Electoral Risk and Vote Buying, Introducing Prospect Theory in the Experimental Study of Clientelism

**Abstract**: Most traditional theories of clientelism assert that parties in need of securing electoral support invest in vote buying. We consider this framework limited because it assumes that losses and gains affect a party’s decision-making process in a comparable way, and because it assumes that the decision-making process of clientelist political parties focuses only on absolute levels of utility while overlooking changes in outcomes with respect to a reference point. We hypothesize that parties are risk-averse in the domain of gains and risk-seeking in the domain of losses—i.e., losing an election hurts more than winning an election pleases. Unlike traditional theories of clientelism, we argue that vote buying is most likely when parties are probable winners or have experienced important losses in the past. After formalizing a theory of vote buying, we tested it by designing an economic experiment. Exploiting these novel experimental data, we show that prospect theory bridges important unexplained gaps in the literature.

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# Parties With a Gambling Problem: Vote Buying as a Risky Yet Persistent Strategy

Vote buying is a very risky strategy.[[1]](#footnote-1) First, it is illegal.[[2]](#footnote-2) Buying votes requires extra care to avoid reputational, electoral, and legal costs. For instance, due to the stigma associated with vote buying, clientelist political parties might risk electoral support from the wealthy or from society in general . Second, vote choices are secret, thus preventing parties from conducting effective monitoring and enforcement . Even in developing contexts such as Africa , the Philippines , and Latin America , voters might accept the private benefit but then secretly vote for another party , rendering the risks taken by the clientelist party worthless.[[3]](#footnote-3)

If vote buying is risky , expensive , and uncertain , how do clientelist political parties allocate scarce resources efficiently? In this paper, we address two related but more specific questions about strategic vote buying related to the role of political contestation and sunk costs. First, *How risk-tolerant are parties when facing contested elections?* Second, *Do clientelist political parties consider “yesterday’s” spending levels when buying votes “today”?* These are important questions, as they directly speak about a party’s decision-making process when faced with risk. Unfortunately, we find that the literature provides conflicting or inconclusive answers to these questions. This paper posits that these gaps in the literature originate in a misunderstanding about a party’s decision-making processes under risk.[[4]](#footnote-4)

Traditional theories of clientelism assert that vote buying is more likely when parties are probable electoral losers, while ignoring prior spending levels on vote buying. We consider this framework limited in a number of ways. First, it assumes that losses and gains affect a party’s decision-making process in a comparable way—i.e., winning elections feels good, while losing one hurts. Second, it assumes that the decision-making process of clientelist political parties focuses only on absolute levels of utility while overlooking changes in outcomes with respect to a reference point. In this paper we contest these assumptions.

By introducing prospect theory in the study of clientelism, our argument is twofold. First, clientelist political parties buy more votes when they are probable winners because decision-makers in the domain of gains usually underweight, or “play down,” the probability of electoral success, making risky strategies such as vote buying more attractive (risk-aversion). Second, clientelist political parties buy more votes when their levels of sunk costs are high because decision-makers in the domain of losses usually overweight, or “exaggerate,” the probability of electoral losses, making risky strategies such as vote buying more attractive (risk-seeking). In these cases, “gambling” more money on vote buying will seem more attractive because clientelist political parties will feel the need to aggressively compensate for prior losses. Thus, in several respects we stand opposite to traditional explanations of vote buying that argue vote buying should be more common when parties are probable losers. However, in other respects our findings complement past research, but for different reasons: incumbents do not “gamble” more on vote buying because of resource availability only, but also because they feel the need to “break even.”

Building on traditional theories of clientelism, we formalized a basic theory of vote buying, and then we tested it by designing an economic experiment. The voting experiment was carefully designed to capture different domains of gains and losses as well as varying reference points. Exploiting these novel experimental data, we show that prospect theory sheds light on several inconsistencies present in the literature. As the statistical analyses suggest, because of risk-aversion in the domain of gains and risk-seeking in the domain of losses, experimental subjects adopt the riskier alternative of buying votes in a way that is unpredicted by standard expected-value calculations.

We contribute to the literature in three ways. First, while prospect theory has been influential in political science only among international relations scholars, the theory has not received much attention among political economists nor comparative politics scholars (, ). We believe this is a serious issue that should be corrected. We intend to bridge this gap by offering an alternative theory of the political economy of vote buying taking prospect theory as a starting point. Second, in this paper we follow as we carefully try to not only show that the observed behavior of political agents is consistent with prospect theory but that prospect theory provides a better explanation of vote buying than do traditional descriptions of vote buying. Third, and from a methodological standpoint, we follow in that there is a need for implementing experiments aimed to test formal models, and such, we believe that political scientists might benefit from this process to establish empirical validation of formal models . Since the formal model follows traditional theories of clientelism, it is particularly relevant to test the model in an experimental setting. Finally, our paper is especially relevant to the study of democracy and development, where experiments have been described as “a promising research tool” .

This paper proceeds as follows. First, we present several gaps present in the vote-buying literature. Second, we explain the basic concepts behind prospect theory, while providing more details about the direct implications for the clientelism and vote-buying literature. Third, following the basic intuitions of traditional voting games, we offer a basic formal model of vote buying. Fourth, we present our experimental design. Fifth, we analyze the experimental data. Sixth, we conclude by readdressing our results and discussing possible avenues for future research.

# Traditional Theories of Clientelism

introduced one of the first theories of decision making under risk . Since then, a specific set of behavioral assumptions have dominated political science (, ), and traditional accounts of vote buying have been no exception. Just to name a few examples, used game-theoretical techniques to introduce the concept of “turnout buying,” suggesting that parties deliver private benefits even when monitoring is absent. offer a formal model to explain that clientelist parties utilize a mix of four clientelist strategies during elections (vote buying, turnout buying, abstention buying, and double persuasion), while presents a game-theoretical model of vote buying in which a broker sustains bribed voters’ compliance by conditioning future bribes. Similarly, develops a formal model of political clientelism in which a candidate disciplines a majority of voters through the promise of a future flow of benefit.

We contest this traditional approach focused on absolute gains by shifting the attention to losses and context-dependent decision-making processes. It needs to be clarified, however, that the root of the problem is *not* methodological (i.e., the use of game theory) but analytical. In particular, we contest the assumed decision-making process under risk embedded in most traditional accounts of vote buying. We find it limiting that most research focuses on absolute levels of wealth, while assuming that whether decision-makers are in a domain of gains or losses should not affect their attitudes toward risk. We believe that a shift in focus is a valuable exercise because strategic behavior under risk has usually been modeled according to assumptions about expected-value calculations that are “unrealistic” . Since these assumptions have also been integrated in most traditional vote-buying theories, our paper hopefully clarifies some empirical deviations present in the literature.

A large body of experimental research finds that many behavioral expectations under risk do not comport with the assumptions present in game-theoretical descriptions of some political behaviors (, ). As a matter of fact, Bernoulli—the forefather of the expected utility theory—was the first to notice that people would not always behave on the basis of the expected value of a game . From a decision-making standpoint, many find that the assumptions underlying the classical theory of risky choice are “systematically violated” and that both variance and semivariance ideas of risk have been shown to be “inconsistent“ with von Neumann axioms . Furthermore, there seems to be a strong consensus that standard assumptions about strategic behavior under risk “continually failed empirically” , while others find that experiments have shown that “actual behavior and decisions frequently deviate from the neoclassical predictions” .

The empirical literature consistently finds that “people systematically violate the predictions of expected utility theory” . In fact, finds it “ironic” that just as rational choice has become the most influential paradigm in political science, the theory has come under heavy attack by experimental *and* empirical evidence. The problem is that these assumptions have also been embedded in most of the vote-buying literature. Thus, while much progress has been made in the understanding of clientelism and vote buying (see for an excellent review), there are several inconsistencies that authors tend to ignore or treat as unimportant empirical deviations. We believe these inconsistencies originate in the wrong understanding of decision-making under risk. Consequently, rather than neglecting traditional theories of clientelism, our paper seeks to complement such progress by bridging several gaps in the literature. In this paper, we address two important inconsistencies relevant to the understanding of vote buying. We concentrate on these two aspects because both speak directly to the party’s decision-making process under risk.

#### Political Contestation

The first inconsistency that causes confusion in the clientelism literature is the role political contestation plays in vote-buying. On the one hand, some explain that the more contested an election, and hence the more risks of losing the election, the more incentives to resort to vote buying . Yet, there are recent contributions that report very large levels of vote buying in contexts of *low* political contestation. For instance, , who fielded a list experiment in Nicaragua for the 2008 elections, find that while the incumbent party enjoyed 40% of the electoral support, 24% of registered voters were offered a clientelist gift in an election that “[was] not heavily contested.” Why would a party buy such a *massive* number of votes in a safe and uncontested election? Are parties wasting their resources?[[5]](#footnote-5)

On the other hand, some have argued that vote buying should be higher in contexts of *low* political contestation. For instance, explain that political parties that hold an electoral monopoly tend to offer clientelist goods to deter the entry of political challengers. Similarly, explains that hegemonic autocracies such as the PRI in Mexico have survived thanks to successful deterrence strategies and clientelism (see also ). Unfortunately, these explanations seem at odds with normative theories in the risk-management and insurance-buying literature in economics. If we think of vote-buying as an insurance against political losses, then utility-maximizer parties should “buy insurance” only in risky scenarios, that is, in cases when there is a high probability that the expected electoral outcome is a loss. As explains, “those most at risk will buy more insurance than the others,” a behavior that he describes as “adverse selection.”

Whether parties target their resources when they are likely winners or losers is a fundamental question, yet the literature is quite inconclusive about the role of political contestation on vote buying. In fact, suggests that “there is no consensus about the relationship between high levels of political competition and the phenomenon of clientelism.” We believe that part of this lack of consensus is due in part to a misunderstanding of a party’s decision-making under risk.

#### Sunk Costs

In other respects, our argument somewhat conforms with past research, but for different reasons. Our explanation is different because it considers that decision-makers weigh their options with respect to a reference point, which in turn explains higher levels of vote buying. Traditional vote-buying theories usually explain that incumbents enjoy important comparative advantages relative to political challengers. Since incumbents are in office while campaigning, they are usually able to divert public resources to vote buying . While incumbents’ relatively higher levels of clientelist spending may be explained by their disposable public resources, we believe this is a necessary but insufficient condition to explain vote buying.

Building on , we posit that having the *capacity* to buy votes is a necessary but insufficient condition to explain the *use* of clientelism. Thus, while incumbents might have more available resources, they will not necessarily engage more aggressively in vote buying. Taking this important insight as a starting point, we consider an additional scope condition under which clientelist political parties spend more on vote buying. In particular, we argue that incumbents not only need to have the capacity to deliver—as traditional accounts of vote buying assert—but also have a history of large prior investments; the larger prior spending levels are, the larger the spendings will be. The argument does not rely on some deterministic treat of the incumbent but about the need to compensate for prior losses or “sunk costs.”

Incumbents are usually portrayed as if they were always in the domain of gains, as the “incumbency *advantage*” concept implies. However, we tend to disagree with this view. First, the material, coordination, and political costs of maintaining a large-scale vote-buying operation is very high . Party machines need to have the capacity to grant public jobs to their clients , but also to organize rallies , deliver benefits and “*acarrear*” , and monitor clients at the best of the machine’s abilities . Second, incumbents face a number of uncertainties. Party machines cannot effectively monitor their clients and struggle obtaining resources to be delivered in a clientelist manner . If vote buying is expensive and uncertain, *what motivates clientelist political parties to buy such massive numbers of votes, as the Nicaraguan example above suggested?* In this context of uncertainty and risk, we argue that clientelist political parties will “gamble” more money and resources to compensate for prior losses. For every additional unit incumbents spend on vote buying, they will feel the need to spend even more to “break even” to try to compensate for prior losses or clientelist investments.

In sum, the way in which the literature assesses the role of political contestation and sunk costs on vote buying leaves many unaddressed gaps. First, the literature seems to suggest that clientelist political parties waste valuable resources when buying votes in uncontested elections. Second, the literature explains higher levels of clientelist spending by focusing only on current available resources while overlooking the role of prior losses or investments (i.e., sunk costs) on vote buying. We interpret this apparent “misbehavior” as an analytical problem, particularly, a misunderstanding of how political parties make decisions under risk. To bridge these gaps, the next section introduces prospect theory to the study of vote buying. Importantly, this section sheds light on why parties buy votes in low-risk contexts and why sunk costs might explain massive spendings on vote buying.

# Prospect Theory and Its Implications for Clientelism: When Losses Loom Larger than Gains

Prospect theory is a theory of decision making under conditions of risk , and it was developed by as a way to incorporate empirically observed violations of expected utility (, ). Since its development, prospect theory has emerged as a “leading alternative” , “best available description” , and “empirically correct theory” about how people evaluate risk , particularly excelling in providing a model that offers “descriptively accurate formulations” of the human decision-making process .

While the theory has been most influential among international relations scholars, it has unfortunately had “limited” influence on political science as a whole . Still, there are several contributions in comparative politics that take prospect theory as a framework. For instance, studies levels of loss aversion of dictatorships when they perform radical economic reforms. study welfare state reform showing that political gains are the necessary condition for not-unpopular reforms, while deteriorating socio-economic situations or political losses are necessary for unpopular reforms. Additionally, studies issue salience, focuses on party platform change, while argues that “citizens who were in the domain of economic losses were more likely to take a risk and vote in favor of Brexit.”

Since others have already provided very comprehensive overviews of prospect theory , we will limit this section to describing its main components. The theory is based on two empirically derived concepts . First, utilities are defined over changes in outcomes with respect to a reference point (“reference dependence”). Note the sharp contrast with expected value theories, where the focus is on absolute levels of wealth . Second, individuals distort values of possible outcomes in an asymmetrical, non-linear, S-shaped way when making risky decisions (“value-function dependence”). Note also another important difference with expected value theories, where agents are assumed to treat expected utility values linearly, “even with training and effort” . As clearly summarize it, “prospect theory predicts that individuals tend to be risk averse in a domain of gains [i.e., when things are going well], and relatively risk seeking in a domain of losses [i.e., in the midst of a crisis].” This distinction also separates prospect theory from expected value theories, where the latter assume that whether decision-makers are in a domain of gain or loss should not affect their attitude toward risk .

Reference dependence is the central idea in prospect theory (, ). This aspect of the theory allows people’s preferences to depend on the circumstances they face (, , , ), which is usually , but not always , the status quo,[[6]](#footnote-6) and how it shifts over time (, ).[[7]](#footnote-7) As put it more clearly, “the carriers of value or utility are changes of wealth, rather than final asset positions.” Simply put, prospect theory pays considerable attention to losses.[[8]](#footnote-8) In fact, explains that individuals “give more weight to losses than to comparable gains,” which translates into the famous statement *losses loom larger than gains*. An important consequence is that, contrary to the assumption of invariance , a shift in the reference point should also lead to reversals of preferences (, , ).

Value-function dependence is another central idea in prospect theory. Importantly, the shape of the value function is non-linear. From an analytical point of view, we consider this to be *the* feature that trumps the normative expectations contained in standard expected-value theories. Formally, the asymmetrical curvature of the value-function explains why individuals exhibit risk-averse behaviors in choices among gains but risk-acceptant behaviors in choices among losses . In the domain of gains, the concavity of the value function encourages risk aversion by undervaluing the probability of success of a gamble relative to a certain outcome (underweighting). However, in the domain of losses, the convexity of the value function encourages risk-seeking behaviors by exaggerating the probabilities of rare but catastrophic losses (overweighting) . Typical examples are individuals who tend to underweight likely events such as a heart attack (not changing diet) but overweight rare events such as a plane crash (praying before landing). Unlike theories based on expected-value calculations, explains that the process of underweighting of likely events contributes to risk aversion, while very unlikely events are overweighted “quite grossly or neglected altogether” (see also ).

In prospect theory, both reference dependence and the shape of the value function lead to a more accurate description of decision-making under risk. In fact, experimental evidence consistently finds evidence of decision-makers distorting probabilities in a non-linear way . In particular, the evidence suggests that in the domain of losses, risk-seeking decision-makers take disproportionate risks to avoid certain losses, while in the domain of gains, risk-averse decision-makers are excessively eager to secure gains . This is explained because decision-makers “have difficulty with probability at extreme ranges” . Finally, it is important to note that while attitudes toward risk are usually portrayed as aspects of personality , prospect theory is *not* a personality theory; that is, it is not necessary to know about the individual personality traits of decision-makers in order to predict behavior (, )

The implications for vote buying are considerable. In sharp contrast to traditional vote-buying theories, prospect theory posits that clientelist parties will likely buy votes when they are probable winners or have experienced important losses in the past.

Clientelist parties will likely buy more votes when they are probable winners because decision-makers will exaggerate the small probability of losing the election. We expect vote buying to be an attractive strategy in favorable electoral scenarios due to the absolute aversion and intolerance to the (small) probability of losing the election. The mechanics of such a decision-making process should then make clear that there is no “wasting” when buying votes while in the domain of gains. This expectation is consistent with prospect theory. In fact, empirical studies confirm that “actors perceive themselves to be in the domain of losses more often than we would normally expect,” even if they are not (; see also ). This implies that loss aversion explains why decision-makers are more concerned with preventing a decline than increasing gains (, see also ). To sum, when things are going well electorally, clientelist political parties will tend to buy more votes because “future losses hurt more than future gains gratify” .

Clientelist parties can be expected buy more votes when they have experienced important losses or when they have had high spendings levels in the past, making risky strategies (such as vote-buying) more attractive by altering the decision-makers’ reference points. Altering the reference point downward increases risk-seeking behaviors because of the tendency of individuals in the domain of losses to try to “break-even” . This implies that clientelist political parties should be expected to buy more votes, not necessarily because they want to win the next election but because they will try to compensate for past losses or sunk costs. We theorize that clientelist parties will buy more votes when their past electoral losses or past levels of clientelist investments have been high. Clientelist parties that have a history of lost elections or that have invested considerable amounts in vote buying in the past are possible examples of this mechanism. notes that the elasticity of the risk-seeking behavior is quite high because the magnitudes of past losses need not be large in order to induce the behavior. This means that even small losses can be expected to induce risk-seeking behaviors. Consequently, we expect a steeper predicted effect in the data analyses. To sum, past losses are harder to accept, and hence when things have been bad in the past, decision-makers are more likely to make risky choices “today” to recover “yesterday’s” losses .

# A Formal Model of Vote-Buying

Formal models can usually help experimentalists to determine which theoretical settings and equilibria are most relevant to a particular causal hypothesis (, and ). Thus, we developed a vote-buying game within the Downsian “spatial” paradigms to test the descriptive accuracy of the game-theory model in the experimental section of this paper (, , , , ).

Following this tradition, we consider an electorate of voters. Voters cast votes for a leader to implement a common policy from the set . Each citizen has an ideal point , which is an *iid* draw from a uniform distribution over . When policy is implemented, payoffs of citizen are given by , where represents the utility of implementing any given policy. This payoff can be incremented by transferences from both parties to voter .

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 (), which is an *iid* draw from an uniform distribution over (). The location of these policies ( and ) give us the number of voters leaning towards the left-wing candidate, while the number of voters leaning towards the right-wing party is given by . While we consider that voters are attached to an ideological continuum, we do so with the sole purpose of modeling preferences—both formally and experimentally.[[9]](#footnote-9)

Both parties negotiate with only one of these voters. That voter is randomly selected from the total population . Observe that the higher the , the lower the representation in the election of this voter. That is, a larger necessarily implies that every individual electoral choice matters less. However, if is small, negotiating with this voter may be more attractive to political parties. This is because negotiating with a large number of voters is costly. We assume that each party has a budget () that they can use to buy votes. If a party decides not to negotiate with the voter (or the voter does not accept the offer), the party keeps this budget. The profits of party is given by,

where () is a constant that represents how much each party values winning the election, if party wins the election, 0 otherwise, and is the fraction of that the party offers to voter who can accept the offer () or not (). We study one version of this party-voter interaction, namely, when both parties make simultaneous offers to the voter, and voters decide whether to accept the offer or not.

The timing of the game is as follows: at the beginning of the game, voters and two political parties are randomly located on their respective ideal points: voters along , the “left-wing” candidate along , and the “right-wing” candidate on . All locations are public information, as well as every party’s budget , the total number of voters (), and the number of supporters of each party ( and ). In this game, each party simultaneously decides whether to make a vote-buying offer to the voter. If a party decides to negotiate with the voter, the party privately offers the voter to buy his vote. Then the voter decides whether or not to take the offer, or which one to accept if he receives two offers. If he accepts an offer, he should vote for that candidate.[[10]](#footnote-10)

#### Equilibrium

In this case, both parties can offer certain amounts in exchange for electoral support. Note that parties only have incentive to negotiate with a voter if he is the pivotal voter. That means that , and that voter supports the *ex ante* winner of the election (). 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 the preferred party of the voter, and the other party.

Note that, naturally, both parties will want to make different offers. If the voter is pivotal, the less preferred party has incentive to offer him a certain amount , such that he perceives more utility voting for that party rather than voting for the opposite party, expressed as follows:

Parties expect winning the election but have limited budgets. Hence, they want to win the election at a minimum cost. Given that , it is more difficult for the opposite party to incentivize the voter to change votes. If the opposite party offers to the voter all its budget , the party may offer and the voter will end up indifferent to both parties. Therefore, in equilibrium, the preferred party offers , the opposite party offers and the voter accepts the offer of party .

# Experimental Design: Buying Votes in the Lab

Building on our formal model of vote buying, we designed a lab economic experiment. The experiment was conducted in Chile by the *Centre for Experimental Social Sciences (CESS)* administered by the *University of Santiago* and *Oxford University, Nuffield College* between April 20, 2021, and May 28, 2021. It was programmed in O-tree, the online version of Z-tree . Following and others, our experimental design minimizes hypothetical bias and “cheap talk” by compensating subjects with real money according to their decisions . At the beginning of each experimental session, all participants were required to successfully complete two practice rounds.[[11]](#footnote-11) Those data were not used in the statistical analyses. In addition, subjects received a show-up payment of $2,000 CLP ( ). Payoffs depended on the quality of individual decisions.[[12]](#footnote-12) shows the distribution of payoffs expressed in actual currency, by role. shows summary statistics broken down by pre-treatment observables. These covariates were captured by a battery of socio-demographic questions delivered at the end of the study.[[13]](#footnote-13) A total of 102 subjects were recruited. Each subject played the game three times, for a total sample size of 306. For every new game, a whole new randomization process took place.[[14]](#footnote-14) Formally, we follow an in-between-subjects design, where different groups of individuals are randomly assigned to various experimental or control conditions . The basic experimental flow is depicted in .

**Note**: Density plots show the distribution of payoffs expressed in actual currency by experimental condition. Amounts exclude the show-up payment of $2,000 CLP. 0%, 25%, 50%, 75% and 100% quantiles are shown (rounded).

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All transactions were performed exchanging experimental “points.” We endeavored to employ neutral terminology to maximize experimental control . Thus, throughout all three games, participants bought and sold votes (if any) and accumulated and lost wealth expressed purely in experimental points. Every point was equivalent to $0.42 CLP ( ). Participants learned about the conversion when reading the initial instructions. Final payoffs were converted to actual currency at the end of the study.

At the beginning of every game, participants received a role at random. Following , roles were presented using neutral terminology to maximize experimental control. The design incorporated the following roles: *party A*, *party B*, or *voter*. Every game was played among three players (one *party A*, one *party B*, and one *voter*).

Voters were assigned an “ideological” position at random. That is, voters received at random a certain number of experimental points depending on whether party A or B won the election. For example, if party A won the election, the voter would receive 2,400 points, whereas if party B won the election, the voter would receive 200 points. Hence, the voter in this example should feel “ideologically” closer to party A. The idea was to model party-voter spatial distances, as considered by traditional voting theories . The basic premise of this paradigm is that the set of candidates that are ideologically closer to a voter produce more utility in the form of fiscal policies, either in terms of redistributive or free-market oriented policies (, but importantly, see ). In short, our design mimics an electoral market, where we can observe under which conditions different clientelist dynamics developed. Critically, this piece of information was not presented to participants as “ideology,” but as the points either electoral outcome would give. In turn, parties also received an “ideological” position that made them “closer” or “farther way” from the voter.

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**[FIGURE ABOUT HERE]**

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Parties received different “endowments” at random as well. The idea was to reflect the fact that some parties are wealthier than others, a factor that might increase the probability of vote buying . Note that both parties receive the same endowment. Since our experimental design is an in-between-subjects design, we should be able to observe and exploit the statistical differences (if any) across “parties” with different endowments. Participants acting the “party” role accumulated or lost wealth depending on whether they are elected or not elected. Every time they bought votes at some amount, that amount was discounted from their wealth. For simplicity, voters received zero endowments.[[15]](#footnote-15) In turn, participants acting the “voter” role accumulated or lost wealth depending on whether their party was elected or not elected (as per traditional spatial voting theories) and on whether they decided to sell or not sell their vote. It is important to note that following our formal model and , both ideology and party endowments were common knowledge among participants.

In addition, both parties received at random an initial vote share, that is, a certain number of (fictional) voters that were going to cast their votes for each party. This number did *not* include the vote intention of the participant acting the “voter” role. Overall, this experimental condition mimics the degree to which an election is contested. In particular, this variable accomplishes two goals. First, it puts parties in different electoral contestation environments. In other words, it introduces the element of risk (of losing the election) in the game. Since voters win or lose points when their parties win or lose elections, this risk is also relevant for players acting the “voter” role. Second, it gives (or not) voters a certain amount of electoral leverage. Since , traditional spatial theories of voting have considered that pivotal voters have more weight in an election, and hence, they might have incentive to sell their vote at higher prices. Given that all this information is public, this piece of information is key in our experimental design.

During the second stage, parties decide whether to buy votes and make an offer to the voter. Experimental subjects acting the “party” role that want to buy votes enter a number of points, which ranged from zero to the maximum assigned budget in that round.[[16]](#footnote-16) The design allows for simultaneous offers (i.e., offers from both parties), one offer, or zero offers. In the third stage, voters evaluate offers (if any). If the party(s) decided that it (they) did not want to make an offer at that time, the voter is told that the party(s) did not make an offer. Voters are told that accepting the offer necessarily implies voting for that party.[[17]](#footnote-17)

# Statistical Analyses: Risk and Vote Buying

Since the focus of this paper is on vote buying, we discarded the *voter* data and analyzed all observations of acting any of the party roles (*party A* and *party B*). In practice, this leaves the data formatted in party-voter dyads. Moving forward in this paper, we concentrate on one main dependent variable, namely, the amount of the vote-buying offers made by parties (if any). The distribution of this variable is shown in .

**[FIGURE ABOUT HERE]**

**Figure Note**: Since the focus of this paper is on vote buying, we discarded the voter data. The new sample size consisting only of parties is N = 142 (mean = 464, median = 394).

From an internal validity standpoint, we expect this distribution to vary with the levels of risk the party is dealing with. Accordingly, if the predictions of our formal model (and those of the traditional vote-buying theories) are correct, the amount of the vote-buying offers made by parties should be higher in riskier scenarios (i.e., when facing probable electoral losses). Since vote share, ideological positions, and endowments were public information (as formalized in our game), we believe these theoretical expectations should be consistent with the expectations of the traditional vote-buying literature.

From an external validity standpoint, we believe that voters in real elections can estimate, with some degree of success, actual vote shares (for instance, by looking at electoral polls). Voters can also identify parties’ ideological positions. For example, identify a number of conditions that are associated with higher levels of elite-mass congruence in Latin America.[[18]](#footnote-18) Voters can also make inferences about a party’s endowment, and how those endowments can be redistributed in a clientelist fashion . In turn, the literature is consistent in that brokers also provide necessary information about available resources and how to gain access to them . In sum, we believe this identification strategy appropriately captures the decision-making process of political parties under risk as theorized by traditional vote-buying scholars.

However, based on prospect theory, we have different expectations: parties should buy votes due to risk-aversion in the domain of gains (i.e., when being a likely winner as the idea of losing *sure* electoral support becomes unbearable), and due to risk-seeking in the domain of losses (i.e., when having experienced higher levels of sunk costs). To test these hypotheses we exploit the experimental data described above by fitting the OLS regression model specified in ,

where *Vote Share* is the percentage of a certain number of (fictional) voters who were going to cast their votes for the party, while $\Delta\text{\emph{Points Accumulated}}$ captures changes in the accumulated points with respect to the experimental round played in . For instance, if a player won 1,200 points at but then lost in the next round, then $\Delta\text{\emph{Points Accumulated}}\_{t}=700$. Importantly, this variable captures sunk costs. The intuition is to determine whether they are *not* considered when evaluating new proposals, as traditional expected-value theories posit. *Party Budget* is the party budget, and is a vector of participant fixed effects.

Following our formal model, we also factor in a parameter to test the effect of ideological and spatial distances on vote buying. From a substantive point of view, we are interested in testing the core and swing voter hypotheses.[[19]](#footnote-19) The vote-buying literature seems to be quite divided. In fact, state that “our knowledge of who parties target remains incomplete.” On the one hand, and explain that since constituencies are well known to clientelist parties, they allocate resources to core voters. On the other hand, argue that since allocating resources to individuals who *ex ante* vote for the party is a waste, parties target swing voters. Thus, we do not have specific expectations regarding the output of .

also has a parameter to test the effect of having large budgets. On the one hand, explains that having economic and material resources available does not necessarily cause more vote buying. Similarly, finds that political clientelism is “perfectly possible without controlling public funds.” On the other hand, explains that parties with larger budgets will engage in more expensive forms of clientelism, even buying votes from the wealthy. Thus, we do not have clear expectations regarding the output of either. Finally, tests whether parties engaged in more aggressive ways of vote buying by spending more resources on pivotal voters. Following the literature, we should expect that .

Simply put, if traditional vote-buying theories are correct, then we should expect that the larger the vote share, the less vote buying that occurs (because there are less risks of losing the election), sunk costs should not matter for vote buying, and pivotal voters produce more expensive vote-buying offers. The closer a party is to the voter is either positive for vote buying (core voter hypothesis) or negative (swing voter hypothesis). The bigger the budget of a party, the more (less) vote buying. However, if the expectations conform with prospect theory, we should expect and .

**[FIGURE ABOUT HERE]**

**Figure Note**: Based on the OLS estimates in , the figure shows the predicted values of the offer made by the party expressed in experimental points. Confidence intervals were constructed using robust standard errors (as shown in ). Substantively, the figure shows that experimental subjects avoid losses by over-securing electoral support even in favorable contexts (panel 1) and that they do consider sunk costs and try to recover losses in the short run by spending more on vote buying (panel 2). Panel 3 indicates that parties spend more on vote buying for voters closer to their ideological preferences. Panel 4 shows that larger party budgets incentivize more spending on vote buying, and that parties do not necessarily consider whether the voter is pivotal or not (panel 5).

Substantive results are shown in (regression table is shown in ). Overall, results clearly depart from the theoretical expectations of traditional vote-buying theories and widely support prospect theory. Parties do not buy votes when they are losing the election but do when they are winning the election (panel 1 in ). As prospect theory predicts, decision-makers in the domain of gains will exaggerate the unlikely scenario of losing the election and will become more risk-averse, making the strategy of vote-buying more attractive. Second, unlike traditional expectations, parties will consider sunk costs in their calculations and will buy votes when experiencing prior losses (panel 2 in ). That is, when parties are in the domain of losses (parties that have spent or lost a considerable amount of resources in the past), they will be more risk-seeking and gamble more money on vote buying.

In panel 3, we find strong support for the core vote hypothesis: political parties buy votes more frequently from voters that are ideologically closer to them. However, we also find that political parties buy these votes at relatively *higher prices* (counter to traditional core voter expectations). In panel 4, results show that parties with larger budgets buy votes at higher prices, while in panel 5 we find no support for the pivotal voter argument.

# Discussion

This paper began by identifying that the vote-buying literature has relied almost exclusively on expected-value assumptions at the cost of overlooking several empirical inconsistencies. We have identified two in particular, namely political contestation and the role of sunk costs. To clarify these empirical departures, we have applied basic concepts of prospect theory into the study of vote buying. After formalizing a voting game within the expected-value framework, we designed and implemented an economic experiment. Results widely conform with prospect theory. In particular, we concentrated our efforts on two findings. First, clientelist political parties buy more votes when they are probable winners because decision-makers in the domain of gains usually underweight (“play down”) the probability of electoral success, making risky strategies such as vote buying more attractive (risk-aversion). Second, clientelist political parties buy more votes when they have experienced larger sunk costs in the past because decision-makers in the domain of losses usually exaggerate the probability of unlikely electoral losses, making risky strategies such as vote buying more attractive (risk-seeking). Importantly, in these scenarios, parties that have gambled considerable amounts of resources in the past will tend to engage in more aggressive and expensive instances of vote buying to break even.

We encourage future research, particularly scholars in comparative politics, development, behavioral, and electoral studies, to consider prospect theory as a valid alternative to explain decision-making under risk. In our experiment, we had to sacrifice a number of important aspects, such as the probability of defection and the income distribution among voters. We intend to implement such considerations in future research.

1. Vote buying is defined as the distribution of rewards during elections in contingent exchange for vote choices . [↑](#footnote-ref-1)
2. explains that in the United States, vote buying was illegal as early as the 1700s. [↑](#footnote-ref-2)
3. In fact, since clientelism may also work even with low levels of enforcement and monitoring , investments in clientelism are always done in contexts of very high risk. [↑](#footnote-ref-3)
4. For the purposes of this paper, we focus exclusively on quantitative research. To name just a few important qualitative contributions, see , and . [↑](#footnote-ref-4)
5. In fact, other rather more extreme examples include cases where political participation is effectively banned, like in Russia . However, due to space concerns we leave both authoritarian clientelism and competitive authoritarian clientelist cases for future research. [↑](#footnote-ref-5)
6. The location of the reference point emerges as a critical factor in the analysis of decisions . explains that the reference point could also be an “aspiration level.” In a similar way, develop the idea of a reference point that consists of “expectations rather than the status quo.” We owe this point to Salomo Hirvonen. [↑](#footnote-ref-6)
7. While we do not focus on the role of emotions, others have found that “sad people will take more risk when trying to avoid a certain loss” . [↑](#footnote-ref-7)
8. Losses have also been the focus in other areas of political science . For instance, explains that “negative information is more influential than comparable positive information.” [↑](#footnote-ref-8)
9. 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. [↑](#footnote-ref-9)
10. 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. [↑](#footnote-ref-10)
11. To make sure participants understood the dynamics of the game, they were shown two examples of the voting game. Participants were required to enter the correct number of points each hypothetical participant would have received in each example. Importantly, all actual participants had to enter the exact number of points to continue playing the game. [↑](#footnote-ref-11)
12. notes that in poorer societies (like the Chilean society), conducting research with relatively smaller monetary incentives is still meaningful. However, see . [↑](#footnote-ref-12)
13. The table also details the same information conveyed in . [↑](#footnote-ref-13)
14. That is, participants received a role, an “ideology,” a party endowment, and a contestability structure. [↑](#footnote-ref-14)
15. This is consistent with the vote-buying literature in that both poor and rich voters are prone to receive clientelist offerings . See also . [↑](#footnote-ref-15)
16. Participants acting the “party” role are told that offering a zero amount means that they do not want to buy votes at that time. [↑](#footnote-ref-16)
17. For simplicity, we did not include the possibility of defecting. We encourage future designs to include this feature. [↑](#footnote-ref-17)
18. However, see . [↑](#footnote-ref-18)
19. Due to space concerns, we do not expand on this debate from a prospect theory standpoint. Additionally, we only consider these two ideal types of voters. There are other types that we do not discuss in this paper for simplicity. For instance, introduces another category—“conditional supporters”—who “will vote for the party machine only as long as unexpected events do not persuade them to do otherwise.” In addition to that, we acknowledge that (single-issue) spatial distances might roughly sort core and swing voters in an ideological continuum. Hence, we believe that core voters should be closer to parties while swing voters should be farther away. [↑](#footnote-ref-19)