PAC Congressional Election Campaign Contributions and Other Political or Economic Influences on the Voter Participation Rate

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7 January 2006

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ABSTRACT. This study empirically investigates the potential impact of political action committee (PAC) election campaign contributions and other factors on the aggregate voter participation rate in the United States. For the study period 1960–1998, the aggregate voter participation rate appears to have been positively and significantly affected by the opportunity to vote in presidential elections and by the Vietnam War, as well as by "excessive" inflation and slow real GDP growth. The latter two findings of this study appear to be unique to this literature. In addition, the Watergate scandal and increased public dissatisfaction with government appear to have significantly discouraged voter participation. Finally, there appears to be strong evidence that PAC congressional election campaign contributions may have also acted to reduce the voter participation rate over the study period, a finding that also is unique to this study.

I

Introduction

Since Downs (1957) introduced the idea of the rational voter, there have been numerous empirical studies to test the construct. Typically, these studies have employed cross-section data to ascertain the predictive capacity of various demographic and election-specific variables on the probability of voter participation. These studies have usually

failed to produce robust empirical support for the hypothesis. Indeed, students of rational choice theory have yet to find a satisfactory solution to the paradox of voting (Brazel and Silberberg 1973; Ashenfelter and Kelly 1975; Aldrich and Simon 1986; Cox and Munger 1989; Green and Shapiro 1994; Lapp 1999; Greene and Nikolaw 1999).

In perhaps one of the more comprehensive empirical investigations on the subject to date, Matsusaka and Palda (1999) employ nearly 40 different variables in a cross-section analysis of voting behavior in an effort to quantify the degree to which voting behavior can be explained. Despite the number of variables employed, they find the explanatory power of these variables to be very low. Traditional demographic variables can explain no more than 15 percent of voter turnout variation. Matsusaka and Palda conclude that "most of the inability to predict who votes appears to come from non-stationary factors" (1999: 442) and go on to suggest two possible paths for future research. One suggestion is to search for new nondemographic explanatory variables. This suggestion is echoed and even pursued in the more recent study using LOGIT techniques on *micro* data for even-numbered years from 1986–1996 by Copeland and Laband (2002). The second suggestion is to use aggregated voting data, which might allow the estimation of models with increased explanatory power. Both of these recommendations are followed in the present study.

In a related study, Greene and Nikolaw's (1999) empirical results do not support the redistributive theory of the state, a subset of the rational voter hypothesis of voting. Greene and Nikolaw state that there is "considerable doubt that the theory of the re-distributive state can help explain the pattern of voter participation rates across individuals" (1999: 224). They also identify a pattern of declining voter participation and further note that "cross-section results on counties do not control for time" (1999: 224).

In effect addressing the latter point, the present study provides a time-series analysis of voter participation rate determinants.

This investigation seeks to provide an additional dimension to the empirical study of voter participation rates. In particular, the purpose of this study is to empirically investigate determinants of aggregate voter participation rates over time. Unique to the present study is the inclusion of political action committee (PAC) contributions to

congressional election campaigns, which arguably could reduce voter participation by reducing the expected benefits from voting. PAC contributions to congressional election campaigns grew very rapidly over the 1980s and 1990s. It is argued in this study that, as a result of this growth, prospective voters may have become dissuaded from voting because they expect that the influence resulting from these PAC contributions will strongly influence the actions of elected officials in favor of special interest groups, and that voters' political preferences will be subordinated accordingly.

Also arguably unique to this study are (1) the use of a dissatisfaction index, (2) the inclusion of two "money" factors, too slowly growing real GDP and excessive inflation, and (3) the use of aggregated (macro) time-series data. The dissatisfaction index is constructed as an equally weighted average of three normalized indices reflecting responses to the University of Michigan's Institute for Social Research (ISR) surveys concerning whether government officials as a whole (i.e., not only elected ones but also nonelected ones) can be trusted to do their jobs, whether they are dishonest, and whether government wastes tax dollars. Values for this index lie within a range of negative 1.5, which corresponds to least dissatisfied, to positive 1.5, which corresponds to most dissatisfied. Thus, the higher the algebraic value of this index, the greater the public's dissatisfaction with government. The voter dissatisfaction index effectively allows for the measurement of voter attitudes toward government in general and arguably proxies to some degree for voter beliefs regarding the importance and effectiveness, or expected benefits, of their voting. Aside from including PAC contributions and the dissatisfaction index, this aggregated time-series analysis also includes other political factors and three economic variables that are hypothesized to potentially affect voter participation rates through time. As observed above, two of these economic variables, too slowly growing real GDP and excessive inflation, are unique to this study.

II

A Simple Rational Voter Model of Participation

THE ORIGINAL RATIONAL CHOICE MODEL calculated the net rewards to voting, R, as

$$R = PB - C, \tag{1}$$

where P is the probability of the supported candidate winning, B is the expected benefit between the preferred candidate winning and the opposed candidate winning, and C is the expected cost of voting (Downs 1957; Buchanan and Tullock 1962; Riker and Ordeshook 1968). This model is well known and at least *in principle* can be viewed as applicable to alternative contexts, including that of "voting with one's feet" (Tiebout 1956; Tullock 1971).

The fundamental purpose of this study is to empirically investigate determinants of the voter participation rate in the United States using a time-series model that employs national data from 1960 through 1998. Adopting a somewhat modified version of the rational voter framework, we first hypothesize determinants of P, B, and C. Next, we synthesize these factors into a general model.

To begin with, general determinants of the expected benefits of voting may be described by:

$$B = f(I, CH, D), \tag{2}$$

where I is the importance of the office for which the election is being held, CH is the desire for change and a proxy for the "distance" between the two candidates on key identifiable issues, and D is the voter's evaluation of the overall effectiveness of the functioning of the government, such that: $B_I > 0$, $B_{CH} > 0$, and $B_D < 0$.

The cost function C is given by

$$C = f(Y), \tag{3}$$

where Y is per capita real income and $C_Y > 0$. That is, as real income increases, the opportunity cost of voting may increase, *ceteris paribus* (and the expected *net* reward or gain from voting may be reduced). Substituting Equations (2) and (3) into Equation (1) yields:

$$R = PB(I, CH, D) - C(Y). \tag{4}$$

The first derivatives for each of the arguments in Equation (4) are given by: $R_{BI} > 0$, $R_{BCH} > 0$, $R_{BD} < 0$, and $R_{CY} < 0$. Thus, it is expected that the importance attached to an election and the expected

differences between viable candidates on significant issues may both act to increase expected benefits from voting and hence voter turnout, whereas reduced confidence in the system (or increased dissatisfaction with government) and an increase in real income, as a proxy for the opportunity cost of voting, may both reduce voter participation.

III

Data, Empirical Model, and Results

IN PRESIDENTIAL ELECTION YEARS, the expected gross benefits from voting presumably may be greater than in other election years because presidential elections offer an opportunity to vote for the potentially most important public policymaker in the United States in conjunction with other potentially significant elected offices. Indeed, the expected net benefits from voting also may rise during presidential election years (PRESDUM) because the marginal cost of voting for president is effectively zero for anyone who has already appeared at the voting booth to cast a ballot, whereas the expected benefits from voting during presidential election years are greater to the extent that one believes that one has a potential impact on the election to the presumably most important political office in the world (the U.S. president).

As a direct result of the structure of the rational voting model, increased differences between the key policy stances of candidates increase the potential benefits of voting. Perhaps no other single event during the study period polarized and energized the electorate more than the U.S. military involvement in Vietnam (VIETNAM). Thus, voter turnout is expected to be increased by the binary policy stance of candidates who either supported or opposed the Vietnam policies.

The incentive to vote presumably reflects in part the expectation that the act of voting empowers the voter, however indirectly and imperfectly, to affect public policy decisions. Arguably, the Watergate scandal (WATERGATE) may have discouraged the voting public, who believed that they had been empowered by the act of voting when in fact their efforts in many cases may have been perceived as being "rewarded" with betrayal, an attempted cover-up, and even an alleged attempted manipulation of the actual nomination of a major-party

candidate for the presidency. Indeed, the Watergate scandal may at some level have created an increased expectation among potential voters of "betrayal" by political candidates, regardless of who is elected.

An explicit measure of the public's dissatisfaction (DIS) with government, obtained from the ISR, is included in the model to systematically reflect voter dissatisfaction with government in general over the study period. It is argued here that increased public dissatisfaction with the operation of the governmental system potentially may create voter apathy and reduce the expected benefits of voting, thereby reducing voter participation.

Next, the visibility and generally adverse publicity associated with PACs and the growth in real election campaign contributions by PACs over the years may well have contributed to voter apathy, since such contributions may act to create a feeling of increased helplessness to affect political decisions through the voting process. In other words, the greater the magnitude of real PAC election campaign contributions, the greater may be the expected political influence of "special interest groups" and, accordingly, the lower may be the expected benefits associated with the act of voting. Indeed, voters may feel increasingly politically disenfranchised as a result of these growing PAC contributions and the influence that they might be expected to exercise over politicians.

This hypothesis regarding the potential voter participation rate implications of PAC election campaign contributions is *in principle* potentially consistent with a finding in a recent study by Copeland and Laband (2002). Unlike the present study, which uses instrumental variables (IV) estimation techniques on a *macro time-series* data set, Copeland and Laband (2002) estimate a LOGIT model dealing with a dependent variable that is either a 1 or 0 and apply the model to strictly *micro cross-section* data sets. Copeland and Laband (2002) not only deal with cross-section rather than time-series data, but their study also *separately* considers six even-year elections from 1986–1996, as opposed to the present study, which includes all even-year elections for the entire 1960–1998 period *combined.* Despite the fundamentally different approaches and data of the present study and that by Copeland and Laband (2002), one of their

variables (which is entirely unavailable in a form applicable to an aggregate time-series analysis) nevertheless is potentially pertinent to the present study. Based on the empirical results for their variable "No Say in Government," Copeland and Laband find "that when individuals believe they have no say in what government does, they are less likely to vote" (2002: 358). Clearly, as stated above, the present study hypothesizes that PAC election campaign contributions *in particular* act to create such beliefs and feelings. In particular, it could be argued that the greater the extent of real PAC election campaign contributions, the greater the degree to which voters believe they have no say in what government does and hence the less likely they are to vote.

On the "cost" side, as disposable real income per capita increases, the opportunity cost of voting may increase, *ceteris paribus*; therefore, one would expect the rate of voter participation to decline (Copeland and Laband 2002). On the other hand, to the extent that higher real income and greater education go hand in hand, the latter influence may create a greater sense of responsibility to vote and/or a greater appreciation in principle of the importance and social value of voting (Cebula 2001).

Finally, it can reasonably be expected that purely economic conditions may create either an increased or decreased interest in voting. In particular, the electorate is likely to be more interested in voting if it is displeased with prevailing economic conditions such as "excessive" inflation or lackluster economic growth (or recession). Accordingly, this study expressly endeavors to control for the potential effects on the voter participation rate of excessive inflation and insufficient economic (real GDP) growth by the inclusion of two economic variables (INFLDUM and SLOWYDUM, respectively) to reflect these circumstances.

Based on the above framework, this analysis of voter participation rate determinants involves estimating the following reduced-form equation:

$$
\begin{aligned}
\text{VPR}_t = a &+ b\text{PRESDUM}_t + c\text{VIETNAM}_t + d\text{WATERGATE}_t \\
&+ e\text{DIS}_t + f\text{PAC}_{t-1} + g\text{RPCDI}_{t-1} + h\text{INFLDUM}_t \qquad (5) \\
&+ i\text{SLOWYDUM}_t + j\text{TREND} + Z,
\end{aligned}
$$

where:

VPR_t = the aggregate voter participation rate nationally in year t, as a percentage

a = constant term

$PRESDUM_t$ = a binary variable indicating whether year t was a presidential election year: $PRESDUM_t = 1$ during presidential election years and $PRESDUM_t = 0$ otherwise

$VIETNAM_t$ = a binary variable for the years when the United States was militarily involved in the Vietnam conflict: $VIETNAM_t = 1$ for such years and $VIETNAM_t = 0$ otherwise

$WATERGATE_t$ = a binary variable for the years after the Watergate scandal: $WATERGATE_t = 1$ for those years and $WATERGATE_t = 0$ otherwise

DIS_t = the level of the public's dissatisfaction with government over year t, as measured by the ISR dissatisfaction index, ranging from -1.5 for least dissatisfied to $+1.5$ for most dissatisfied

PAC_{t-1} = contributions (real) to congressional (House of Representatives) election campaigns by PACs, in year $t-1$, in millions of 1996 dollars

$RPCDI_{t-1}$ = per capita (real) disposable income in year $t-1$, in 1996 dollars

$INFLDUM_t$ = a binary (dummy) variable that attempts to identify "excessive" inflation in year t; $INFLDUM_t = 0$ when the overall CPI inflation rate is 3 percent or less in year t and $INFLDUM_t = 1$ when the overall CPI inflation rate in year t is greater than 3 percent

$SLOWYDUM_t$ = a binary (dummy) variable that attempts to identify those years in which the annual percentage increase in real GDP was "too slow," including negative (i.e., as in recession); $SLOWYDUM_t = 1$ when the growth rate of real GDP in year t is 3 percent or less and $SLOWYDUM_t = 0$ when the real GDP growth rate in year t exceeds 3 percent

Z = stochastic error term

The study period runs from 1960 through 1998. The VPR is measured for even-numbered years. This is because even-numbered

years are when all members of the House and one-third of the U.S. Senate are elected and, on alternate even-numbered years, when the president is elected. The odd-numbered years typically do not correspond to the election of large numbers of "significant" officials. The VPR data were obtained from "IDEA: Voter Turnout from 1945 to 1998" (2001). The variable DIS_t is represented by the "dissatisfaction index" obtained from the ISR at the University of Michigan. The data for the PAC variable were obtained from the U.S. Census Bureau (1985: Table 432, 1989: Table 444, 2001: Table 412). The data for the excessive inflation, insufficient real GDP growth, and disposable real income per capita variables were generated from data from the Council of Economic Advisors (2001: Tables B-62, B-2, B-31). It should be noted that the results shown below in Equation (6) are very similar if the INFLDUM and SLOWYDUM dummy variables are lagged one period, that is, if $INFLDUM_{t-1}$ and $SLOWYDUM_{t-1}$ are substituted for $INFLDUM_t$ and $SLOWYDUM_t$, respectively.

The ADF (Augmented Dickey-Fuller) and P-P (Philips-Perron) tests both confirm that the variable VPR_t is stationary in levels with a trend variable and that variables DIS_t, $RPCDI_{t-1}$, and PAC_{t-1} are stationary only in first differences. Hence, in the estimation provided below, a trend variable (TREND) is included, and the variables DIS_t, $RPCDI_{t-1}$, and PAC_{t-1} are all expressed in first differences.

Given that VPR_t is contemporaneous with the dissatisfaction index, DIS_t, the possibility of simultaneity bias exists. To account for this possibility, the model in Equation (5) was estimated using an IV technique, with the instrument being the two-year lag of the maximum marginal federal personal income tax rate, MAX_{t-2}. The choice of instrument is suggested in Cebula and Paul (2002) and also is based on the finding that DIS_t and MAX_{t-2} are highly correlated, whereas the two-period lagged instrument is not highly correlated with the error terms in the system. The MAX_{t-2} data were obtained from the IRS (1960–1999).

Estimating Equation (5) by IV, using the White (1980) heteroskedasticity correction, yields the following results:

$$VPR_t = 48.22 + 15.27PRESDUM_t + 2.37VIETNAM_t - 7.57WATERGATE_t$$
$$(+46.19) \qquad (+4.37) \qquad (-8.33)$$
$$- 14.56xDIS_t - 26.96xPAC_{t-1} + 0.002xRPCDI_{t-1} + 3.73INFLDUM_t$$
$$(-2.92) \qquad (-3.02) \qquad (+1.19) \qquad (+5.19) \qquad (6)$$
$$+ 2.64SLOWYDUM_t - 0.007TREND,$$
$$(+4.44) \qquad (-3.25)$$
$$DW = 2.06, \quad Rho = -0.06, \quad F = 44.15$$

where terms in parentheses are *t*-values and x is the first-differences operator.

In Equation (6), seven of the estimated eight coefficients (excluding the trend variable, which also is statistically significant) exhibit the expected signs and are statistically significant at the 5 percent level or beyond. The DW and Rho statistics indicate the absence of a serial correlation problem. In addition, the *F*-ratio is significant at well beyond the 1 percent level.

The coefficient on variable PRESDUM is positive and significant at the 1 percent level. This implies that voters may increase participation rates when the outcome of the election is considered more important or at least more provocative. In addition, this empirical result appears *in principle* potentially consistent with the *micro cross-section* finding in Copeland and Laband that an individual's voter participation is more likely when a person cares "a good deal [about] who wins the presidential election" (2002: 355). The coefficient on the variable VIETNAM is positive and significant at the 1 percent level. This finding implies that the electorate's concern over the controversial Vietnam War issue acted to reduce voter apathy and induce a greater voter turnout.

The coefficient on the variable WATERGATE is negative and statistically significant at the 1 percent level. Arguably, the Watergate scandal acted to raise voter apathy, perhaps because the scandal discouraged the public, who had thought they had been empowered by the act of voting. The exposed betrayal, an attempted cover-up, and even an apparent effort to manipulate the nomination of a major-party presidential candidate may have caused voters to perceive their voting efforts as consequently devalued.

The coefficient on the variable DIS is also negative, as expected, and significant at the 2.5 percent level, implying that the more dissatisfied the voting-eligible population is with government and the performance of government officials, the more discouraged from participation in the voting process they become. Perhaps like the WATERGATE variable, the DIS variable reflects a disillusionment with the system.

The coefficient on the trend (TREND) variable, which had been included in order to ensure that the VPR variable would be stationary, is negative and significant at the 2 percent level. This finding presumably may reflect the often-made observation that there has been a general downward trend in voter participation in the United States.

Next, the coefficients on the economic-conditions variables, INFLDUM and SLOWYDUM, are both positive and statistically significant at the 1 percent level. Given the construct of these two dummy variables, it therefore appears that a poorly performing economy, defined either by excessive inflation or insufficient economic (real GDP) growth, acts significantly to raise the voter participation rate. Conversely, it would appear that the voter participation rate is reduced when the economy is performing well on both of these counts. These findings appear to be unique to the literature.

By contrast, the estimated coefficient on the real per capita disposable income variable, used here as a measure of opportunity costs to voting, is statistically insignificant at even the 10 percent level. Hence, this variable apparently plays no significant net role in determining voter participation. This outcome may reflect the fact that this rising real income variable may to some degree represent not only an increasing opportunity cost to voting (Copeland and Laband 2002: 355), but also may serve *de facto* as a measure of a higher education level that may engender a greater sense of responsibility to vote and/or a greater appreciation *in principle* of the need to vote or the importance of voting (Cebula 2001). That is, whereas in the former of these two potential roles a disincentive to vote may effectively be created by higher real income levels, in the latter of these roles an increased proclivity to vote may be created. Hence, it may be that these two roles act to offset one another, a finding consistent to some limited degree with those in the *micro cross-section* analysis in Copeland and Laband (2002).

Finally, the sign on the estimated coefficient for the PAC variable is negative, as hypothesized, and statistically significant at the 2 percent level. Thus, it appears that PAC contributions to congressional (U.S. House of Representatives) election campaigns may in fact reduce the voter participation rate. This finding may reflect increased voter apathy resulting from a reduction in the expected benefits from voting because higher real PAC election campaign contributions may be expected to increase the political influence of special interest groups at the expense of voters per se. As observed above, this finding is, at least *in principle*, potentially consistent with the Copeland and Laband (2002) results for their variable "No Say in Government." Interestingly, this conclusion remains unchanged if alternative measures of PAC contributions, such as PAC contributions to Senate election campaigns, are adopted in lieu of the PAC variable as defined above.

IV

Summary and Conclusions

THE PURPOSE OF THIS STUDY HAS BEEN to ascertain the degree to which time variation in voter participation could be explained, with the factors in the analysis including (among other things) PAC contributions to U.S. House of Representatives election campaigns. The rational voter model was amended to incorporate variables that are hypothesized to reflect either expected benefits or expected costs of voting. After deriving the expected signs for these variables, considerable empirical support for the rational voter hypothesis for the 1960–1998 study period is obtained.

Among other things, it appears the aggregate voter participation rate has been positively and significantly affected by the opportunity to vote in presidential elections and by the Vietnam War. Alternatively, the Watergate scandal and increased public dissatisfaction per se (as measured by the ISR dissatisfaction index) with government appear to have significantly discouraged voter participation. In addition, voter participation appears to increase when the economy is performing poorly, that is, when there is excessive inflation and/or insufficient real GDP growth. The latter two findings appear to be unique to this study. However, the voter participation rate appears, on balance, to

not have been significantly affected by real per capita disposable income over the study period. Finally, the empirical results imply that PAC contributions to House of Representatives election campaigns may have acted to significantly reduce the voter participation rate.

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