The Downsian voter meets the ecological fallacy*

JOHN G. MATSUSAKA
Department of Finance and Business Economics, School of Business Administration,
University of Southern California, Los Angeles, CA 90089-1421

FILIP PALDA
The Fraser Institute, Vancouver, British Columbia, Canada V6E 3M1

Accepted 24 March 1992

Abstract. This paper presents evidence that voter participation does not depend on the probability that one vote is decisive. An extensive summary of the empirical participation literature is provided which shows that most but not all studies have found that turnout in an electoral district is higher when the race is closer. Individual-level vote regressions for the 1979 and 1980 Canadian national elections are estimated using objective measures of closeness (as opposed to self-reported measures). The main finding is that a citizen is no more likely to vote in a close election than in a landslide election. District-level turnout regressions for the same elections are also estimated, and a significant relation between closeness and turnout is observed. This suggests that aggregation bias may generate a spurious closeness-turnout relation in district-level regressions.

1. Introduction

It is safe to say that "Why do people vote?" is one of the most-investigated questions in the social sciences. For example, in a review of the literature from 1970 to 1982, Aldrich and Simon (1986) referenced 128 articles and books. The traditional approach to the study of voting has been to identify personal characteristics which distinguish voters from abstainers; well-known examples are Merriam and Gosnell (1924) and more recently Campbell et al. (1960) and Wolfinger and Rosenstone (1980). Downs (1957) proposed a different approach, a rational voter theory, based on the assumption that a person votes if the benefit of doing so exceeds the cost. As opposed to the traditional approach which asks, "Who votes?", this approach asks, "What are the benefits and costs which make it worthwhile for some to vote and others to abstain?"

* We thank Gary Becker, Jaffer Qamar, Jeffrey Smith, Frank Zimmerman, anonymous referees, and members of the Applications of Economics and Applied Price Theory Workshops at The University of Chicago for helpful comments. We gratefully acknowledge the financial support of the Bradley Foundation (through a grant to the Center for the Study of the Economy and the State at The University of Chicago) and The University of Chicago.
One benefit of voting is the possibility of choosing the winner. Central to the Downsian theory is the idea that when deciding whether to vote or abstain a citizen weighs the chance of casting a decisive ballot and the attendant benefits against the cost of voting. One implication of this theory is what we call the Downsian Closeness Hypothesis (DCH): as a person's probability of casting a vote which swings the election increases, she becomes more likely to vote.1 There has always been a tension in this theory because the probability that any one vote will affect a national election is essentially zero — how can such an infinitesimal payoff be important?

The most popular way to test the DCH has been to regress the turnout percentage in an electoral district on a measure of election closeness, and test whether the coefficient on closeness is different from zero. Because the DCH is ultimately about what motivates individuals to vote, this is an appropriate test only if a correlation between turnout and closeness in the aggregate implies that individuals are responding to election closeness. However, there are reasons to believe it may be a mistake to make inferences about individual behavior from aggregate voting studies, that is, there may be an ecological fallacy.

On a purely statistical level, Cox (1988) noted that because of the way the variables are constructed in these district-level “macro” regressions the closeness coefficients are likely to be biased in favor of the DCH. Glazer and Grofman (forthcoming) gave a number of statistical models where a closeness-turnout correlation can arise in the aggregate even if each voter is not concerned with closeness. In their simplest example, they suppose that each voter has a 50 percent chance of voting for the Democratic candidate and a 50 percent chance of voting for the Republican candidate. As turnout exogenously rises the law of large numbers implies that the victory margin as a percentage of total votes will fall, which induces a spurious closeness-turnout relation. Cox and Munger (1989) argued that close races may attract more campaign spending which in turn spurs turnout. In effect, they proposed that people may be more likely to vote in close elections, not because they expect to alter the outcome, but because of heightened campaign activity in their vicinity. If we try to draw conclusions about individual behavior from aggregate data it is important to evaluate the merits of these objections. We need to determine whether inferences from macro regressions suffer from aggregation bias.

The cleanest way to look for a closeness effect is with regressions using individual-level survey data (“micro” regressions). Two notable micro studies are Riker and Ordeshook (1968) and Ashenfelter and Kelley (1975). Both used self-reported closeness measures: each respondent was asked how close she expected the election to be. Measuring closeness in this way may induce a false relation between closeness and the likelihood of voting if people rationalize their decisions. For example, a person who abstains might explain her action