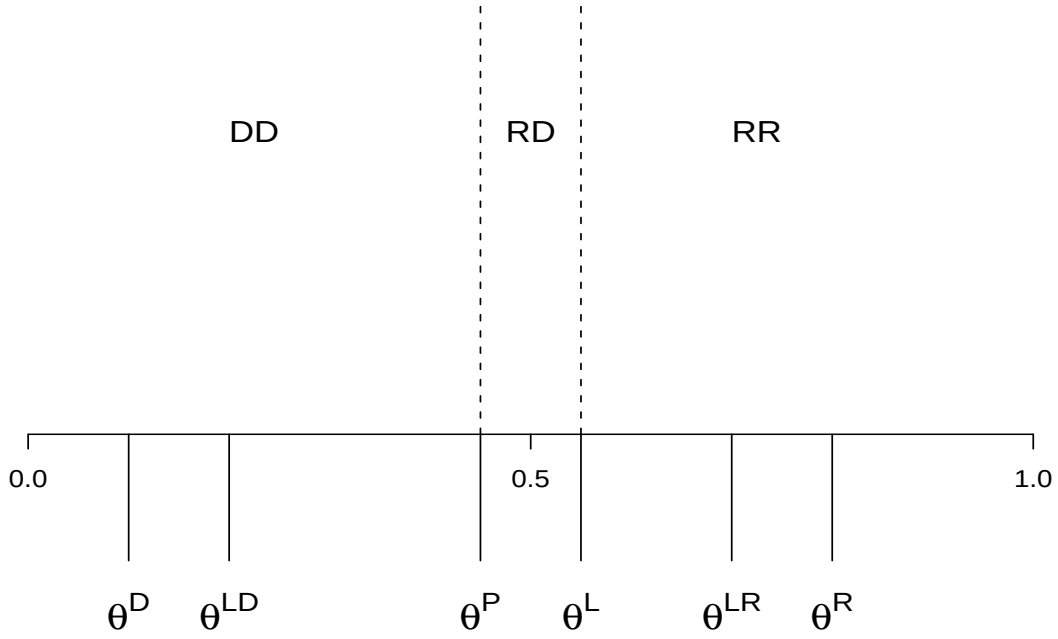


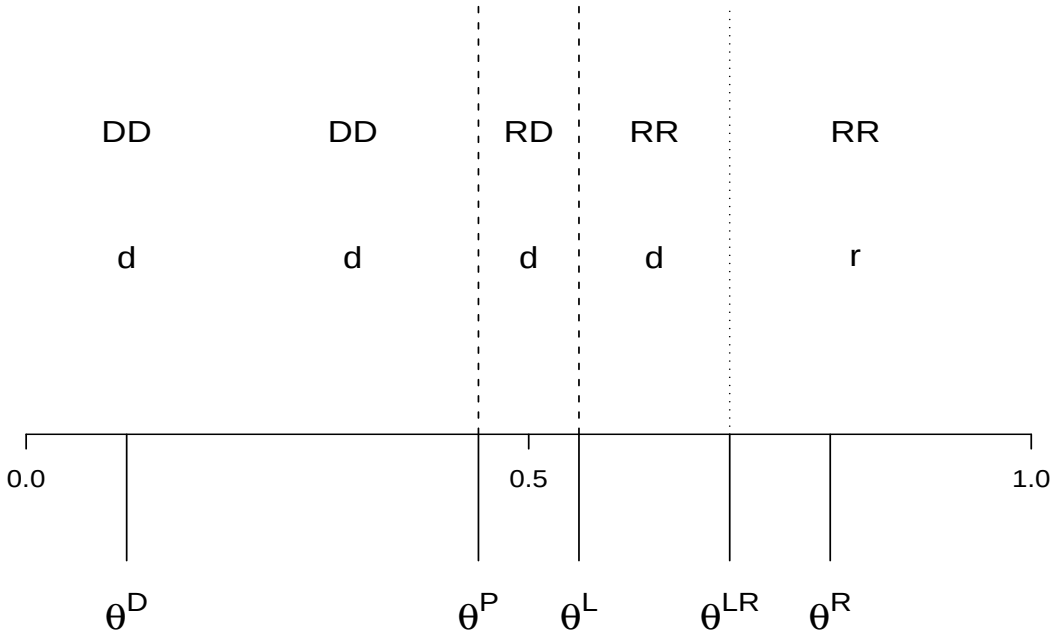
A-R model: pres. year with Democratic victory certain



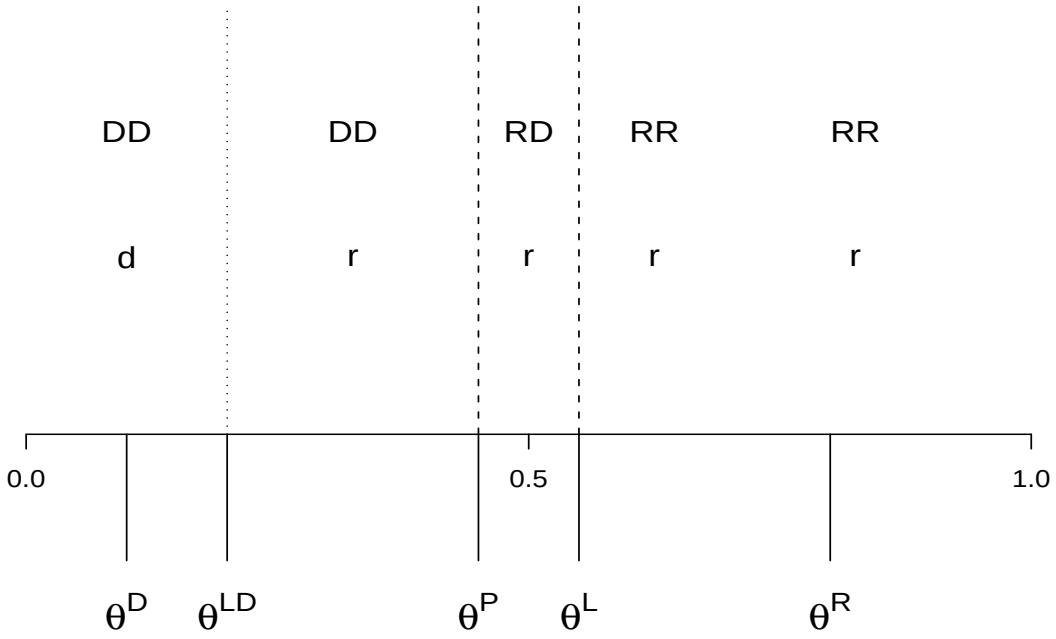
A-R model: pres. year, post-election policies



A-R model: midterm with Republican president



A-R model: midterm with Democratic president



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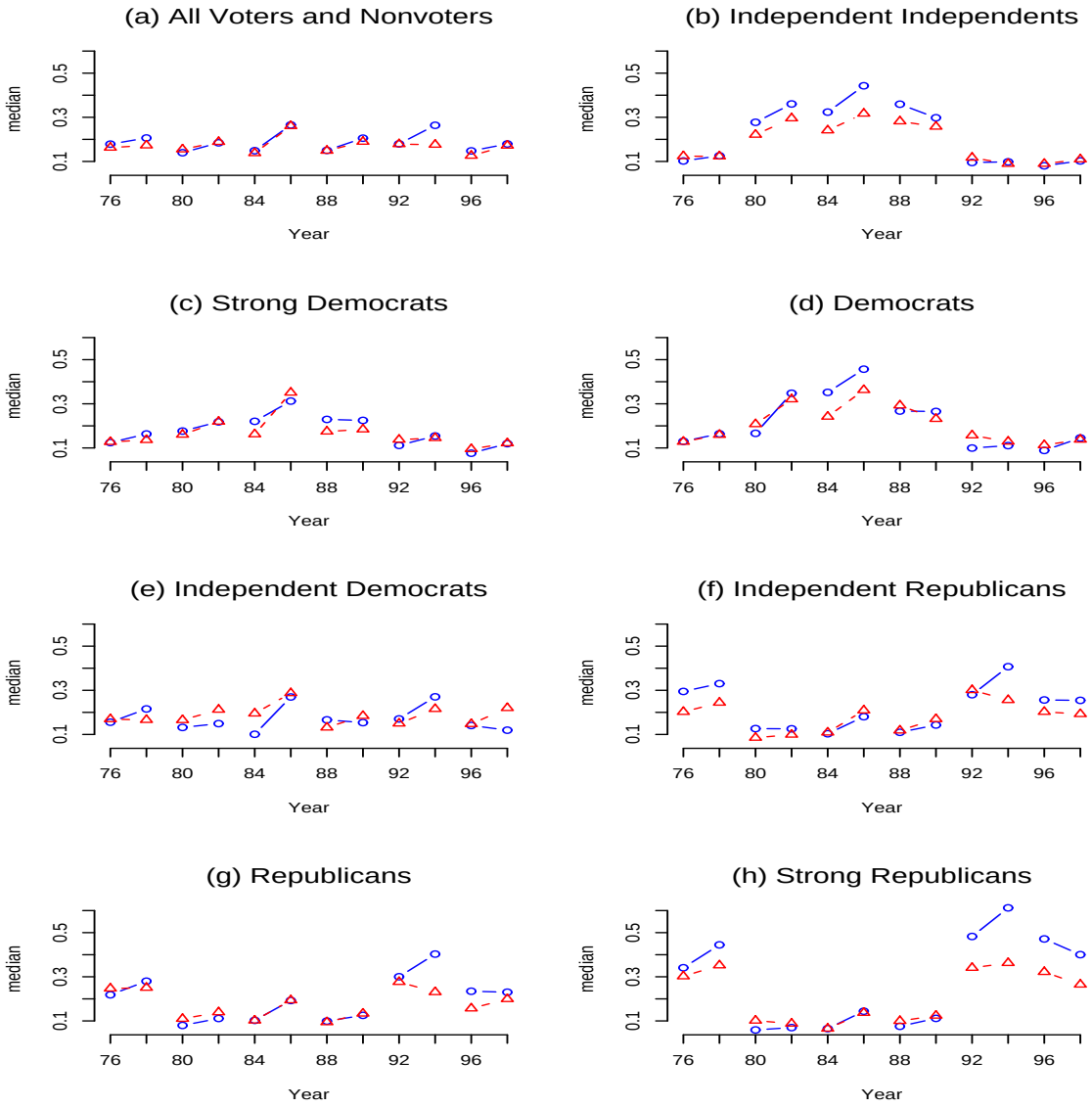
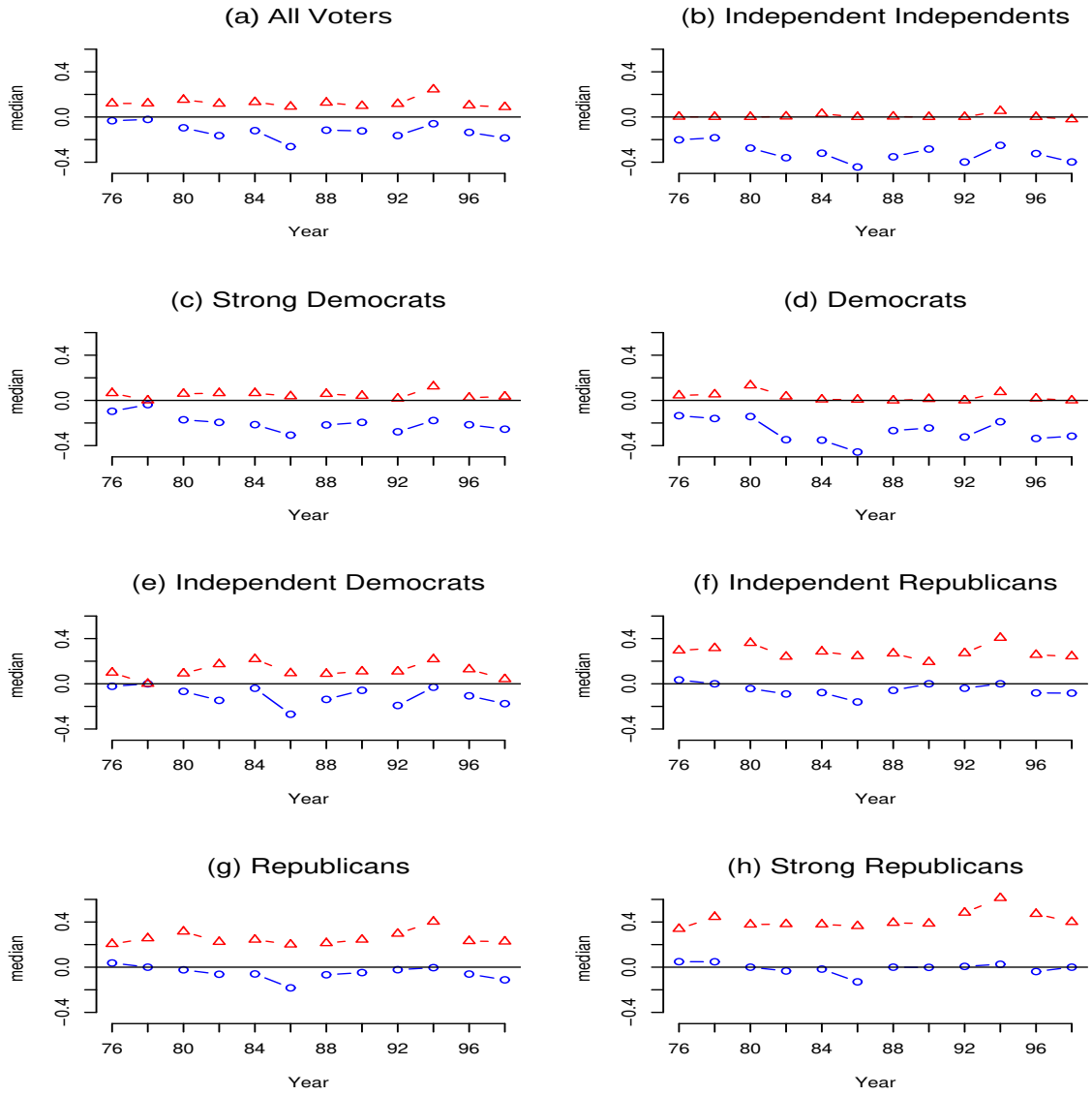
  - **Stimson's data going back to 1960 (and earlier)**
  - **NES data going back to 1976**

Median Absolute Difference, Self versus Winner's Party



Median Signed Difference, Self versus Both Parties