The decision to vote is affected by two elements of the election context. One is the frequency of elections. Presidential and state primaries divert resources away from the general election and reduce turnout among the peripheral electorate who are most dependent on a mobilization effort. Taken together, spring and fall primaries lowered general election by five percentage points nationwide in the 1976, 1980, and 1984 elections. A second element of context is the attractiveness of statewide offices on the presidential year ballot. Gubernatorial races increase the probability of voting by 6% in those states that still elect governors in presidential years. Thus, the postwar shift of gubernatorial races to the congressional election year is one explanation for declining turnout. Senatorial races do not attract additional voters to the November election. These hypotheses are tested on a pooled sample of the 1976, 1980, and 1984 CPS election studies.

Voting decisions take place in an election context, a fact so obvious that many models of individual vote decisions overlook its importance. This research focuses on two elements of election context that significantly affect decisions to vote. One element is the frequency of elections. The election frequency hypothesis (Boyd, 1981, 1986) holds that the more frequently elections are held, the less likely it is that an individual will vote in any given election. This hypothesis implies a direct connection between the American primary system and general election turnout. States that adopt primaries to select candidates and convention delegates will have a lower general election turnout than caucus/convention states. From this perspective the direct primary movement, a reform designed to further an egalitarian goal of increasing the influence of citizens in the nomination process, has the unintended effect of reducing equality of influence in general elections.

The data were made available by the Inter-University Consortium for Political and Social Research. The data were originally collected by the Center for Political Studies of the University of Michigan. Neither the CPS nor the ICPSR bear any responsibility for the analyses presented here. I would especially like to thank Jeffrey A. Lewis of Wesleyan University for his assistance in this research. An earlier version of this note was presented at the 1987 annual meeting of the Midwest Political Science Association.

JOURNAL OF POLITICS, Vol. 51, No. 3, August 1989
© 1989 by the University of Texas Press
A second element of context is the attractiveness of the presidential year ballot in terms of other statewide races. Another reform movement aimed at insulating state and local races from the influence of the presidential race led states to shift gubernatorial races to congressional election years. The presidential election now has fewer races to attract voters to the polls. This note estimates the effects of primaries and statewide races on presidential election turnout in the U.S. elections of 1976, 1980, and 1984.

**THE ELECTION FREQUENCY HYPOTHESIS**

In the context of a single presidential election year, the source of multiple elections is presidential and state primaries. Among states that hold presidential primaries, some conduct their primaries for state offices separately from the presidential primary. Some Southern and border states hold state run-off primaries as well. These states may hold three primaries and a general election in the same year.

The logic behind the election frequency hypothesis is that frequent elections impose opportunity costs on the campaign and party organizations that function as political intermediaries between candidates and citizens (Boyd, 1981, 1986).\(^1\) The resources (money and volunteer labor) that are available to electoral organizations to persuade and mobilize voters are limited. A sequence of primaries in a state may severely strain scarce resources. Resources devoted to early contests may not be available in the general election.

Moreover, the positive effects on turnout of expenditures of money and staff effort may dissipate with time. If a primary is held in late winter or early spring, political ads and organizational contacts may be forgotten by the November election. Thus, a corollary of the election frequency hypothesis is that the more distant in time a primary is from the general election, the more negative will be its effect on general election turnout. A further prediction, then, is that spring primaries will depress general election turnout more than fall primaries.

From this perspective the negative effect of party primaries on general election turnout is not likely to surface among the core electorate characterized by high interest and information. The core electorate is likely to vote in both primary and general elections. Rather the effect, if we observe it, will be among the peripheral electorate—those people whose participation is most dependent on a high stimulus campaign and a mobilization effort. These voters are least likely to vote in a party primary but may vote in a general election if their interest can be engaged.

The party primary variables in the present study are redefined as indirect

---

\(^1\)Boyd (1986, pp. 93–95) discusses other explanations of the election frequency hypothesis that do not depend on the concept of opportunity costs.
measures of their opportunity costs for the general election. These opportunity costs are not exactly equal to the total candidate expenditures in the primaries. The amount a candidate or party can raise for the primary and general elections is not a fixed sum. Victorious primary candidates can use their electoral success to generate additional support for the general election. And, public funding provides new funding for the presidential race in the general election.

Nevertheless, even if they are not fixed, donations of campaign funds and volunteer time are still limited, particularly in the nonpresidential contests on the ballot that do not benefit from public funding. Some portion of the scarce resources expended in the primaries cannot be replaced. Most particularly, the human resources available to party and campaign organizations may not be replaced if the volunteers grow weary of the effort or suffer the disappointment of having a favored candidate lose in the primary. I assume that the degree to which a primary consumes such resources varies with the number and importance of the offices being contested. This is the basis for the measures of the party primary election calendar variables.

A party primary variable is a summated index composed from the presidential, gubernatorial, senatorial, and congressional races in each state. Each statewide race (presidential, gubernatorial, and senatorial) in each party is weighted equally and is scored .5. For example, if both parties nominate senatorial candidates in a primary, the Senate races add one to the party primary index. A state with nominations for all three statewide races in both parties on the primary ballot would have a total score of three. Each congressional primary race in each party is scored .5 divided by the number of congressional districts in the state, so that if all congressional races in a state were contested in a primary, the sum of the congressional races would equal a statewide race.

The primaries are also divided into spring and fall categories in order to test the corollary prediction that primaries more distant in time from the general election have a particularly large impact on the general election. Since almost all primaries take place either before the first week of June or after the middle of August, August 1 is the date that demarcates spring and fall primaries. The measure for spring primaries, when the presidential race may be on the ballot along with the other three statewide races, is continuous and varies between zero and four. Since fall primaries and run-off primaries lack the presidential race, these indices are continuous variables with a theoretical range of zero to three. Of course, the actual scores for run-off primaries are much less than three, and they are zero for the large majority of respondents who live in states that do not have run-off primaries.2

2This measure of a contested primary is not intended to capture the divisiveness of a primary. There is considerable doubt now that the divisiveness of primaries can be measured by the
THE BALLOT ATTRACTIVENESS HYPOTHESIS AND OTHER CONTEXTUAL VARIABLES

The other contextual measures are coded as follows: The pulling effect of senatorial and gubernatorial races on the general election ballot is measured by a dummy variable for each race. Similarly, given the distinctive history and electoral laws in the South and its typically lower general election turnout, the eleven former Confederate states are denoted by a dummy variable. The most important registration law affecting general election turnout is the closing date of registration (Wolfinger and Rosenstone, 1980; and Caldeira, Patterson, and Markko, 1985). The number of days between the legal closing date and the election is coded for each state.\textsuperscript{3} Caldeira et al. (1985) find that partisan competition is associated with higher turnout in congressional races. The variable, “Safeness of the State,” tests this effect in presidential races. The variable is the mean of the percentage lead of the winning presidential candidate compared to his closest competitor in the state in the two preceding elections. A Pacific time zone dummy tests whether residents of those states, who may know the national election results before polls close in their states, turn out in lower rates.

A TEST OF THE MODEL ON THREE PRESIDENTIAL ELECTIONS

Table 1 presents a test of the full model on all of the respondents from the pooled samples from the 1976, 1980, and 1984 American National Election Studies. The pooling of these samples substantially reduces any sampling error flowing from the creation of contextual variables that are uniform for all of the respondents interviewed in a given state in any one election year. The respondents have been reweighted so that elections with a larger sample size do not weigh disproportionately in the test. The new weights are calculated so that weighted pooled sample size equals the original pooled sample size.

The dependent variable is turnout in the general election with survey reports of voting validated by checks against official records. Because the dependent variable is dichotomous, the model is tested by a probit analysis. The probit coefficients in table 1 have been transformed so that they have a straightforward interpretation. As transformed, these coefficients are simply the estimated effect on the probability of voting of a one unit change in the independent variable, when this change in the independent variable is mea-

\textsuperscript{3}The closing dates are taken from The Book of the States published by The Council of State Governments (various years), supplemented by information provided by state election officials.
### Table 1

**Calendar Effects in 1976–1984 Presidential Elections**

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Transformed Probit Coefficient</th>
<th>T-Value MLE/SE</th>
<th>Low or High or</th>
<th>Predicted % Turnout Rate When Independent Variable Is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.014</td>
<td>5.491</td>
<td>56</td>
<td>68</td>
</tr>
<tr>
<td>Age Squared</td>
<td>-.00010</td>
<td>-3.992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.093</td>
<td>14.181</td>
<td>51</td>
<td>72</td>
</tr>
<tr>
<td>Length Residence(^\text{log})</td>
<td>.10</td>
<td>6.256</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>Married</td>
<td>.12</td>
<td>7.674</td>
<td>62</td>
<td>66</td>
</tr>
<tr>
<td>Nonwhite</td>
<td>-.047</td>
<td>-2.010</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-.067</td>
<td>-1.859</td>
<td>62</td>
<td>56</td>
</tr>
<tr>
<td>Unemployed</td>
<td>-.072</td>
<td>-2.530</td>
<td>62</td>
<td>56</td>
</tr>
<tr>
<td>Party and Civic Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republican ID</td>
<td>.043</td>
<td>2.777</td>
<td>62</td>
<td>64</td>
</tr>
<tr>
<td>Strength of ID</td>
<td>.059</td>
<td>7.760</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>External Efficacy</td>
<td>.082</td>
<td>8.718</td>
<td>56</td>
<td>68</td>
</tr>
<tr>
<td>Calendar Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring Primary</td>
<td>-.039</td>
<td>-3.156</td>
<td>66</td>
<td>62</td>
</tr>
<tr>
<td>Fall Primary</td>
<td>-.039</td>
<td>-2.339</td>
<td>63</td>
<td>62</td>
</tr>
<tr>
<td>Runoff Primary</td>
<td>.0014</td>
<td>.034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Contextual Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Residence</td>
<td>-.058</td>
<td>-2.895</td>
<td>63</td>
<td>62</td>
</tr>
<tr>
<td>Senate Race</td>
<td>.0062</td>
<td>.368</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gubernatorial Race</td>
<td>.077</td>
<td>3.350</td>
<td>61</td>
<td>62</td>
</tr>
<tr>
<td>Closing Date</td>
<td>-.0014</td>
<td>-1.683</td>
<td>61</td>
<td>64</td>
</tr>
<tr>
<td>1980 Election</td>
<td>-.017</td>
<td>-.997</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1984 Election</td>
<td>-.028</td>
<td>-1.410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safeness of State</td>
<td>-.0018</td>
<td>-1.559</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific Time Zone</td>
<td>.018</td>
<td>.777</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Log-like \( R^2 = .17 \)  % Cases Correctly Predicted = 69%

Log Likelihood = -3140.8  Weighted \( N = 5416 \)


Low and high values of the statistically significant independent variables are defined as follows: For continuous and ordinal variables (age, education, length of residence, strength of ID, and external efficacy), low and high values are \(-1\) and \(+1\) standard deviations from the mean. For dummy variables Married, Nonwhite, Hispanic, Unemployed, and Republican ID, the low value is overall grand mean probability of voting and the high value is 1. For the dummy variables Spring Primary, Fall Primary, Southern residence and Gubernatorial race, the low value is 0 and the high value is the overall grand mean probability of voting. For closing date of registration, low value is 10 and high value is 30. A \( T \)-value greater than 1.96 or less than \(-1.96\) is statistically significant at the .05 level, two-tailed.
Effects of Primaries and Statewide Races on Voter Turnout

sured around its mean. For example, people of roughly average age become one percent more likely to vote each year they grow older. The transformed coefficients, then, have the same simple interpretation as ordinary regression coefficients without violating the assumptions of a continuously mea-
sured dependent variable.  

Probit coefficients are not linear. Changes in small or large values of an independent variable affect the dependent variable less than changes in values closer to the mean. To communicate the impact of typical low and high values, table 1 presents a series of simulations of the predicted effect on turnout of selected low and high values. For most of these variables, low and high are the mean and one (in the case of dummy variables) or $-1$ and $+1$ standard deviations from the mean (values that bound about two-thirds of a normally distributed set of cases). The important exception to this rule is the ballot and calendar variables, where values are selected to provide estimates of the effect of these variables on turnout nationwide.

**Ballot Attractiveness**

The effect of gubernatorial races on presidential year turnout is substan-
tial. The transformed probit coefficient indicates that a gubernatorial race increases the voting rate by a significant linear estimate of $0.08$. The post World War II movement toward four-year gubernatorial terms with elections shifted to the congressional election years has probably made a significant contribution to declining presidential year turnout. In 1954, twenty-nine of forty-eight states elected governors in presidential years. In 1982, only thirteen of fifty states still elected governors in presidential years (Jewell and Olson, 1982, p. 47). In the pooled 1976–1984 ANES election study, only 17% of the respondents lived in states with gubernatorial races on the presi-
dential ballot. Given that only 17% of the respondents could be influenced by a gubernatorial race, the impact of these races on turnout nationwide is necessarily small. The high value for gubernatorial races in table 1 is simply the actual value of the variable. The actual values produce a predicted turn-
out of 62%, the actual overall validated turnout in the pooled sample. If no state ballot had included a gubernatorial race—the low value—predicted turnout would be 61%. Thus, the limited number of gubernatorial races ac-
tually increased national turnout by an average of 1% in each of the 1976–1984 elections. But, we should ask the hypothetical question, “What

---

4The transformed probit coefficients were calculated by the HOTZTRAN program that produced these probit models. A method of calculating transformed coefficients is presented in Aldrich and Nelson (1984).

5Arkansas has since shifted to a four-year gubernatorial term elected in the congressional election year.
would have been the case if there had been a gubernatorial race in every state in these elections?" The answer is that turnout would have been 67%, or 6% higher than if no state had held a gubernatorial race. Therefore, the removal of gubernatorial races from presidential ballots has almost certainly contributed to declining turnout in postwar elections.

Interestingly, the effect of Senate races on presidential year turnout is insignificant. The explanation may be that both state public employees and candidate and party organizations have much more at stake in the outcome of a governor's race than a Senate race. State patronage jobs are an example (Wolfinger and Rosenstone, 1980, pp. 95–101). These stakes may lead state organizations to put greater resources into voter mobilization efforts for gubernatorial races. It may also be true that gubernatorial races attract a different constituency than presidential and senatorial races. If presidential and senatorial races raise similar issues of federal policy, senatorial races may not attract voters independently of the presidential race. However, gubernatorial races may present a number of distinctively state-related issues, such as state taxes and expenditures, and may draw additional voters to the November election.

This finding that gubernatorial elections increase presidential year turnout while senatorial elections do not is not at variance with other studies. This analysis, along with that of Wolfinger and Rosenstone (1980) are the only studies that have come to my attention that examine the impact of both gubernatorial and senatorial races in presidential years. Wolfinger and Rosenstone also found the effect of Senate races to be insignificant and did not include the variable in their final models. In contrast, they found the effects of gubernatorial races to be positive and significant, although their exceptionally large samples (unlike mine) allowed them to specify that the effect was confined to patronage states (p. 99).

Seemingly contrary findings are, upon examination, not apposite. For example, Conway (1981); Caldeira, Patterson, and Markko (1985); and Gilliam (1985) have all examined the effects of gubernatorial and/or senatorial elections in congressional election years, when the presidential race is not on the ballot. In off-year elections, these statewide races are the high stimulus races. One is not examining their incremental effect on a more visible presidential race. It is not surprising, then, that Caldeira et al. found Senate elections to attract voters to the polls in 1978, a congressional election year. (They did not test for gubernatorial races.) Similarly, Gilliam examined the effect of the competitiveness of these statewide races on turnout in 1978. While he found that competitive statewide races did draw voters to the polls, he did not systematically distinguish between Senate and gubernatorial races. Rather, he coded the more competitive of the two in each state. Conway found the effect of gubernatorial races to be positive and significant in 1978, but not in 1970 or 1974.
THE EFFECTS OF PRIMARIES

The negative effects of primaries on general election turnout are substantial. The transformed probit coefficient indicates that a single statewide race contested in both parties (a one unit change in the independent variable) in an average spring or fall primary lowers general election turnout by four percentage points. The prediction that primaries will lower general election turnout is well supported. Not confirmed is the prediction that spring primaries reduce turnout more than fall primaries because the positive effects of expenditures on media and organizational contacts in the spring will have dissipated with time. Rather, spring and fall primaries depress general election turnout by an equal amount.

What, we may reasonably wonder, is the combined effect of all the primary races? A good estimate is a comparison of predicted turnout using the actual values for the spring primary variable (the high value in table 1) with the turnout predicted to occur if no state had held a spring primary (the low value). For spring primaries that difference is four percentage points. Thus, spring primaries lowered general election turnout by an average of four percentage points nationwide in each of the elections of 1976 through 1984.

Many fewer states schedule their primaries in the fall than in the spring, and there are no fall presidential primaries. The actual effect of fall primaries is therefore smaller, as the comparison of high and low values for fall primary races reveal. Nationwide fall primaries reduced general election turnout by an average of one percent in each of these elections.

The coefficient for the very small number of run-off primaries is essentially zero. Ignoring the run-off primaries, the combined effect of the primaries nationwide is the sum of the effects for spring and fall primaries, or a total of 5%.

We may pause to wonder what might happen if election laws were changed with the sole concern of increasing presidential year turnout. Table 2 presents the predicted turnout for extreme values for the spring primary and gubernatorial race variables, compared to the actual values. The table suggests that turnout would jump to 71% if every state held a gubernatorial race and abolished its spring primary, an increase of nine percentage points. In contrast, if no state scheduled a gubernatorial race in the presidential year and all states held a highly contested spring primary, turnout would fall to 55%, 16 percentage points less than 71. Neither extreme scenario has many advocates, but the estimates demonstrate that U.S. election calendars and nomination procedures have a significant effect on general election turnout.

SUMMARY AND CONCLUSIONS

This research supports both the ballot attractiveness and the election frequency hypotheses. Gubernatorial races on a presidential year ballot in-
increase voting rates by six percentage points, drawing people to the polls who would not otherwise vote in presidential elections. It is probable, then, that the shift since 1952 of many gubernatorial races to the congressional election years has contributed to declining turnout.

Party primaries depress general election turnout. A single statewide race contested in both parties lowers the probability of voting by four percentage points in a typical spring and fall primary. Overall, spring and fall primaries reduced turnout by about five percentage points in each of the presidential elections of 1976, 1980, and 1984.

Two reform movements, the direct primary and the shift of gubernatorial elections to congressional election years, have had the unfortunate effect of reducing general election turnout. It may well be that other benefits projected by the reforms’ supporters justify them in spite of these adverse effects. The shift of gubernatorial races to congressional years may increase turnout in these elections. Party primaries may also provide benefits that offset their negative impact on turnout. For example, Geer (1986) argues that a further set of reforms of presidential primaries would increase the capacity of parties to nominate candidates with broad electoral support. It is not my point, then, that the negative effects of primaries on general election turnout in any way settles the debate on the merits of the expanded use of presidential primaries (cf. Crotty, 1977; Shafer, 1983; Polsby, 1983; and Reiter, 1985). Nonetheless, the impact of state and presidential primaries on general election turnout is troubling, and the effect ought to be considered in debates on optimal procedures for nominating candidates.

Manuscript submitted 13 November 1987
Final manuscript received 4 October 1988
REFERENCES


Richard W. Boyd is professor of government at Wesleyan University, Middletown, CT 06457.