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Research and Development Conferences
The National Election Studies
Center for Political Studies/ISR
P.O. Box 1248
Ann Arbor, MI 48106-1248

Dear NES:

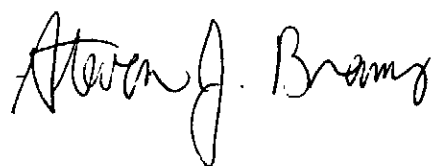
I am writing you briefly on the matter of "candidate evaluation." If there are more than two major candidates in the 1996 race, as there were in 1992, it would be very useful to ask voters two things:

- to rank the candidates from best to worst;
- to indicate all candidates they approve of, or would consider acceptable.

Having this information would enable us to determine more precisely (1) who, if anybody, was the Condorcet candidate, and (2) who would likely have won the election under approval voting. Samuel Merrill and I had to resort to rather indirect indicators from the 1992 survey to reach conclusions on these matters (see our enclosed article, "Would Ross Perot Have Won the 1992 Election under Approval Voting?", *PS*, March 1994), which in a closer race might not have been sufficiently discriminating.

This information would not only be of general interest to social choice theorists but would also have bearing on another second question you raise, "the impact of the presidential campaign." Obviously, the number of candidates a campaign draws into the fray has a significant impact on the outcome. I suggest that this number depends very much on the structure of the competition, which rankings and approval information could give us greater insight into—especially with respect to whether there appears to be a sufficient "opening" on the political spectrum for an independent candidate (like Ross Perot) to exploit.

Sincerely yours,

A handwritten signature in black ink that reads "Steven J. Bramz". The signature is written in a cursive style with a large, prominent initial "S".

enc.

cc: Samuel Merrill, III

Features

Would Ross Perot Have Won the 1992 Presidential Election Under Approval Voting?*

Steven J. Brams, *New York University*
Samuel Merrill III, *Wilkes University*

The answer to the question we pose in the title is by no means obvious. That it might be affirmative is suggested by the facts that Ross Perot:

- ran ahead of the major-party presidential candidates in several presidential preference polls at the height of his popularity in June 1992; and
- on election day in November received a higher proportion of the popular vote (19.0%) than any third-party candidate since Theodore Roosevelt in 1912 (27.4%), who came in second to Woodrow Wilson that year.

More significant than Perot's relatively large percentage, however, is that he appealed to many Republicans because of his conservative economic policies, especially with respect to reducing the budget deficit, and to many Democrats because of his liberal social views on issues like abortion.

It is precisely this kind of wide-ranging appeal that favors candidates under *approval voting* (AV), whereby voters can vote for as many candidates as they like or consider acceptable in a multicandidate election. (In a three-candidate race like the 1992 presidential election, this means voting either for one's top or one's top two choices.) Yet despite extensive research on AV (Brams and Fishburn 1983), comparisons of it that have been made with other voting systems (Nurmi 1987; Merrill 1988), and empirical studies of its actual use (reviewed in Brams and Fishburn 1992), it is no easy task to establish

how candidates would fare under AV in a specific election.

In this essay, we attempt to determine AV's likely effects in the 1992 presidential election, based on three different projections of voting returns. In the 1992 race, both Bill Clinton and George Bush came out far ahead of Perot in the popular-vote count with 43.2% and 37.7%, respectively (we shall consider the possible effects of the Electoral College later). Nevertheless, it is conceivable that Perot might have been acceptable to a large enough number of supporters of each of the major-party candidates to have won or placed second under AV. The likelihood of such an outcome increases to the extent that:

- (1) Clinton and Bush voters would shun also approving of the other major-party candidate at the same time that they would approve of Perot; and
- (2) Clinton and Bush voters who favored Perot, yet voted strategically for one of the major-party candidates out of fear of "wasting" their votes, would switch to voting for Perot—either exclusively or in combination with one of the major-party candidates—if he appeared to be a potential winner under AV.

In fact, as we shall show, Perot would have received a big boost under AV, but his popular vote would have still fallen short of that of Clinton and Bush, who would have gained by lesser amounts. The only conceivable way Perot could have won is if there would have been a new equilibrium under AV

that would *greatly* have favored him. But, for reasons we discuss next, this would probably never have been the case.

A New Equilibrium Under AV?

The effects of factors (1) and (2) that would help Perot under AV, while possible to estimate from the survey data we shall analyze later, are subject to a major qualification. They presume that the 1992 campaign can be held constant in making projections, including voter turnout, when in fact a campaign under AV might alter the survey data in such a way as to invalidate projections.

Indeed, there is good reason to believe that the presidential campaign would have changed substantially had AV been in place (see Myerson and Weber 1993, for the effect of the choice of voting system on voting equilibria in the presence of polls that alter the perceptions by voters of candidate viability). Whether these changes would have had a major impact on the outcome, or whether they would have "canceled each other out," is something about which we can offer only measured speculation, based on how the campaign might have unfolded under AV.

Perot, we believe, might not have temporarily dropped out on July 16, only to re-enter the race on October 1, had the election been conducted under AV. Even if Perot's popularity had slipped under AV, as it did under the present system before he dropped

out (Arterton 1993, 62), this drop might not have been so sharp, inducing him to stay in the race, despite some slippage, under AV.

The major-party candidates, too, might have significantly altered their campaigns under AV. George Bush and his supporters, for example, might not have made the blatant appeal they did to right-wing Republicans by stressing "family values" at the Republican national convention in mid-August. Anticipating that, under AV, such strident rhetoric could cost him the approval of many conservative ("Reagan") Democrats, he might have moderated his harsh attack, despite the fact that such negative campaigning had been highly successful against Michael Dukakis in 1988.

Bill Clinton, it would seem, would have had less reason to change his overweening focus on the economy during the campaign. Possibly he would have tried harder to distinguish himself from Perot, whom he hardly criticized, under the assumption that Perot would have been a serious contender under AV and, consequently, someone that Clinton would have needed actively to campaign against, in addition to Bush.

More generally, all the candidates, while trying to be expansive in their appeals in order to try to pick up second-place approval votes from other candidates' supporters, would probably also have attempted to persuade their own supporters to cast "bullet" (single) approval votes for themselves. But, as we shall argue, this strategy probably would have failed, especially for Clinton and to a less extent for Bush, had they tried to stem the flow of second-place approval votes to Perot.

The principal reason is that a campaign does not start from a blank slate. Bush's image was well established from four years of being president; Clinton was well known from his strenuous campaign for the Democratic party nomination; and Perot was getting to be better known (some would say "picked on") in the early summer of 1992. Hence, different cam-

paign strategies would probably not have been able to alter, in a fundamental way, the appeal of these candidates to voters.

This is not to say that AV would have had no effect on the election. Assume, for example, that Bush had appealed less to right-wing Republicans and thereby kept more Reagan Democrats. Surely Clinton and Perot would have countered with strategies to hold these voters, as well as to try to pick up approval from some conservative Republicans. Perot, for example, might have argued more specifically about how his strong business credentials would help save the economy from its parlous state—even if he might raise the gasoline or other taxes, which are usually anathema to conservatives—making him deserving of their approval if not their heartfelt support.

Although there is no reason to believe that these new strategies and counterstrategies would come out a wash, there is even less reason to believe that the candidates—in developing such strategies as best responses against each other (i.e., creating an equilibrium) under AV—would have greatly altered the political landscape. With the exception of Perot, the candidates were reasonably well-known quantities and therefore could not substantially alter their positions. Perot, as he became better known, was increasingly perceived to be authoritarian and conspiratorial (his enemies would say paranoid), "negatives" that would have given Clinton and Bush effective counterstrategies to mute his appeal under AV.

Assuming the candidates had shifted their strategies in roughly the manner that we suggest might have occurred under AV, the new equilibrium almost certainly would not have produced a drastic transformation in their political support. Although there was a foundation of approval on which Perot could have built a much broader base of support under AV, he, like Clinton and Bush, had a past to defend. By mid-July (when he dropped out), he was having increasing difficulty defending it.

Even if Perot had stayed in the

race, our projections suggest that his AV percentage would not have climbed above the low 40s. (It may have if voter turnout had increased significantly under AV, but there is no indication that such an increase would have affected the relative standings of the candidates.) This total, however, would not have been sufficient to surpass Bush's AV total in the high 40s and Clinton's in the mid-50s.

Projected Popular-Vote Returns Under AV

Because each of the candidates would have shifted his campaign strategy, at least to some degree, in a new equilibrium under AV, any projections from survey data collected in the 1992 election must be hedged with uncertainty. This uncertainty is compounded by the electoral college, under which a plurality of *approval* votes, we assume, would determine the winner in every state except Maine and Nebraska, which currently are the only two states that do not use a winner-take-all rule (their electoral votes are awarded on the basis of who wins each congressional district as well as the state overall).

But it is likely that the national AV winner, like almost all previous winners under the present single-vote (SV) system, would be the electoral-vote winners. Consequently, we will confine our attention only to AV projections, though we recognize that the AV winner, like two SV winners in the nineteenth century, may not be the winner under the electoral college.

Our AV projections are based on data collected in the 1992 American National Election Study (NES) conducted by the Center for Political Studies at the University of Michigan (Miller et al. 1993). We restrict respondents to the set of 1,658 who reported voting for one of the three main candidates in the post-election survey—Clinton, Bush, or Perot—which eliminates both reported nonvoters (about 1/4 of the sample) and those who reported voting for other than the three main candidates (only seven respondents).¹ We have made three

different AV projections, based on the following assignment rules. Assignment rules (1) and (3) were first used by Kiewiet (1979) in assigning approval votes in the 1968 three-way presidential contest among Richard Nixon, Hubert Humphrey, and George Wallace (see also Brams and Fishburn 1978, 1983), in which Wallace was the Perot (i.e., third-party candidate) of rule (3).

(1) *Sincere AV*. Let $u(X)$ be the "feeling thermometer" score for candidate X, which may range between 0 and 100 degrees and may be thought of as a measure of the utility that the voter derives from X's election. (Respondents are instructed that ratings between 0 and 50 degrees mean that "you don't feel favorable toward the person and don't care too much for that person," whereas ratings between 50 and 100 degrees mean that "you feel favorable and warm toward that person.") Assume $u(A) \geq u(B) \geq u(C)$. This rule assigns an approval vote to the candidate for whom the voter reports that he or she voted. In addition, it always assigns an approval vote to A but not to C; it assigns an approval vote to B if one of the following is true:

- (i) $u(B) > 50 \geq u(C)$, or
- (ii) $u(B) > [u(A) + u(C)]/2$ and $u(C) > 50$.

Thus, B receives an approval vote if it is rated above 50 degrees and C is not, or it is rated above the average rating of A and C, given the rating of C exceeds 50 degrees.²

(2) *Ever AV*. After designating the candidate they voted for in the election (say, A), voters were asked, "Was there ever a time when you thought you were going to vote for B or C?" This rule assigns an approval vote to A and one to B or C if such a candidate is specified (1/2 a vote to each if both are specified, which were only 7% of all respondents reporting switches).

(3) *Strategic AV*. Perot's approval vote is based on "sincere AV," so it duplicates that in (1) above. All voters are assumed to vote for ex-

TABLE 1
SV Totals and AV Projections (Based on 1992 NES Survey)

Candidate	SV	Sincere AV	Ever AV	Strategic AV
Clinton	47.8%	61.9%	59.1%	57.4%
Bush	34.0%	47.8%	46.7%	42.4%
Perot	18.2%	39.7%	43.2%	39.7%

actly one of Clinton or Bush, according to the following rules:

- (i) if the voter reports voting for one or the other, that candidate receives a vote;
- (ii) if the voter reports voting for Perot, the major-party candidate with the higher thermometer score—whatever it is—also receives a vote (if there is a tie, both receive 1/2 a vote each).³

Rule (2) is the most behavioral of the assignment rules. It awards a second approval vote—if it does so at all—not on the basis of the present feelings of the voter but rather because he or she, at least some time in the past, reported intending to vote for a candidate different from the candidate that he or she voted for on election day. The reasons for a voter's switching might vary from a true preference reversal (e.g., based on a judgment that Perot's erratic behavior made him temperamentally unfit to be president) to strategic (e.g., based on a perception that Perot, according to the polls, could not win). Rule (3) is "strategic" in the sense that it implicitly assumes that every voter, whether he or she likes one of the major-party candidates or not, will vote for one as "protection" against the possibility that the third-party candidate cannot win.⁴

We shall analyze later the prevalence of two different kinds of insincere voting, one of which we call "strategic" and the other of which we call "protest." Suffice it to note here that Perot suffered the

most from switches during the campaign: of the 870 switches, 434 (50%) were desertions from Perot, 233 (27%) from Bush, and 203 (23%) from Clinton.

The AV projections of the three rules are shown in Table 1 along with the SV totals of the NES survey. Whereas Perot's vote in the survey (18.2%) is close to his actual popular vote (19.0%), Clinton's survey vote (47.8%) is inflated above his actual vote (43.2%), and Bush's survey vote (34.0%) is deflated below his actual vote (37.7%).

Such an inflation of the winner's share in post-election surveys is a well-known phenomenon. More realistic AV projections can be obtained by adjusting for this inflation, beginning with subtracting 4.6 percentage points from Clinton's SV total and adding 3.7 and 0.8 points to Bush's and Perot's SV totals, respectively, as shown in Table 2.

We make exactly the same downward and upward adjustments in the AV projections, because a winner-induced inflation is not to be expected among "second-place" approval votes [i.e., those votes assigned according to rules (1), (2), or (3) to a candidate other than that for whom the voter reported voting]. In fact, respondents who falsely reported voting for Clinton could not have given him second-place approval votes; only his first-place approval votes, based on false reporting, must be adjusted downward in the projections. Analogously, upward projections in

TABLE 2
Adjusted SV Totals and AV Projections

Candidate	SV	Sincere AV	Ever AV	Strategic AV
Clinton	43.2%	57.3%	54.5%	52.8%
Bush	37.7%	51.5%	50.4%	46.1%
Perot	19.0%	40.5%	44.0%	40.5%

first-place approval votes are made for Bush and Perot in Table 2.

Note that differences in the AV projections for Clinton and Bush fall within a very narrow range: Clinton leads Bush by 5.8%, 4.1%, and 6.7% according to assignment rules (1), (2), and (3), or an average of 5.5%. Coincidentally, 5.5% is exactly Clinton's actual SV margin over Bush in the election, so it seems that AV not only would not have affected the election outcome, but it also would have had practically no impact on Clinton's absolute margin of victory (this consistency is often not the case, as documented in the sources cited in the introduction to this article).

The quantitative impact of AV is very different for Perot, who would have more than doubled his 19.0% SV vote to adjusted AV totals of 40.5%, 44.0%, and 40.5%, according to assignment rules (1), (2), and (3). These give Perot an average 41.7% AV projection, compared to Bush's average of 49.3% and Clinton's average of 54.9%. Although the candidates maintain their SV relative standings under AV, Perot's average AV increase over SV (119%) far outstrips both Bush's (31%) and Clinton's (27%) average increases.

Sources of Approval

To understand the basis of Perot's remarkable improvement under AV, we next analyze whether Perot would have benefited more from the approval of Clinton or Bush voters, based on assignment rules (1) and (2). We do not include rule (3), because the sources of Perot's approval are the same as those given by rule (1). For Clinton and Bush as well, we indicate how much of their approval would have come from the supporters of the other two candidates (see Table 3).

Both the sincere-AV and the ever-AV assignment rules indicate that Perot would have received considerably more approval votes from Clinton voters than from Bush voters. This extra approval—100% more from Clinton than from Bush voters under the sincere-AV rule

TABLE 3
Source of Approval Votes

AVs of	Voted for Clinton	Voted for Bush	Voted for Perot	Total AVs
<i>Sincere-AV Assignment Rule</i>				
Clinton	793	116	117	1,026
Bush	127	564	102	793
Perot	238	119	301	658
<i>Ever-AV Assignment Rule</i>				
Clinton	793	68.5	118	979.5
Bush	90	564	121	775
Perot	255	160.5	301	716.5

(238 versus 119 votes), 59% more under the ever-AV rule (255 versus 160.5 votes)—is disproportionate to the greater number of Clinton voters in the electorate, indicating that Clinton voters were definitely more favorably disposed to Perot than were Bush voters.

How did Perot voters feel about Clinton and Bush? Under the sincere-AV rule, Perot is somewhat more helpful to Clinton than Bush (contributing 117 approval votes to Clinton and 102 to Bush), whereas under the ever-AV rule Perot is slightly more helpful to Bush than Clinton (contributing 121 approval votes to Bush and 118 to Clinton). Taken together, it is probably fair to say that the major-party candidates are viewed with about equal approval by Perot voters. This conclusion is supported by the finding that if Perot were not in the race, his vote would have divided evenly between Clinton and Bush (38% to each), with the rest choosing minor candidates or abstaining (Pomper 1993, 142).

Perot voters would contribute a relatively small proportion of approval to the major-party candidates (between 11% and 16% under the two rules), whereas Bush and Clinton would contribute much more to Perot's approval (their joint contribution is 54% under the sincere-AV rule and 58% under the ever-AV rule). These latter contributions clearly show why Perot would have more than doubled his 19% SV total, according to either rule, under AV.

Finally, the figures in Table 3 enable us to say something about how much approval the major-party candidates would have given to

each other. About one in five Bush voters, and about one in six Clinton voters, would have approved of the other major-party candidate, according to the sincere-AV rule, but fewer according to the ever-AV rule. Not only was there not much shared approval between the major-party candidates, but for strategic reasons there probably would be even less if Clinton and Bush were viewed as the only serious competitors. Of course, this is the strategic assumption of rule (3), which presumes that no major-party voter would approve of the other major-party candidate.

To summarize, Clinton voters help Perot much more than do Bush voters. Perot voters, on the other hand, help each major-party candidate by about the same amount, but this isn't much, quantitatively speaking, compared to the extra support that the major-party voters give Perot. Although Bush voters are somewhat more approving of Clinton than are Clinton voters of Bush, there is not much shared approval between the major-party voters.

Condorcet and Borda Winners

The thermometer-scale scores in the 1992 NES study were also used to determine the probable Condorcet and Borda winners. As in the AV analysis, such projections are subject, it must be remembered, to altered campaign strategies and voter perceptions about candidate viability had other voting systems been in use.

Thermometer scores were used

to specify first-choice preferences, because they appear more likely to represent sincere appraisal than reported votes, which might be strategic. In determining preferences for Condorcet comparisons, respondents rating two or more candidates the same were apportioned equally between the respective candidates. Respondents failing to rate both candidates in a pair were not counted for that pair. Such omissions may slightly advantage Perot, because more respondents failed to rate him (29) than Clinton (14) or Bush (9), and it would seem that a voter would prefer a rated candidate over one not rated.

Clinton is easily the Condorcet winner, beating Bush 953.5 to 687.5 and Perot 1038.5 to 585.5. Bush beats Perot in a relatively close race, 865.5 to 761.5, reflecting the disproportionate preference of Clinton voters for Perot over Bush (although adjustment for post-election effects would widen Bush's lead somewhat). These preference profiles also indicate that under a plurality-with-runoff or single-transferable-vote system, Perot would have been eliminated followed by a win for Clinton over Bush. These latter two procedures, however, would not have revealed Perot's strong claim for second place.

To resolve ties in determining the Borda count, the adjusted Borda method (Black 1958) was used in which a respondent's score for a focal candidate is the number of candidates rated strictly lower than the focal candidate minus the number rated strictly higher. In order that the scoring agree with the usual Borda count for a strict preference ordering, the resulting values are subjected to a linear transformation so that, for example, a strict preference ordering yields the Borda scores 2, 1, and 0 but an ordering in which the highest two candidates are tied gives the scores 1.5, 1.5, and 0. This method assigns the (intermediate) score of 1 to any candidate not rated, which, as above, may slightly inflate Perot's total score. Borda totals for the three candidates are: Clinton, 2,017.5; Bush, 1,577.0; and Perot, 1,379.5. The closeness of the race

between Bush and Perot for second place again reflects the preference of Clinton voters for Perot over Bush.

Insincere Voting

We define *insincere voting* as voting for a candidate to whom one gives a lower thermometer-scale rating than to a candidate one does not vote for. By this measure, 43 (4.9%) of the 870 respondents who gave Clinton their highest rating, and 42 (6.5%) of the 644 respondents who gave Bush their highest rating, were insincere. By contrast, 55 (13.9%) of the 396 respondents who gave Perot their highest rating were insincere.⁵

We distinguish two motivations for insincere voting based on respondents' reported votes: strategic voting and protest voting. The results indicate that Perot suffered much more from *strategic voting*—that is, desertions of those who rated him the top candidate—than the major-party candidates. This is in line with the usual collapse of third-party candidacies (e.g., George Wallace in 1968 and John Anderson in 1980), in which early supporters vote strategically for their second choices when the third-party candidate is perceived no longer to be a serious contender.

In fact, Perot's case is not typical in this regard, because after he re-entered the presidential race on October 1, his popularity, after an initial dip, rose steadily until election day, November 3 (Pomper 1993, 145). Undoubtedly, Perot was helped by his massive spending on television advertising (chiefly, half-hour "infomercials") and strong performances in the presidential debates on TV.⁶ But he seems to have suffered, nevertheless, from strategic voting, as defined here.⁷

Looked at from another angle, the same data suggest, however, that Perot benefited from what we call *protest voting*—that is, insincere voting designed to "send a message." Forty-eight (15.9%) of Perot's 301 votes came from respondents who did not give him the highest thermometer-scale rating. By contrast, only 39 (4.9%) of

Clinton's 793 votes and 42 (7.4%) of Bush's 564 votes came from similar respondents. This behavior, we believe, reflects a willingness on the part of some voters to vote against their preferences in order to express what Pomper (1993, 142) calls a "generalized protest," not directed at any specific program. In particular, it seems that about one in six Perot voters voted for him, despite their apparent preference for one of the major-party candidates, to protest the latter choices.

There may, however, be more mundane explanations for the latter phenomenon, because similar numbers (but not proportions) of Bush and Clinton voters voted contrary to their preferences. Such "misvoting" may simply indicate the high but not perfect correlation between reported voting behavior (we suggested earlier that there was probably some winner-induced inflation that favored Clinton) and an attitudinal measure like the thermometer-scale ratings.

To conclude, there was probably mild strategic voting that hurt Perot to some degree. But it would not have been significant enough to have affected the election outcome had AV been used and the insincere voters had also voted sincerely for the candidate they rated top on the thermometer scale.

Normatively Speaking . . .

The fact that Perot would have at least doubled his vote total, gaining significant ground on both Clinton and Bush under AV, indicates that AV would have given a very different cast to the 1992 presidential election, even if the outcome would not have changed. Desirably, we think, AV would have led to a less negative campaign, especially on the part of Bush. It is probable that he, as well as the other candidates, would have seen an electoral advantage in trying to garner second-place approval from opponents' supporters, leading to a toning down of some of the most offensive rhetoric of the campaign.

It is likely that voter turnout, the highest since 1968 at about 56% of the voting-age population ("Voting

Registration and Turnout in the 1992 General Election," 1993), would have been still higher under AV. Nonvoters who considered two of the candidates acceptable but could not settle on which one to vote for under SV, or who intensely disliked one candidate but could not decide which one of the others to support, would have had a greater incentive to vote under AV.

Finally, the strongest candidate overall (Clinton) not only would have won but also would have had his victory validated by the popular-vote count, receiving majority approval under AV. But just as important, an AV election would have elevated Ross Perot to his rightful place—a close third—making the race more competitive and thereby increasing voter turnout still more.

Notes

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1. We have used the post-election rather than pre-election survey because of the ambiguity of the relevant questions in the earlier survey, which was conducted, in part, during the time when Perot had taken himself out of the race. The question asking for the candidate for whom the respondent intends to vote listed Bush and Clinton, but required that Perot be volunteered by the respondent. Respondents were asked if Perot was ever their first choice for president, but no comparable questions were asked about Clinton or Bush.

2. The following assignments are made if there are ties: if $u(A) = u(B) > u(C)$, both A and B receive an approval vote; if $u(A) > u(B) = u(C)$, only A receives an approval vote; and if $u(A) = u(B) = u(C)$, only the candidate reported voted for receives an approval vote. For respondents who fail to provide thermometer scores for all three candidates, approval votes in addition to the reported vote are assigned only to a candidate rated strictly higher than another rated candidate.

3. Three respondents (0.2%), who did not provide thermometer scores for both Clinton and Bush, could not be assigned a vote for either.

4. Unlike for Perot, rule (3) gives different sources of approval for Clinton and Bush than does rule (1). More specifically, because rule (3) assumes that neither Clinton nor Bush voters would approve of the other, the extra approval of these candidates can come only from Perot voters, who are assumed always to support the major-party

candidate with the higher thermometer rating. Although we think this rule is more realistic for third-party candidates—like George Wallace in 1968—who have little chance of winning under AV because of their ideological extremeness and the consequent "need" for strategic voting, it is useful to include rule (3) in races with more centrist candidates like Perot. Among other things, it tends to provide a lower bound on the likely AV support of the major-party candidates. In 1992, for example, while rule (3) surely attributes too much approval to Clinton and Bush from Perot voters—who are assumed to vote for one or the other major-party candidate regardless of his thermometer rating—this inflation is more than balanced by the deflation caused by attributing no approval to the major-party candidates from each other.

5. These percentages are more than doubled (to 14.4% for Clinton, 19.1% for Bush, and 36.4% for Perot) if we include all respondents who did not vote for a candidate to whom, nevertheless, they gave their highest rating. Under this broader definition of insincerity, which includes respondents who either failed to rate the candidate for whom they voted or gave more than one candidate their highest rating, our conclusion does not change—Perot voters remain decidedly more insincere than Clinton or Bush voters. Note that because the total number of highest-rating responses (1,882) includes ties, it exceeds the total number of voters in the survey (1,658).

6. Perot was perceived to have "won" the first debate October 11, Clinton the second on October 15, and Perot and Clinton the third (ending in a tie) on October 19. Bush came in last on all except the second debate, in which he came in second (Frankovic 1993, 120).

7. Black and Black (1993) report that enough voters might have switched to Perot—if they thought he had a chance to win—to put him in the lead. This observation is, however, based on the responses to a single question in an exit poll, which in isolation are hard to interpret, as is pointed out in a rebuttal by Hugick (1993).

References

- Arterton, F. Christopher. 1993. "Campaign '92: Strategies and Tactics of the Candidates." In *The Election of 1992*, ed. Gerald M. Pomper. Chatham, NJ: Chatham House.
- Black, Duncan. 1958. *The Theory of Committees and Elections*. London: Cambridge University Press.
- Black, Gordon S., and Benjamin D. Black. 1993. "'Perot Wins!' The Election that Could Have Been." *The Public Perspective: A Roper Center Review of Public Opinion and Polling* 4, no. 2 (January/February):15–16.
- Brams, Steven J., and Peter C. Fishburn. 1976. "Approval Voting." *American Political Science Review* 72, no. 3 (September):831–47.
- Brams, Steven J., and Peter C. Fishburn. 1983. *Approval Voting*. Cambridge, MA: Birkhäuser Boston.
- Brams, Steven J., and Peter C. Fishburn. 1992. "Approval Voting in Scientific and Engineering Societies." *Group Decision and Negotiation* 1, no. 1 (April):41–55.
- Frankovic, Kathleen A. 1993. "Public Opinion in the 1992 Campaign." In *The Election of 1992*, ed. Gerald M. Pomper. Chatham, NJ: Chatham House.
- Hugick, Larry. 1993. "A Response to Gordon and Benjamin Black: Perot's Own Actions Determined his Fate." *The Public Perspective: A Roper Center Review of Public Opinion and Polling* 4, no. 2 (January/February):17–18.
- Kiewiet, D. Roderick. 1979. "Approval Voting: The Case of the 1968 Presidential Election." *Polity* 12, no. 1 (Fall):170–81.
- Merrill, Samuel III. 1988. *Making Multicandidate Elections More Democratic*. Princeton, NJ: Princeton University Press.
- Miller, Warren E., Donald R. Kinder, Steven J. Rosenstone, and the National Election Studies. 1993. *American National Election Study, 1992: Pre- and Post-election Survey*. Ann Arbor, MI: University of Michigan, Center for Political Studies.
- Myerson, Roger B., and Robert J. Weber. 1993. "A Theory of Voting Equilibria." *American Political Science Review* 87, no. 1 (March):102–14.
- Nurmi, Hannu. 1987. *Comparing Voting Systems*. Dordrecht, Holland: D. Reidel.
- Pomper, Gerald M. 1993. "The Presidential Election." In *The Election of 1992*, ed. Gerald M. Pomper. Chatham, NJ: Chatham House.
- "Voter Registration and Turnout in the 1992 General Election." 1993. *Election Administration Reports* (June 14):3–5.

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