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FACTORS INFLUENCING INTERREGIONAL DIFFERENCES IN THE VOTER PARTICIPATION RATE IN THE U.S., 2006

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ABSTRACT

The voter participation rate in the U.S. varies significantly from one region to another. At the state level, the percentage of the population that was eligible to vote and that actually did so ranged from a low of 33.5 percent (Texas) to a high of 62.1 percent (South Dakota). The purpose of this chapter is to identify key economic, political, and demographic factors that influenced this interregional voter turnout rate differential. Using state-level data for the 2006 general election, this study examines the roles played by income, unemployment, education, age, race, and labor force participation. In addition, this empirical study seeks to broaden the interpretation of the “rational voter model” so as to include the potential effects of the number of statewide legislative referenda. In particular, this study tests the hypothesis that greater numbers of such referenda increase voter turnout because they elevate the expected gross benefits of voting by “empowering voters” while not significantly increasing the expected gross costs of voting.

INTRODUCTION

Voting is a fundamental component of the democratic process and hence plays a significant role in societal resource allocation and income distribution as well as institutional change. As Putnam (2000, p. 35) states, “Voting is by a substantial margin the most common form of political activity, and it embodies the most fundamental democratic principle of equality...Moreover, like the canary in the mining pit, voting is an instructive proxy measure of broader social change.” Indeed, Putnam (2000, p. 35) observes that “...recent evidence suggests that the act of voting itself encourages volunteering and other forms of good citizenship.”

No theory of voter behavior has received greater attention than the “rational voter model” introduced by Downs (1957). Since Downs (1957) first introduced this paradigm, numerous other studies have appeared to enhance or test the theory or variants or implied dimensions thereof (Buchanan & Tullock, 1962; Riker & Ordeshook, 1968; Ashenfelter & Kelly, 1975; Kafoglis & Cebula, 1981; Cebula & Kafoglis, 1983; Ledyard, 1984; Cox & Munger, 1989; Morton, 1991; Green & Shapiro, 1994; Matsusaka, 1995; Leighly, 1996; Knack, 1999; Copeland & Laband, 2002; Barreto, Segura, & Woods, 2004; Tolbert & Smith, 2005; Matsusaka, 2005; Feddersen & Sandroni, 2006; Cebula & Toma, 2006).

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.” Recent evidence supportive of this observation is provided by the fact that in the 2006 general election, only 43.6 percent of eligible voters actually exercised their right to vote. Indeed, the extent of this problem is perhaps further illustrated by the fact that the voter participation rate (at the state level) in 2006 ranged from a high of only 62.1 percent (for the case of South Dakota) to a low of 33.5 percent (for the case of Texas)!

The objective of this study is to help provide insight into the cost/benefit voting decision calculus and, more specifically, to help explain the pattern of enormous interregional voter participation rate differentials in the U.S. In pursuing this objective, we also seek to determine whether “direct democracy” influences the voter participation rate (VPR), which is measured here by the percentage of eligible voters who actually vote. In this study, “direct democracy” takes the form of *legislative referenda*. As stated in Waters (2003, p. xix), “For a century, the initiative and referendum process has been the critical tool to check the power of unresponsive and unaccountable government...” in the U.S. Accordingly, given that direct democracy arguably can energize the citizenry with a sense of political efficacy, a key hypothesis being tested in this study is that the greater the *number of statewide legislative referenda*, the greater the voter participation rate (VPR), *ceteris paribus*. This is because such referenda enhance the power of voters to influence the governmental decision-making process. Legislative referenda can be interpreted as potentially energizing eligible voters with a sense of political power. This enhancement implies increased expected *gross* benefits from voting, which in turn *increases* the expected *net* benefits from voting, *ceteris paribus*. In effect, in the effort to isolate factors influencing the huge interregional differential in voter turnout in the U.S., this study also tests the Progressive Era proposition that the use of direct democracy can act to raise the VPR.

The model is provided in the next section of the study in the form of a cost-benefit framework. Although the model parallels the rational voter paradigm, it expands the interpretation of that paradigm. The subsequent section of this chapter provides the empirical analysis, which consists of an analysis using state-level data in the 2006 general election. The Conclusion provides a summary and overview.

THE FRAMEWORK

Paralleling in principle the rational voter model, it is hypothesized that the aggregate voter participation rate (VPR) 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, it follows that:

$$\text{VPR} = f(\text{EGB}, \text{EGC}), f_{\text{EGB}} > 0, f_{\text{EGC}} < 0; \text{VPR}_{\text{EGB-EGC}} > 0 \quad (1)$$

A key hypothesis being tested in this study addresses whether, by increasing the power of voters, the *number of statewide legislative referenda* (LEGREF) increase EGB and (EGB-EGC) and hence, in the aggregate, increase the voter participation rate, *ceteris paribus*, by inducing more eligible voters to exercise their right to vote. The legislative referendum is available in and used in highly varying degrees in all 50 states.

A *legislative referendum* can be “...placed on the ballot directly by the legislature...” (Matusaka, 2005, p. 187). Perhaps more generally stated, a legislative referendum “...is when the state legislature, an elected official, state appointed constitutional revision commission or other government agency or department submits propositions (constitutional amendments, statutes, bond issues, etc.) to the people for their approval or rejection” (Initiative & Referendum Institute, 2006, pp. 1, 2). At the state level, the legislative referendum is broken down into two subcategories: legislative amendments (which are constitutional amendments placed on the ballot by the state legislature or government body, such as bond issues and amendments proposed by a constitutional revision committee); and legislative statutes (which are either binding or non-binding statutes and statutory bonds placed on the ballot by the state legislature or government body).

On the one hand, it is hypothesized in this study that legislative referenda empower voters, thereby raising their expected benefits from voting and hence their voter turnout. On the other hand, it can in principle be argued that when voters are confronted with legislative referenda, they are confronted with possible transactions costs of learning enough about those referenda so that they can cast intelligent, informed votes in the ballot booth. In

theory, this consideration would imply an increased EGC and a decreased (EGB-EGC), *ceteris paribus*. Related to the latter issue, however, we consider the observations by Matsusaka (2005, p. 198), who argues that "... voters do not need a detailed understanding of a measure to register their preferences accurately in the voting booth. They may be able to cast a vote that reflects their underlying interests and values by using information cues or shortcuts, such as recommendations from trusted individuals or organizations." Citing a study supportive of his arguments by Lupia (1994), Matsusaka (2005, p. 198) proceeds to state that "In fact, the evidence suggests that information cues are fairly effective in allowing voters to make reasoned choices in the voting booth." Based on this perspective, it is hypothesized here that, *on balance*, the VPR is an increasing function of LEGREF, *ceteris paribus*.

Aside from LEGREF, other factors are of course argued influence the voters' EGBs and EGCs, including fundamentally economic factors. For instance, as observed in Cebula & Toma (2006, p. 35), "The female labor force participation rate (FLFPR) may...influence the expected benefits from voting." In point of fact, 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 nearly 60 percent in 2004 (Council of Economic Advisors, 2008, Table B-39). Following the arguments in Cebula & Toma (2006, p. 35), as "...the FLFPR rises, the percentage of the female population in the workplace increases and arguably these females becomes more/better informed on and sensitive to a variety of labor market and economic issues...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." In other words, as the FLFPR increases, women in the workplace arguably may perceive a greater benefit from acting on behalf of their own best interests with respect to participating in the voting process. This argument would seem consistent with Putnam (2000, p. 195), who observes that "...the movement of women toward professional [workforce] equality [with men] has tended to increase their civic involvement...and...political interest." Hence, it is hypothesized here, as in Cebula & Toma (2006, p. 35) as well as in Putnam (2000, p. 195), that the higher the female labor force participation rate, the greater the overall VPR, *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. In particular, it is argued here that if the unemployment rate is high, 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 & 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 the greater the UR, the greater the VPR, *ceteris paribus*.

Demographic traits, such as age, might also be expected to influence the expected benefits from voting. For instance, consider the fact that the population age 65 and older (AGE65) is largely retired. In addition, a very substantial percentage (in excess of 90 percent) of this age group depends at least to a modest (and in the majority of cases, to a substantial) degree on Medicare and Social Security (U.S. Census Bureau, 2008, Table 521). Thus, this age group might be quite sensitive to such considerations as Social Security benefits, Medicare 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 as well as the physical (and mental) health of persons in this age group. Moreover, this age group may have more time than other age groups to study issues and candidates, as well as to organize *among* themselves in support of or in opposition to certain policies, programs, or candidates. As a result, it is expected in this study, as in Cebula & Toma (2006), that the greater the proportion of the population that is age 65 or older (AGE65), the greater the VPR, *ceteris paribus*.

Regarding another demographic factor, consider the argument in Barreto, Segura, & Woods (2004) that if would-be voters feel politically disenfranchised from their government because of their perceptions that government is unresponsive to their needs or that the election process is unresponsive to their importance, voter apathy increases because of perceived lower benefits from voting. This perspective would be expected of any

persons or group of persons that perceives itself as *not being politically advocated on behalf of by elected officials*. There are myriad ways in which these perceptions can be reinforced. For example, consider the finding that, according to Barreto, Segura, & Woods (2004), minorities are significantly underrepresented in elected positions across most of the political spectrum. This consideration alone could support the hypothesis that the greater the percentage of the population that is black (PCTBL), the lower the VPR, *ceteris paribus*.

Yet another factor that may influence the expected benefits of voting is median household income (MEDHINC). As Tolbert & Smith (2005, p. 295) have recently argued, persons with higher incomes "...are considered more likely to vote." This is certainly not a new idea. For example, Campbell, Converse, Miller, & Stokes (1960) found that persons with higher income tended to be especially aware of the potential benefits of voting and the economic stakes that were potentially at issue as a result of the voting process. Allegedly, higher income persons tend to be better informed than lower income persons on campaign issues, political party platforms, and politicians' voting records and political/social/economic philosophies, as well as the potential benefits of voting *per se*. Consequently, it is hypothesized here that the higher the median household (MEDHINC) income, the higher the VPR, *ceteris paribus*.

Furthermore, as in Campbell, Converse, Miller, & Stokes (1960), it is hypothesized in this study that the higher the average level of educational attainment in a state, the higher may be the expected benefits from voting, *ceteris paribus*. Arguably, the greater the level of one's educational attainment, the greater may be one's knowledge of and appreciation of the significance of participating in the voting dimension of the democratic process. Furthermore, higher levels of educational attainment could well (a) engender a higher level of understanding of those issues being decided by or at least influenced through the act of voting and/or (b) result in a better informed electorate in terms of candidates' qualifications, character, and prior voting records and political philosophies. Cebula & Toma (2006, p. 35) even argue that "Greater average levels of education may lead to the subjective evaluation that voting *per se* yields...benefits...insofar as voting may serve to...create the feeling of helping to maintain the vitality and survival of the democratic process..." Indeed, higher levels of educational achievement could very well act to enhance the degree to which voters derive subjective benefits from fulfilling their "...sense of civic duty to vote..." a phenomenon possibly reflecting "social conditioning" (Tollison & Willett, 1973, p. 61). Accordingly, it is hypothesized in this study that the greater the percentage of the population with at least a high school diploma (HS), the higher the VPR, *ceteris paribus*.

Based upon the arguments above, the EGB component of equation (1) can be restated as:

$$EGB = g(\text{LEGREF}, \text{FLFPR}, \text{UR}, \text{AGE65}, \text{PCTBL}, \text{MEDHINC}, \text{HS}),$$

$$g_{\text{LEGREF}} > 0, g_{\text{FLFPR}} > 0, g_{\text{UR}} > 0, g_{\text{AGE65}} > 0, g_{\text{PCTBL}} < 0, g_{\text{MEDHINC}} > 0, g_{\text{HS}} > 0 \quad (2)$$

Based upon (1) and (2), it follows that the voter participation rate (VPR) function is given by:

$$VPR = f(\text{LEGREF}, \text{FLFPR}, \text{UR}, \text{AGE65}, \text{PCTBL}, \text{MEDHINC}, \text{HS}),$$

$$f_{\text{LEGREF}} > 0, f_{\text{FLFPR}} > 0, f_{\text{UR}} > 0, f_{\text{AGE65}} > 0, f_{\text{PCTBL}} < 0, f_{\text{MEDHINC}} > 0, f_{\text{HS}} > 0 \quad (3)$$

EMPIRICAL ANALYSIS

Predicated upon the model summarized in (3) above, the following reduced-form equation is to be estimated:

$$VPR_k = a_0 + a_1 \text{LEGREF}_k + a_2 \text{FLFPR}_k + a_3 \text{UR}_k + a_4 \text{AGE65}_k + a_5 \text{PCTBL}_k + a_6 \text{MEDHINC}_k + a_7 \text{HS}_k + u \quad (4)$$

where:

VPR_k = the voter participation rate in state k in the 2006 general election, expressed as a percent of eligible voters in the state;

a_0 = constant term;

$LEGREF_k$ = the total number of statewide legislative referenda on the ballot in state k in year 2006;

$FLFPR_k$ = the female labor force participation rate in state k in the year 2005, expressed as a percent;

UR_k = the average percentage unemployment rate of the civilian labor force in state k in the year 2005;

$AGE65_k$ = the percent of state k 's population in year 2006 that was age 65 or older;

$PCTBL_k$ = the percentage of the population in state k that was classified as black (Afro-American) in the year 2006;

$MEDHINC_k$ = median household income in state k in current dollars in the year 2005;

HS_k = the percentage of the adult population in state k age 25 years and older with at least a high school diploma, 2006; and

u = stochastic error term.

The analysis deals with the 2006 general election, the most recent national-scale election experience to date. The data source for the VPR variable is the U.S. Census Bureau (2008, Table 405). To measure "direct democracy," the variable $LEGREF_k$ was adopted. The data source for this direct democracy measure is the Initiative & Referendum Institute (2006, pp. 9-10). The statewide legislative referendum data were obtained for the year 2006 to ensure relevance to the objective of the study. The data for the other explanatory variables were obtained from the U.S. Census Bureau (2008, Tables 575, 611, 16, 18, 684, 221).

Estimating equation (4) by OLS, adopting the White (1980) heteroskedasticity correction, yields:

$$\begin{aligned}
 VPR_k = & -138.1 + 3.03 \text{ LEGREF}_k + 1.56 \text{ FLFPR}_k + 3.76 \text{ UR}_k \\
 & \quad (+2.81) \quad \quad (+9.70) \quad \quad (+5.23) \\
 & + 2.63 \text{ AGE65}_k - 0.31 \text{ PCTBL}_k + 0.0002 \text{ MEDHINC}_k + 0.26 \text{ HS}_k \\
 & \quad (+8.20) \quad \quad (-3.88) \quad \quad (+2.11) \quad \quad (+1.77)
 \end{aligned}$$

$$R^2 = 0.77, \text{ adj } R^2 = 0.73, F = 20.06 \quad (5)$$

where terms in parentheses are t-values.

In equation (5), the estimated coefficients on all seven of the explanatory variables exhibit the expected signs, with five being statistically significant at beyond the one percent level, one being statistically significant at beyond the five percent level, and one being statistically significant at beyond the ten percent level. The coefficient of determination is 0.77, so that the model explains more than three-fourths of the variation in the interregional voter participation rate in the 2006 general election. Finally, the F-statistic is statistically significant at beyond the one percent level, attesting to the overall strength of the model.

According to equation (5), the estimated coefficient on the FLFPR variable is positive and statistically significant at beyond the one percent level. This result implies that the VPR is an increasing function of the female labor force participation rate, as hypothesized (Cebula & Toma, 2006; Putnam, 2000). The estimated coefficient on the UR variable is positive and statistically significant at beyond the one percent level, implying (as hypothesized) that voter turnout is an increasing function of the unemployment rate, presumably because of expressive voting (Copeland & Laband, 2002). The coefficient on the AGE65 variable is positive and statistically significant at the one percent level, implying (as expected) that the greater the percentage of the population age 65 and older, the greater the VPR will be. The estimated coefficient on the PCTBL variable is negative (as hypothesized) and statistically significant at the one percent level, implying that the VPR is a decreasing function of the percent of the population that is black (Barreto, Segura, & Woods, 2004). As for the MEDHINC variable, it exhibits the expected positive sign and is statistically significant at the one percent level, implying that higher income persons tend to be more likely to vote (Campbell, Converse, Miller, & Stokes, 1960). The estimated coefficient on the HS variable is positive (as hypothesized) but statistically significant at only the eight percent level, implying—but only weakly—that the greater the proportion of the population age 25 and over with a high school diploma or more, the higher the voter turnout. This is in principle consistent with arguments in Campbell, Converse, Miller, & Stokes (1960), Tolbert & Smith (2005), and Cebula & Toma (2006).

Finally, there is the result for the “direct democracy” variable. The sign on the estimated coefficient for the LEGREF variable is positive, as hypothesized, and statistically significant at beyond the one percent level. Thus, it appears that the *greater the number of statewide legislative referenda on the ballot, the greater the VPR*. This finding would seem to be consistent with the hypothesis proffered above, namely, that a greater number of legislative referenda on the ballot acts on balance to empower voters (Matsusaka, 2005), thereby elevating their expected gross and net benefits from voting and hence their voter participation.

Interestingly, but not surprisingly, even more robust results are obtained if equation (4) is estimated with the statistically weak education variable (HS) omitted. This is illustrated in equation (6), where the OLS estimation again adopts the White (1980) correction for heteroskedasticity:

$$\begin{aligned}
 \text{VPR}_k = & -115.4 + 2.70 \text{ LEGREF}_k + 1.54 \text{ FLFPR}_k + 3.78 \text{ UR}_k \\
 & \quad (+2.46) \quad \quad (+9.34) \quad \quad (+4.90) \\
 & + 2.55 \text{ AGE65}_k - 0.32 \text{ PCTBL}_k + 0.0002 \text{ MEDHINC}_k \\
 & \quad (+7.23) \quad \quad (-3.99) \quad \quad (+2.68) \\
 R^2 = & 0.76, \text{ adj } R^2 = 0.73, F = 22.85 \quad \quad \quad (6)
 \end{aligned}$$

In this estimate, all of the estimated coefficients exhibit the hypothesized signs. Furthermore, five of the six coefficients are statistically significant at the one percent level, and the remaining coefficient is statistically significant at the two percent level. These findings are entirely consistent with those in equation (5) above.

CONCLUSION

This study empirically seeks to identify key factors that help to explain the large interregional differentials in the voter participation rate (VPR) across the U.S. Using state-level data for the 2006 general election, the empirical estimation provides strong empirical evidence that the VPR is directly a function of the female labor force participation rate, the unemployment rate, the percentage of the population that is age 65 and older, and median household income. There also is evidence, albeit modest, that having a high school or better (higher) education impacts the VPR. On the other hand, the VPR appears to be negatively impacted by the percentage of

the population that is black. Thus, it is reasonable to infer that geographic differentials in voter turnout reflect geographic differentials in these factors.

Furthermore, this study investigates the hypothesis that direct democracy, as reflected by the number of statewide legislative referenda, may raise the voter participation rate. This argument is based on the idea that this form of direct democracy acts to “empower” voters and thereby raise the expected *gross* benefits of voting (EGB). In so doing, this form of direct democracy also would raise the expected *net* benefits of voting (EGB-EGC) and hence voter turnout. Alternatively stated, this study investigates empirically the argument by Progressive Era scholars that direct democracy should stimulate voter participation by energizing citizens with a sense of political efficacy. The empirical findings presented in this study strongly imply that the greater the number of legislative referenda a state places on its ballot, the greater the voter turnout is likely to be.

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