Vote-buying or Conditional Cash Transfers?

Econ 14.770 Research Proposal

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Abstract

As a transfer of cash to households, Conditional Cash Transfers (CCTs) and vote-buying resemble each other. This fact has been used to explain the political appeal and rapid adoption of CCTs. However, the literature does not explain why CCTs might be politically preferable to direct vote-buying. Using a model of distribution to evaluate the relative costs and benefits of CCTs and vote-buying I argue that (i) CCTs are a blunt instrument that wastes resources on a subset of poor voters whose voting behaviour cannot be influenced, so; (ii) vote-buying is in general a more targeted and efficient instrument and, consequently; (iii) CCTs’ advantage lies not in their efficiency, but in shifting the cost burden of distribution onto the state. However, because local politicians face lower costs than national politicians in implementing vote-buying, voters may not consider national politicians’ implementation announcements credible. To resolve this credibility problem, national politicians may find it worthwhile investing in bureaucratic autonomy under certain conditions. Together, these findings suggest that many of the important changes accompanying CCTs - bureaucratic improvements and an increase in the share of swing voters among the poor - are likely to precede, rather than follow, their introduction.
1 Motivation

Recent empirical studies find there are significant electoral returns for incumbents that introduce conditional cash transfer (CCT) programs in many countries (De La O 2011 in Mexico, Labonne 2012 in the Philippines, Zucco 2011 in Brazil, and Baez et al 2012 in Columbia). That politicians have jumped on the bandwagon as soon as this new policy technology was discovered might therefore seem unsurprising. For politicians, CCTs are argued to be a more efficient means of targeting voters than traditional forms of clientelism such as the imprecise and poorly observable distribution of club/public goods, “Policymakers under budgetary pressures prefer to target expenditures to narrow groups rather than distribute expenditures broadly across the entire population” (De La O, 2010). CCTs, being observable, providing private goods, and targeted to a specific group of poor voters can offer an attractive way of gaining political support. CCTs have therefore been held up as a poster policy combining a unique set of developmentally effective economic incentives for households and electorally-valued incentives for national governments (World Bank, 2009).

I argue that this account is not sufficient to explain the widespread adoption of CCTs. In particular, one other political alternative to both CCTs and broader redistribution is direct vote-buying. Indeed, technologically, CCTs reflect vote-buying very closely, involving the distribution of cash directly to households. Yet, the same logic of targeting that is argued to push parties from Redistribution towards CCTs should logically push parties even further towards targeting voters precisely and buying only those votes that they think they can win. The attraction of a large and imprecise tool such as CCTs which uses objective rules to identify beneficiaries seems to fade in comparison to the potential efficiency of more precisely targeted vote-buying techniques. A full account of the growth of CCTs must therefore explain why they have been adopted instead of traditional vote-buying techniques. The question remains, then, as to why politicians might prefer to ‘buy’ a large group of poor voters, rather than to target specific swing voters to maximize their electoral returns.

Three related questions are worth asking. First, both vote-buying and CCTs face difficulties in the implementation of their conditionalities. Perfect vote-buying relies on monitoring individual votes, which is costly given the universality of secret ballot elections. Enforcing compliance with CCTs also entails costly monitoring and politically costly sanctioning. In practice, both kinds of enforcement are highly variable and imperfect. Even in the absence of such monitoring, the cash transfers themselves represent a distributive transfer to voters which may be rewarded if the relationship is expected to continue. To provide a baseline comparison between the two instruments, I therefore abstract from monitoring challenges and focus on the distributive implications of each for voting behaviour.
Second, *eligibility* rules also require costly enforcement. For vote-buying, this is straight-forward as the beneficiaries are selected for their likelihood of providing political support. Vote-buying is politically incentive-compatible. For CCTs, strict implementation of CCTs requires distribution to voters who will almost certainly support the opposition. This is costly for politicians and there are strong reasons to subvert program rules. Why then do many programs incorporate such extensive provisions and audits to enforce eligibility rules? What political incentive sustains this enforcement?

Third, as a new tool of development, CCTs are often reportedly accompanied by improvements in bureaucratic capacity to objectively implement the programs. Hagopian (forthcoming) also argues that by providing a rule-based social safety net, CCTs weaken the dependence of voters in individual political parties. By providing insurance against household shocks, and through health and education conditionalities reducing the frequency of shocks, CCTs make households less reliant on politicians for emergency insurance purchased in return for political support and activities. CCTs are therefore argued to *produce* significant spillovers to other areas of governance. Yet, endogeneity concerns remain here, with the introduction of CCTs potentially relying on bureaucratic initiative and capacity (De La O, 2010) and/or changes in the electorate. In the model below I investigate the sequencing of CCTs in relation to other governance and political developments.

To answer these questions, I focus on the similarities and differences - in particular, the relative costs and benefits - between CCTs and vote-buying in the framework of a formal model of distribution. I seek to explain the conditions under which CCTs might be politically preferred to vote-buying. A deeper understanding of these conditions would provide insight to the political processes that sustain progressive development policy.

### 2 Characteristics of Vote-Buying and CCTs

In modelling CCTs and vote-buying as alternative political strategies, how should we characterize each? Table 1 provides an overview of the differences between three key policies; vote-buying, CCTs and public good clientelism. While the focus of this paper is on the contrast between the first two, the existing literature focuses on the contrast between the latter two (Zucco, 2011).

CCTs are closely comparable to vote-buying in that they involve a direct transfer of cash to individual households. They also place conditions on the receipt of this cash, with vote-buying focusing on the direct exchange for political support during elections and CCTs focusing on education, healthcare and other social behaviours. In this paper I abstract from all these conditions. Instead, the emphasis is on the monetary
Table 1: Characteristics of Targeted Distribution Strategies

<table>
<thead>
<tr>
<th>Good Delivered</th>
<th>Vote-Buying</th>
<th>CCTs</th>
<th>PG Clientelism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Mechanism</td>
<td>Cash</td>
<td>Cash</td>
<td>Club Goods</td>
</tr>
<tr>
<td>Targeted group</td>
<td>Clientelist network</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>Excludability?</td>
<td>Yes</td>
<td>No (rule-based)</td>
<td>Partial (not within group)</td>
</tr>
<tr>
<td>Delivery Timing</td>
<td>Pre/Post-election</td>
<td>Post-election</td>
<td>Post-election</td>
</tr>
<tr>
<td>Conditionalities</td>
<td>Voting behaviour</td>
<td>Social behaviour</td>
<td>None</td>
</tr>
<tr>
<td>Credibility for Voter Behaviour</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Credibility of Policy Delivery</td>
<td>High</td>
<td>Low</td>
<td>Very Low (as less observable)</td>
</tr>
</tbody>
</table>

valuation of the transfer by recipients, which I interpret as a distributive transfer between social groups. CCTs and vote-buying are, then, a form of policy that voters choose between. Key advantages of this approach are (i) that it enables the two strategies to be compared in similar terms, (ii) it abstracts from the challenges of monitoring inherent in vote-buying (this approach is therefore quite distinct from Stokes (2005) that assumes votes can be monitored), and (iii) it enables us to compare and explain CCT programs even where there is very weak monitoring and compliance with conditionalities, as De La O (2010) describes for the Bolivian case, p.4, and as World Bank (unpublished) demonstrates for Nigeria.

A key distinction which also needs to be incorporated into the model is that vote-buying is targeted to swing voters to whom the additional transfer is expected to have a significant probability of inducing a change in voting behaviour,\(^1\) while CCTs are, by definition, available to anyone based on the eligibility criteria which typically include measures of income and assets.\(^2\) Taking CCTs as an ‘ideal-type’ perfectly implemented policy, **excludability** of individuals on political grounds is not consistent with the definition of CCTs as a policy instrument; it is the objective application of eligibility rules ad payment disbursement that characterizes CCT programmes.\(^3\) An additional, related, distinction is that CCTs are implemented by the state using bureaucratic structures, while vote-buying as a typically illegal activity is generally conducted through party-sponsored clientelist networks that must be separately financed.

Issues of credibility loom large for both instruments. I am agnostic as to whether remuneration under vote-buying occurs pre- or post-election. In the latter case voters will want reassurance that their vote will be remunerated. In both cases, politicians will be unsure whether their payment has really secured an additional vote because they cannot monitor vote-buying. I ignore this latter credibility problem by assuming

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\(^1\)While in this paper I take the assumption about the targeting of vote-buying to swing voters as given, it is simple to illustrate that this is the optimal strategy as any justification to transfer funds to ‘core’ voters whose behaviour can never be changed must be drawn from outside the model.

\(^2\)I exclude here the possibility of regional targeting to channel CCTs to groups on criteria other than the poverty level. There is evidence for such targeting in Mexico, see Bobba (2011).

\(^3\)Later, I allow for the possibility that CCTs may be imperfectly implemented, but frame this is a translation of the policy instrument into vote-buying, rather than a weaker form of CCTs.
that votes are not monitorable and the only effect of CCTs is through the distributive transfer. The former problem is also of limited severity in this framework - in particular, since I show that vote-buying is the more efficient policy instrument, there is a natural commitment value to vote-buying policy, particularly in the absence of alternative uses of funds (I assume there is no opportunity for rent-seeking). Repetition of voting across multiple elections and the desire to maintain a reputation would also create a clear incentive for parties to abide by promises of vote-buying.

The credibility challenge in implementing CCTs has been less frequently addressed in the literature. Even if vote-buying is assumed to be a credible policy, CCTs may not be. If, as I argue, vote-buying is generally more efficient than CCTs politically, politicians may consistently face incentives to divert any resources budgeted for CCTs towards vote-buying. The bureaucracy will therefore be under constant pressure to divert resources to vote-buying. The resilience of the bureaucracy to withstanding these pressures is therefore a crucial factor in whether CCTs can be actually implemented. The actions that enable objective bureaucratic implementation of CCTs - clear rules, transparent implementation, and monitoring devices such as auditing - require choices by politicians in programme design and bureaucratic structure. Political investment in bureaucratic autonomy may therefore be vital to the credibility with which CCTs can be effectively implemented.

Some authors have emphasized the downstream consequences of learning and implementing a large-scale social program for the development of an effective bureaucracy. De La O (2010) argues that bureaucratic autonomy provides a significant part of the explanation for the introduction of CCTs. However, her account rests on the distinct interests of the bureaucracy, rather than its role as a potential commitment device for political actors. The account here provides a mechanism by which the delivery of CCTs can be made credible which relies on bureaucratic autonomy preceding CCT implementation, rather than following CCTs.

3 Modeling Vote-Buying and CCTs

The model I present in this section incorporates these common and distinct features of CCTs and vote-buying. The purpose of the model is to illustrate the conditions under which CCTs can be sustained as an alternative strategy to vote-buying. Reflecting the emphasis on the effect of each policy purely through its distributive transfer effect, I adapt the Dixit-Londregan (1996) model. The model assumes parties are vote-share-maximizers and that there are two main social groups, the rich and the poor. The main differences with their model are:
1. I abstract from taxation by assuming an exogenous budget constraint;

2. I introduce a ‘core’ of ideological voters who can never be induced to change their voting behaviour through transfers. These core voters are a share $\phi_P$ of the poor and $\phi_R$ of the rich.

The core model will later be embedded in a multi-period game, but is developed here to illustrate the adaptation from Dixit and Londregan (1996).\(^4\)

The policy instruments available to parties are (subscripted for party A for illustration) (i) a transfer to every poor voter $t_{PA}$ (CCTs), (ii) a transfer to poor swing voters $b_{PA}$ (vote-buying), and (iii) a transfer to rich swing voters $b_{RA}$ (vote-buying).

The utility of voters from any group $g$ is $u_g = v(y_g + t_g + b_g)$ where $v()$ is a concave function of post-transfer income. I assume that swing voters vote on the basis of credible policy announcements, where credibility will be introduced through the multi-period game. In equilibrium, where policies are credible, voters will vote based on parties’ announced policies. In addition to economic voting, swing voters have (ideological) affinities to individual parties, $\delta_{ig} \sim [-\frac{1}{\omega_g}, \frac{1}{\omega_g}]$. So voter $i$ votes for party A iff:

$$v(y_g + t_gA + b_gA) > v(y_g + t_gB + b_gB) + \delta_{ig}$$ (1)

Within each group (poor or rich), there is a cut-off $\delta_{ig}$ below which swing voters will support only party A:

$$\delta_{ig} < v(y_g + t_gA + b_gA) - v(y_g + t_gB + b_gB)$$ (2)

Since the density of $\delta_{ig}$ is $\omega_g$, the proportion of voters in group $g$ supporting party A can be calculated as the sum of core voters, and swing voters below the threshold. For the poor group, the proportion supporting party A is:

$$\phi_P + (1 - \phi_P)\omega_P \left[ v(y_P + t_{PA} + b_{PA}) - v(y_P + t_{PB} + b_{PB}) + \frac{1}{2\omega_P} \right]$$ (3)

$$= \phi_P + (1 - \phi_P) \left[ \frac{1}{2} + \omega_P(v(y_P + t_{PA} + b_{PA}) - v(y_P + t_{PB} + b_{PB})) \right]$$ (4)

\(^4\)The presentation made here makes use of a number of simplifications described in Gehlbach (forthcoming)
Aggregating with the corresponding expression for the rich group, we can calculate the total vote share accumulating to party A, $V_A$, where $\alpha_P$ represents the proportion of the population who are poor:

$$V_A = \alpha_P \left[ \phi_P + (1 - \phi_P) \left[ \frac{1}{2} + \omega_P(v(y_P + t_{PA} + b_{PA}) - v(y_P + t_{PB} + b_{PB})) \right] \right] + (1 - \alpha_P) \left[ \phi_R + (1 - \phi_R) \left[ \frac{1}{2} + \omega_R(v(y_R + t_{RA} + b_{RA}) - v(y_R + t_{RB} + b_{RB})) \right] \right]$$

(5) \quad (6)

By assumption, Party A maximizes this expression, their total vote share, by choosing optimal transfer policies. The budget constraint they face reflects the differential targeting capabilities of the policy instruments. While the CCT ($t_P$) is transferred to every member of group $P$, vote-buying ($b_P, b_R$) can be targeted to swing voters and hence only applies to the base excluding core voters; $\alpha_g(1 - \phi_g)$. It will also be valuable to incorporate an additional cost to the conduct of vote-buying, which is later applied in a number of ways. A multiplier $\gamma > 1$ is therefore added to vote-buying expenses. Total expenditure on these instruments must be within the exogenous budget constraint $B$:

$$\alpha_P t_{PA} + \gamma \left[ \alpha_P(1 - \phi_P)b_{PA} + (1 - \alpha_P)(1 - \phi_R)b_{RA} \right] \leq B$$

(7)

The model can then be solved as a constrained maximization using the lagrangian method. Since we are explicitly looking for corner solutions, it is crucial to make use of the Kuhn-Tucker conditions to identify all possible solutions.

$$\max_{t_{PA}, b_{PA}, b_{RA}} \quad V_A = \alpha_P \left[ \phi_P + (1 - \phi_P) \left[ \frac{1}{2} + \omega_P(v(y_P + t_{PA} + b_{PA}) - v(y_P + t_{PB} + b_{PB})) \right] \right]$$

(8)

$$+ (1 - \alpha_P) \left[ \phi_R + (1 - \phi_R) \left[ \frac{1}{2} + \omega_R(v(y_R + t_{RA} + b_{RA}) - v(y_R + t_{RB} + b_{RB})) \right] \right]$$

(9)

s.t. \quad $\alpha_P t_{PA} + \gamma \left[ \alpha_P(1 - \phi_P)b_{PA} + (1 - \alpha_P)(1 - \phi_R)b_{RA} \right] \leq B$

(10)
The first-order and complementary slackness conditions are:

\[ \frac{\partial V_A}{\partial t_{PA}} = \alpha_P (1 - \phi_P) \omega_P v' (y_P + t_{PA} + b_{PA}) - \lambda \alpha_P \leq 0 \] (11)

\[ \frac{\partial V_A}{\partial b_{PA}} = \alpha_P (1 - \phi_P) \omega_P v' (y_P + t_{PA} + b_{PA}) - \lambda \gamma \alpha_P (1 - \phi_P) \leq 0 \] (12)

\[ \frac{\partial V_A}{\partial b_{RA}} = (1 - \alpha_P)(1 - \phi_R) \omega_R v' (y_R + t_{RA} + b_{RA}) - \lambda \gamma \alpha_R (1 - \phi_R) \leq 0 \] (13)

\[ \frac{\partial V_A}{\partial \lambda} = \alpha_P t_{PA} + \gamma [\alpha_P (1 - \phi_P) b_{PA} + (1 - \alpha_P)(1 - \phi_R) b_{PA}] - B \leq 0 \] (14)

\[ t_{PA} \frac{\partial V_A}{\partial t_{PA}} = t_{PA} [\alpha_P (1 - \phi_P) \omega_P v' (y_P + t_{PA} + b_{PA}) - \lambda \alpha_P] \leq 0 \] (15)

\[ b_{PA} \frac{\partial V_A}{\partial b_{PA}} = b_{PA} [\alpha_P (1 - \phi_P) \omega_P v' (y_P + t_{PA} + b_{PA}) - \lambda \gamma \alpha_P (1 - \phi_P)] \leq 0 \] (16)

\[ b_{RA} \frac{\partial V_A}{\partial b_{RA}} = b_{RA} [(1 - \alpha_P)(1 - \phi_R) \omega_R v' (y_R + t_{RA} + b_{RA}) - \lambda \gamma \alpha_R (1 - \phi_R)] \leq 0 \] (17)

\[ \lambda \frac{\partial V_A}{\partial \lambda} = \lambda [\alpha_P t_{PA} + \gamma [\alpha_P (1 - \phi_P) b_{PA} + (1 - \alpha_P)(1 - \phi_R) b_{PA}] - B] \leq 0 \] (18)

To assess the conditions under which CCTs can be implemented, consider four cases.\(^5\)

1. \(t_{PA} = b_{PA} = b_{RA} = 0\) : This is clearly not an equilibrium as the budget constraint is completely slack and the party can always increase its expected vote share by channelling funds through any of the transfer mechanisms.

2. \(t_{PA} = 0; b_{PA}, b_{RA} > 0\) : The conditions allow us to derive a clear set of parameter values where vote-buying is optimal, but CCTs are not:

\[ (1 - \phi_P) \omega_P v' (y_P + b_{PA}) \leq \frac{\omega_P v' (y_P + b_{PA})}{\gamma} = \frac{\omega_R v' (y_R + b_{RA})}{\gamma} \] (19)

\[ (1 - \phi_P) \leq \frac{1}{\gamma} \] (20)

3. \(t_{PA} > 0; b_{PA} = b_{RA} = 0\) : Symmetrically, CCTs can be sustained but vote-buying is sub-optimal where:

\[ (1 - \phi_P) \geq \frac{1}{\gamma} \] (21)

4. \(t_{PA}, b_{PA}, b_{RA} > 0\) : The use of both policy instruments can be sustained only in the knife-edge case.

\(^5\)It can be shown that other cases that are also of less interest are also not optimal. Specifically, wherever some votes are bought from the poor, some votes are bought from the rich; there is no corner solution where only of \(b_{PA}\) and \(b_{RA}\) bind.
where parameter values are precisely balanced:

\[(1 - \phi_P) = \frac{1}{\gamma}\]  

(22)

The above analysis provides three simple intuitions to the choice between CCTs and vote-buying.

1. For nearly all parameter values, only one of the strategies, CCTs or vote-buying is optimal;

2. Where a larger proportion of the poor group is made up of core voters who cannot be influenced by CCTs (higher \(\phi_P\)), CCTs are less likely to be the most efficient policy instrument. This reflects the fact that CCTs are poorly targeted and significant transfers must be wasted on voters who will not change their voting behaviour. Note in particular that this problem arises for both party A and B; that the beneficiaries of CCTs are in party A’s camp provides no benefit to party A.

3. Where the cost of implementing vote-buying is high due to the parameter \(\gamma\), CCTs are more likely to be the optimal policy instrument.

Figure 1: Optimal Instrument Choice across parameter values

Figure 1 illustrates these results graphically. Where vote-buying is cheap (\(\gamma < 1\)), or where \(\gamma\) is low while relative the proportion of core poor voters is high, vote-buying is an optimal policy. Where vote-buying is
costly and most poor voters are swing voters, CCTs may be a politically optimal policy.

4 A Credibility Model of CCTs

While the previous section provided general conditions under which CCTs may be a politically optimal policy, it abstracted from the question of whether CCTs are a credible policy to implement. This is a serious concern; if the costs of vote-buying are low, the above analysis suggests that CCTs are never an optimal policy. I argue that these conditions are a reasonable characterization of local politicians’ circumstances - since they do not face the direct costs of organizing vote-buying, which are incurred by central politicians (Vicente, 2012 ), local politicians typically have a strong incentive to divert any transfers allocated by national politicians for CCTs towards vote-buying. These local politicians share the same objective function as central politicians - to maximize vote share - but face different costs. Vote-buying networks are large and costly, and must be setup outside of the state and hidden from public view due to the illegal nature of vote-buying. National politicians face substantial costs (high $\gamma_N$) in maintaining these networks. This high $\gamma_N$ can make CCTs a preferred instrument to vote-buying for national politicians. At the same time, local politicians do not bear the costs of maintaining vote-buying networks (low $\gamma_L$) and face strong incentives to implement vote-buying instead of CCTs.

This setup generates a credibility problem for national politicians (illustrated in Figure 2); even where they want to implement CCTs, local politicians may face incentives to divert CCT resources towards vote-buying. Anticipating this incentive, voters do not believe central politicians’ election promises. Note that vote-buying remains credible because it is incentive-compatible for local politicians. How, then, can central politicians make the implementation of CCTs credible? The obvious mechanism is to raise the costs of vote-buying ($\gamma_L$) for local politicians such that diverting resources promised for CCTs is no longer optimal at the local level. The objective rule-based nature of CCT implementation suggests that one powerful way of raising the costs to diverting CCT resources is to invest in an independent, autonomous and transparent bureaucracy. Where bureaucracies are separated from vote-buying networks, program funding is transparent, and audits are frequently carried out, the cost of diverting resources to vote-buying is high, $\gamma_L$ rises, and local politicians will also prefer to support CCT implementation. If investments in bureaucratic autonomy are visible, voters will respond to this change in incentives for local politicians and be willing to reward politicians for announcements of CCT policies. I assume that only incumbents have the opportunity to

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6 Alternatively, these costs could be modelled as fixed costs. This alters the optimality conditions, but does little to alter the spirit of the analysis presented here.
invest in bureaucratic autonomy.

To capture these dynamics, consider a game with four periods that embeds the Dixit-Londregan model from the previous section into two layers of decision-making: the national level where central politicians announce policies, and the local level where local politicians announce the policies they will support.

1. National politicians choose whether to invest in bureaucratic autonomy at a cost of $\lambda_N K$ for party $N$. Variation in the cost of investing in bureaucratic autonomy reflects the fact that this may be easier for some parties that are more technocratic and face fewer costs in other domains from introducing bureaucratic autonomy.

2. National politicians announce policies $t_P, b_P, b_R$ to be implemented, choosing between CCTs and vote-buying depending on the parameters.

3. Local party officials announce policy $t_P, b_P, b_R$, again selecting between CCTs and vote-buying just as the central politicians did, and are able to reallocate the full volume of resources promised by the national politicians for CCTs.

4. Voters vote on the basis of the policies they expect to be implemented in the subsequent period.

The credibility problem is a binding one where the decisions of the national and local politicians diverge due to differential costs in implementing vote-buying. In particular, central politicians incur the cost of
maintaining large vote-buying networks at cost \( \gamma_N > \frac{1}{(1-\phi_P)} \) while local politicians do not so \( \gamma_L > \frac{1}{(1-\phi_P)} \).

According to the analysis in the preceding section, national politicians would therefore always prefer to implement CCTs while local politicians always prefer vote-buying.

The model is solved by backwards induction. For simplicity, I make the assumption that the voters’ utility function is \( v(y) = \ln(y) \). In the final stage, voters choose who to vote for on the basis of announced policies by local politicians, since voters know that local politicians will be responsible for local policy implementation.

In turn, anticipating how voters will respond, local politicians prefer to support CCTs over vote-buying only if the costs of diverting resources are sufficiently high. Note that the cost of diverting resources is now endogenous in the model to the initial investment made by the incumbent in bureaucratic autonomy.

\[
\lambda_L < \frac{1}{(1-\phi_P)} \\
K > \frac{1}{\theta(1-\phi_P)}
\]  

(23)  

(24)

In the preceding step, national politicians also face a choice between announcing CCTs and vote-buying. They more they invest in bureaucratic autonomy, the fewer resources are available to spend on CCTs. Hence, only if \( K \) is sufficiently low will national politicians still prefer to invest in CCTs.

Since it is only incumbents that can invest in bureaucratic autonomy to achieve credibility in CCTs I
assume that the challenger adopts vote-buying. In this case, party A (the incumbent) can invest in CCTs a per household value of \( t_{PA} = \frac{B - \lambda_N K}{\alpha_P} \) given the investment \( K \) already made in bureaucratic autonomy. This produces vote-share \( V_A^{CCT} \) given the challenger adopts a vote-buying strategy.\(^7\) This vote-share is compared to the vote-share they could achieve through vote-buying, \( V_A^{VB} \). Note that since each party converges on the same policy in this case, the vote-share expression is greatly simplified. CCTs produce a larger expected vote-share where:

\[
V_A^{CCT} = \alpha_P \left[ \phi_P + (1 - \phi_P) \left[ \frac{1}{2} + \omega P(v(y_P + \frac{B - \lambda_N K}{\alpha_P}) - v(y_P)) \right] \right. \\
\left. + (1 - \alpha_P) \left[ (1 - \phi_R) \left[ \frac{1}{2} + \omega R(v(y_R) - v(y_R + b_{RB}^*)) \right] \right] \right]
\]

(25)

\[
= \frac{\alpha_P}{2} (\phi_P + \phi_R) + \frac{1}{2} - \phi_R + \alpha_P (1 - \phi_P) \omega P(v(y_P + \frac{B - \lambda_N K}{\alpha_P}) - v(y_P)) \\
- v(y_P + b_{RB}^*) + (1 - \alpha_P) (1 - \phi_R) \omega R(v(y_R) - v(y_R + b_{RB}^*))
\]

(26)

\[
V_A^{VB} = \alpha_P \left[ \phi_P + (1 - \phi_P) \left[ \frac{1}{2} + \omega P(v(y_P + b_{PA}^*) - v(y_P + b_{PB}^*)) \right] \right. \\
\left. + (1 - \alpha_P) \left[ (1 - \phi_R) \left[ \frac{1}{2} + \omega R(v(y_R + b_{RA}^*) - v(y_R + b_{RB}^*)) \right] \right] \right]
\]

(29)

\[
= \frac{\alpha_P}{2} (\phi_P + \phi_R) + \frac{1}{2} - \frac{\phi_R}{2}
\]

(30)

\[
V_A^{CCT} - V_A^{VB} = \alpha_P (1 - \phi_P) \omega P(v(y_P + \frac{B - \lambda_N K}{\alpha_P}) - v(y_P + b_{PB}^*)) \\
+ (1 - \alpha_P) (1 - \phi_R) \omega R(v(y_R) - v(y_R + b_{RB}^*))
\]

(32)

(33)

The expression \( V_A^{CCT} - V_A^{VB} \) comprises the expected electoral advantage of adopting CCTs given the challenger’s strategy of vote-buying. The optimal vote-buying strategies for the challenger can be substituted in to obtain an expression solely on the parameters of the model.\(^8\) If the expression is positive, the announcement of CCTs remains profitable for the incumbent. By rearrangement, it is clear that this is possible where the initial investment in bureaucratic autonomy \( K \) is not so as high as to reduce the available budget for CCTs:

\[
K < \frac{1}{\lambda_N} \left( B - \alpha_P \left[ (y_P + b_{PB}^*) \cdot \exp \left(-\frac{(1 - \alpha_P)(1 - \phi_R) \omega R}{\alpha P(1 - \phi_P) \omega P} \cdot \ln \left( \frac{y_R}{y_R + b_{RB}^*} \right) - y_P \right] \right) \right.
\]

(34)

Finally, in the initial stage, national politicians choose how much to invest in bureaucratic autonomy. If

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\(^7\)Note that the challenger’s choice of instrument is not strategic in this game; they simply act to maximize their vote-share based on the minimum cost policy, independent of the other party’s policy.

\(^8\)The substitution is not carried out here, but the optimal vote-buying choices of the challenger are:
they do intend to announce CCTs, they only need to ensure that the local politicians’ incentive compatibility constraint for supporting CCTs just binds. Hence, they can choose $K$ so that:

$$K = \frac{1}{\theta(1 - \phi_P)} + \epsilon$$  \hspace{1cm} (35)

Combining the conditions in (34) and (35), CCTs can be credibly implemented only where:

$$\frac{\lambda_N}{\theta(1 - \phi_P)} < B - \alpha_P \left[ (y_P + b_{PB}^*) \cdot \exp\left( \frac{-(1 - \alpha_P)(1 - \phi_R)\omega_R}{\alpha_P(1 - \phi_P)\omega_P} \cdot \ln\left( \frac{y_R}{y_R + b_{RB}^*} \right) \right) - y_P \right]$$  \hspace{1cm} (36)

This expression reveals that CCTs are optimal and credible only where the cost of the commitment device required to induce local politicians to comply with CCTs is less than the value of spending the same resources on additional vote-buying. As the national politician faces higher (party-specific) costs ($+\lambda_N$) to investing in bureaucratic autonomy, the credibility of CCTs falls. As the translation of bureaucratic investments into barriers to resource diversion falls ($-\theta$), reflecting the overall weakness of accountability and the institutional environment, the credibility of CCTs also falls. Additional comparative statics are largely ambiguous and depend on the individual case.

5 Empirical Tests

The two models outlined above provide a range of hypotheses and implications that can be empirically tested. Arguably the most promising setting for testing these predictions is in countries yet to introduce CCTs so that the prior changes and political process can itself be documented. Since many countries without CCTs also exhibit considerable vote-buying, this would be an appropriate setting to investigate the relative merits of each.

1. Are CCTs more likely to be introduced where voters are not tied to parties? A central prediction of the model is that a large group of poor voters that is tied to a party and cannot be swung by CCTs drastically reduces the chances of CCT implementation. One possible explanation for the introduction of CCTs may therefore be an increase in the proportion of poor voters who are available to be swung by CCTs - a reduction in partisanship among the poor. This prediction is in stark contrast to existing theories which suggest CCTs have the effect of reducing partisanship by reducing household shocks and providing insurance, reducing dependence on political brokers. One approach to testing this hypothesis would be to measure rates of voting stability and partisanship over time, ahead of the
introduction or expansion of CCT programs. A panel series before and after the CCT was introduced would provide a unique insight on these competing hypotheses.

2. **Do more expensive vote-buying networks increase the likelihood of introducing CCTs?**
   A second prediction is that the relative cost of vote-buying $\gamma$ is a vital parameter. While measuring this parameter is extremely hard, particularly as it may co-vary with many other factors such as household income, geographic differences in population density or accessibility that increase the cost of vote-buying networks might be a reasonable proxy.

3. **Are CCTs equally likely to be introduced by left- or right-wing parties?** If core poor voters that cannot be swung are a waste of CCT resources for all parties, regardless of the loyalties of those voters, there is nothing in the model to differentiate between parties in their potential to benefit from the introduction of CCTs. Accordingly, and contrary to common perceptions, right-wing parties may be just as likely to introduce CCTs as left-wing parties, since they are both using CCTs only to contest for the swing voters. There is some indication that this hypothesis has validity, with relatively right-wing governments in Mexico and Brazil first introducing CCTs. More systematic documentation would focus on the discourse and political strategies of parties across many countries to identify the motivations behind parties’ support for CCTs and whether these have any correlation with ideology.

4. **Do public service reforms and improvements precede or follow CCT programs?** The model allows for bureaucratic capability and autonomy to improve through the experience of implementing CCTs. However, it also suggests that, all else equal, bureaucratic autonomy may be likely to fall prior to the introduction of CCTs because politicians must make a prior investment in bureaucratic capacity if CCTs are to be a credible vote-winning strategy. This question could be best answered using country case studies of the process and timing of public service reform, and possibly comparative indices of meritocracy such as that developed by UNECLA.

5. **Does vote-buying incidence fall after CCTs are introduced?** One key prediction is that CCTs and vote-buying do not often occur in tandem, since they are effectively tools to the same end and only the most cost-efficient instrument is used. Thus, we would expect that the introduction of CCTs would be combined with a drop in the incidence of vote-buying as strategies were re-aligned. An event-study analysis, and ideally a difference-in-differences design, would be able to gain leverage on this question by conducting surveys of the amount of vote-buying before and after the introduction of CCTs (in areas with/without CCTs being introduced).
6. **Do parties with lower costs of investing in bureaucratic autonomy introduce CCTs?** In particular, are cadre and programmatic parties that have a smaller vested interest within their vote-buying network more likely to propose CCTs? Parties with links to technocrats would also be expected to introduce CCTs. Detailed profiles of all governing parties would be needed to assess their characteristics. In practice, since only one party is in power at any point in time and many parameters change over time, it may only be possible to obtain qualitative evidence on this issue.

7. **Is there a minimum institutional threshold before CCTs can be effectively implemented?**

   The model suggests that only where \( \theta \) is sufficiently high can bureaucratic investments be translated into constraints on the performance of local politicians. So while incumbents can invest in bureaucratic autonomy, the ability of the bureaucracy to hold local politicians to account may depend on the broader institutional environment such as a transparent media and effective judicial system. Notably, the minimum threshold here is not driven by the technical burden of implementing CCTs, but by the necessity for national politicians of introducing a commitment device. A key challenge here would be distinguishing between effectively implemented CCTs and CCTs in name only that were actually the target of considerable resource diversion to vote-buying.

6 **Conclusions**

The technological resemblance of CCTs to vote-buying masks significant political differences between these instruments. Contrary to much of the literature, which emphasizes the inherent electoral value of CCTs, the distributive model developed here illustrates that CCTs are generally a less efficient political instrument. Their inefficiency is due to the need to transfer CCTs to poor voters even if there is no chance of them switching their vote. The real political attraction of CCTs is not in their efficiency, but in the opportunity they provide to shift the cost of maintaining distributive networks onto the state. Only where vote-buying entails additional costs in the form of maintaining vote-buying networks can CCTs be a politically optimal instrument.

In practice, even this cost advantage might not be enough to sustain the implementation of CCTs. Local politicians often do not face the cost of maintaining distribution networks, and therefore make efforts to divert resources away from CCTs and towards vote-buying. For national politicians who would find it more profitable to implement CCTs, this creates a credibility problem. One solution to this problem is for national politicians to invest in a commitment device - bureaucratic autonomy - which ensures that objective rules
are implemented and local politicians face high costs for diverting resources towards vote-buying. I have shown that the feasibility of using this commitment device depends on the specific conditions at hand. Bureaucratic autonomy - and hence CCTs - are likely to be achievable where national politicians face lower costs to delegating power to the bureaucracy and dismantling their networks (potentially mapping to cadre parties), and where national institutions more effectively support the translation of bureaucratic investments into barriers to resource diversion.

Perhaps the most empirically provocative aspect of these findings is that two trends often hypothesized to be a by-product of CCTs introduction may in fact be a requisite for the introduction of CCTs. First, I have argued that the relative political attractiveness of CCTs increases as poor voters are less attached to specific political parties. A reduction in partisanship may therefore be a trigger for CCTs rather than a result of their insurance properties. Second, to implement CCTs through the state, objective implementation of bureaucratic rules is required. While bureaucracies may well learn and improve from the implementation of CCTs, the analysis here suggests that CCTs will never be implemented unless there is a minimum level of bureaucratic autonomy in the first place that makes the policy announcement credible to voters. Improvements in bureaucratic autonomy may be expected to precede CCT implementation. These hypotheses are ripe for empirical testing.

7 Extensions

Three extensions to this model are feasible and would capture other key aspects of the political role of CCTs.

1. In this model I take $\phi_P$, the proportion of poor voters who are tied to parties, to be exogenous. However, an emerging argument by political scientists focuses on the role of CCTs in ‘de-linking’ voters from politicians and breaking established loyalty chains. The most immediate mechanism that seems to capture this is the reduced need for ‘political’ insurance - through resort to political markets of vote-buying - when CCTs are available. In particular, reduced vulnerability to income shocks and health shocks through conditionalities may provide a reduced demand for political insurance which leads individuals to sell their vote (or other political activities) in times of household distress.

2. The link between CCTs and public good provision (clientelism) also features a credibility relationship which would extend the results. The conditionalities embedded in CCTs mean that the poor only receive transfers where they comply with the conditions. Yet, if there are supply-side constraints that prevent compliance, the poor will not receive transfers and will not be induced to vote for the incumbent.
through the distributive mechanism argued to be paramount in this paper. If the decision of where to locate public/club goods is also subject to a general bias towards swing areas, the introduction of CCTs provides a strong incentive for politicians to provide a distribution of public goods which maximizes opportunities or compliance with CCT conditionalities. Thus, we might expect a more even distribution of public goods where CCTs are in place. Again assuming some divergence in incentives between the national and local parties, CCTs an operate as a commitment device that enable the national party to commit to a broader distribution of public goods.

3. CCTs may radically change the political landscape, loosening core groups and requiring much greater bureaucratic autonomy. Political competition after the introduction of CCTs may therefore be quite different to political competition before CCTs. Strategic interaction may therefore arise between parties in the timing of the introduction of CCTs.

4. Introducing imperfect CCT implementation, by making the costs of resource diversion convex. This would enable a broader range of outcomes to be investigated, and integrated with the framework of De La O (2010).