Potential Impact of Referenda and Initiatives on Voter Turnout: Evidence from the 1998 General Election

Cebula, Richard and Unemori, Mary

Jacksonville University, Armstrong State University

2 December 2005

POTENTIAL IMPACT OF REFERENDA AND INITIATIVES ON VOTER TURNOUT: EVIDENCE FROM THE 1998 GENERAL ELECTION

Richard J. Cebula, Armstrong Atlantic State University, Savannah, Georgia, U.S.A.
Mary Ann Unemori, Armstrong Atlantic State University, Savannah, Georgia, U.S.A.

ABSTRACT

*This empirical study seeks to broaden the interpretation of the "rational voter model" so as to include the potential effects of "direct democracy" on the voter participation rate. Direct democracy is assumed to take two forms: initiatives and referenda. This study tests the hypothesis that initiatives and/or referenda may significantly affect voter turnout because although they may elevate the expected gross benefits of voting by "empowering voters." Using cross-section analysis for the 50 states for the 1998 general election, this study finds that **referenda did** significantly increase voter turnout.*

Keywords: Direct Democracy; Referenda; Initiatives; Voter Turnout

1. INTRODUCTION

Voting is a fundamental component of the process of determining the size and form of government outlays, taxation, regulatory and other decisions, and hence plays a significant role in societal resource allocation. No theory of voter behavior has received greater attention than that introduced by Downs (1957). Since Downs (1957) first introduced the Rational Voter Model, numerous other studies have appeared to enhance or test the theory or variants thereof, including (Buchanan and Tullock, 1962), (Buchanan, 1968), (Riker and Ordeshook, 1968), (Brazel and Silberberg, 1973), (Ashenfelter and Kelly, 1975), (Kafoglis and Cebula, 1981), (Cebula and Kafoglis, 1983), (Ledyard, 1984), (Cox and Munger, 1989), (Morton, 1991), (Teixeira, 1992), (Aldrich, 1993), (Green and Shapiro, 1994), (Verba, Schlozman, and Brady, 1995), (Leighly, 1996), (Knack, 1999), (Copeland and Laband, 2002), (Barreto, Segura and Woods, 2004), (Feddersen, 2004), and (Cebula, 2005). Concern over low voter participation rates for the U.S. is expressed frequently in the media and elsewhere. In the words of Putnam (2000, p. 31), "with the singular exception of voting, American rates of political participation compare favorably with those in other democracies…"Putnam (2000, p. 31) further observes that "We are reminded each election year that fewer voters show up at the polls in America than in most other democracies…"

Clearly, since election outcomes can have profound resource allocation implications, the underlying free-rider problem in the voting decision may carry a huge price tag. So, what determines the benefits of voting? And what determines voter participation or the lack of it? Once there is a better understanding of the answers to these questions, perhaps there will also be a better answer to the question "How can the U.S. voter participation rate be increased?"

In an effort to help answer these questions, the objective of this study is to determine whether "direct democracy" influences the voter participation rate. In this study, direct democracy can take the form of either referenda or initiatives (or both). The actual hypothesis being tested in this study is that referenda and/or initiatives do increase the voter participation rate (voter turnout). This is because the

existence of referenda and/or initiatives presumably enhances the power of voters to influence government decision-making. This enhancement implies increased expected *gross* benefits from voting, which in turn *increases* the expected *net* benefits from voting, *ceteris paribus.*

The model is a cost-benefit framework that parallels the rational voter model. This is provided in Section 2 of this study. Section 3 provides the empirical analysis, which consists of a cross-section analysis of the 50 states in the 1998 general election. Section 4 of the study provides a summary and overview.

2. THE FRAMEWORK

Paralleling in principle the rational voter model, it is hypothesized that the probability that a given eligible voter will actually vote, PROBV, is an increasing function of the *expected* gross benefits (EGB) associated with voting, *ceteris paribus*, and a decreasing function of the *expected* gross costs (EGC) associated with voting, *ceteris paribus*. Thus, if follows that:

$$PROBV = f\ (EGB,\ EGC),\ f_{EGB} > 0,\ f_{EGC} < 0;\ f_{(EGB\text{-}EGC)} > 0$$

The central hypothesis being tested in this study addresses whether referenda (REFERE) and initiatives (INIT) increase the power of voters, thereby increasing EGB and (EGB-EGC) and hence the voter participation rate (VPR). It is argued in this study that referenda may indeed increase the power of voter by enabling them to make decisions that elected representatives might otherwise make. Much the same can be said of initiatives, namely, that initiatives may empower voters by enabling them to some degree to establish agendas for elected representative officials to follow, which in turn elevates the ECB and hence (EGB-EGC).

Aside from REFERE and INIT, other factors influence the voters' EGBs and EGCs; For instance, it is argued here that the greater the level of educational achievement, the greater may be the expected gross benefits from voting, *ceteris paribus*. Arguably, the higher one's educational attainment, the greater one's knowledge of and appreciation of the significance of voter participation *per se* in a democratic society. Indeed, greater levels of average educational attainment may lead to the subjective assessment that voting *per se* yields greater benefits, regardless of the election outcome, insofar as voting can be used: (a) to create positive feelings about fulfilling one's "civic duty"; (b) to create the feeling of helping to maintain the vitality and survival of the democratic process (in part, by obfuscating the free-rider); and (c) to create the feeling of helping to clarify the degree to which election winners (and the political parties with which they are affiliated) can interpret their victories as only marginal or as a *mandate* for implementing their espoused policies/party platforms. Thus, it is hypothesized that the greater the percentage of the population in a state with at least a high school diploma (HS), the higher the voter participation rate (VPR) in the state, *ceteris paribus*.

The female labor force participation rate (FLFPR) may also influence the expected benefits from voting. Over time, the FLFPR has risen dramatically. Observe, for instance, that the FLFPR rose at the national level from under 40 percent in 1965 to roughly 60 percent in 1998 (Council of Economic Advisors, 2005, Table B-39). As the FLFPR rises, the percentage of the female population in the workplace increases and

arguably thereby becomes more/better informed on and sensitive to a variety of labor market and economic issues. Moreover, this increased awareness of and sensitivity to such issues would seem likely to breed an increased interest in the potential impact that their votes might carry. That is, as the FLFPR increase, women in the workplace may perceive a greater need (benefit) from acting on behalf of their own best interests with respect to participating in the election process. Hence, it is hypothesized that the higher the FLFPRE in a state, the greater the overall VPR in that state, *ceteris paribus.*

It is also expected that the more poorly a state's economy is performing, e.g., the higher the state's unemployment rate (UR), the greater the interest the public (eligible voters) in the state may have in the outcome of a major election. As Cebula (2005, p. 162) argues, if "…the unemployment rate…is rising, the public may wish to *express* their various fears and concerns about…unemployment and/or their feelings for a need for economic policy changes." Therefore, the greater the UR in a state, the greater may be the expected benefits from voting as the public *uses voting to express their feelings* (Copeland and Laband, 2002), i.e., their fears and concerns regarding actual and potential job loss and/or desires for more efficacious government economic policies. Hence, it is hypothesized here that he greater the UR in a state, the greater the VPR in that state, *ceteris [airbus*.

Next, there is the issue of the expected cost of voting *per se.* Factors systematically affecting the EGC theoretically could assume a variety of forms, one of which might well be reflected by median family income (MFI). Arguable, the higher the MFI, the greater the opportunity cost of voting, i.e., the incentive to free-ride is increased. Alternatively, people with this higher income may be so immersed in their work/careers that they either do not have the time to be well enough informed voters to intelligently/effectively vote (and therefore *feel* that the act of voting is not efficient or meaningful) and/or simply do not have the actual time *per se* to vote. Thus, it is hypothesized that the higher the MFI in a state, the lower the VPR in that state, *ceteris paribus*.

Finally, age might influence the expected benefits from voting. The population age 65 and older (AGE) is largely retired. In addition, much of this age group lives more or less on a fixed income or depends to some degree on Medicare and Social Security. Thus, this age group might be quite sensitive to such considerations as Social Security benefits, Medicare and Medicaid policies, income tax rates, and the taxability of Social Security benefits, as well as economic conditions such as inflation. These types of policy and economic conditions can significantly influence the economic status and physical health of those in this age group. Moreover, this age group may have more than other age groups to study issues and candidates, as well as to organize *among* themselves in support or opposition to certain policies or candidates. As a result, is expected that the greater the proportion of a state's population that is age 65 or older, the greater the VPR in that state, *ceteris paribus.*

Based upon the arguments about, equation (1) can be restated as:

EGB = g (REFERE, INIT, HS, FLFPRE, UR, AGE), $g_{REFERE} > 0$, $g_{HS} > 0$, $gg_{FLFPRE} > 0$,
$g_{UR} > 0$, $g_{AGE} > 0$ (2)
EGC = h (MFI), $h_{MFI} > 0$ (3)

Based upon (2) and (3), it follows that the voter participation rate (VPR) function is given by:

VPR = j (REFERE, INIT, HS, FLFPR, UR, MFI, AGE), $j_{REFERE} > 0$, $j_{INIT} > 0$, $j_{HS} > 0$, $j_{FLFPR} > 0$,
$j_{UR} > 0$, $j_{MFI} < 0$, $j_{AGE} > 0$ (4)

3. EMPIRICAL ANALYSIS

Based on the model outlined in (4), the following reduced-form equation is to be estimated:

$VPR_k = a_0 + a_1 REFERE, + a_2 INIT_k + a_3 HS_k + a_4 UR_k + a_5 FLFPR_k + a_6 MFI_k + a_7 AGE_k + u$ (5)

where:

VPR_k = the voter participation rate in state k in the 1998 general election, expressed as a percent;

A_0 = constant term;

$REFERE_k$ = a binary (dummy) variable indicating those states offering voters the power to vote on referenda: for those states with referenda, $REFERE_k$ = 1; $REFERE_k$ = 0 otherwise;

$INIT_k$ = a binary (dummy) variable indicating those states offering voters the power to vote on initiatives: for those states with initiatives, $INIT_k$ = 1; $INIT_k$ = 0 otherwise:

HS_k = the percentage of the adult population in state k age 25 years and older that had at least a high school diploma in the year 1998;

$FLFPR_k$ = the female labor force participation rate in state k in the year 1998, expressed as a percent;

UR_k = the percentage unemployment rate of the civilian labor force in the state k in the year 1998;

MFI_k = the median family income in state k in the year 1998;

AGE_k = the percent of state k's population in year 1998 that was age 65 or older;

u = stochastic error term.

The estimate deals with the 1998 general election. The choice of 1998 involved several considerations. First, it was deemed preferable to examine a major election year that was not a Presidential election year, since Presidential election years tend to bring voters to the polls for a variety of "emotional" reasons (Copeland and Laband, 2002) that might obscure the effects of either referenda or initiatives on voter turnout. Second, although 2002 was an even-numbered election year and thus something of a "major" election year, it nevertheless was the year following the terrorist attacks of September 11, 2001, which fact might have acted to make election motives in 2002 more complex to interpret. Thus, the year 1998 was the most recent even-numbered election year that was not associated with either a Presidential election or a possible post-9/11 trauma. Indeed, because of the facts that 1998 was neither a Presidential election year nor a year associated with the trauma of the September 11th terrorist attacks, this year might be appealing to study because it *may* enable us to focus on those who are more "serious" voters.

To measure "direct democracy," two dummy variable are adopted, REFERE, and $INIT_k$. A total of 24 states provide the referendum process, whereas 24 states offer the initiative process. The two sets of states are nearly identical. The only differences between the two sets would be that: Illinois, Florida and Mississippi do offer the initiative process but not the referendum process, whereas New Mexico, Kentucky, and Maryland *do* offer the referendum process but *not* the initiative process. The source for the VPR date is http://www.uselectionatlas.org/USPRESIDENT/vto.php?year=2004&datatype=national. The other variables were obtained from the U.S. Census Bureau (2001, Tables 404, 219, 606, 572, 667, 20).

Estimating equation (6) by OLS, adopting the White (1980) heteroskedasticity correction, yields:

VPR_k = -133.6 + 7.004 $REFERE_k$ – 4.303 $INIT_k$ + 0.0.89 HS_k + 2.35 UR_k
                    (+2.50)   (-1.50)   (+2.57)   (+2.41)

+ 1.41 $FLFPR_k$ – 0.0003 MFI_k, + 0.55 AGE_k, R_2 = 0.64, $adjR^2$ = 0.58, F = 10.69   (6)
(+4.21)   (-1.43)   (+1.04)

where terms in parenthesis are t-values.

In equation (6), the estimated coefficients on three of the five non-dummy variables exhibit the expected signs and are statistically significant at beyond the five percent level. The estimated coefficient on one of the measure of direct democracy, REFERE, is significant at the two percent level with hypothesized positive sign; however the coefficient on INIT fails to be statistically significant at the ten percent level. The coefficient of determination is 0.64, so that the model explains more than three-fifths of the variation in the voter participation rate. Finally, the F-statistic is significant at beyond the one percent level, attesting to the overall strength of the model.

According to equation (6), the estimated coefficient on variable HS is positive and significant at the two percent level, implying (as hypothesized) that the voter participation rate in a state is an increasing function of the percent of the state's population with at least a high school diploma. Next, the coefficient on the FLFPR variable is positive and significant at the one percent level. This result implies that the VPR in a state is an increasing function of the state's female labor force participation rate (as hypothesized). The coefficient on the UR variable is positive and significant at the two percent level, implying (as hypothesized) that voter turnout is a state is an increasing function of it unemployment rate. The coefficients on variables MFI and AGE are negative and positive, respectively, but both fail to be significant at the ten percent level.

Finally, there are the results for the "direct democracy" variable. The sign on the estimated coefficient for the REFERE variable is positive, as hypothesized, and significant at beyond the two percent level. Thus, this measure of direct democracy appears to induce an increase in the voter participation rate; indeed, the results imply that referenda increase voter participation by roughly 7.0 percentage points! The coefficient on the INIT variable, which is actually negative, fails to be significant at the ten percent level. Thus, it appears that the *net* impact on voter turnout of direct democracy, as represented by the referendum process and the initiative process combined, is on balance positive.

4. CONCLUSION

This study argues that direct democracy, as reflected by referenda and initiatives, may raise the voter participation rate. This argument is based on the notion that such forms of direct democracy act to "empower" voters and thereby raise the expected *gross* benefits of voting (EGB). In so doing, they also would raise the expected *net* benefits of voting (EGB-EGC).

This study uses cross-section voting date from 1998 general election, a study year that has the virtue of being recent on the one hand and yet on the other hand is neither a Presidential election year nor a year closely following the terrorist attacks of September 11th of 2001. The system includes a number of economic and demographic factors (median family income levels, educational attainment, unemployment rates, the female labor force participation rate, and age). The basic conclusion of the analysis is that *direct democracy in the form of referenda* may exercise a significant positive impact on the voter participation rate. Further research into this topic would seem advisable in order to track the impact of referenda on voter turnout over time, especially since the voter turnout trend has largely been downwards over the last four decades.

REFERENCES:

Aldrich, J.H., "Rational Choice and Turnout," American Journal of Political Science, Vol. 37 (2), 1993, 246-278.

Ashenfelter, O., and Kelley, S., "Determinants of Participation in Presidential Elections," Journal of Law and Economic, Vol. 18 (4), 1975, 695-733.

Barreto, M.A., Seguar, G.M., and Woods, N.D., "The Mobilizing Effect of Majority-Minority Districts on Latino Turnout," American Political Science Review, Vol. 98 (1), 2004, 65-76.

Brazel, Y., and Silberberg, E., "Is the Act of Voting Rational?" Public Choice, Vol. 16 (1), 1973, 51-58.

Buchanan, J.M., The Demand and Supply of Public Goods, Rand McNally & Co., Chicago, 1968.

Buchanan, J.M., and Tullock, G., The Calculus of Consent, University of Michigan Press, Ann Arbor, 1962.

Cebula, R.J., "Strong Presidential Approval or Disapproval Influencing the Expected Benefits of Boting and the Voter Participation Rate," Atlantic Economic , Vol. 33 (2), 2005, 159-167.

Cebula, R.J., and Kafoglis, M., "In Search of Optimum Relative Unanimity." Public Choice, Vol. 40 (2), 1983, 195-202.

Copeland, C., and Laband, D., "Expressive Voting," Public Choice, Vol. 110 (3), 2002, 351-363.

Council of Economic Advisors, Economic Report of the President, 2004, U.S. Government Printing Office, Washington, D.C., 2004.

Cox, G.W., and Munger, M.C., "Closeness, Expenditures, and Turnout in the 1982 U.S. House Elections," American Political Science Review, Vol. 83 (2), 1989, 217-231.

Downs, A., An Economic Theory of Democracy, Harper and Row, New York, 1957.

Feddersen, T.J., "Rational Choice Theory and the Paradox of Not Voting," Journal of Economic Perspectives, Vol. 18 (1), 2004, 99-112.

Green, D.P., and Shapiro, I., Pathologies of Rational Choice Theory: A Critique of Applications in Political Science, Yale University Press, New Haven, 1994.

http://www.census.gove/hhes/income/4person.html

http://www.uselectionatlas.org/USPRESIDENT/vto.php?year=2004&datatype=national

Kafoglis, M., and Cebula, R.J., "The Buchanan-Tullock Model: Some Extensions," Public Choice, Vol. 36 (2), 1981, 179-186.

Knacks, S., "Drivers Wanted: Motor Voter and the Election of 1996," P.S.: Political Science and Policies. Vol. 32 (3), 1999, 237-243.

Ledyard, J., "The Pure Theory of Two Candidate Elections," Public Choice, Vol. 44 (1), 1984, 7-41.

Leighly, J., "Group Membership and the Mobilization of Political Participation," Journal of Politics, Vol. 58 (2), 1996, 447-463.

Morton, R., "Groups in Rational Turnout Models," American Journal of Political Science, Vol. 35 (4), 1991, 758-776.

Putnam, R.D., Bowling Alone, Simon & Schuster, New York, 2000.

Riker, W.H., and Ordeshook, P.C., "A Theory to the Calculus of Voting," American Political Science Review, Vol. 62 (1), 1968, 25-42.

Teixeira, R., The Disappearing American Voter, The Brookings Institution, Washington, D.C. 1992.

U.S. Census Bureau, Statistical Abstract of the United States, 2001, U.S. Government Printing Office, Washington, D.C., 2001.

Verba, S., Schlozman, K.L., and Brady, H.E., Voice and equality: Civic Volunteerism in American Politics, Harvard University Press, Cambridge, 1995.

White, H., "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," Econometrica, Vol. 48 (4), 1980, 817-838.

AUTHOR PROFILES:

Dr. Richard J. Cebula earned his Ph.D. at Georgia State University in 1971. Currently, he is the Shirley and Philip Solomons Eminent Scholar at Armstrong Atlantic State University, Savannah, Georgia, and U.S.A.

Ms. Mary Ann Unemori is a senior undergraduate economics major at Armstrong Atlantic State University, Savannah, Georgia, U.S.A.