Recreating Market Conditions for Vote-Selling and Vote-Buying in the Lab: The Chilean Case

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Motivation: Vote-Buying Literature Forgets About Vote-Sellers

- The clientelism literature has focused primarily on vote-*buying* (parties buying votes in exchange of electoral support).
- Unfortunately, we are rather ignorants about vote-*sellers*: Who are they?
- Moreover, we do not know the micro-dynamics of the transaction itself.
- **Supply and demand story**: Do parties target likely voters? Why? At what price? Under what conditions sellers their votes?

The Model

- n voters, each citizen i has an ideal point x_i which is an *iid* draw from an uniform distribution $\Gamma = \{1, 2, ..., 100\}$.
- When policy γ is implemented, payoffs of citizen i are given by $u(D, x_i, \gamma) = D - |x_i - \gamma|$.
- Two candidates, one "left-wing" party and one "right-wing" party, which represents a policy which is an *iid* draw from an uniform distribution over $\gamma_L \in \{1, ..., 50\}$ $(\gamma_R \in \{51, ..., 100\})$.
- There are n_L supporters of "left-wing" party and n_R of "right-wing" party.
- Both parties negotiate with only one of these n voters, which is randomly selected from the total population.

The Model

- Each candidate has a budget (B) that they can use to buy votes .
- The profits of party i is given by,

$$\pi_i(W, e_i, s_i) = W \cdot e_i + (1 - s_i \cdot a_j) \cdot B$$

where W ($W \geq B$) is a constant that represents how much each party values winning the election, $e_i = 1$ if party i wins the election, 0 otherwise, s_i is the fraction of B that the party offers to voter j who can accept the offer ($a_j = 1$) or not ($a_j = 0$).

Timing

- At the beginning of the game n voters and two political parties are randomly located on their respective ideal points: voters along Γ, and payoff relevant information is revealed.
- **Vote-buying Case**
  - Each party simultaneously decides if making an offer to the voter.
  - The voter he voter decides if to take the offer, or which one accept if he receives two offers.
  - Voting is realized, if the voter accept an offer he should vote for this party.
- **Vote-selling Case**
  - The voter may privately propose a certain amount to each party in exchange for his vote.
  - The parties decide if to pay or not the offer.
  - The voter then decides which one to accept, if any.
  - Voting is realized, if the voter accept an offer he should vote for this party.

Equilibrium in Vote-Buying Case

- Parties only have incentives to negotiate with a voter i if he is the pivotal voter, this means:

$$|n_L - n_R| \leq 1 \qquad\qquad i \in max\{n_L, n_R\}$$

- Notation: $i^* \in \{L, R\}$ the preferred party of the voter, and $-i^*$ the other party.
- If the voter is pivotal, the less preferred party $(-i^*)$ has incentives to offer him a certain amount m_{-i^*} such that:

$$\begin{aligned} m_{-i^*} &\geq u(D, x_i, \gamma_{i^*}) - u(D, x_i, \gamma_{-i^*}) \\ &= (D - |x_{i^*} - \gamma_{i^*}|) - (D - |x_{i^*} - \gamma_{-i^*}|) \\ &= |x_{i^*} - \gamma_{-i^*}| - |x_{i^*} - \gamma_{i^*}|. \end{aligned}$$

Equilibrium in Vote-Buying Case

- Parties want to win the election at a minimum cost then, in equilibrium $m^*_{i^*} = 0$ and $m^*_{-i^*} = |x_{i^*} - y_{-i^*}| - |x_{i^*} - y_{i^*}|$.
- The pivotal voter indifferent between both political parties.
- Two Nash Equilibrium,
  - $\{(m^*_{i^*}, m^*_{-i^*}), \text{Accept offer } -i^*\}$
  - $\{(m^*_{i^*}, m^*_{-i^*}), \text{Reject offer} - i^*\}$

Equilibrium in Vote-Selling Case

- The voter has incentives to set the highest price each party can pay, this is given by B.
- The voter may swing towards party $-i^*$ only if the budget is big enough to compensate what he looses when voting for his less prefer policy $(B > |x_{i^*} - y_{-i^*}| - |x_{i^*} - y_{i^*}|)$.
- Note that if both parties accept to pay B to the voter, he will accept the offer of i^*.

Equilibrium in Vote-Selling Case

- Then the parties,

$$
\begin{array}{ccc|c|c|}
 & & \multicolumn{2}{c}{-i^*} \\
 & & \text{Accept} & \text{Reject} \\
\cline{3-4}
i^* & \text{Accept} & W\ ,\ B & W\ ,\ B \\
\cline{3-4}
 & \text{Reject} & B\ ,\ W & W+B\ ,\ B \\
\cline{3-4}
\end{array}
$$

- Nash Equilibrium: $\{(B, B), (\text{Accept}, \text{Accept}), \text{Accept offer } i^*\}$

Experimental Design

test