

## The institutional and political factors that influence voter turnout

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Accepted 21 November 1991

**Abstract.** State data were used to develop an econometric model of voter turnout for an off-year (1982) general election. The premise of the research was that existing voter turnout models lacked some of the true explanatory variables. In particular, the political efficacy component of the decision to vote was believed to be under-represented in those models.

Previously untested institutional, political, and weather variables proved to be significant explanatory variables. Many variables that were significant in previous studies were not significant in the 1982 general election analysis. 91% of the variation in voter turnout was explained, a significant improvement over previous efforts. Since the values of many of the variables are directly chosen by elected officials, the model provides policymakers with a menu of opportunities for boosting voter turnout.

### 1. Introduction

While millions of people around the world fight for the right to vote, a shrinking number of Americans are exercising their right to vote (Abramson and Aldrich, 1982; Cassel and Luskin, 1988; Jackman, 1987). Many Americans, in and out of government, are becoming alarmed about voter apathy and or alienation. Presidential elections only draw about half of the potential electorate, and other elections attract far fewer participants. Our increasingly complex policy questions, and our government's numerous checks and balances, mean that small special interest groups can dominate political decisionmaking. Indeed, a recent *Time* magazine (10/23/89) cover story (Cloud, 1989) entitled "Is Government Dead?" argued that "politicians are letting America slip into paralysis." Though not all agree (Cook, 1989; Kuttner, 1987; Stone, 1984), such concerns appear to make high levels of political participation more important to effective government than ever.

The expected quality and amount of public participation in collective decisionmaking (especially electoral participation) is a key component of many, perhaps even most, public choice studies. That fact has motivated many of the studies of the post-1960 decline in voter turnout. The methods used in many

of them have suffered severe criticism (Cassel and Luskin, 1988; Jackman, 1987). Even if the previous studies had not been challenged, they would not offer much assistance to policymakers seeking to boost voter turnout. They rely almost entirely on demographic, attitudinal, and economic variables that policymakers have no direct control over. Cassel and Luskin (1988) argue against such simple (therefore mis-specified and biased) explanations of voter turnout, and suggest many other variables that may affect voter turnout.

The purpose of the research was to develop a model of voter turnout that is as fully specified as possible, and thereby facilitate the testing of variables not previously linked to voter turnout. The research hypothesis was the conclusion reached by Cassel and Luskin (1988): entire classes of variables were absent in previous efforts. Institutional and political variables were of particular interest. Institutional and political variables (often called contextual variables [Wolfinger and Rosenstone, 1980]), when included in previous efforts, were usually limited to factors that affected the ease of voting or registering to vote. In addition, weather data were included. Surprisingly, despite the widely held belief that weather affects turnout, weather variables were not included in previous models. The rationale underlying the specification of the economic model is described in Section 2. The results of the econometric analysis are presented in Section 3. A discussion of policy considerations (Section 4) precedes a summary and concluding remarks (Section 5).

## 2. Model development

Like most decisions, the decision to vote depends on expected benefits and costs. Struthers and Young (1989) have derived an expression for voters' expected utility (R).

$$R = BP + D - C \quad (1)$$

where: B = investment benefits, D = consumption benefits, C = costs.<sup>1</sup> The probability (P) that one person's decision to vote will change the outcome of a political contest is small (Mueller, 1987). Even in a typical multi-contest election, the probability of changing just one of the outcomes of an election is small. Some analysts (Crain, Shugart II and Tollison, 1988; Stigler, 1972) still argue that investment aspects of voting are significant. If people vote because they think it will produce more favorable policies, the institutional and political context of elected officials may affect interest in helping to elect or defeat them. Stigler's (1972) results indicate that the margin of victory affects elected officials' ability to enact their preferred policies. Even though any single voter's impact on a candidate's mandate will be small, the significance of the

margin of victory reduces the importance of Struthers and Young's (1989) P term, and weakens the conclusion that voting is irrational.

Further support for the importance of investment factors comes from Jackman (1987). He demonstrated that a substantial amount of the inter-country variation in voter turnout is explained by differences in political institutions. However, the United States was a substantial outlier among the 19 countries in Jackman's (1987) data set.

Jackman's (1987) analysis indicated that turnout was inversely related to the degree to which decisionmaking was constrained. Therefore, institutional constraints on voters' or elected decisionmakers' powers ought to reduce voter turnout. Therefore, variables<sup>2</sup> such as BBAMD (balanced budget amendment), DEBTLM (debt limitation), INIT (availability of initiative and referendum), LEGNUM (number of legislators), CAMPART (bi- or unicameral state legislature and nonpartisan elections) and LIVA (line-item veto authority) were included in the econometric model. BBAMD and DEBTLM directly constrain state legislators' options, so that a negative coefficient would be expected for them. INIT empowers voters, but it constrains legislators, thereby leaving its expected coefficient uncertain. LIVA makes governors more powerful, but it constrains legislators, thereby leaving the expected sign of its coefficient uncertain. Raising the number of legislators or separately elected members of the executive branch reduces the power of each, so that the coefficients of LEGNUM and EXECOFF were expected to be negative.

One state (Nebraska) has a unicameral legislature and nonpartisan elections (CAMPART = 0). All others are bicameral and partisan (CAMPART = 1). If the effect of unicameralism is dominant, Jackman's (1987) results indicate that CAMPART's coefficient should be negative. Powell's (1986) and Teixeira's (1987) results indicate that if the effect of partisanship is dominant, CAMPART's coefficient should be positive.

Taxation underlies much of the interest in politics. ELAST (the income elasticity of income and sales tax revenues) was included in the model since turnout was expected to be especially sensitive to easily seen changes in tax burdens. Its coefficient was expected to be positive.

Riker and Ordeshook (1968) and Carter (1984) believe that the consumption aspects of voting are the primary reasons why people vote. Civic pride, peer pressure, and other socio-economic factors create a perceived obligation to vote on top of any interest in influencing the outcome. Political parties often work to influence the perceived obligation to vote. CONTROL (one party control of both legislative houses and governor) was a proxy for the positive get-out-the-vote impact of partisanship (Wolfinger and Rosenstone, 1980). CONTROL's coefficient was therefore expected to be positive. The widespread belief that Republicans are more certain to vote than Democrats was tested by including GOVSPOL (= 1 if the governor is a Democrat, = 0 otherwise).

A negative coefficient for GOVSPOL would be consistent with that view. Economic and demographic control variables suggested by previous studies were also included to control for factors that affect the perceived obligation to vote. Since many specific variables are arguably linked to investment and consumption aspects of voting, D and B may be correlated rather than independent arguments in (1). In other words, decisionmaking constraints may also reduce the perceived obligation to vote.

Based on (1), the general form of the econometric model was:

$$\text{TURNOUT} = f(\text{P}, \text{I}, \text{SEP}) \quad (2)$$

where: TURNOUT = the percentage of the voting age population that voted in the November, 1982 general election; P = political variable vector; I = institutional variable vector; SEP = socio-economic and physical control variable (including weather) vector. Because it is a percentage, TURNOUT is technically a truncated or censored variable. However, since none of the observations approached either the 0% or 100% limit, no real truncation occurred. Since some explanatory variable data were available only from the 1980 Census, 1982 turnout data were preferred to more recent data.<sup>3</sup>

The functional form of (2) and the initial variable specification was general. The relevant theory has not advanced enough to indicate which specific variables should be included in the model (Grofman, 1983). Therefore, the initial model specification included some variables not named above. The data helped to fine-tune the model in several ways. A few eliminated variables had statistically insignificant coefficients. Some eliminated variables were redundant. They were highly correlated with one or more other variables. In a few cases, more than one version of a variable was available. Empirical tests determined which version was most appropriate. Some of the eliminated variables are discussed in the next section.

Linear and log-linear forms of (2) were tested. There was very little difference between the fit of the linear and semi-log (log-linear) specifications. Since there are no theoretical reasons to prefer one to the other, only the easier-to-interpret linear model is presented.

### 3. Results of the econometric analysis

The empirical results (Table 1) support the general hypothesis that political and institutional variables have a significant impact on turnout, and support the specific hypothesis that constraining decisionmaking reduces voter turnout. The model accounted for 91% of the variation in 1982 voter turnout among the states. A brief discussion of some eliminated variables and control variables

Table 1. Econometric model of 1982 general election voter turnout

Institutional and political variables		Control variables	
BBAMD	-6.68 (3.11)***	AREA	0.058 (4.31)***
CAMPART	11.16 (2.68)**	POPGROWTH	-0.392 (7.16)***
CONTROL	3.65 (2.36)**	POVERTY	-0.91 (3.86)***
DEBTLIM	-4.33 (3.42)***	RAIN	-0.060 (2.95)***
ELAST	4.44 (1.97)*	SENIOR	1.32 (3.08)***
EXECOFF	-0.97 (6.39)***	TEMPDIV	-0.527 (4.99)***
GOVSPOL	-2.75 (1.88)*	UR	0.64 (2.13)**
INIT	3.96 (2.86)***	YOUTH	1.64 (4.37)***
LEGNUM	-0.048 (4.444)***		
LIVA	-4.98 (2.74)***		
REGISTER	-1.13 (0.51)		
Constant	-4.29		
R <sup>2</sup>	0.91		
$\bar{R}^2$	0.85		
F-stat	15.40***		

\*\*\*, \*\*, \*: 99%, 95%, 90% significant t-tests, respectively.

precedes the discussion of the significant political and institutional variables.

Contrary to initial expectations, turnout was not significantly affected by having a gubernatorial or US Senate race on the ballot. The coefficients of those dummy variables had the expected sign, but their t-statistics were well short of the one-tailed 90% significance level. Perhaps most US Senate and gubernatorial races are not close enough to generate additional interest in the election? Attempts to include direct measures of the expected closeness of the election produced the same result; a coefficient with the correct sign, but statistically insignificant. That result contradicts the findings of some previous studies (Barzel and Silberberg, 1973; Thompson, 1982; Tollison and Willett, 1973).

The results for REGISTER provide mixed support for those (Pivin and Cloward, 1988; Squire, Wolfinger and Glass, 1987; Wolfinger and Rosenstone, 1980) who blame mandatory registration for the US having lower turn-

out than any democracy other than Switzerland. In another analysis<sup>3</sup> it was strongly significant, but in the 1982 general election, though its coefficient had the right sign, it was statistically insignificant. Variables representing other apparent impediments to voting also proved to be insignificant. They included the number of days between the registration deadline and the election, the required length of residency, and the ability to register by mail. Furthermore, despite anecdotal evidence to the contrary, use of voter registration rolls for selection of people for jury duty did not appear to significantly reduce turnout. However, the latter conclusion is subject to change for at least two reasons. Only five states selected their jurors exclusively from other sources, and some had dropped the practice very shortly beforehand. Since several additional states have recently eliminated the use of voter registration lists for jury duty assignments, that conclusion can eventually be tested again with better data.

The coefficients of the investment-related variables (Table 1) suggest that the marginal voter is easily kept away from the polls. Reducing the powers of elected officials, especially state legislators, lowers turnout. Cutting the number of elected officials, and letting voters make policy decisions directly, would increase turnout. Potential voters' sensitivity to the bottom line of policy outcomes supports those who believe that investment benefits are significant motivating factors. They also support Peltzman's (1990) conclusion that voters are sensitive to a great deal of information.

LIVA's negative coefficient indicates that constraining state legislators' powers impacts voter turnout more than constraining the governor. Apparently, letting voters legislate directly by way of the initiative and referendum process (INIT) increases turnout even though it reduces the power of legislators. Not surprisingly, voters are more concerned with their own powers than those of their elected representatives. The negative coefficient of EXECOFF indicates that its affect on individual officeholders' powers significantly affects turnout.

The sensitivity of tax revenues to changes in income (ELAST) is apparently positively related to turnout in off-year elections. Such sensitivity largely reflects the progressivity of state income and sales taxes. A variable indicating the share of tax revenues derived from income and sales taxes (the most visible taxes) was not significant.

GOVSPOL's negative coefficient is consistent with the widely held belief that the traditional supporters of the Democratic Party are less determined voters. GOVSPOL was a better explanatory variable than a variable indicating the Democrats' share of the legislature.

Strictly speaking, the large positive coefficient of CAMPART indicates that the other variables leave a significant amount of Nebraska's turnout unexplained. Therefore, CAMPART's significance could be due to any unique, turnout-relevant characteristics of Nebraska, including, but not necessarily

limited to its unicameral legislature and non-partisan state legislative contests. Its positive coefficient indicates that negative factors like nonpartisanship reduce turnout more than positive factors like unicameralism increase it.

CONTROL was highly correlated with a dummy variable based on Wolfinger and Rosenstone's (1980) determination of which states were dominated by political machines; an indication that one party control of the governor and the legislature is strongly associated with machine politics. CONTROL was the superior explanatory variable. Since one of the major functions of a political machine is to get out the vote, it is not surprising that one party dominance increases turnout.

#### 4. Policy considerations

The values of eight of the eighteen significant variables are chosen by elected officials. While each of those eight variables provides a clear opportunity to increase voter turnout, it is not clear in each case that the authorities should seize that opportunity. For most of the policy variables, a change involves significant trade-offs.

Eliminating the line-item veto, debt limits, and balanced budget requirements, which constrain debt, would increase the importance of voting. However, the effect of such constraints might be preferable to the results of increased turnout. Analyses of the tax and spend effects of LIVA, DEBTLM, and BBAMD (Merrifield, 1991 and 1992) indicate that LIVA has only a small downward effect on per capita spending, DEBTLM doesn't significantly affect spending or taxation, and BBAMD actually increases per capita spending and taxation significantly.

More states could permit voters to legislate directly through the initiative and referendum process (INIT), but voters would face a longer ballot. If the average voter is compelled, or feels obligated, to complete the entire ballot, lengthening the ballot would raise the cost of voting, plus it risks making voters less well-informed on each issue and candidate. With more decisions to make, each decision may be made less carefully.

In contrast, reductions in EXECOFF would increase turnout by concentrating executive branch powers, and perhaps also by shortening the ballot. Since reductions in EXECOFF would also reduce state government per capita spending (Merrifield, 1992), it is one of the more attractive ways to increase turnout. Whether a reduction in EXECOFF is advisable will no doubt hinge on concerns about the consequences of concentrating power.

The coefficient of CAMPART is based on only one observation of non-partisanship (Nebraska), but it, along with the coefficient of CONTROL, suggests that strengthening the role of political parties would significantly increase

turnout. Exactly which steps should be undertaken to strengthen the parties is unclear. The stereotypes attached to stronger political parties (patronage-based civil service, corruption, and policymaking by a few insiders in smoke-filled rooms) may not be well-founded, but they may be enough to deter the adoption of policies that would strengthen the parties.

Reducing the number of state legislators (LEGNUM) would increase turnout, but at the expense of increased per capita taxation and spending (Merrifield, 1991 and 1992). Having fewer, and therefore more powerful legislators would increase interest in voting, but would increase the size of government by making the job of legislator more attractive, and by reducing the transaction costs inherent in the legislative process. Since the coefficient of LEGNUM indicates that it would take a very large reduction in the number of legislators to significantly increase turnout, it is probably not a very attractive way to increase turnout.

Increases in the progressivity of income and sales taxes (ELAST) would increase turnout, while also redistributing income from higher to lower income individuals. Despite the usual efficiency price tag of higher marginal tax rates, that will make it an attractive option to many people.

The value of POPGROWTH is not specified by policymakers, but its importance in the model suggests other policy measures. Some, including the use of Postal Service change-of-address cards to re-register movers, have already been debated by the US Congress (Squire et al., 1987). Another way to reduce the effect of mobility on turnout (standard practice in many European countries) would be to place the burden of registration on the authorities.

## 5. Summary and conclusions

The results support Jackman's (1987) conclusion that constraining decision-making reduces turnout, and Cassel and Luskin's (1987) conclusion that entire classes of variables were absent in previous analyses. Consistent with conventional wisdom, weather variables affect turnout.

Even though the model presented in Table 1 accounted for 91% of the interstate variation in voter turnout, and has already generated some insights and policy suggestions, further testing is in order. The robustness of the results should be tested by expanding the data set to include additional off-year general elections, especially the most recent ones once the 1990 Census data is published. Replication of results will improve the chance that insights will lead to policy changes affecting turnout, especially where significant trade-offs are involved. Though presidential elections may not yield as much information about institutional and political variables<sup>3</sup>, but state turnout data may still yield some useful insights from them.

## Notes

1. Costs vary widely (Peters, Martin and Kyle, 1986), but the types of costs are fairly straightforward. In most states, a registration form must be procured and filed prior to the deadline (REGISTER = 0 for the states that do not require registration). In some states, registration exposes people to possible jury duty. Voting takes time and money to get to and from the polling place.
2. A complete list of variables with definitions, sources, and a table of descriptive statistics is in the appendix.
3. An off-year (non-presidential) general election year was chosen to focus on state level differences in institutional and political variables. An analysis of November, 1984 general election data confirmed the suspicion that the effect of differences in states' institutional and political characteristics would be obscured by the effect of the presidential race.

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## Appendix

### Variables, definitions and sources

#### Source abbreviations

- SA = Statistical Abstracts of the United States (various years)
- TBS = The Book of the States (various years)
- NCDC = National Climate Data Center
- DBM = Magleby, D.B. (1984), "Direct legislation: voting on ballot propositions in the US," Johns Hopkins Press.
- FR = Feenberg, D.R. and H.S. Rosen (1986), "State personal income and sales taxes: 1977–83," on pp. 135–179 in H.S. Rosen (Ed.), "Studies in state and local public finance, University of Chicago Press.
- CSG = directory of elected state officials published by the Council of State Governments.

### I. The dependent variable

- TURNOUT = the percentage of the voting age population that voted in the general election in state  $i$ ,  $i = 1(\text{AL}), 2, 3, \dots 50(\text{WY})$  (SA)

### II. The independent variables

#### A. Institutional and political variables

1. BBAMD = balanced budget amendment in the state Constitution: 1 = yes. (TBS)
2. CAMPART = bicameral legislature and partisan legislative elections (= 1) or Nebraska (= 0), which is the only unicameral, nonpartisan state. (TBS)
3. CONTROL = 1 if one political party controls both houses of the legislature and the governorship, or = 0 otherwise. (TBS)
4. DEBTLIM = a limit on state general obligation debt included in the state's constitution: 1 = yes. (TBS)
5. ELAST = Income elasticity of income and sales tax funds. (FR)

6. EXECOFF = # of separately elected executive branch officials. (CSG)  
 7. GOVSPOL = political party of the governor: 1 = Democratic, 0 = Republican. (TBS)  
 8. INIT = constitutional provision for direct or indirect legislation by petition and ballot initiatives: 1 = yes. (DBM)  
 9. LEGNUM = total # of state senators and representatives. (TBS)  
 10. LIVA = Governor has Line Item Veto Authority: 1 = yes. (TBS)  
 12. REGISTER = pre-election day registration requirement: 1 = yes, 0 = no. (TBS)

*B. Control variables*

1. AREA = land area in millions of acres. (SA)  
 2. POPGROWTH = 1970–80 population growth rate. (SA)  
 3. POVERTY = % of families below poverty line in 1979. (SA)  
 4. RAIN = election day rainfall in the state's largest city measured in hundredths of an inch of water. (NCDC)  
 5. SENIOR = % of 1980 population aged 65 years and over. (SA)  
 6. TEMPDIV = the difference between the actual and normal temperature on election day in degrees F. (NCDC)  
 7. UR = 1982 unemployment rate. (SA)  
 8. YOUTH = % of 1980 population aged less than 18 years. (SA)

*Table A1. Descriptive statistics*

	Mean	Standard deviation	Minimum	Maximum
<i>Dependent variable</i>				
TURNOUT	40.924	9.046	17.000	58.400
<i>Independent variables</i>				
BBAMD	0.880	0.328	0.000	1.000
CAMPART	0.980	0.141	0.000	1.000
CONTROL	0.480	0.505	0.000	1.000
DEBTLIM	0.700	0.463	0.000	1.000
ELAST	1.085	0.313	0.000	1.830
EXECOFF	5.900	2.288	1.000	11.000
GOVSPOL	0.540	0.503	0.000	1.000
INIT	0.460	0.503	0.000	1.000
LEGNUM	151.240	63.436	49.000	424.000
LIVA	0.860	0.351	0.000	1.000
REGISTER	0.900	0.303	0.000	1.000
AREA	46.264	56.247	0.800	375.300
POPGROWTH	16.286	14.392	-3.700	63.800
POVERTY	12.498	3.463	7.900	23.900
RAIN	15.154	34.798	0.000	154.000
SENIOR	10.939	2.178	2.780	17.290
TEMPDIV	6.300	8.627	-16.000	21.000
UR	9.228	2.293	5.500	15.500
YOUTH	32.725	2.213	27.570	41.100