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

Héctor Bahamonde *[1] and

Andrea Canales †[2]

[1]Assistant Professor, O′Higgins University (Chile)

[2]Postdoctoral Fellow, O′Higgins University (Chile)

December 5, 2019

Abstract

The literature asserts that Chilean parties no longer buy votes. While those are good news, the bad news are that we are rather ignorants about a number of other interesting, and yet, unanswered questions. First and foremost, the approach used by most scholars focuses exclusively on vote-buying. That is, parties offering to buy votes, completely ignoring the ones who sell their votes (i.e. voters). This is a rather important distinction. What would voters do if offered the chance to sell their votes? Would they sell them? And if so, at what price? Would voters still sell their votes to their own party of preference, or would they sell it to the opposing party? Do voters set a higher selling price if selling to the opposing party, while lowering the price if selling to the party they would have supported anyways? Another important question is who political parties target: party supporters, opposers, or swing voters? By recreating market conditions that exist between vote-buyers and vote-sellers implemented in the lab, the paper sheds light on these issues.

Keywords— clientelism; vote-buying; vote-selling; experimental economics; formal modeling.

---

*hector.bahamonde@uoh.cl; `www.HectorBahamonde.com`.

†andrea.canales@uoh.cl; `website`.

We thank O'Higgins University for funding this project, and the participants of the colloquium at the Centre for Experimental Social Sciences (CESS) at Universidad de Santiago. Javiera Tobar, Cristopher Reyes and Bastian Garrido provided excellent research assistance.

I. INTRODUCTION

Nice introduction here. This is my edition.

II. THE MODEL

We consider an electorate of n voters. Voters vote for a leader to implement a common policy γ from the set $\Gamma = \{1, 2, ..., 100\}$. Each citizen i has an ideal point x_i which is an *iid* draw from an uniform distribution Γ. When policy γ is implemented, payoffs of citizen i are given by $u(D, x_i, \gamma) = D - |x_i - \gamma|$, where D represents completar acá. This payoff can be incremented by transferences from both parties to voter i.

In this election, there are two candidates. One "left-wing" party and one "right-wing" party. The left-wing (right-wing) candidate represents a policy γ_L (γ_R) which is an *iid* draw from an uniform distribution over $\{1, ..., 50\}$ ($\{51, ..., 100\}$). The location of this policy give us the number of voters n_L leaning towards the left-wing candidate, while the number of voters leaning towards the right-wing party is given by $n_L + n_R = n$. While we consider that voters are attached to an ideological continuum, we do so with the sole purpose of modeling preferences.

Ultimately, experimental subjects are not told anything about ideology. They only observe that there are a number of "points" associated with the victory of party A or party B. In this sense, voters lean ("ideologically") towards the party that gives them more points.

Moving forward, both parties negotiate with only one of these n voters. That voter is randomly selected from the total population n. Observe that the higher the n, the lower the representation in the election of this voter. That is, a larger n necessarily implies that every individual electoral choice matters less. However, if n is small, negotiating with this voter may be more attractive to political parties.We assume that each candidate has a budget (B) that they can use to buy votes. If a party decides not to negotiate with the voter (or the voter does no accept the offer), the party keeps this budget. 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,

Andre: check rewording. Does it still make sense?

esto de los puntos lo eliminaría, porque es más del diseño experimental

por que? no lo hace mas caro? (dictador)

Porque en este caso, cada votante rep-

$e_i = 1$ 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 ($a_j = 0$). We study two versions of this party-voter interaction. One is where both parties make simultaneous offers to the voter, and she decides whether to accept the offer (vote-buying case). Another one is where the voter can make privateoffers to both parties, and then the party decides if to pay or not for that voter's vote (vote-selling case).

The timing of the game is as follows: at the beginning of the game n voters and two political parties are randomly located on their respective ideal points: voters along Γ, the "left-wing" candidate along $\{1, ..., 50\}$, and the "right-wing" candidate on $\{51, ..., 100\}$. All locations are public information, as well as every party's budget B, the total number of voters (n) and the number of supporters of each party (n_L and n_R). What follows then, depends on the specific game. On the vote-buying case, each party simultaneously decides if making an offer to the voter. If a party decides to negotiate with the voter, privately offers him to buy his vote (i.e. accept the offer and vote for the party). Then the voter decides if to take the offer, or which one accept if he receives two offers. If he accepts an offer, he should vote for that candidate.[1] On the vote-selling case, the voter may privately propose a certain amount to each party in exchange for her vote. Then the parties decide if to pay or not the offer. The voter then decides which one to accept, if any. In this case, the voter offers to one or both parties, and each proposed amount might be different.

I. Equilibrium in Vote-Buying Case

In this case, both parties can offer certain amount in exchange for electoral support. Note that parties only have incentives to negotiate with the voter if he is pivotal voter. That means that $|n_L - n_R| \leq 1$, and that the voter i supports to ex-ante winner of the election($i \in max\{n_L, n_R\}$). The voter prefers the party closer to her ideal point. If both parties are located at the same distance, the voter is indifferent. Denote by $i^* \in \{L, R\}$ the preferred party of the voter, and $-i^*$ the other party.

Note that, naturally, both parties want to make different offers. If the voter is pivotal , the less preferred party has incentives to offer him a certain amount m_{-i^*} such that the he perceives more utility voting for that party rather than voting for the opposite party, that is:

---

[1] It is important to consider that to simplify the game (and the experiment), accepting the offer necessarily implies compliance. That is, accepting the offer means voting for the party the voter accepted the offer from. We leave for future research the case where the voter may defect.

por que private?

Porque cuando negocian con cada partido, el otro partido no sabe si el votante está negociando con el otro partido, ni qué está negociando.

es asi?

si

cambie pivotal por mediano

cambie nuevamente a pivotal

no entiendo

Andre: check rewording

listo, cambie mediano nuevamente

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

Parties expect winning the election but have limited budgets. Moreover, they want to win the election at a minimum cost. If party $-i^*$ offers the voter $m_{-i^*} = |x_{i^*} - \gamma_{-i^*}| - |x_{i^*} - \gamma_{i^*}|$, the voter will be indifferent between voting for party i^* or party $-i^*$. Both offers $m_{i^*} = 0$ and $m_{-i^*} = |x_{i^*} - \gamma_{-i^*}| - |x_{i^*} - \gamma_{i^*}|$ are the minimum amount, but enough to make the median voter indifferent between both political parties. . Voter indifference gives two possible Nash equilibria. In one equilibrium the voter rejects the offer and votes for i^*. In the other equilibrium, the voter accepts the offer and the elected party is $-i^*$.If individuals are utility maximizers, they should be indifferent between these two equilibria. However, if we frequently observe that voters reject offers, this would give us some light that the players have other motivations. For example, more politicized players may be more likely to reject offers from the less preferred party.

andre: check re wording. Pero aqui habria que explicar como es que se mueve de la indif hacia la eleccion

II. Equilibrium in Vote-Selling Case

In the case that the voter can set the a price of his vote, he may negotiate with one or both parties setting the price that he is willing to accept in exchanging of voting for that party. In this setting, the voter has incentives to set the highest price each party can pay. In our model this is given by B (which is public knowledge). When the voter is pivotal, he may swing towards party $-i^*$ only if the budget is big enough to compensate what he looses when voting for his less prefer policy ($B > |x_{i^*} - \gamma_{-i^*}| - |x_{i^*} - \gamma_{i^*}|$). When the voter decides to negotiate with both parties, and both accept to pay the price set by him, he chooses one offer, voting for his preferred political party i^*. Since the parties-voter negotiation does not change the electoral outcome, vote-selling is not efficient to parties. When a party wins the election due to vote-selling, the party's payoff is $\pi_i(W, 1, 1) = W$, while the loser party obtains $\pi_i(W, 0, 0) = B$. If the median voter decides to negotiate with both political forces, parties i^* and $-i^*$ have to decide if accept to pay B to the voter. This strategic situation is represented as follows,[2]

no queda claro quien hace la oferta, o da lo mismo?

está dos líneas más arriba

te parece ver los datos primero?

verdad?

si

---

[2] This situation is considering that, if both parties accept to pay the price set by the voter, he prefers the party i^*.

		$-i^*$	
		Accept	Reject
i^*	Accept	W , B	W , B
	Reject	B , W	$W+B$, B

Thus, we can observe that there exists an unique equilibrium where both parties are willing to pay B to the voter.

III. Experimental Design

Following our theoretical formalizations, a lab economic experiment was performed. The experiment was conducted at O'Higgins University and Centre for Experimental Social Sciences (CESS) of *Universidad de Santiago*, Chile. summary statistics here.

The experiment has two parts, with four stages each. The first part is the vote-buying portion. During the first stage, participants are assigned a role at random. They can be either *party A*, *party B*, or *voter*. Voters are assigned at random an "ideological" position. That is, voters may receive a certain amount of points (given at random) depending on whether party A or B wins the election. For instance, if party A wins election, the voter receives 2.400 points, whereas if party B wins the election, the voter receives 200 points. In this sense, the voter is "ideologically" closer to party A. During the first stage, both parties receive different endowments too. The idea is to reflect the fact that some parties are wealthier than others. Note that voters receive zero endowments. The clientelism literature is consistent in that both poor (cite here) and rich voters are prone to receive clientelist offerings.

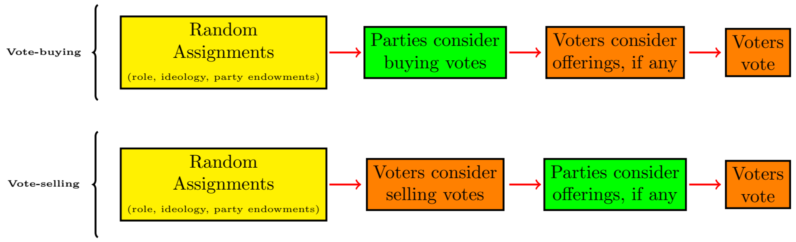

Figure 1: Experimental Flow.
Note*: Note here.*

During the second stage of the first part, parties decide whether to go out and buy votes by making clientelist offerings. Experimental subjects playing the party role enter an amount of points, which ranges from zero to the maximum assigned budget. In the third stage voters evaluate whether to take that offer or not. They are also told that accepting the offer necessarily implies voting for that party (no defecting). In this regard, the third and fourth stage are in reality one stage.

es asi? O ellos tienen que poner “no quiero oferta”?

The second part is the vote-selling portion of the experiment. This part is run during the same experimental session, but loading a separate `Ztree` program. Right after the first part is completed, experimental subjects are then asked to continue with the study. The part is exactly the same, except that this time voters are first-players: they get to offer parties an amount of points, and then, parties get to decide whether to take or reject that offer.

The experimental currency

………… **Word count**: 1,913 …………