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Costly voting, turnout, and candidate valence☆

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HIGHLIGHTS

- We build a model of voluntary and costly expressive voting.
- Weight of ideology and valence over voting costs determines how and if people vote.
- Low turnout elections have more voters whose valence signal matches their ideology.
- Voting costs thus raise the chances to elect high valence candidates.

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ABSTRACT

We build a model of voluntary and costly expressive voting, where the relative weight of ideology and valence issues over voting costs determines how people vote and if they actually turn out to vote. In line with the conventional rational calculus approach, the model predicts that the cost of voting depresses voter turnout. Against the conventional wisdom, though, high voting cost/low turnout elections tend to have a larger share of voters for whom the common value signal on candidates' valence matches their private value views, thus raising the chances that high valence candidates are elected.

1. Introduction

The conventional premise that high or nearly universal rates of voter participation are desirable (Lijphart, 1997) does not seem to receive widespread support in recent theoretical research. In particular, within a framework where voters have private values and commonly shared values and vote in an instrumental way, Ghosal and Lockwood (2009) prove that a switch from private to common value voting might lead both to lower turnout and to better selection of agents, and Aldashev (2015) shows that lower turnout due to higher ideological mobility of voters actually reduces equilibrium rents by self-interested politicians.

We contribute to this strand of literature by developing a model where voters receive an informative signal about the valence of candidates that may or not match their ideological preferences. As the cost of voting increases, turnout unambiguously decreases, and, more interestingly, the composition of voters changes so that, eventually, only voters for whom the common value signal on candidates' valence matches their private value views will choose to turn out. This implies that the elected candidate's win margin increases in the cost of voting and, above a certain threshold, the valent candidate is elected by a plebiscitary vote.

2. Theoretical model

We assume that two candidates (l, r) run for office. The candidate securing the majority of the votes of the electorate in a 'winner-takes-all' race sets the one-dimensional policy π^x, where $x\epsilon\{l, r\}$, based on his ideology.

Voting is voluntary, costly, and driven by two expressive motives (Hamlin and Jennings, 2011): a private value motive (ideology) and a common value motive (valence). Voter j is ideologically attached to candidate x with probability 0.5, meaning that no candidate enjoys a systematic ideological bias. Valence is instead a

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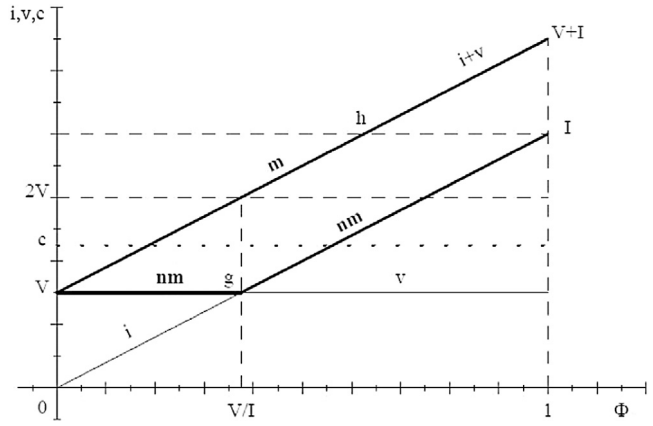

Fig. 1. Ideology and valence in voting.

commonly valued issue linked to imperfectly observed candidates' inner characteristics, as competence or probity (Besley, 2005).

Voters' behavior consists of two stages. First, the relative weight of ideology and valence issues determines whether, conditional on turning out to vote, individuals vote according to ideology or valence. Second, the comparison of the benefits with the costs of voting determines whether people turn out to vote. Each voter j has a set of beliefs $\{\iota_j, \kappa_j\}$, with $\iota_j \epsilon \{l, r\}$ being the ideological attachment to either of the candidates' policies, and $\kappa_j \epsilon \{l, r\}$ voter j's belief about candidates' valence. Candidate x is valent in state of the world $s^x \epsilon \{s^l, s^r\}$, with the two states of the world being equally likely *ex ante*, and voter j receives a signal κ_j such that $Pr(\kappa_j = x | s = s^x) = q > 0.5$. The valence signal may or may not match a voter's ideological preference ι_j.

Based on their sets of beliefs, voters can be categorized as ideological if the benefit of voting by ideology is larger than the benefit of voting by valence, and conditional on turning out, they vote according to ι_j irrespective of κ_j, or pragmatic if the benefit of voting by valence is larger than the benefit of voting by ideology, and vote according to κ_j irrespective of ι_j.

As for the turnout decision, the net benefit of turning out to vote (e_j) is:

$$e_j = \begin{cases} [i_j + v_j] - c_j & \text{if } \iota_j = \kappa_j \\ \max\{i_j, v_j\} - c_j & \text{if } \iota_j \neq \kappa_j \end{cases} \quad (1)$$

where i is the benefit of voting by ideology, v is the benefit of voting for the candidate that is believed to be valent, and c is the cost of voting. A voter turns out to vote ($t_j = 1$) if the net benefit is positive:

$$t_j = 1(e_j > 0). \quad (2)$$

We hypothesize that $v_j = V + \varepsilon_j$, where V is a positive parameter, and ε is independently and uniformly distributed on $[-\sigma, \sigma]$, with $0 \leq \sigma \leq V$, and that $E[\varepsilon | i] = 0$. As for ideology, i is assumed to be independently and uniformly distributed on $[0, I]$, with $I > V$, and cumulative distribution function $\Phi = \frac{i}{I}$. The voting cost c_j is allowed to be correlated across voters due to the fact that individuals residing in a jurisdiction face the same or similar conditions.

Fig. 1 offers a graphical representation of the forces determining how and whether people vote. Voters are ordered according to the relevance of i, with Φ on the horizontal axis indexing voters' cumulative distribution function.[1] Assume that v_j is constant across voters ($\sigma = 0$), and that $I > 2V$, implying that the majority of voters are ideological.[2] Fig. 1 first depicts how people vote. The fraction of voters $\Phi = \frac{V}{I}$ have $i_j < V$ and vote pragmatically, while the fraction $1 - \frac{V}{I}$ have $i_j > V$, and vote ideologically.

As for the turnout decision, voters for whom the valence signal matches their ideological views have benefits from turning out to vote as given by the solid straight line **m** ($i + v$) in Fig. 1, while 'no match' voters – for whom valence signals are clashing with ideological views – have benefits described by the solid piecewise linear curve **nm** ($\max\{i, v\}$). Say that the cost of voting is homogeneous across voters at $c_j = c > 0$. According to (1) and (2), all voters for whom the benefits from voting (**m** or **nm**) exceed c will turn out, while the others will abstain.

Consider now the effect of the cost of voting on pragmatic voters' turnout $t(v)$:

$$t(v) = \begin{cases} \frac{V}{I} & \text{if } c < V \\ \frac{V}{I} - \frac{c}{2I} & \text{if } V < c < 2V \\ 0 & \text{if } c > 2V. \end{cases} \quad (3)$$

As Fig. 2 shows, all pragmatic voters $\left(\frac{V}{I}\right)$ turn out when $c < V$, while none of them participates when $c > 2V$ even if the signal matches their ideological views. For $V < c < 2V$, the only pragmatic voters that turn out are those for whom the valence signal matches their ideological views (i.e., are on line **m**), and the total benefits from voting exceed costs: $i_j + V > c$. On the other hand, ideological voters' turnout $t(i)$ declines with the cost of voting according to:

$$t(i) = \begin{cases} 1 - \frac{V}{I} & \text{if } c < V \\ 1 - \frac{V}{2I} - \frac{c}{2I} & \text{if } V < c < 2V \\ 1 + \frac{V}{2I} - \frac{c}{I} & \text{if } 2V < c < I \\ \frac{1}{2} + \frac{V}{2I} - \frac{c}{2I} & \text{if } I < c < V + I \\ 0 & \text{if } c > V + I \end{cases} \quad (4)$$

All ideological voters $\left(1 - \frac{V}{I}\right)$ turn out for $c < V$, while a fraction $\frac{1}{2}\left(\frac{c}{I} - \frac{V}{I}\right)$ of them - i.e., those for which the valence signal does not match their ideological stance (line **nm**) and $i_j < c$ - abstain if $V < c < 2V$. For $c > 2V$, some of the 'match' ideological voters abstain too (those that are located close to $\frac{V}{I}$ on line **m** in Fig. 1, and for whom $i_j + V > c$). As the cost of voting further increases ($c > I$), the only voters participating in the election have a valence signal coinciding with their ideological views. Finally, turnout falls to zero for $c > V + I$.

As a result of (3) and (4), total turnout t is:

$$t = \begin{cases} 1 & \text{if } c < V \\ 1 + \frac{V}{2I} - \frac{c}{I} & \text{if } V < c < I \\ \frac{1}{2} + \frac{V}{2I} - \frac{c}{2I} & \text{if } I < c < V + I \\ 0 & \text{if } c > V + I. \end{cases} \quad (5)$$

As the cost increases, turnout falls and the process goes on until only ideological voters whose signal about the valence of the

[1] The actual shape and position of the cumulative distribution of the ideological value of voting is likely to vary depending on institutions (Revelli, 2016). Here, we take them as given and focus on the role of circumstances determining the cost of voting.

[2] $I = 2V$ implies that exactly half the electorate is ideological and half is pragmatic. All graphs in this section are drawn by setting: $V = 3$; $I = 8$; $q = 0.7$.