Voter Transitions, Vote Wasting, and Strategic Behavior
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Abstract

I study vote wasting and strategic behavior in the Argentine Senate election for the City of Buenos Aires in 2013. I estimate and analyze the voter transition matrix between the primary and general elections using a Bayesian hierarchical model for ecological inference, from a rich data set of ballot-box data. The results show that strategic behavior is not widespread amongst the electorate in Buenos Aires. In particular, at least 75% of voters who had the opportunity to avoid vote wasting by being strategic did not.

Electoral System

Senators in Argentina are elected to six-year terms by popular vote on a provincial basis, using a one-voter-one-vote, closed-list, fixed-ratio electoral system where:

- The winner gets two seats
- The runner up gets one seat
- The have no error margin, since their results depend on the population of voters,

Since the 2011 elections, primaries called PASO take place two months before the general elections:

- Open. Voters can cast a vote (and only one) for any list they want, irrespective of party affiliation.
- Simultaneous. All parties carry out their primaries simultaneously and in the same locations.
- Compulsory. Citizens are required to participate (as in the general elections) All parties are required to participate in the primaries, even if they face no internal competition.

Strategic Primary Voters or Coalition Defectors?

This table shows the estimated voter transition matrix, averaged city-wide.

<table>
<thead>
<tr>
<th>Choice in General Election</th>
<th>Minor No Vote % of Voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNEN</td>
<td>95.0%</td>
</tr>
<tr>
<td>Other</td>
<td>95.0%</td>
</tr>
<tr>
<td>Standpatters</td>
<td>47.3%</td>
</tr>
<tr>
<td>Party Switchers</td>
<td>25%</td>
</tr>
<tr>
<td>Strategic Primary Voters</td>
<td>25%</td>
</tr>
<tr>
<td>Coalition Defectors</td>
<td>25%</td>
</tr>
</tbody>
</table>

Table 1: Voter Transitions, Vote Wasting, and Strategic Behavior

Data and Estimation

The data come from official provisional vote counts for the 2013 Primary and General elections in the City of Buenos Aires. It consists of the number of votes obtained by each party, along with the number of blank, null, and void votes for 5,890 individual ballot-boxes in the city. Each ballot box consists of 350 voters. Since data is a provisional count, it does not include all the votes for 5,890 individual ballot-boxes in the city. Only ballot boxes with data for both general and primary elections were considered in the estimations, covering 80.2% of voters.

The method employed in this paper is a Bayesian hierarchical model estimated via Markov Chain Monte Carlo, following Rosen et al. (2003). For each ballot box i, I observe the number of people who voted for each party in the primary (X_{1i}, ..., X_{Ci}), and the general election (T_i = T_{1i}, ..., T_{Ci}). The unobserved quantities of interest are the fractions of people who voted for party r in the primary, who chose party c in the general (θ_{rc}).

The model assumes that T_i follows a multinomial parameter \( \theta = (\theta_{1i}, ..., \theta_{Ci}) \) and count N_i, where \( \sum \theta_{ri} = 1 \).

The second stage assumes that the vectors \( \beta = (\beta_{11}, ..., \beta_{CC}) \) follow Dirichlet distributions with parameters (d_{01}, ..., d_{0C}) and \( \gamma = (\gamma_{11}, ..., \gamma_{CC}) \), where Z_i are ballot-box level covariates.

Finally, \( \gamma_{rc} \) and d_{0c}’s are treated as independents, with a flat prior over them. The parameters d_{0c} are assumed to follow exponential distributions with means 1/λ.