Vote buying, beliefs, and the secret ballot

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Abstract

Why do political parties use clientelist strategies such as vote buying to mobilize voter support when the secret ballot allows voters to renege on their commitments and vote as they please? In this paper, we address this puzzle by developing a game theoretical model, where voter beliefs in the secret ballot guide their responses to vote buying by political parties. Empirically, we address the implications of the model by analyzing how voter confidence in the secret ballot shapes the relationship between vote buying and party choice using original survey data collected in the wake of the 2016 municipal elections in South Africa. Consistent with the theoretical model, the results suggest that vote buying is effective mainly when voters have little confidence in ballot secrecy. This contributes to explain why parties operating in the shadow of the secret ballot use clientelist strategies as part of their electoral campaigns.

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None

Introduction

The secret ballot is a cornerstone of modern democracy. While democracies come in many types composed of different bundles of institutions, one common trait they share is that mass elections are conducted under the auspices of the secret ballot. Historically, the secret ballot was adopted to undermine electoral corruption and vote markets, where political parties and candidates distributed bribes to voters in order to secure support during elections (Aidt and Jensen 2017; Mares 2015; Morgan and Vardy 2012). The move from open to secret voting was supposed to increase voter autonomy during elections and enable voters to cast their ballot according to their political preferences without undue influence from clientelist parties or fear of repercussions from employers, landlords, and politically powerful elites (Teorell et al. 2017; Mares 2015). The secret ballot is therefore often depicted as a 'weapon of the weak' because it protects the electoral autonomy of poor and underprivileged groups, who are the most likely targets of clientelist parties and might be punished for voting "the wrong way" (Fox 1994, 158).

Electoral clientelism involves the exchange of money or material goods flowing from political parties to voters, conditional on voters reciprocating with political support or votes (Mares and Young 2016; Stokes et al. 2013; Keefer and Vlaicu 2008). While electoral clientelism has largely been eradicated in most high-income democracies, it still flourishes during election campaigns in new democracies in the developing world (Stokes et al. 2013). In fact, a key puzzle in the literature is why political parties use vote buying – a prominent form of electoral clientelism – as a strategy to mobilize electoral support, given that the secret ballot allows voters to renege on their commitments and vote as they please (Guerra and Justesen 2022; Kamei 2022; Hicken and Nathan 2019; Gans-Morse et al. 2014). In response to this puzzle, two arguments have been invoked in the literature. One part of the literature points to various compliance and monitoring mechanisms that clientelist parties rely on to enforce vote buying transactions (Rueda 2017; Stokes et al. 2013; Finan and Schechter 2012).

Another part of the literature argues that actual secret ballot violations are relatively rare and that parties – particularly in Africa – do not have the organizational capacity to implement large-scale monitoring of vote choices during elections (Guardado and Wantchekon 2018; van de Walle 2007). Attempts to mobilize support based on clientelist strategies are therefore largely futile and have little effect on election outcomes (Guardado and Wantchekon 2018; Lindberg 2013; Conroy-Krutz and Logan 2012). The fundamental issue at stake is whether and why vote buying affects voter behaviour when elections are conducted under the secret ballot.

We address this tension in the literature by developing and testing an argument emphasizing that lack of confidence in the secret ballot is often enough to sway voter behavior in accordance with the wishes of clientelist parties, and that secret ballot perceptions accordingly affect whether vote buying becomes more effective in changing electoral behavior. While much of the existing literature argues that vote buying is viable only if parties can *de facto* compromise ballot secrecy or orchestrate monitoring of vote choices, our argument abandons the premise that actual violations of the secret ballot are necessary to make clientelist exchanges work during elections. This expands upon recent contributions pointing to the importance of secret ballot perceptions for contingent electoral strategies (Frye et al. 2019; Ferree and Long 2016; Kiewiet and Nickersons 2014) and political behavior more generally (Gerber et al. 2013a; Gerber et al. 2013b). If voters do not have confidence in the secret ballot and – rightly or wrongly – believe that their vote choice can be monitored, they are more likely to change their vote in response to an offer from a clientelist party. Voter beliefs that ballot secrecy can be compromised may contribute to sustain the exchange of money and material benefits in return for votes during elections, because low confidence in the secret ballot increases the likelihood that voters fulfill their end of the bargain and surrender their vote to the clientelist party.

The observable implication of this argument is that secret ballot perceptions moderate the link between vote buying and party choice during elections: Voters who have confidence in the secret

ballot are comparatively unaffected by the distribution of clientelist goods and tend to vote as they please, while voters with weak confidence in the secret ballot are more likely to reciprocate by voting for the clientelist party.

Our paper makes two contributions to the literature. First, we show that the effectiveness of vote buying is contingent on voter beliefs about the secrecy of the voting process. Secret ballot perceptions serve as a mechanism that explains why strategies such as vote buying are more effective under some conditions (low voter confidence in ballot secrecy) but not under other conditions (high voter confidence in ballot secrecy). Theoretically, we show this by developing a Bayesian game theoretical model, which features voters' beliefs in the secret ballot. The model demonstrates that even with a functioning secret ballot, voters will behave as if the ballot is not secret in equilibrium, given certain exogenous signals about the nature of the political environment. Beliefs about the secret ballot are critical. Second, we test the empirical implication of the theoretical model using original survey data collected after the 2016 municipal elections in South Africa – a country that has received relatively little attention in the literature on electoral clientelism. Our results suggest that voters being targeted with pre-electoral vote bribes by the ANC – the dominant party in South Africa – are more likely to vote for the ANC if they doubt the secret ballot. These results support the idea that electoral clientelism may contribute to mobilize electoral support, but chiefly if it targets voters who lack confidence in the secret ballot. Identifying the effect of electoral clientelism (and secret ballot perceptions) on vote choice, however, is complicated by endogeneity. Clientelist parties do not randomly select whom to target, and the selection is plausibly correlated with vote choice. To empirically address selection issues, all analyses control for respondents' party identification. We also perform separate analyses of vote buying and turnout buying to further alleviate concerns about selection. Lastly, to alleviate doubts about unobservable confounding more broadly, we perform a generalized sensitivity analysis (Imbens 2003). This shows that – for omitted variables to explain our

findings – they would have to be much stronger correlated with vote buying and vote choice than all of the theoretically motivated variables included in the analyses. While we cannot rule this out, we do not find it likely.

Our paper adds to a number of strands in the existing literature on electoral clientelism. First, we contribute to the burgeoning literature on the effectiveness of electoral clientelism in new democracies (Hicken and Nathan 2019; Guardado and Wantchekon 2018; Kramon 2017; Keefer and Vlaicu 2008). On the one hand, some studies find that that electoral clientelism affects voter behavior. For instance, Wantchekon (2003) shows that clientelist appeals increase electoral support – particularly for incumbents – while Brusco et al. (2004) find that vote buying is useful for mobilizing support, particularly among the poor. Kramon (2017) finds that vote buying is most effective when voters are poorly informed, while Leight et al. (2020) – using evidence from lab experiments – show that voters are less willing to punish politicians who provide them with vote bribes. While the evidence reported by Bratton (2008) is mixed, his results suggest that vote bribes increase incumbent support – arguably an indication that incumbents typically have access to a larger pool of state resources. On the other hand, the effectiveness of electoral clientelism has been challenged by van de Walle (2007) and Lindberg (2013) who argue that secret voting enables voters to accept vote bribes with one hand and vote for their preferred party with the other hand. Consistent with this argument, Conroy-Krutz and Logan (2012) find that although vote buying was widespread during the 2011 presidential election in Uganda, it had little impact on the outcome of the election. Guardado and Wantchekon (2018) similarly find that neither turnout nor the vote share of parties change in response to clientelist strategies. By pointing to the moderating role of secret ballot perceptions for the effectiveness of electoral clientelism, we contribute to bridge the gap between studies claiming that vote buying – and electoral clientelism more broadly – does not work (Guardado and Wantchekon 2018; Lindberg 2013; Conroy-Krutz and Logan 2012; van de Walle 2007) and studies claiming that

it is instrumental in mobilizing electoral support (Kramon 2017; Brusco et al. 2004; Wantchekon 2003).

Second, we add to the literature on how clientelist exchanges are enforced in the presence of a nominally secret ballot. Building on the seminal work of Scott (1969), the most common explanation of enforcement emphasizes the role of political parties in monitoring and enforcing electoral clientelism (Larreguy et al. 2016; Stokes et al. 2013; Nichter 2008; Stokes 2005). On this view, clientelist parties are treated as political machines that rely on a dense network of local and socially embedded party brokers. Brokers are not only involved in the distribution of targeted goods and transfers, but also specialize in gathering information about voters' partisan preferences and electoral choices, which are used to reward or punish voters, contingent on their support for the machine (Larreguy et al. 2016; Stokes et al. 2013).

A second group of studies emphasizes that clientelist enforcement does not require that party brokers are able to observe how individuals vote, but merely that electoral returns are available at sufficiently disaggregated levels, e.g. at the level of polling stations (Rueda 2017). Given the availability of such information, brokers can monitor and enforce vote buying transactions collectively by making the flow of clientelist transfers contingent on the collective party choice of small voter groups (Rueda 2017).

A third strand of the literature emphasizes that clientelism revolves around social norms of reciprocity. While the importance of social norms for sustaining clientelist relationship has been recognized for long (Fox 1994), recent contributions by Finan and Schechter (2012), Lawson and Greene (2014), and Kamei (2022) provide evidence that norms of reciprocity underpin clientelist exchanges and make unmonitored vote buying viable. The mechanisms making reciprocity work may be feelings of obligation to return the favor are induced by receiving a gift (Lawson and Green 2014), or the logic of repeated games that reciprocal relations often assume (Kamein 2022).

Without in any way denying their importance for electoral clientelism, our argument does not rely on appeals to social norms or collective enforcement. Our argument is more closely related to models of political machines, in the sense that active attempts by political parties to influence voter perceptions of ballot secrecy requires a certain level or organizational capacity at the local level (Ferree and Long 2016). Nevertheless, in contrast to political machine models, our argument does not invoke the – rather strong – assumption that parties are capable of actually monitoring vote choices or *de facto* orchestrate breaches of the secret ballot. Instead, our argument is more closely related to recent studies from Latin America (Kiewiet de Jonge and Nickerson 2014), Africa (Ferree and Long 2016), and Russia (Frye et al. 2019) of how political parties often try to influence voter perceptions of ballot secrecy in order to make contingent electoral strategies work. However, we move one step further by investigating – theoretically and empirically – how voter beliefs about the secret ballot matters for whether voters comply with the clientelist exchange and relinquish their votes in return for pre-electoral transfers.

The paper is organized as follows. The following section develops the argument and introduces the game theoretical model. We then motivate our case – South Africa – and describes the data we use. The next presents the empirical results where the key quantity of interest is the interaction of vote buying and secret ballot perceptions. The final section concludes on the main findings.

Vote buying and beliefs in the secret ballot

The secret ballot is an electoral institution comprised of a collection of rules and procedures (Teorell et al. 2017). These rules may stipulate that votes must be cast using standardized paper ballots in designated and enclosed voting booths, and are returned in closed envelopes to secure voting urns – and that this entire process is supervised by election committee officials or election monitors (Teorell et al. 2017). While all or some of the rules surrounding the process of secret voting may be enforced

to varying degrees, the point of the institution of ballot secrecy is to safeguard the autonomy of voters and allow them to conceal their political preferences during the voting process (Mares 2015; Morgan and Vardy 2012). In this way, the secret ballot is intended to generate a regularized behavioral response where voters express their sincere political preferences without worrying that their vote choice is monitored or revealed.

To understand voter choices, it is not enough to assume that behavior will conform to the incentives built into the formal institutional framework. Electoral institutions such as the secret ballot will only be effective if voters believe they are credible and have confidence that they can cast their ballot in secret – without fear of repercussions from party agents, employers, or powerful elites, who might otherwise punish or reward voters contingent on their vote choice. As emphasized by Gerber et al. (2013a, 78): "Whatever the truth is regarding *actual* ballot secrecy, what is crucial for understanding political behavior is whether people *think* their voting decisions are secret".[1] Therefore, voter perceptions of ballot secrecy are important because such beliefs affect how political preferences are channeled into actual voting behavior. For instance, a voter may prefer to support party *A*, but may end up casting a ballot for party *B* because of the belief that ballot secrecy can be compromised. Even in contemporary USA, voter beliefs in the secret ballot have been shown to be consequential for various types of political behavior, including party choice (Gerber et al. 2013a) and turnout (Gerber et al. 2013b).

The importance of voter beliefs in the secret ballot becomes even more pronounced in elections where parties employ clientelist strategies such as vote buying to mobilize support. When votes are cast under a secret ballot – and voters have confidence that they can conceal their vote choice – clientelist practices need not have any particular effect on people's electoral behavior or vote choice.

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[1] Italics in original.

In this scenario, voters may accept gifts or money, but vote for their preferred party anyway (Lindberg 2013; van de Walle 2007). Nonetheless, if voters engaged in clientelist exchanges believe their vote choice can be monitored – in spite of nominal ballot secrecy – they may be more likely to comply with their commitment to support the clientelist party. The mere belief that the ballot is not secret may therefore induce a change in voter behavior, particularly if voters fear that clientelist parties will punish those who vote "the wrong way" or are afraid of being cut off from the future flow of clientelist transfers (Frye et al. 2019; Ferree and Long 2016; Mares 2015). We formalize this idea by developing a Bayesian game theoretical model showing the importance of voter beliefs for the operation of vote buying.

A Bayesian game of vote buying and the secret ballot

To model the role of beliefs in the secret ballot and their effect on voting behavior in a vote buying environment, two players are featured: a Voter and the Party. Decisions are modeled sequentially. We assume that the Voter has already received and accepted a gift from the Party. We also assume that the Voter prefers not to vote for the Party, but is concerned that the ballot is not secret. Unlike almost all formal models of vote-buying, our game features incomplete information and beliefs about the secrecy of the ballot.[2] Most games of vote buying focus on the nature of the bribe or incomplete information about other voters. Our model, in contrast, focuses on voter's beliefs and the vote-buying parties attempts to affect those

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[2] The classic Groseclose and Snyder (1996) or Stokes (2005) focus on the rewards associated with vote-buying, and do not feature the secret ballot. More recent work such as Gingerich and Medina (2013) or Rueda (2015) do feature the secret ballot, but do not model beliefs about the secrecy of the ballot. Rather, they focus on voter's beliefs about other voters. Likewise, Morgan and Vardy (2012) offer a model of "positive" and "negative" vote buying under open and secret ballots, but without modeling the role of voter beliefs about ballot secrecy.

beliefs. Our game shows that even when there is a completely secret ballot, beliefs that it is not are sufficient to make vote buying efficient.

The Game

The Party first decides whether ballots are monitored, such that *b=m* or that ballots are secret, *b=s*. We indicate this choice with γ representing a choice to monitor ballots and 1-γ is the choice to keep the ballot secret. The Party, however, does not declare that the ballot is secret or not secret.[3] In Figure 1, the choice to monitor ballots, γ, is seen at the top of the game tree. The decision to keep ballots secret is at the bottom. Nature makes the next move contingent on the Party choosing to monitor the ballots or to keep them secret. Nature sends signals that are exogenously produced by the general political system. The signal assumes two forms, *i=s* (secret ballot) or *i=m* (monitored ballot). In Figure 1, a signal that the ballot is monitored is evident on the left side of the game tree. A signal that the ballot is secret is portrayed to the right side of the game tree. The probability of the Voter receiving a particular exogenous signal is contingent on the Party's choice. The voter observes a signal that the ballot is being monitored when it is, π ; ω indicates a signal that the ballot is being monitored when it is actually secret. The variables, π and ω, measure the propensity of the Party to monitor ballots, whereby:

- $\pi = 0$ and $\omega = 1$, the signals perfectly indicate that the ballot is secret;

- $\pi = \omega$, the signals reveal no information;

- the intermediate case $0 < \pi < \omega < 1$ the signals tend to reflect the actual decision of the Party but imperfectly, whereby the probability of a correct signal (ω) is greater than a false signal (π).

The Voter does not know whether the ballot is truly secret or not. She only observes an imperfect exogenous signal and updates her beliefs using Bayes' rule. Her ex-post beliefs are denoted as $\mu = \Pr(b = m \mid i = s)$ and $\lambda = \Pr(b = m \mid i = m)$. The information set connecting μ and 1-μ are seen to the left of Figure 1, where

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[3] We presume that no party wants to declare that the ballot is monitored, but rather will publicly declare it is secret.

Nature has sent a signal that ballots are secret. The information set connecting λ and 1-λ, where Nature has sent a signal that ballots are monitored is seen on the right-hand side of Figure 1. After receiving a signal, the Voter must decide whether to *reciprocate* (vote for the Party after having accepted a gift, or comply), j = r, or to *defect* (vote as she pleases and accept the gift, or defect), j = d. The voter thus decides to vote to reciprocate for the gift or defect based on their beliefs regarding the signals they receive.

Figure 1 displays the interaction of the two players and the signals generated in the Bayesian game. Both players are assumed to be risk-neutral. The structure of the game and the payoff parameters (ϵ, c, p, v, x) and the signals (π, ω) are exogenously given and are common knowledge. The endogenous variables reflecting strategic choice are α, β, γ, μ, and λ. The game exhibits many characteristics of the Inspection Game but differs in fundamental respects (Becker 1968). The variables *c* and *x* relate to the Party's payoffs, whereby the cost of monitoring is *c*, and *x* is the value of a vote to the Party. For the Voter the relevant payoffs are the penalty for defecting, p; the value of voting for one's own preference, v; and, ϵ, the reward for reciprocating in the vote buying exchange.
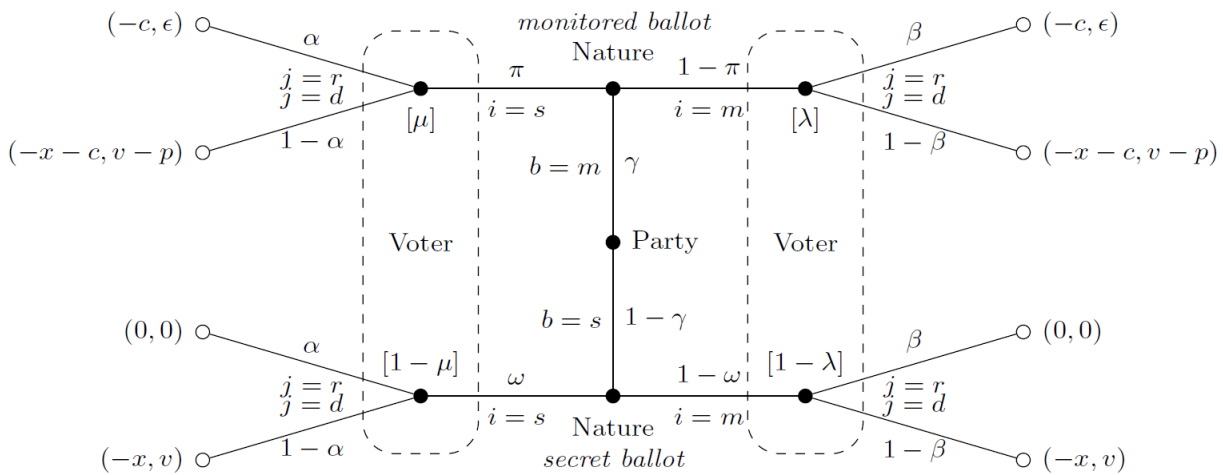

Figure 1. Electoral clientelism and secret ballot beliefs

Equilibrium Analysis

Consider the game played with full and complete information. Using backwards induction, the subgame perfect equilibria can be determined (see Appendix A). Given complete and perfect information, there are

no information sets in the game; we can thereby eliminate the subgames in which the signal does not correspond to the decision made by the party, such that $\pi = 0$ and $\omega = 1$ and $1 - \pi = 1$ and $1 - \omega = 0$. This means that the upper-left-hand and lower-right-hand subgames cannot be considered as potential equilibria.

Turn now to the Voter's choice when she knows that the ballot is monitored and the signal reveals with no uncertainty that the ballot is monitored. This is the upper-right-hand quadrant of Figure 1. Playing β leads to a payoff of ε, while 1- β produces *v-p.* Under such conditions, the Voter will opt to play β as her strategy. When the Voter knows that the ballot is secret, the lower-left-hand subgame, the choice is between a payoff of *v* and 0; the Voter will thus opt for the 1-α strategy. Using backwards induction, the Party thereby chooses between a secret and a monitored ballot. Given the Voter's decisions, the Party will compare the payoffs of *-x* and *-c.* The relative values of *c* and *x* will determine the Party's choice. In other words, the relative values of a lost vote and the cost of monitoring a vote will determine the decision of the Party. This result corresponds to the Pure Secret Ballot equilibrium shown below. With complete and perfect information, electoral clientelism is not sustainable.

Signals can be interpreted to emanate from the broader political environment in which a Voter finds herself. Rumors and gossip may play a role shaping the beliefs of the Voter regarding the secrecy of the ballot. The Bayesian Nash equilibrium {(α*, β*); (μ*, λ *); γ*} is derived in Appendix A. α* and β* denote the Voter's behavioral strategies in equilibrium, and γ denotes the Party's. μ* and λ* denote the Voter's equilibrium beliefs.

Bayesian Equilibria

Four perfect Bayesian equilibria are evident in this game. Each equilibrium is expressed in terms of {(α*, β*); (μ*, λ *); γ*}.

Proposition 1*:* In the Bayesian game of electoral clientelism with ε, v > 0 and 0 < π < ω < 1, four perfect Bayesian equilibria exist:

1) **Pure Electoral Clientelism Equilibrium**; $\gamma = 1$ and $\alpha = \beta = 1$; $\{(1,1); (0,0); (1)\}$;

2) **Mixed Strategy Electoral Clientelism Equilibrium**; $\gamma = \gamma1$ and $\alpha = 1\text{-}K$, $\beta = 1$;

   $\{(1\text{-}K,1); (\mu^*, \lambda^*); \gamma1\}$, with $\mu = \dfrac{\pi\gamma_1}{\pi\gamma_1 + \omega\,(1-\gamma_1)}$ and $\lambda = \dfrac{(1-\pi)\gamma_1}{(1-\pi)\gamma_1 + (1-\omega)(1-\gamma_1)}$.

3) **Separating Electoral Clientelism Equilibrium**; $\gamma = \gamma2$ and $\alpha = 0$, $\beta = K$; $\{(1\text{-}K,1); (\mu^*, \lambda^*); \gamma1\}$, with

   $\mu = \dfrac{\pi\gamma_2}{\pi\gamma_2 + \omega\,(1-\gamma_2)}$ and $\lambda = \dfrac{(1-\pi)\gamma_2}{(1-\pi)\gamma_2 + (1-\omega)(1-\gamma_2)}$.

4) **Pure Secret Ballot Equilibrium**; $\gamma = 0$ and $\alpha = \beta = 0$; $\{(0,0); (1,1); (0)\}$.

From equations (4), (11), and (19) in Appendix A:

$$K = \frac{c}{x(\omega - \pi)}; \ \gamma1 = \frac{\omega v}{v(\omega - \pi) + \pi(\varepsilon + p)}; \ \gamma2 = \frac{(1-\omega)v}{v(\pi - \omega) + \pi(p - \varepsilon) + \varepsilon + p}.$$

Proof:

1) Pure Electoral Clientelism is an equilibrium since the Party's best reply to $\beta - \alpha > K$, and in particular to any $\alpha = \beta$, would be $\gamma = 1$, such that $\gamma1 < \gamma2$ for $\omega v > 0$ and $\omega > \pi$. The Voter's best reply to any $\gamma^* < \gamma1$ would be $\alpha^* = b^* = 1$, confirming $\beta - \alpha > K$. Hence, $\alpha^* = \beta^* = 1$ and $\gamma = 1$ is a pure strategy equilibrium.

2) If the Voter chooses α and β such that $\beta - \alpha \leq K$, then the Party is indifferent between its pure strategies. If the Party chooses $\gamma = \gamma1$, then the Voter's best reply would be $\beta = 1$ and consequently $\alpha = 1\text{-}K$, which confirms that $\beta - \alpha \leq K$. Hence, $\alpha^* = 1\text{-}K$, $\beta^* = 1$ and $\gamma = \gamma1$ are equilibrium strategies.

3) If the Voter chooses $\beta - \alpha = K$, then the Party is indifferent between all values of γ. If the Party chooses $\gamma = \gamma2$, then the best reply for the Voter would be $\alpha = 0$ and $\beta = K$. This confirms that $\beta - \alpha = K$. Hence, $\alpha^* = 0$, $\beta^* = K$ and; $\gamma = \gamma2$ are equilibrium strategies.

4) Pure Secret Ballot equilibrium is maintained when the Party's best reply to $\beta - \alpha < K$, such that $\alpha = \beta$, would be $\gamma = 0$, such that $\gamma1 < \gamma2$ for $\omega > \pi$. The Voter's best reply to any $\gamma^* > \gamma2$ would be $\alpha^* = b^* = 0$, confirming $\beta - \alpha > K$. Hence, $\alpha^* = \beta^* = 0$ and $\gamma = 0$ is a pure strategy equilibrium.

Discussion

Critical to the Voter's decision to reciprocate to the vote buying scenario with her vote – or to vote sincerely – is her belief regarding the monitoring of her ballot. The Voter's updating of beliefs (μ and λ) regarding π and ω, as well as the Party's payoffs for monitoring, shape the Voter's behavior. As with the inspection game (Becker 1968), our equilibrium analysis shows that the Voter's behavior does not depend on her own payoff parameters, but rather on the Party's. Unlike the inspection game, our game features the role of beliefs.

The Pure Electoral Clientelism equilibrium is labeled as such given that a belief that the ballot is monitored induces the voter to vote in accordance with the party in exchange for the gift (and vice versa for the Pure Secret Ballot equilibrium). This is a pure strategy equilibrium. If the Party chooses to monitor the ballots, the Voter will vote for the Party; both players will be confirmed in their decisions and beliefs with regard to the other player's behavior. In equilibrium, the ex-post beliefs of the Voter are confirmed $\mu = \lambda = 1$.

Mixed Voting involves a mixed voting strategy (mixing sincere voting and reciprocation voting) $\alpha^* = 1-K$ after observing a signal that the ballot is secret. If the Voter receives a signal that the ballot is not secret, she will vote for the Party, $\beta^*=1$. The Party chooses a secret ballot with a probability of $\gamma 1$. This probability depends only on π and ω, v and ε. It does not depend on γ; so the actual decision to monitor or not does not determine the outcome. In this equilibrium, stronger signals that the ballot is monitored, whereby $1-\pi$ is greater than $1-\omega$, pushes the Voter to support electoral clientelism, $j=r$, and to not vote her preferences, $j=d$.

In the Separating equilibrium, the probability of sincere voting after receiving a signal of a non-secret ballot is $\beta^* = K$, but after a signal of a secret ballot the Voter will vote sincerely, $\alpha=0$. In contrast, an increase in the strength of the signal regarding the willingness of the party to monitor ballots will strengthen beliefs that the ballot is not secret and this will induce more clientelist behavior whereby the Voter votes for the Party. For the Separating equilibrium, the signal regarding a secret ballot or, in contrast, a willingness to

monitor the ballot will lead to two different equilibrium responses by the voters. The signal of a non-secret

ballot plays a critical role.

Recall that $\beta - \alpha = K = \frac{c}{x(\omega - \pi)}$. In other words, the Voter's behavior, $\beta - \alpha$, relates to the ratio of costs of

monitoring for the Party, c, and the costs of a lost vote, x. By examining these parameters, the comparative

statics can be evaluated. Increases in the costs of monitoring, c, correspond to rises in K. The costs of a lost

vote, x, is affected by the signals of ballot monitoring, ω and π. By fixing the values of ω and π, then the larger

x is, the lower the value of K. For the mixed voting and separating equilibria, a higher c will lead to more

sincere voting (or more defection). In contrast, contingent on the signals received by the Voter, a higher x

will result in a Voter reciprocating the Party's clientelist offer.

An important implication of the game is that voter compliance with vote buying transactions exists in

equilibrium even without direct breaches of ballot secrecy. Two equilibria can lead to voter's reciprocating a

vote-buying offer even when the ballot is secret; they are the mixed strategy electoral clientelism equilibrium

and the separating electoral clientelism equilibrium conditioned on strong beliefs in the signal that the ballot

is being monitored. By implication, voter beliefs in the credibility of ballot secrecy lead to differences in voter

responses to vote buying offers – even within the same institutional framework for secret ballot protection.

Vote buying should therefore have little effect on vote choices in cases where voters have confidence in the

secret ballot, which is evident in the pure strategy secret ballot equilibrium. However, when voters lack

confidence in the secret ballot, they are more likely to comply with their commitments to vote as promised.

A party has an incentive therefore to send signals to the voters that casts doubt on the secrecy of the ballot.

The key observable implication of this argument is that the effect of vote buying on voters' tendency to

support the clientelist party is conditioned on their confidence in the secret ballot. Beliefs matter, critically.

Data and empirical context

To test the relationship between vote buying, secret ballot perceptions, and party choice, we rely on

data from an original survey we conducted in South Africa following the 2016 municipal elections.

South Africa has received comparatively little attention in the literature on electoral clientelism, despite the fact that its political system is dominated by one party – the African National Congress (ANC) – which is also the main clientelist party in the country (Bøttkjær and Justesen 2021; de Kadt and Larreguy 2018; Plaut 2014). This makes South Africa a case of what Nichter and Peress (2017) call 'monopolistic clientelism'. Indeed, the ANC probably fits the description of a 'political machine' better than most other parties in Africa. For instance, Southall (2016) and Booysen (2015) refer to the ANC as a 'party state', which in some respects is a stronger term than a political machine because it signals a fusion of the party and the state, and suggests that the party has discretion to redistribute state resources in non-programmatic ways based on partisan and electoral concerns. Similarly, Lodge (2014) outlines how the ANC's internal organization is riddled with neo-patrimonial politics, and Plaut (2014) shows how the ANC is a well-oiled and well-financed 'election machine', employing – among other things – clientelist strategies to marshal electoral support. While the practice of clientelism and patronage in South Africa is by no means limited to election time, evidence suggests that the distribution of, e.g., food parcels constitutes a systematic part of ANC's electoral strategy (Plaut, 2014, 637). This is corroborated by our data, which shows that respondents most frequently report being offered a food parcel for their vote or electoral participation.[4] Nonetheless, the ability of the ANC to actually monitor people's party choice – an important part of machine politics – and *de facto* breach ballot secrecy is limited and almost certainly constrained by a relatively well-functioning and independent electoral commission. It is much easier for the party to engage in rumor-making and innuendo about the ballot's secrecy. This makes the focus on voter *perceptions* of ballot secrecy even more pertinent.

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[4] Food parcels are often quite substantial and include a number of household and food items. Officially, food parcels are supposed to be distributed by the South African Social Security Agency (SASSA) – under the Ministry of Social Development – as part of their efforts to support the livelihoods of poor and destitute people.

Although the ANC is the dominant party in South African politics, the municipal elections in 2016 provided a challenge to hegemony of the ANC (Justesen and Schulz-Herzenberg 2018). Indeed, the election results were widely portrayed as a landslide. First, the municipal elections in 2016 produced the worst electoral result for the ANC since the introduction of post-apartheid democracy in South Africa in 1994. Second, while the ANC remained the majority party on a nation-wide basis, its political dominance in South African politics was challenged both by the main opposition party – the Democratic Alliance (DA) – and by the left-wing party, the Economic Freedom Fighters. The opposition challenge to the ANC was particularly pronounced in the biggest cities (Metros). In addition to Cape Town – which remained firmly in the hands of the DA – the ANC lost the elections and the Mayor's office in an additional three (out of eight) Metros, Johannesburg, Tshwane, and Nelson Mandela Bay. In these Metros, the DA formed coalitions and secured the office of the Mayor. However, in spite of the relative decline of the ANC, it maintained a majority of the nationwide vote as well as control of the vast majority of municipalities (Ferree 2018).

The data we use are from a representative, nationwide survey of adult citizens (18+) in South Africa we fielded shortly after the municipal elections on August 3rd 2016. The survey was conducted in collaboration with the South African research consultancy Citizens Surveys, and field work was conducted by enumerators in face-to-face interviews using tablets. The survey has a response rate of 88.5% and consists of a total of 3210 respondents covering all of eight Metros and most municipalities throughout the rest of the country. To ensure a nationally representative sample, we used a stratified multistage probability sample with four stages. The first stage uses disproportional stratification based on provinces, racial groups, municipality, and urban/rural area to ensure that all subgroups are represented in the data with sufficient coverage. In the second stage, we used census data to identify relevant enumeration areas (EAs) – the smallest geographic area for which a known population statistics are available in South Africa. These are used to draw the sample of EAs using the power

allocation rule to allocate EAs to the strata. In the third stage, interviewers performed a random walk to select households to include in the survey. Finally, an automated and tablet-based randomization procedure was used to select respondents within household.

Dependent variable

To measure individual party choice, we use questions asking respondents which party they voted for in the municipal elections. Municipal elections in South Africa rely on a mixed member electoral system (Justesen and Schulz-Herzenberg 2018). In the Metros, voters are given two ballots: one to vote for a ward councilor in single-member constituencies, and one to vote for a party on party lists used to create a more proportional allocation of votes-to-seats. Outside the Metros, voters are given three ballots: One to vote for a ward councilor; one to vote for a party; and one to vote for a party in so-called district municipal council – where several local municipalities work together to deal with, e.g., issues of local economic development. To measure party choice, we use information on which party respondents voted for in the elections. Since we are mainly interested in votes for the ANC – the dominant, clientelist party – we code this variable as one (1) for those who report having voted for the ANC, and zero (0) otherwise.[5] Summary statistics along with variable descriptions are available in Appendix B.

Explanatory variables and controls

To measure vote buying, we rely the following question: *How often (if ever) did a candidate or someone from a political party offer you something, like food, or a gift or money if you would vote for them in the elections*? As a follow-up on this question, respondents were asked about the identity

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[5] Respondents who did not report a party choice are coded as missing.

of the distributing party. From these questions, we generate two dummy variables: The first measures the use of vote buying by the ANC (coded as one (1) if respondents report receiving food, gifts, or money in return for their vote, and zero (0) otherwise, and name the ANC as the distributing party). The second variable measures the use of vote buying by other parties. The reference group is voters who did not receive vote buying offers during the elections. We create similar dummy variables measuring turnout buying from ANC and from other parties (used in appendix D). In total, using the direct question on vote buying, around 6% of the respondents report being targeted with clientelist offers during the municipal elections. While other countries in Africa have levels of vote buying that far exceed this number (Mares and Young 2016), it corresponds to an estimated 1.5 million eligible voters being targeted with clientelist offers during the 2016 election campaign.[6] It is also enough to sway the electoral outcome in hotly contested municipalities. Finally, an often-cited problem with direct measures of electoral clientelism is that they may be subject to social desirability bias (Gonzalez-Ocantos et al. 2012). However, comparison of the direct questions with a list experiment embedded in our survey shows that this is not a major issue (Bøttkjær 2019).

Since our argument and theoretical model imply that the relationship between vote buying and party choice is moderated by voters' confidence in the secret ballot, we include a variable – and interact it with vote buying – that measures voters' perception of the secrecy of the ballot. Specifically, we use a question asking: *How likely do you think it is that powerful people can find out how you voted, even though voting is supposed to be secret in this country?* Responses are given on a five-point scale from zero to four, where higher values denote that respondents think it is (very) likely that their vote choice can be revealed.[7]

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[6] See http://bit.ly/2LUdfU9

[7] 967 respondents find it very unlikely, 813 find it unlikely, 487 find it neither unlikely or likely, 476 find it likely, and 272 find it very likely.

To partially alleviate problems of confounding, all model specifications include a number of controls. These include party identification as well as standard socio-economic variables such as age, gender, education, and poverty (see Appendix B). In addition, we include a range of fixed effects at the provincial and municipal level.

Results

The key implication of our game theoretical model is that voters' confidence in the secret ballot guides their response to vote buying offers. Empirically, this implies that the effect of vote buying on party choice is moderated by voter beliefs in the secret ballot. To explore the question if ANC vote buying works, we run a set of regressions where the dependent variable is a dummy that takes the value 1 for respondents who report having voted for the ANC at the municipal elections, and zero otherwise.[8] Because the dependent variable is dichotomous, our main analyses are implemented as a logistic regression model. Our key explanatory variable is an indicator that takes the value 1 when respondents report having been approached by the ANC in an act of vote buying, and zero otherwise. The coefficient of interest measures the association between respondents' experience of vote buying from the ANC and their vote choice.

Estimating the effect of vote buying on vote choice is complicated by endogeneity – something we address in some detail below: Party brokers might plausibly target attendants at party rallies or partisan voters who are already inclined to vote for the party in question. To partially alleviate these concerns, all analyses include a binary control for ANC party identification, taking the value 1 for respondents who report that they feel close to the ANC. This is arguably the most important observable source of selection into vote buying and ANC vote choice, and therefore an important

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[8] Appendix C shows correlates of vote buying by the ANC vs. other parties.

control. In addition, all analyses include a control for vote buying by parties other than the ANC, since this is simultaneously correlated with the ANC's use of vote buying as well as respondents' vote choice. In addition, the analyses include a broad set of demographic controls, attitudinal controls, and fixed effects for province, racial group, and whether respondents live in metropolitan, urban (non-metro), or rural areas. Standard errors are clustered at the level of enumeration areas. Table 1 shows the results.

Table 1. Vote buying and vote choice

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	The dependent variable is voting for the ANC at the municipal election (dummy)							
Vote buying: ANC	0.63	0.63	0.68	0.69	0.78	0.70	0.73	0.72
	(1.49)	(1.46)	(1.43)	(1.48)	(1.64)	(1.50)	(1.30)	(1.50)
Vote buying: Other	-1.08	-1.10	-1.11	-1.09	-1.05	-0.98	-0.94	-1.05
	(-3.03)	(-3.08)	(-3.02)	(-2.93)	(-2.75)	(-2.51)	(-2.39)	(-2.74)
ANC identification	3.57	3.57	3.28	3.27	3.35	3.32	3.58	3.36
	(15.99)	(16.06)	(13.14)	(13.20)	(13.72)	(13.33)	(14.02)	(13.59)
Female		0.32	0.21	0.22	0.20	0.20	0.17	0.24
		(2.73)	(1.71)	(1.74)	(1.61)	(1.57)	(1.19)	(1.82)
Age		-0.01	-0.00	-0.00	-0.01	-0.00	-0.01	-0.01
		(-1.75)	(-0.82)	(-0.89)	(-1.41)	(-1.01)	(-1.38)	(-1.32)
News consumption							-0.03	
							(-1.64)	
Political information							0.11	
							(2.44)	
Reciprocate						-0.00		
						(-0.14)		
Unemployment								-0.02
								(-0.13)
Social grant recipient								-0.15
								(-1.06)
Township								-0.11
								(-0.43)
Racial FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Urban-Rural FE	No	No	No	Yes	Yes	Yes	Yes	Yes
Province FE	No	No	No	No	Yes	Yes	Yes	Yes
Observations	2,069	2,069	2,006	2,006	2,006	1,935	1,638	1,982

Note: The table shows coefficients from logistic regressions of ANC vote (dummy) on ANC vote buying (dummy). The Urban-rural FE are dummies for respondents who live in metropolitan, urban, or rural areas as classified by Statistics South Africa. Robust z-statistics in parentheses.

Model (1) shows a positive, but insignificant, association between ANC vote buying and the respondents' propensity to vote for the ANC. The insignificant coefficient is consistent with the theoretical proposition that voters tend to renege on their promise to vote as requested. And as the remainder of Table 1 shows, the insignificant association obtains across a host of different specifications. Model (2) controls for respondents' age and gender, which does not change size and statistical insignificance of the coefficient of interest. Model (3) controls for a standard measure of poverty and fixed effects matching racial classification in South Africa. It is well documented that poverty is a robust correlate of vote buying (Stokes et al. 2013), and Appendix C shows that the ANC's clientelist practices are disproportionately targeted at the black population compared to other parties. If poor or black South Africans are less likely to vote for the ANC, this could bias towards zero the estimated association between electoral clientelism and voting for the ANC. Yet as model (3) shows, these controls only change the ANC vote buying coefficient negligibly. Model (4) adds fixed effects for respondents in metropolitan, urban, and rural areas, and model (5) includes a full set of province fixed effects. In both cases, the purpose is to account for unobserved geographical heterogeneity and, in both cases, these controls leave the coefficient of interest insignificant. Model (6) includes an index measuring the degree to which respondents reciprocate and return favors. This predisposition could conceivably make voters more likely to comply with the clientelist bargain (Finan and Schechter 2012). Model (7) controls for two indices measuring the respondents' media consumption habits, as well as the extent of their factual knowledge about South African (and world) politics. Increased media consumption and levels of information likely decrease voters' propensity to engage in clientelist exchanges, so controlling for these factors should yield more precise estimates. If these factors also correlate with vote choice, as seems reasonable, excluding them would bias our estimates. Lastly, model (8) controls for characteristics of socio-economic status – whether respondents receive social grants, are unemployed, or live in townships. Including these controls

slightly increases the estimated coefficient. Overall, Table 1 demonstrates a remarkably robust null-finding: There is little correlation between the ANC's use of vote buying and respondents' vote choice. These results appear to support the idea that vote buying does little to sway voters' party choice – at least in circumstances with a nominally secret ballot (Guardado and Wantchekon 2018; Conroy-Krutz and Logan 2012). It also highlights the puzzling nature of vote buying: Why does the ANC distribute goods to voters on clientelistic terms if voters do not reciprocate by supporting the ANC?

The conditioning role of secret ballot perceptions

Our theoretical model implies that voter confidence in the secrecy of the ballot is crucial for how voters respond to clientelist offers. To explore if secret ballot perceptions matter, we augment the regression models in Table 1 by including an interaction term to see if the effect of electoral clientelism on vote choice is conditioned by voters' beliefs in the secrecy of the ballot. More specifically, we add an interaction between the indicator for ANC vote buying and respondents' perceived likelihood that "powerful people can find out how you voted even though voting is supposed to be secret." This variable runs on a 5-point scale from "very unlikely" (0) to "very likely" (4). Table 2 shows the results where the quantity of interest is the marginal effect of the ANC's electoral clientelism on respondents' vote choice, conditioned on their perceptions of the secrecy of the ballot.

Table 2. Vote buying and vote choice: Conditional on secret ballot perceptions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	The dependent variable is voting for the ANC at the municipal election (dummy)							
Vote buying: ANC	-0.47	-0.53	-0.67	-0.62	-0.60	-0.54	-0.62	-0.60
	(-0.77)	(-0.87)	(-1.03)	(-0.93)	(-0.89)	(-0.80)	(-0.79)	(-0.92)
Secret ballot perception	0.15	0.15	0.17	0.17	0.17	0.17	0.18	0.16
	(3.12)	(3.09)	(3.13)	(3.16)	(3.07)	(3.04)	(2.96)	(3.02)
Vote buying#secret ballot perception	0.72	0.75	0.95	0.92	0.96	0.83	1.11	0.95
	(2.49)	(2.57)	(3.02)	(2.90)	(2.92)	(2.90)	(2.28)	(2.88)
Vote buying: Other	-1.20	-1.22	-1.21	-1.20	-1.20	-1.12	-1.07	-1.18
	(-3.06)	(-3.09)	(-2.96)	(-2.90)	(-2.89)	(-2.63)	(-2.53)	(-2.84)
ANC identification	3.77	3.77	3.51	3.50	3.58	3.54	3.83	3.58
	(17.65)	(17.63)	(14.18)	(14.19)	(14.16)	(13.73)	(14.02)	(14.10)
Female		0.33	0.26	0.26	0.23	0.23	0.18	0.26
		(2.79)	(2.03)	(2.07)	(1.83)	(1.75)	(1.21)	(2.00)
Age		-0.01	-0.00	-0.00	-0.01	-0.00	-0.01	-0.01
		(-1.57)	(-0.43)	(-0.45)	(-1.08)	(-0.70)	(-1.10)	(-1.08)
News consumption							-0.03	
							(-1.69)	
Political information							0.08	
							(1.81)	
Reciprocate						-0.00		
						(-0.11)		
Unemployment								-0.06
								(-0.42)
Social grant recipient								-0.13
								(-0.87)
Township								-0.05
								(-0.20)
Race FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Urban-Rural FE	No	No	No	Yes	Yes	Yes	Yes	Yes
Province FE	No	No	No	No	Yes	Yes	Yes	Yes
Observations	1,965	1,965	1,904	1,904	1,904	1,836	1,559	1,883

Note: The table shows coefficients from logistic regressions of ANC vote (dummy) on ANC vote buying (dummy). The Urban-rural FE are dummies for respondents who live in metropolitan, urban, or rural areas as classified by Statistics South Africa. Robust z-statistics in parentheses. Robust z-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Consistent with expectations, the results reported in Table 2 show that the ANC's vote buying has little bearing on citizens' vote choice when they have confidence in the secrecy of their ballot. The insignificant coefficient on ANC vote buying in model 1 shows that when respondents find it "very unlikely" that their vote choice can be discovered (corresponding to *Secret ballot perceptions* equal to zero), there is no association between vote buying and vote choice. Conversely, when voters report finding it "very likely" that their vote choice may not remain secret, the marginal association between the ANC's electoral clientelism and vote choice is 0.18 and highly significant.[9] This point estimate predicts that if the ANC targets 100 voters with low confidence in ballot secrecy, this will raise the ANC vote by 18. In all models in Table 2, the marginal association between the ANC's electoral clientelism and respondent vote choice turns statistically significant at conventional levels when respondents report being uncertain about ballot secrecy – i.e., when they find it "neither likely nor unlikely" that their vote choice can be monitored known. Figure 2 below shows the conditional relationship corresponding to model (5) in Table 2.

These results support the key implication of our theoretical model: Even in environments of formal ballot secrecy, voter responses to clientelist offers during election campaigns depend on whether they believe their vote can be cast in secret. If voters do not have confidence in the secret ballot, they are much more likely to vote as instructed and cast their ballot for the clientelist party – in this case the dominant party in South African politics, the ANC.

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[9] Calculated from a linear probability model otherwise identical to the specification in column (1).

Figure 2. The marginal association between ANC vote buying and vote choice, conditioned on secret ballot perceptions

Note: The dashed lines show the 95%-confidence bounds.
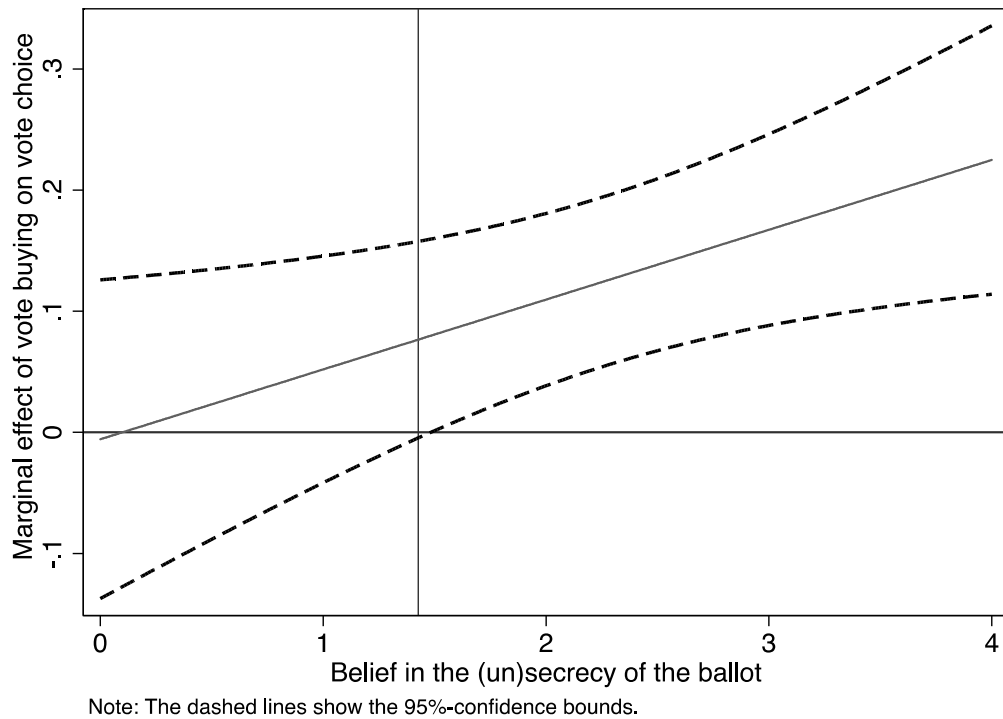
Robustness

Examining the effect of electoral clientelism on vote choice is complicated by the confounding influence of unobservables that might be simultaneously correlated with both the dependent and explanatory variables. After all, the ANC does not randomly choose whom to target: Voters are targeted for a reason, and that reason might itself explain their vote choice. Arguably, the most obvious confounder is that voters are more likely to be targeted if they are expected to comply, and they are more likely to comply if they have a predisposition towards the ANC. While such predispositions are unobservable, the analyses in tables 1 and 2 showed all results obtain even after we control for party identification, which is a useful proxy for unobserved predispositions towards ANC support.

People's vote choices are, however, driven by more than just partisanship. To see if such unobserved drivers of vote choice might confound our results, we use the fact that the survey asked respondents about vote buying and turnout buying separately (cf. Nichter 2008). Voters whom the ANC offers rewards for simply going to the polls (turnout buying) might be systematically different from the voters who are offered rewards to vote specifically for the ANC (vote buying): Conditional on going to the polls, the ANC expects the former group to vote for them, whereas the latter group is expected to require additional motivation to do so. In other words, when the ANC targets voters with turnout buying and others with vote buying, the party has revealed its expectation that – for whatever unobserved reason – the former group is more predisposed to voting ANC. In appendix D, we show that interacting secret ballot perceptions with, respectively, vote buying and turnout buying yield similar results, suggesting that unobservable predispositions to vote for the ANC do not confound our results.

To further investigate unobservable confounding, we used the Generalized Sensitivity Analysis developed by Imbens (2003) and Harada (2013), depicted in Figure 3. This method simulates unobserved variables and asks how influential such variables would have to be in order to substantively change the estimated association between electoral clientelism and vote choice. The downward sloping curve in the left panel shows the required partial association between an unobserved factor and vote choice (vertical axis) and vote buying (horizontal axis) that would render the coefficient of interest insignificant. The curve in the right panel is identical but shows what would be required to split our estimated coefficient on ANC vote buying in half.

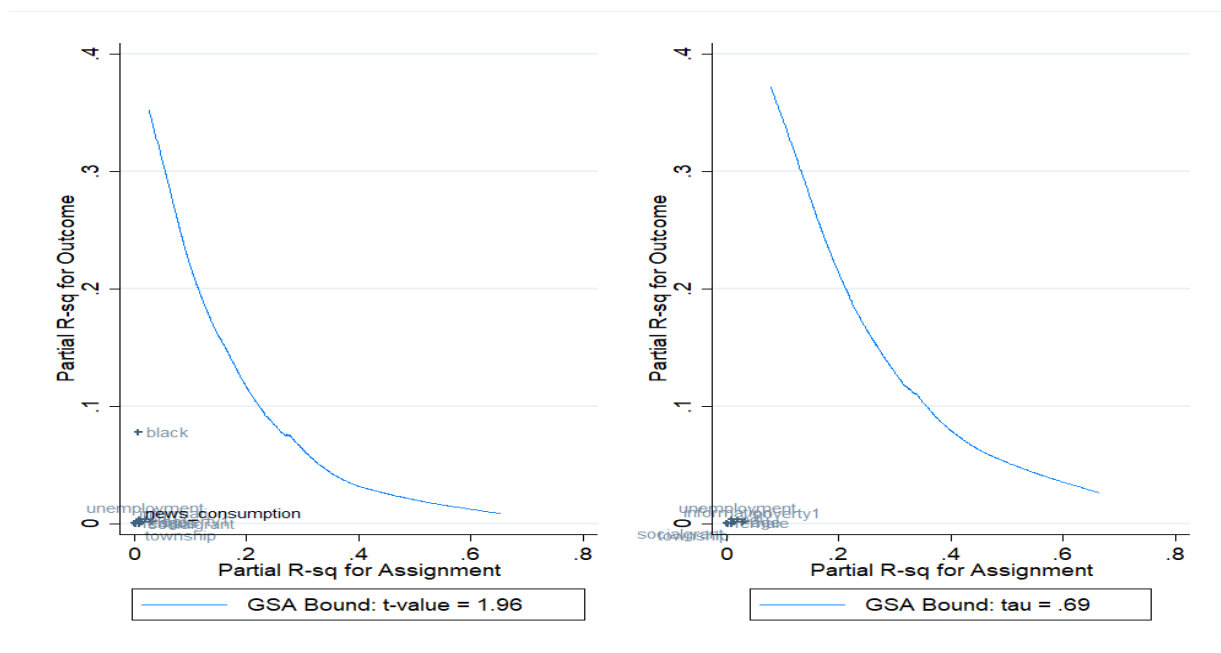Figure 3. Generalized sensitivity analysis: Gauging the bias from unobservables

Figure 3 shows that an unobserved factor should explain much more of the variation in both vote buying and vote choice than do our most influential observed covariates (the most influential covariate is the "black" indicator). A priori, this strikes us as unlikely. The Generalized Sensitivity Analysis does not rule out that omitted variables could explain our findings. It does show, however, that we would have to assume a very strong unobserved confounding effect for an unobservable factor to substantively change our findings. The omitted variable in question would have to be much more strongly correlated with vote buying and vote choice than any of the theoretically motivated variables considered in the empirical analyses.

Conclusion

In democracies around the world, parties mobilize political support using of clientelist strategies during elections – even when the ballot is nominally secret. Nevertheless, it is unclear whether such strategies are effective in changing voter choices (Hicken and Nathan 2019; Guardado and Wantchekon 2018). The model we have developed implies that when voters believe they can cast an

unmonitored ballot, they are less likely to comply with clientelist offers from political parties. In contrast, when voters doubt the secrecy of their ballot, they are more likely to comply and vote for the distributing party. Our game shows how the party has an incentive to seed doubt about ballot secrecy, even when they lack the capacity to monitor effectively. The belief about the lack of secrecy is sufficient to sustain vote-buying. Empirically, we test this idea using data from a nation-wide survey in South Africa. The results are consistent with the implications of the model: Electoral clientelism mainly seems to work for voters with weak or no confidence in the secret ballot, while voters who believe in the secrecy of their vote are relatively unaffected by clientelist offers. Voter confidence in the secret ballot therefore seems to be an important factor for explaining when electoral clientelism works – and when it does not. This contributes to explain how and why parties operating in the shadow of the secret ballot use clientelist strategies such as vote buying as important parts of their electoral strategies, and under what circumstances such strategies are likely to work.

The evidence we present is from a case of a country with a dominant party as the chief supply-side operator in clientelist transactions. In future research, this can be expanded and enriched – theoretically and empirically – by examining cases of competitive clientelism where two or more parties contest elections using clientelist modes of distribution. While increased party competition may change the use of contingent strategies, it is not clear whether it is mainly through the use of positive or negative inducements (Mares and Young 2016) and whether it makes electoral clientelism more or less effective. Across party systems, however, our results imply that we need to place greater emphasis on clientelism from the voter's perspective and how voter beliefs and confidence in the formal institutions surrounding the voting process guide voter responses to clientelism – and the contingency of distributive rewards or punishments more broadly.

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Online appendix

Vote buying, beliefs, and the secret ballot

Content

Appendix A

Full model of 'A Bayesian game of electoral clientelism and the secret ballot'

To model the role of beliefs in the secret ballot and their effect on voting behavior in a vote buying environment, two players are featured: a Voter and the Party. Decisions are modeled sequentially. We assume that the Voter has already received and accepted a gift from the Party. We also assume that the Voter prefers not to vote for the Party, but is concerned that the ballot is not secret.

The Game

The Party first decides whether ballots are monitored, such that *b=m* or that ballots are secret, *b=s*. We indicate this choice with γ representing a choice to monitor ballots and 1-γ is the choice to keep the ballot secret. The Party, however, does not declare that the ballot is secret or not secret.[10] In Figure 1, the choice to monitor ballots, γ, is seen at the top of the game tree. The decision to keep ballots secret is at the bottom. Nature makes the next move contingent on the Party choosing to monitor the ballots or to keep them secret. Nature sends signals that are exogenously produced by the general political system. The signal assumes two forms, *i=s* (secret ballot) or *i=m* (monitored ballot). In Figure 1, a signal that the ballot is monitored is evident on the left side of the game tree. A signal that the ballot is secret is portrayed to the right side of the game tree. The probability of the Voter receiving a particular exogenous signal is contingent on the Party's choice. The voter observes a signal that the ballot is being monitored when it is, π ; ω indicates a signal that the ballot is being monitored when it is actually secret. The variables, π and ω, measure the propensity of the Party to monitor ballots, whereby:

- $\pi = 0$ and $\omega = 1$, the signals perfectly indicate that the ballot is secret;

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[10] We presume that no party wants to declare that the ballot is monitored, but rather will publicly declare it is secret.

- $\pi = \omega$, the signals reveal no information;

- the intermediate case $0 < \pi < \omega < 1$ the signals tend to reflect the actual decision of the Party but imperfectly , whereby the probability of a correct signal (ω) is greater than a false signal (π).

The Voter does not know whether the ballot is truly secret or not. She only observes an imperfect exogenous signal and updates her beliefs using Bayes' rule. Her ex-post beliefs are denoted as $\mu = \Pr(b = m \mid i = s)$ and $\lambda = \Pr(b = m \mid i = m)$. The information set connecting μ and 1-μ are seen to the left of Figure 1, where Nature has sent a signal that ballots are secret. The information set connecting λ and 1-λ, where Nature has sent a signal that ballots are monitored, which can be seen on the right-hand side of Figure 1. After receiving a signal, the Voter must decide whether to *reciprocate* (vote for the Party after having accepted a gift, or comply), j = r, or to *defect* (vote as she pleases and accept the gift, or defect), j = d. The voter thus decides to vote to reciprocate for the gift or defect based on their beliefs regarding the signals they receive.

Figure 1 displays the interaction of the two players and the signals generated in the Bayesian game. Both players are assumed to be risk-neutral. The structure of the game and the payoff parameters (ε, c, p, v, x) and the signals (π, ω) are exogenously given and are common knowledge. The endogenous variables reflecting strategic choice are α, β, γ, μ, and λ. The game exhibits many characteristics of the Inspection Game but differs in fundamental respects (Becker 1968). The variables *c* and *x* relate to the Party's payoffs, whereby the cost of monitoring is *c*, and *x* is the value of a vote to the Party. For the Voter the relevant payoffs are the penalty for defecting, p; the value of voting for one's own preference, v; and, ε, the reward for reciprocating in the vote buying exchange.
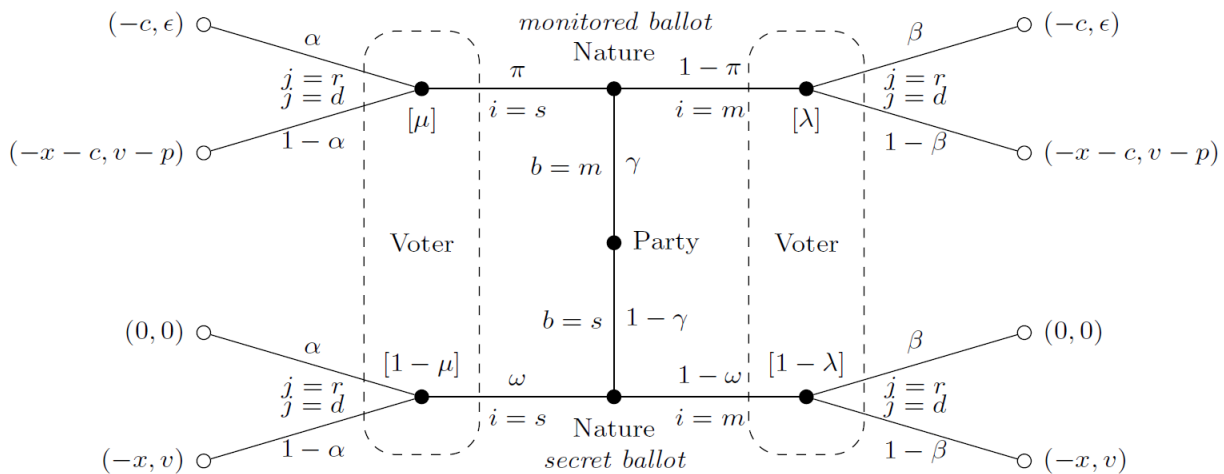
Figure 1. Electoral clientelism and secret ballot beliefs

Equilibrium Analysis

We begin by considering the game played with full and complete information. Using backwards induction, we can determine the subgame perfect equilibria. Given complete and perfect information, there are no information sets in the game; we can thereby eliminate the subgames in which the signal does not correspond to the decision made by the party, such that $\pi = 0$ and $\omega = 1$ and $1 - \pi = 1$ and $1 - \omega = 0$. This means that the upper-left-hand and lower-right-hand subgames cannot be considered as potential equilibria. Turn now to the Voter's choice when she knows that the ballot is monitored and the signal reveals with no uncertainty that the ballot is monitored. This is the upper-right-hand quadrant of Figure 1. The strategy β leads to a payoff of ε, while 1- β produces *v-p*. Under such conditions, the Voter will opt to play β as her strategy. When the Voter knows that the ballot is secret, the lower-left-hand subgame, the choice is between a payoff of *v* and 0; the Voter will thus opt for the 1-α strategy. Using backwards induction, the Party thereby chooses between a secret and a monitored ballot. Given the Voter's decisions, the Party will compare the payoffs of *-x* and *-c.* The relative values of *c* and *x* will determine the Party's choice. In other words, the relative values of a lost vote and the cost of monitoring a vote will determine the decision of the

Party. This result corresponds to the Pure Secret Ballot equilibrium shown below. With complete and perfect information, electoral clientelism is not sustainable.

The Bayesian game of electoral clientelism and the secret ballot is fundamentally based on incomplete information, whereby exogenous signals reveal information as to whether the ballot is secret or monitored. The signals can be interpreted to emanate from the broader political environment in which a Voter finds herself. Rumors and gossip may play a role shaping the beliefs of the Voter regarding the secrecy of the ballot. The Bayesian Nash equilibrium $\{(\alpha^*, \beta^*); (\mu^*, \lambda^*); \gamma^*\}$ will be derived below. α^* and β^* denote the Voter's behavioral strategies in equilibrium, and γ denotes the Party's. μ^* and λ^* denote the Voter's equilibrium beliefs.

The Party's Reaction Function

The behavioral strategy, γ^*, of the Party serves to maximize its payoff, given the behavioral strategies (α^*, β^*), which the Party expects the Voter to play, given the signals received by the Voter. In other words, the Party maximizes γ^* with respect to the decision to make ballots secret or monitor them given the Voter's decision to vote for the Party or not, which in turn are based on signals, not the Party's actual decision. The equilibrium value of γ^* maximizes:

(1) $\quad \gamma[\pi\alpha + (1 - \pi)\,\beta](-c) + \gamma[\pi(1 - \alpha) + (1 - \pi)(1 - \beta)](-x - c) + (1 - \gamma)[\omega\alpha + (1 - \omega)\,\beta]\,(0) + (1 - \gamma)\,[w\,(1 - \alpha) + (1 - \omega)\,(1 - \beta)]\,(-x),$

which is equal to:

(2) $\quad \gamma\pi\alpha x - \gamma\pi\beta x - \gamma c + \omega\alpha x + \omega\beta x + \beta x - x - \gamma\omega\alpha x + \gamma\omega\beta x$

The first derivative with respect to γ is:

(3) $\quad \pi\alpha x - \pi\beta x - c - \omega\alpha x + \omega\beta x$

We can rearrange this equation as:

(4) $\qquad (\beta - \alpha) = \dfrac{c}{x(\omega - \pi)} = K$

The Party's reaction function, γ*(α, β), in turn is:

$$\gamma * = 0 \iff \beta - \alpha < K$$

$$0 < \gamma * < 1 \iff \beta - \alpha = K$$

$$\gamma * = 1 \iff \beta - \alpha > K,$$

where $K = \dfrac{c}{x(\omega - \pi)} > 0$, such that ω>π.

The Party's reaction function leads to a set of intermediate results, which are expressed in Lemma 1. These results will help derive the main propositions.

Lemma 1:

1. If $K > 1 \iff c > x(\omega - \pi)$ then $(\beta - \alpha) < K$ and the Party will choose to keep the ballot secret, γ*=0.

2. If $K = 1 \iff c = x(\omega - \pi)$ then $(\beta - \alpha) \leq K$. The Voter's choice β=1 and α=0 is a strategy that induces the Party to choose γ such that $0 < \gamma * < 1$.

3. If $K < 1 \iff c < x(\omega - \pi)$, then $(\beta - \alpha) > K$ which will lead the party to choose to monitor the ballot, γ*>0.

If γ* = 0 or γ* = 1, then the Party chooses a pure strategy, such that the ballot is monitored, *b=m*, or secret, *b=s.* If γ*=1, then the Party has chosen to monitor the ballots. When γ*=0, the party maintains a secret ballot. When 0 < γ* < 1, then the Party chooses a mixed strategy, which entails occasionally monitoring ballots. These strategies are affected by the relative costs of monitoring, *c*, and the weighted costs of losing a vote,

$x(\omega - \pi)$. High costs of monitoring will induce the Party to keep the ballot secret, while relatively less costly monitoring will induce the Party to monitor ballots. When K=1, $c = x(\omega - \pi)$. Under such conditions, the Party's reaction function reduces to γ* ∈ [0,1] for α=0 and β=1, whereby the party will be indifferent between monitoring and maintaining a secret ballot.

The Voter's Reaction Function

The Voter makes a strategic decision whether to vote her sincere preferences or to comply and reciprocate the gift from the Party with a vote. The choice of the Voter is made with incomplete information. Beliefs regarding the secrecy of the ballot shape her choice. We first examine the Voter's optimal choice given a signal *i=s*, meaning that the signal indicates that the ballot is secret. Bayesian updating leads to the following ex-post belief:

(5) $$\mu = \frac{\pi\gamma}{\pi\gamma + \omega\,(1-\gamma)}$$

The Voter takes these ex-post beliefs into account and chooses her behavioral strategy α* to maximize:

(6) $$[\mu\alpha\varepsilon + \mu(1-\alpha)(v-p) + (1-\mu)\alpha(0) + (1-\mu)(1-\alpha)v].$$

Expanding, (6) can be expressed as:

(7) $$\mu\alpha\varepsilon - \mu p + \mu\alpha p - \alpha v + v$$

The first derivative of (7) with respect to α is:

(8) $$\mu\varepsilon + \mu p - v,$$

Which can be simplified as:

(9) $$\mu(\varepsilon + p) - v.$$

By substituting in equation 5 for μ in equation 9, we obtain the following:

(10)
$$\frac{\pi\gamma(\varepsilon+p)}{\pi\gamma+\omega(1-\gamma)} - v.$$

To simplify this, we set:

(11)
$$\gamma 1 = \frac{\omega v}{\omega v - \pi v + \pi\varepsilon + \pi p} = \frac{\omega v}{v(\omega - \pi) + \pi(\varepsilon + p)}$$

From (11) we can derive critical values, whereby if

(12)
$$1 = \frac{\omega v}{\omega v - \pi v + \pi\varepsilon + \pi p} \iff v(\omega - \pi) + \pi(\varepsilon + p) < \omega v.$$

Equation (12) in turn can be expressed as:

(13)
$$\varepsilon = v - p.$$

The relative values of voting one's preferences, punishment, p, and the reward for cooperating with the Party, ε, are weighed against one another. When $\varepsilon > v - p$, clientelism is expected. When $\varepsilon < v - p$ the ballot will be secret.

The relationship between the Party's choice γ and the behavioral strategy of the Voter after having observed a signal that the ballot is being secret, $i=s$, can be summarized in the reaction function $\alpha^* = \alpha^*(\gamma)$:

$$\alpha * = 1 \iff \gamma > \gamma 1$$

$$0 < \alpha * < 1 \iff \gamma = \gamma 1$$

$$\alpha * = 0 \iff \gamma < \gamma 1$$

When the Party's strategy to monitor the ballot, γ, exceeds the value of $\gamma 1$, then $\alpha^*=1$, whereby the Voter reciprocates by voting with the Party, $j=r$. When the Party's strategy to monitor the ballot, γ, is less than the

value of γ1, then α*=0, whereby the Voter defects and votes her preferences, *j=d*. A mixed strategy on the part of the Voter occurs when $\gamma = \gamma1 = \frac{\omega v}{v(\omega - \pi) + \pi(\varepsilon + p)}$. The Voter's strategy is shaped by the relative values of the Voter voting her preferences, v; the punishment for defection, p, and ε, the clientelism reward.

On the other side of the game tree, Figure 1, the Voter observes a signal that the ballot is monitored, *i=m*. We can follow the same procedure such that the optimal strategy β*(γ) can also be derived. Bayesian updating results in the following ex-post belief:

(14)
$$\lambda = \frac{(1-\pi)\gamma}{(1-\pi)\gamma + (1-\omega)(1-\gamma)}$$

The Voter maximizes with respect to β, such that:

(15)
$$[\lambda\beta\varepsilon + \lambda(1-\beta)(v-p) + (1-\lambda)\beta(0) + (1-\lambda)(1-\beta)v].$$

This expression can be expanded such that:

(16)
$$[\lambda\beta\varepsilon - \lambda p + \lambda\beta p - \beta v + v]$$

The first derivative with respect to β is then:

(17)
$$\lambda p + \lambda\varepsilon - v = \lambda(p + \varepsilon) - v$$

Substitution of λ with the expression from (14) produces:

(18)
$$\frac{(1-\pi)\gamma(p+\varepsilon)}{(1-\pi)\gamma + (1-\omega)(1-\gamma)} - v$$

Solving for γ:

(19)
$$\gamma2 = \frac{(1-\omega)v}{-\omega v + \pi v - \pi\varepsilon + \pi p + \varepsilon + p} = \frac{(1-\omega)v}{(\pi-\omega)v + \pi(p-\varepsilon) + \varepsilon + p}$$

From (19) we can derive critical values, whereby if

(20)
$$1 > \frac{(1-\omega)v}{(\pi-\omega)v + \pi(p-\varepsilon) + \varepsilon + p} \Leftrightarrow (\omega - \pi)v + \pi(p - \varepsilon) + \varepsilon + p > (1-\omega)v.$$

Equation (14) in turn can be expressed as:

(21) $$(1 - \pi)(v - \varepsilon) > p.$$

This means that given the signal of the probability of a monitored ballot (1-π) and the value of voting one's true preferences subtracting the lost goodwill from the Party, ε, will be weighed against the degree of punishment, *p*. Alternatively, (21) can be expressed as $v - \pi p > \varepsilon$, whereby the ballot would be secret. If π=0, and thereby 1-π=1, the signal is that the ballot is monitored, then electoral clientelism is supported and β*=1. In contrast, when $v - \pi p < \varepsilon$, we expect to see electoral clientelism. If π=1, indicating that the Voter has received a signal that the ballot is secret, then the secret ballot is supported and β*=0.

The reaction function β* = β*(γ) can be expressed as follows:

$$\beta* = 1 \Leftrightarrow \gamma < \gamma 2$$

$$0 < \beta* < 1 \Leftrightarrow \gamma = \gamma 2$$

$$\beta* = 0 \Leftrightarrow \gamma > \gamma 2$$

From the Voter's reaction functions resulting from signals of a monitored or a secret ballot, a set of results can be posited in Lemma 2:

Lemma 2:

1. $1 > \omega > \pi > 0 \wedge \varepsilon > 0 \wedge v < \infty$ implies $1 > \gamma 2 > \gamma 1 > 0$.

2. If π = 0 then α* = 0 and $\gamma 1 = 0$.

3. $\omega = 1$ implies β* = 1, γ2 = 1, μ = 1, and λ = 0.

Since ω > π, ε > 0, and v < ∞, there is no value of γ for which α*(γ) > β(γ) holds. In addition, for γ = γ1 or γ = γ2, one of the Voter's optimal strategies α* and β* is mixed and the other is pure.

Bayesian Equilibria

Four perfect Bayesian equilibria are evident in this game. Each equilibrium is expressed in terms of $\{(\alpha^*, \beta^*); (\mu^*, \lambda^*); \gamma^*\}$.

Proposition 1*:* In the Bayesian game of electoral clientelism with $\varepsilon, v > 0$ and $0 < \pi < \omega < 1$, four perfect Bayesian equilibria exist:

5) **Pure Electoral Clientelism Equilibrium**; $\gamma = 1$ and $\alpha = \beta = 1$; $\{(1,1); (0,0); (1)\}$;

6) **Mixed Strategy Electoral Clientelism Equilibrium**; $\gamma = \gamma 1$ and $\alpha = 1\text{-}K$, $\beta = 1$;

   $\{(1\text{-}K,1); (\mu^*, \lambda^*); \gamma 1\}$, with $\mu = \dfrac{\pi\gamma_1}{\pi\gamma_1 + \omega (1-\gamma_1)}$ and $\lambda = \dfrac{(1-\pi)\gamma_1}{(1-\pi)\gamma_1 + (1-\omega)(1-\gamma_1)}$.

7) **Separating Electoral Clientelism Equilibrium**; $\gamma = \gamma 2$ and $\alpha = 0$, $\beta = K$; $\{(1\text{-}K,1); (\mu^*, \lambda^*); \gamma 1\}$, with

   $\mu = \dfrac{\pi\gamma_2}{\pi\gamma_2 + \omega (1-\gamma_2)}$ and $\lambda = \dfrac{(1-\pi)\gamma_2}{(1-\pi)\gamma_2 + (1-\omega)(1-\gamma_2)}$.

8) **Pure Secret Ballot Equilibrium**; $\gamma = 0$ and $\alpha = \beta = 0$; $\{(0,0); (1,1); (0)\}$.

Recall equations (4), (11), and (19):

$$K = \frac{c}{x(\omega-\pi)}; \ \gamma 1 = \frac{\omega v}{v(\omega - \pi) + \pi(\varepsilon + p)}; \gamma 2 = \frac{(1-\omega)v}{v(\pi-\omega) + \pi(p-\varepsilon) + \varepsilon + p}.$$

Proof:

5) Pure Electoral Clientelism is an equilibrium since the Party's best reply to $\beta - \alpha > K$, and in particular to any $\alpha=\beta$, would be $\gamma=1$, such that $\gamma 1 < \gamma 2$ for $\omega v > 0$ and $\omega > \pi$. The Voter's best reply to any $\gamma^* < \gamma 1$ would be $\alpha^* = b^* = 1$, confirming $\beta - \alpha > K$. Hence, $\alpha^* = \beta^* = 1$ and $\gamma = 1$ is a pure strategy equilibrium.

6) If the Voter chooses α and β such that $\beta - \alpha \le K$, then the Party is indifferent between its pure strategies. If the Party chooses $\gamma = \gamma 1$, then the Voter's best reply would be $\beta=1$ and

consequently α=1-K, which confirms that β − α ≤ K. Hence, α* = 1-K, β*=1 and γ=γ1 are equilibrium strategies.

7) If the Voter chooses β − α = K, then the Party is indifferent between all values of γ. If the Party chooses γ = γ2, then the best reply for the Voter would be α = 0 and β = K. This confirms that β-α = K. Hence, α*=0, β*=K and; γ=γ2 are equilibrium strategies.

8) Pure Secret Ballot equilibrium is maintained when the Party's best reply to β − α < K, such that α=β, would be γ=0, such that γ1 < γ2 for ω>π. The Voter's best reply to any γ* > γ2 would be α* = b* = 0, confirming β − α > K. Hence, α* = β* = 0 and γ = 0 is a pure strategy equilibrium.

Appendix B. Variable descriptions and summary statistics

Variables	Survey question	Variable coding	Mean	Std.dev.	Min.	Max.	Obs.
Vote buying: ANC Turnout buying: ANC	"How often (if ever) did a candidate or someone from a political party offer you something, like food, or a gift or money if you would vote for them in the elections?" "Which party did the person who gave you this offer come from? "How often (if ever) did a candidate or someone from a political party offer you something, like food, or a gift or money if you would show up to vote in the elections?"	Indicator variable that takes the value 1 if respondents answer in the affirmative to (at least) one of the first two questions and answer "ANC" in the last question. The indicator is zero otherwise.	0.038	0.19	0	1	3210
Vote buying: Other Turnout buying: Other	"How often (if ever) did a candidate or someone from a political party offer you something, like food, or a gift or money if you would vote for them in the elections?" "Which party did the person who gave you this offer come from? "How often (if ever) did a candidate or someone from a political party offer you something, like food, or a gift or money if you would show up to vote in the elections?"	Indicator variable that takes the value 1 if respondents answer in the affirmative to (at least) one of the first two questions and answer a party other than "ANC" in the last question. The indicator is zero otherwise.	0.037	0.19	0	1	3210

Secret ballot perceptions	"How likely do you think it is that powerful people can find out how you voted, even though voting is supposed to be secret in this country?"	Five-point scale from "Very unlikely" (0) to "Very likely" (4)	1.43	1.32	0	4	3015
ANC identification	"Many people feel close to a particular political party over a long period of time, although they may occasionally vote for a different party. What about you? Do you usually think of yourself as close to a particular party?" If yes "Which party do you feel close to"?	Indicator variable that takes the value 1 if respondents answer in the affirmative in the first question and "ANC" in the second. The indicator is zero otherwise.	0.33	0.49	0	1	3210
Vote choice	"Now I would like you to think back on election day. Which political party did you vote for?"	Indicator variable that is 1 if respondents answer "ANC" and 0 otherwise.	0.38	0.49	0	1	3146
Age	As part of the kish grid selection, interviewers recorded name, surname, age, and sex for all household members aged 18 years and older.	Respondent age in years.	40.7	15.4	18	98	3210
Female	As part of the kish grid selection, interviewers recorded name, surname, age, and sex for all household members aged 18 years and older	Dummy variable that takes the value 1 for female respondent and zero otherwise.	0.61	0.49	0	1	3210
Education	"What is the highest level of education you have completed?"	Ordinal variable running from "No schooling" (0) to "Post-graduate (Ph.D.)" (8).	3.49	1.53	0	8	3190
Reciprocate	"If someone does me a favor I am prepared to return it"	Answers to the three questions run from 1, "Does not apply to me at all", to	15.30	4.48	3	21	3083

	"I go out of my way to help somebody who has been kind to me before" "I am ready to undergo personal costs to help somebody who helped me before"	7, "Applies to me perfectly". The variable reciprocate is the sum of respondents answers to the three questions.					
News consumption	"During the election campaign, how frequently did you follow political news through …" "Newspapers" "Radio" "Television" "Social Media"	Answers to the four questions run from 5, "Daily" to 1, "Never". The variable News consumption is the sum of respondents' answers to the four questions.	11.91	4.28	4	20	2637
Unemployment	"With regards to employment, what is your occupational status?"	Indicator taking the value 1 if respondents choose answer category "Unemployed and looking for job" or "Unemployed and not looking for job" and zero otherwise.	0.36	0.48	0	1	3181
Social grant recipient	"Do you or anyone in your household receive any social grants like child support, old age pension, or disability grant?"	Indicator variable that takes the value 1 if respondents answer in the affirmative and zero otherwise.	0.49	0.50	0	1	3186
Poverty	"Over the past year, how often, if ever, have you or anyone in your family gone without: a) Enough food to eat; b) enough clean water for home use; c) medicines or medical treatment; d) enough fuel to cook your food; e) a cash income?	Each question is answered on a five-point scale from 'never' to 'always'. The variable poverty is an index generated as the sum of all five items recoded to scale from 0–1, where high values indicate wealth/no	0.23	0.22	0	1	3133

		poverty and low values indicate severe poverty.					

Appendix C. Vote buying by the ANC vs. other parties.

Table C1 compares vote buying arising from the ANC to that of other parties. Table C1 shows that the use of vote buying by the ANC and other parties are quite similar, with a few notable exceptions: The ANC disproportionately targets black voters and younger voters. All parties engaging in vote buying in South Africa target uneducated, unemployed, poor, trusting citizens who are favorable towards clientelist practices. No parties seem to target voters based on gender, habits of news consumption, level of political information, or their dispositions to return a favor or reciprocate more broadly.

Table C1. Correlates of Vote Buying from the ANC and Other Parties

	Age	Female	Education	Poverty	Unemployed	Metropol.	Urban	H i
ANC	-3.61	-0.05	-0.15	1.98	-0.42	-0.07	0.02	
	(-1.99)	(-0.80)	(-0.91)	(2.70)	(-2.20)	(-1.28)	(0.26)	
Other	0.76	0.04	0.30	2.62	-0.52	-0.01	-0.01	
	(0.36)	(0.14)	(1.38)	(3.91)	(-3.46)	(-0.08)	(-0.20)	
	News consumption	Black	White	Complying w Electoral clientelism	Trust	Clientelist	Reciprocate	R
ANC	0.56	0.09	-0.10	0.20	0.52	0.82	-0.55	
	(0.93)	(1.82)	(-3.80)	(3.26)	(1.47)	(3.65)	(-1.14)	
Other	0.40	-0.09	-0.01	0.27	0.93	1.07	0.04	
	(0.68)	(-1.35)	(-0.23)	(4.20)	(2.22)	(3.95)	(0.10)	

Note: The table shows coefficients from regressions of each of the 16 correlates on ANC vote buying and vote buying from other parties simultaneously. Robust t-statistics in parentheses.

Appendix D. ANC vote buying vs. turnout buying

Table D1. Vote buying, turnout buying, and vote choice: Conditional on secret ballot perceptions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	The dependent variable is voting for the ANC at the municipal election (dummy)						
VB): ANC	-0.47		-0.51		-0.63		-0.56
	(-0.77)		(-0.84)		(-0.97)		(-0.84)
g (TBV): ANC		0.03		-0.01		-0.07	
		(0.05)		(-0.01)		(-0.08)	
erceptions	0.15	0.15	0.14	0.14	0.16	0.16	0.16
	(3.12)	(3.04)	(2.93)	(2.92)	(2.97)	(2.95)	(2.91)
ret ballot	0.72		0.76		0.95		0.96
	(2.49)		(2.60)		(3.03)		(2.92)
et ballot		0.79		0.85		1.06	
		(2.02)		(2.10)		(2.91)	
ation	Yes	Yes	Yes	Yes	Yes	Yes	Yes
controls	No	No	Yes	Yes	Yes	Yes	Yes
	No	No	No	No	Yes	Yes	Yes
E	No	No	No	No	No	No	Yes
	No	No	No	No	No	No	Yes
	1,965	1,965	1,965	1,965	1,904	1,904	1,904

Note: The table shows coefficients from logistic regressions of ANC vote (dummy) on vote buying by the ANC (odd columns) and turnout buying by the ANC (even columns). All columns include a control for vote buying and turnout buying from other parties. The analyses reported in columns (1) (and (2) control for party identification, in columns (3) and (4) they include also gender and age. Fixed effects are included as reported. The Urban-rural FE are dummies for respondents who live in metropolitan, urban, or rural areas as classified by Statistics South Africa. Robust z-statistics in parentheses.

In Table D1, the odd-numbered columns report coefficients from analyses of ANC *vote* buying; the even-numbered columns report coefficients from analyses of ANC *turnout* buying. If unobservable predispositions to vote for the ANC were important confounders, the coefficients should differ between the even- and odd-numbered models. Yet, as the table shows, across all specifications, the coefficients of interest – the interactions between secret ballot perceptions and, respectively, vote buying and turnout buying – are indistinguishable. This suggests that unobservable predispositions to vote for the ANC do not confound our results.