

# The Core Voter Model: Evidence From Mexico <sup>1</sup>

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## 1. Introduction

This paper provides a theory of clientelism and the logic of vote buying, testing it with empirical evidence from Mexico. We build on existing theories of distributive politics, developed for understanding the determinants of discretionary welfare transfers, and on the growing literature on public good provision in the developing world. We argue that politicians choose clientelism as a form of party building strategy to *lock-in* voters in a long-term political relationship based on material dependence. We seek to answer the fundamental question of when and why do parties deliver discretionary private transfers (clientelism) to their core voters.

There are two basic and opposed models of discretionary transfers. These models focus on what Dixit and Londregan (1996) call “tactical redistribution,” which takes a

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<sup>1</sup> The paper is based on chapters 3 and 4 of the book manuscript “Strategies of Vote Buying: Social Transfers, Democracy and Welfare in Mexico” available at: <http://www.stanford.edu/~albertod/buyingvotes/buyingvotes.html>

variety of forms, including transfers, subsidies, tariff protection, and pork barrel projects. The first of these is the core voter model, developed by Cox and McCubbins (1986), herein CM. The theory begins by asking the conditions under which distributive politics will generate stable electoral coalitions. CM divide the electorate into three groups -- core supporters, swing voters and opposition backers-- and ask which of these groups reelection-minded politicians would choose as the main beneficiaries of targeted transfers. These groups differ in what the authors call an “adherence dimension” that makes voters more or less responsive to a transfer. In their model, core voters are most responsive because parties know their preferences and desires quite well. Swing and opposition backers are riskier bets. CM predict that risk-averse candidates trying to maximize electoral support will deliver redistributions first and foremost to their core voters.

The result of the CM model hinges on the assumption of risk-aversion on the part of politicians, on the one hand, and on the notion that core voters are less risky than swing voters because politicians are in “frequent and intensive contact with them and have relatively precise and accurate ideas about how they will react” (p. 379). It has become standard in the literature to critique the core voter model for depicting politicians as wasting their efforts in voters that are likely to vote for them no matter what. We will return to address this critique and its premises below.

A second set of models predict that politicians should avoid loyal supporters and target instead “swing voters,” those for whom the reward can make the difference between supporting and opposing them (Lindbeck and Weibull, 1987; Dixit and Londregan, 1996; Stokes, 2005 and 2006). The Dixit and Londregan (1996) model,

herein DL, begins by asking whom politicians running for office would target with discretionary transfers. Voters' utility is a function of issue positions and private consumption. The parties' issue positions are assumed to be fixed, while tactical reallocations of the budget are relatively flexible. Under the assumption that politicians' transfers can be equally targeted to all voters (the "leaky bucket" is the same for each voter group), the model predicts using the probabilistic voting framework of Lindbeck and Weibull (1987), that politicians should favor swing voters, defined as those close to the cutpoint where voters are ideologically indifferent between the alternatives.<sup>2</sup>

There are various ways to determine the identity of swing groups. One is to employ surveys, as in Stokes (2005) and Dahlberg and Johanson (2002). The other is to use aggregate vote returns.<sup>3</sup> "Under some assumptions about the distribution functions (i.e., symmetry and single peakedness) and parties' objective functions, there will be a one-to-one correspondence between the density at the cutpoint and the closeness of the last election (Dahlberg and Johanson, 2002: 30). Hence, swing voters are often equated with the closeness or margin of the victory.

Stokes (2005) critiques the standard models for not taking commitment problems into account. "Both assume by caveat that the party will not renege on its offer of particularistic rewards once it has won the election. And they don't deal adequately with the fact that a voter once in the voting booth can also renege by voting his or her conscience or preference ignoring the reward he or she received" (p. 316). To deal with commitment problems, she proposes a repeated interaction game where parties can

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<sup>2</sup> The DL model allows for a core voter result depending on the taxing technology. See also Londregan (2006).

<sup>3</sup> Some studies that use aggregate vote returns include Schady (2002), Dahlberg and Johanson (2002), Hiskey (2003) Calvo and Murillo (2004), Magaloni (2006), Magaloni, Diaz-Cayeros and Estévez (2006).

monitor voters' actions and both sides foresee their interaction extending into the future. Her model builds on DL in that voters are presumed to be swayed both by the issue positions of the parties and the consumption transfers they receive. Stokes' model generates predictions akin to the swing voter model. Loyal voters do not extract private rewards because they can't threaten to vote against the party. "Such a threat would lack credibility: the party knows that the loyal voter, even without rewards, is better off cooperating forever than defecting forever" (p. 320). Weakly opposed voters and indifferent ones are the target of vote buying because in her approach only they can credibly threaten to vote their conscience if they do not receive the transfer.

The literature portrays the investment decision between core and swing as an either or strategy. The empirical record is mixed, at best (Londregan, 2007). There are empirical studies that support the swing voter logic (Schady, 2000; Dahlberg and Johanson 2002; Stokes, 2005) and others that are consistent with the core voter logic (Calvo and Murillo, 2004; Hiskey, 2003, Levitt and Snyder, 1995). Our theory and empirical evidence support the notion that parties need to take care of their core constituencies by targeting the bulk of discretionary benefits to them. At the margin, however, these same parties, in election years or when their electoral fortunes are more insecure, can also go for the swing voter (see also Magaloni, 2006). Our approach is thus consistent with analyses of Argentina, where the Peronist party disproportionately distributes patronage to its core voters (Calvo and Murillo, 2004), and simultaneously distributes campaign handouts during elections to marginal or swing voters (Stokes, 2006).

We attempt to reconcile these models by underscoring that parties are motivated both by long-term considerations –maintaining their electoral coalitions over time – and short-term concerns –expanding their electoral base at election time. A party that exclusively targets swing voters will not be viable in the long run. In their classic study on social democracy, Przeworski and Sprague (1986) emphasized this strategic dilemma. They argue that socialist parties that mobilized the support of “allies” among the middle class to win elections alienated workers, who became available for political mobilization by other political parties that mobilized them on the basis of different political identities (e.g, religious or ethnic) or by communist parties. The problem we consider here is analogous to this dilemma –parties risk losing the loyalty of their core supporters when they attempt to build broader coalitions by delivering transfers to groups outside the core.

Following Stokes’ (2005) lead, we conceive parties and voters engaged in a strategic interaction situation that extends indefinitely into the future. We depart from Stokes, however, in that in our approach *partisan loyalties are conditional*, a function of past political experiences and the history of previous moves in tactical redistribution. Her model rests on the assumption that a loyal voter’s ideological proximity to a party remains unaffected by the retrospective tally of the party’s past political behavior. Issue positions, that is, are assumed to be fixed, as in DL. Given this assumption, the loyal voter is captive. Despite being cut off from the stream of patronage benefits, he votes for his party because he continues to be ideologically more proximate to it. This assumption is problematic. If the loyal voter is routinely ignored and mistreated by his party, while other voter groups receive the party’s inducements and handouts, he will begin to distrust

the party, including his programmatic appeals, and become open to switching his support to a different alternative.

The core-swing literature ignores this strategic dilemma because it takes partisan loyalties as exogenous. However, we contend that partisan loyalties can't be modeled independently from welfare transfers because core voters end up being portrayed as irrational. CM put this idea succinctly: if “a politicians’ core supporters are those who will stick with him through thick and thin (referring to promised benefits) ... then core support groups will be totally unresponsive and will be given nothing (in pure redistributive terms)” (Cox and McCubbins, 1986: 380) However, as the authors note, “it seems irrational in the long-run for any group to be totally unresponsive to redistributions of welfare” (p.382). The swing voter models generate the paradoxical result that only weakly opposed and marginal voters are responsive to benefits –i.e., willing sellers of their votes.

The strategic interaction between a core voter and his party should thus be modeled as a dynamic game where a voter's ideological proximity to his party is a function of the history of political moves such that partisan loyalties are anchored in that history. We call this *conditional party loyalty*. A corollary is that partisan loyalty is not left intact if a party neglects its core by delivering benefits to outsiders. This form of conditional party loyalty is akin to Fiorina's (1981) rational party identification –“a running tally” of accumulated retrospective evaluations.

Furthermore, if we are interested in understanding poor people's votes and the behavior of electoral machines, the assumption that core voters will support a party no matter what is difficult to sustain. Poor voters are typically more responsive to promises

of economic benefit, that is, less issue oriented. DL consider this possibility by positing a parameter which measures the relative importance of consumption benefits to the voter – the higher the parameter, the more voters focus on transfers over ideology or the more “apolitical” they are (Stokes, 2005, and Magaloni, 2006, follow the same approach). The implicit idea in this modeling strategy is that poor voters may care little whether a party promises to legalize same-sex marriage or abortion, and they will instead base their decision on transfers. Here we go one step further. We contend that poor voters in vast areas of the developing world not only respond more to transfers than to ideology, but their partisan loyalties are significantly more responsive to these transfers than to symbolic appeals.

The chapter unfolds as follows. The next section discusses the differences between clientelism and “pork-barrel” politics. The third section develops our theory answering the core voter puzzle: why do parties insist in investing in voters that are likely to support them? We argue that parties invest in core supporters because they need to sustain their electoral coalitions over time, recreating partisan loyalties that are shaped in large part by the history of previous tactical redistributions. The section after that moves into an empirical test of the model based on data from Mexico. That section proposes a new approach to the measurement of core voters. In the empirical findings of the following section we find support for our claims about core municipalities receiving disproportionately larger transfers and about long-term partisan decline as a spur to intensified clientelism. That section also discusses the relationship between development levels and the distribution of clientelism and pork within Pronasol, questioning the

conventional wisdom that clientelism is pervasive to situations of poverty and political monopoly but largely absent from pluralistic and developed places.

## 2. Clientelism and Pork-Barreling

We equate the exchange of discretionary private transfers with clientelism, while the supply of public goods to districts is commonly called pork-barreling. There are fundamental differences between discretionary public and private goods. With regard to their vote-buying potential, one take on this distinction is that it does not matter – both are goodies in the end. We depart from this view. Private goods are excludable and reversible, while public goods are not. *Excludability* means that parties can effectively screen voters to distinguish supporters from opponents. Some public goods may exhibit some excludability – e.g., geographically targeted public goods exclude those living outside the district. The second fundamental difference is their *reversibility*. Private goods are more easily reversible. Discretionary private transfers can be made for any length of time, and can be withdrawn when the politician so desires. Public goods cannot be withdrawn. Infrastructure projects such as roads and highways, bridges, sewerages, and power plants are fixed investments.<sup>4</sup>

Discretionary private goods are thus ideal to lock-in a party's political clientele because the party can target them to its core supporters, and because it can *threaten to withhold them from those who defect*. We define this as clientelism -- the exchange of private, discretionary transfers for votes, where the party makes the continuation of these

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<sup>4</sup> It is of course possible that politicians intentionally choose not to upkeep these investments. In their study of Peru, Paxton and Schady (2002) find that politicians sometimes purposefully neglect the maintenance of public infrastructure.



transfers contingent on electoral support. Key to our definition is that transfers are 1) *discretionary*, making the allocation criteria political; 2) *private*, allowing parties to target individual supporters; and 3) *reversible*, allowing politicians to withhold the transfer if voters do not comply with their votes. Thus, formula-based private good allocations such as Conditional Cash Transfers (CCTs) do not qualify as clientelism because they are not discretionary (the allocation is based on formulas) and because they can't be reversed for reasons other than failing to meet the conditionality. Instead, CCTs fall in the realm of programmatic entitlements that are not allocated on the basis of the individual's political behavior, but on the basis of her membership in some group or category of potential beneficiaries<sup>5</sup>

Clientelism as a method of electoral mobilization is ideal for tying voters to a long-term relationship of material dependence. Voters remain loyal to the patron both because of the offered material inducements, as well as the implicit threat of punishment. Classic studies of clientelism emphasized that this form of political exchange thrives when voters are poor. For example, James Scott (1972a) argued that patron-client links are based on poverty and inequality and arise from the fact that the "patron is in a position to supply unilaterally goods and services which the potential client and his family need for their survival and well-being" (p. 125). As a monopolist with control over critical resources, the patron is in a position to exploit his market power and demand compliance from those who wish a share of those goods. If the client did not need these goods, if she had savings and alternative sources of income, or if she could incur the costs

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<sup>5</sup> Our definition of clientelism is akin to Stokes (2007), who defines it as "*the proffering of material goods in return for electoral support, where the criterion of distribution that the patron uses is simply: did you (will you) support me?*" (emphasis in the original, p. x) and with Kitschelt and Wilkinson (2007), who argue that "*clientelistic accountability represents a transaction, the direct exchange of a citizen's vote in return for direct payments or continuing access to goods and services*" (emphasis in the original, p. x).

of exit and move to another jurisdiction in order to secure needed services, she might not succumb to the patron's domination. Thus, patron-client links are based on a perverse set of incentives where the patron has an interest in maintaining his clients poor and dependent on his largesse for survival.

Inequality notwithstanding, clientelism is a form of reciprocal exchange. As we will demonstrate in this chapter, politicians must deliver the goods to sustain their client's political loyalty, which is conditional. Potential shirking from either side to the contract creates an inevitable problem of commitment, however. Robinson and Verdier (2003) argue that this commitment problem is solved by delivering jobs which will tie the party machine and the voter in a long-term relationship of mutual convenience –the voters will support the machine to protect their jobs and the machine will create jobs to keep its power over its clients. But clientelism as a form of vote mobilization encompasses much more than jobs. Politicians in the developing world often resort to the distribution of credit and cash handouts, food baskets, grain and livestock, construction materials, housing appliances, and so on. These are also clientelistic strategies of vote mobilization.

It is harder to solve commitment problems when these material benefits are exchanged. Stokes' (2005) solution to the commitment problem, as we will discuss below, is to model the strategic interaction between party and voter as a repeated game. A limitation of her results is that the machine never delivers benefits to its core clients but only to swing and weakly opposed voters. This leaves the machine in a perpetual prisoner's dilemma with its voters.

Our solution to the commitment problem is different. The party solves commitment problems *by targeting benefits to its loyal voters*, who possess no incentive to defect once

the transfers are received. As our theory below makes explicit, one key reason why parties possess incentives to invest in sustaining their voters' partisan loyalties, as it will become apparent below, is that if they renege on their promises to deliver transfers to their core, parties will be condemned to unstable electoral coalitions that need to be constructed every time elections are held, confronting high risks of voter opportunism.

These approaches share in common the vision that clientelism requires dense organizational networks to work. In Robinson and Verdier (2003), clientelism is embedded in a contractual employment relationship. In Stokes' (2005) approach, clientelism requires that the machine be able to somehow circumvent the secrecy of the ballot to observe peoples' votes. In our approach a political party requires dense organizational networks to be able to identify who the loyal voters are and who belongs to the opposition. Parties can employ local patrons, *caciques*, union members, and party bosses to acquire local knowledge about voters –their political predispositions, with whom they hang out, and whether they show up to the party's rallies and the polls. They can also infer partisan loyalties from past electoral behavior –either by violating the secrecy of the ballot when they can, or looking at vote returns in the smallest possible unit, such as the polling station.

Public goods are also employed to buy votes. Pork-barreling or the allocation of infrastructure projects in a politician's district is also driven by reelection motives (Ferejohn, 1974). However, pork-barrel politics differs from clientelism *in that benefits can't be targeted all the way down to the individual level*. This means that public goods are subject to a stronger commitment problem because they can be enjoyed by everyone in the district, including opposition backers who are likely to receive the transfer and vote

for someone else. Public goods, however, are more effective at reaching a larger share of the population and as a consequence useful for building all-encompassing electoral coalitions.

### **3. Conditional party loyalty and vote-buying**

To model the logic of vote buying under the constraint of voters' conditional partisan loyalties, consider a voter who must decide between supporting the Incumbent or the opposition, and the Incumbent must in turn decide to reward the voter with a transfer,  $t > 0$ , or to punish her ( $t = 0$ ).

Stokes' (2005) highlights the commitment problem in this interaction. If the game is played only once, the result is that vote buying does not take place. Loyal voters support the incumbent and this party withholds the transfer and swing and opposition voters possess incentives to vote their conscience regardless of the transfer so the party does not give transfers to them either. Stokes (2005) underscores that the incumbent and the swing voter are in a prisoner's dilemma: swing voters prefer to receive the transfer and vote their conscience, and the incumbent prefers to get their vote and withhold the transfer. They could both be made better off by cooperating with each other, but they have incentives to renege. If the game is played once, vote buying does not take place. Stokes solves the dilemma by repeating the game infinitely and positing that the players follow a grim-trigger strategy: cooperate once, and defect forever if the other player defects.

However, regardless of the number of times the game is repeated, in Stokes model loyal voters do not get transfers at all because their ideological proximity remains unaffected by whether the incumbent reneged or not on its promises in the previous move. We question this assumption, which is equivalent to saying that core supporters do not respond to transfers --they continue to support their party *even though it routinely delivers benefits to outsiders and not to them*. This result derives from the fact that in this model partisan loyalties remain unaffected by the history of interactions.

We propose a different formulation of the problem. In our view, partisan loyalties and the relative weight a voter gives to the party's programmatic appeals should be defined as a function of the history of moves. Suppose that a loyal voter, L, standing to the left in the ideological spectrum supports her party and this party betrays her by delivering benefits to other voter groups. In the next move, this voter will distrust her party and discount its programmatic promises, becoming available for political mobilization by an opponent.

To model the way in which partisan loyalties are shaped by previous moves, we assume that if the incumbent party does not reward its loyal voters today, they will become swing voters who will need to be bought off tomorrow. Imagine that the incumbent party has to decide whether to buy one voter through a monetary transfer of value  $t$ . This voter can be characterized either as a core or a swing voter. The core voter will vote for the incumbent party today for sure, even if she does not get a transfer. But if the core voter does not get a transfer today, she will become detached from her party and begin to act like a swing voter tomorrow. Hence, core vote support is unconditional today

but conditional on the history of tactical redistribution tomorrow. This is what we call conditional partisan loyalty.

Swing voters are ideologically less proximate to the incumbent or might not fully trust the party's program. However, a transfer to the swing voter can convince her to support the incumbent according to a random variable  $s \sim [0,1]$ . The expected value of swing voter support ( $E[s]$ ) is less than the certain value of the core voter (standardized at 1) because swing voters can behave opportunistically, receiving the handout and voting their conscience..

Following CM it is less costly to buy-off core voters because they are more responsive to transfers given that the party knows their needs and desires better. Another way of putting this is that it is easier and less expensive to buy off the support of those whom your party brokers know best than to buy the support of more distant voters who are not tied to the party's organization. Let the transfer for the core voter be denoted by  $\underline{t}$ . The transfer used in the effort to buy-off the swing voter is set at  $\bar{t} > \underline{t}$ . This means that when buying-off a core supporter the party can "save" money, or more concretely, it can capture some rents:  $r = \bar{t} - \underline{t}$ .

The choice for the party then involves the allocation of funds to either the core or the swing voter. The party has the temptation to seek out the swing voter and exploit its core voter, who is going to support it in the current election regardless. However, the swing voter strategy entails costs because it erodes the core voters' loyalty.<sup>6</sup> Suppose the party's utility function is simply the difference between a benefit measured in votes,

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<sup>6</sup> In a later section we discuss what happens when the party can diversify its electoral investment in both core and swing voters, but for the time being the choice is binary in the sense that the money should be spent on either type of voter.

minus the cost of the transfer used to induce the vote. And the party cares about future elections, but discounted by the rate  $0 < \delta < 1$ :

$$U = (v_t - t_t) + \delta(v_{t+1} - t_{t+1}) + \delta^2(v_{t+2} - t_{t+2}) + \dots \quad (1)$$

We can describe the value of catering towards swing or core voters assuming that the decision in this election defines the stream of utility through time. To simplify, the party sticks to the same strategy –core or swing –in all subsequent rounds, and voters respond accordingly. This means that if the party chooses the swing voter strategy, the core voter supports it in this election but becomes a swing voter in all subsequent elections. If the party chooses the core voter strategy, the party continues to deliver transfers to this voter and this voter remains loyal forever. The party's utility function of following a swing strategy,  $U_s$ , and of following a core strategy,  $U_c$ , are given by:

$$U_s = 1 + E[s] - \bar{t} + \delta(E[s] - \bar{t}) + \delta^2(E[s] - \bar{t}) + \dots \quad (2)$$

and

$$U_c = 1 - \underline{t} + \delta(1 - \underline{t}) + \delta^2(1 - \underline{t}) + \dots \quad (3)$$

The first utility function defines the temptation of betraying the core voter's loyalty in this election by giving the transfer to the swing voter. The second one shows the steady support of the core voter that is obtained by delivering transfers to her. The party will follow the swing voter strategy if the utility is higher than what it obtains from giving the

transfer to the core. Solving the infinite temporal horizon and substituting the transfers expressed as rents to the incumbent yields the following condition:

$$E[s] \geq \frac{\delta}{1-\delta}(1-E[s]) + \frac{1}{1-\delta}r$$

This basically states that the party will fall in the temptation of betraying its core voter when the expected value of the swing voter today (the left-hand side of the expression) is larger than the present value of two different types of opportunity costs accruing through time. The first one is the gap between the sure support of the core voter and the uncertain support of the swing voter, who can always behave opportunistically by taking the transfer and voting her conscience. The larger this gap (i.e. the higher the chance that the swing voter will behave opportunistically), the more likely the party will pursue the core voter. This gap is discounted from the second move onward. The other opportunity cost is the discounted value of the stream of rents that would be obtained from investing in buying the vote of the less expensive core voter. The larger the stream of rents, the more the party will choose the core voter strategy over the swing voter strategy. The discounting terms imply that the relative benefits of catering to the core decrease the more the party discounts the future.

Our formulation of the problem reveals various reasons why parties continue to invest in core voters who are anyway likely to support them. Parties have an interest in investing in core supporters because they are long-lived organizations that expect to last into the future. Parties need to take care of their core supporters to ensure the survival of their electoral coalitions over time. Loyal voters may not be able to credibly threaten to



vote against their conscience today if their party betrays them, but they retain the power to become detached and disillusioned afterwards. The swing voter strategy is driven by the desire to maximize the number of votes in the current election. If politicians succumb in this temptation, reneging on their promises to deliver benefits to their core, they erode trust in the party's programmatic appeals and voters' partisan loyalties.

Thus, the swing voter strategy might make sense in the short-run but it is destabilizing over time because it generates the wrong type of signal -- that political parties punish loyalty. The value of investing in voter loyalty is patent when considering the alternative --building more expensive, changing and uncertain electoral coalitions every time elections take place that are subject to high voter opportunism.

A final reason to invest in core voters is that parties can appropriate rents. In our model parties can literally profit from strong partisan allegiances which give them cheap electoral support from core groups. However, parties can't count on these allegiances regardless. Our approach presupposes, as in CM, that voters need to be bought off, but that core voters are less expensive. Here in lies a critical benefit of loyalty. But in our model core voters can only remain cheap when a party gives them reason to trust them or, put in other words, when it routinely honors its part of the deal and refrains from abusing the voters' loyalty.

To summarize, a party is more likely to follow a core voter strategy the more it cares about the future, the higher its risk aversion to voter opportunism, and the more it cares about appropriating rents. The temptation to go for the swing voter will necessarily increase in highly competitive elections when this voter can make a difference between winning and losing.

#### 4. An Empirical Test of Conditional Party Loyalty in Mexico

In this section we put to test our predictions about the political factors shaping politicians' decisions to invest in private and public good provision to buy votes. Will the party distribute particularistic benefits to the individuals who support it (its core voters) or to other voter groups? Our theory about the strategies of vote buying developed in the previous section provides an answer to this question.

Our evidence focuses on data from the National Solidarity Program (Pronasol) in Mexico. The program was implemented from 1989 to 1994 as an effort to redress the impact of economic crisis on the poor through the provision of local public goods and private transfers. There are three main reasons to concentrate in this program for our analysis. First of all, our theory is about *discretionary transfers*. Political and bureaucratic discretion was the touchstone of Pronasol. The program was characterized by the discretionary selection of projects and beneficiaries, with input from voluntary "Solidarity committees" at the community level (Kaufman and Trejo, 1997). However, in virtually all cases, it was organized at the top and run initially from the Office of the President and later on from the Ministry of Social Development (*Sedesol*) (Bailey, 1994). Equally centralized was its system of financial control and coordination, with the Finance Ministry directly routing federal transfers to localities as well as earmarking revenue-sharing grants for state governments.<sup>7</sup>

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<sup>7</sup> The only exception to this pattern of centralized coordination was that presented by the state of Baja California. Governor Ernesto Ruffo, the first opposition member to win gubernatorial office, in 1989, refused to kowtow to the Salinas government on project selection and to sign the *Convenios Únicos de Desarrollo* through which the Ministry of Finance tied state funds to Pronasol projects (Flamand, 2004). Baja California's resistance, however, was mostly symbolic, affecting the fortunes of only its five municipalities, out of a national total nearing 2400 at that time.

Second, we are interested in understanding the conditions making poverty alleviation programs effective or ineffective. Pronasol was explicitly designed to alleviate poverty. The program became the cornerstone of the government social policy. Its resources represented, on average, 1.18 percent of GDP each year. Results in this paper suggest that Pronasol failed to help the poor because the program was administered with the overarching goal to sustain the PRI's electoral hegemony by locking in voters through clientelism rather than to alleviate poverty.

In order to discern the motives beneath Pronasol's vast operations, we model the per capita allocations per municipality over six years – total, private and public goods – as well as the share of particularistic transfers in the total sum of allocations to every municipality during the Salinas administration. We model total municipal-level allocations from 1989 until 1994 without taking into account how municipal elections celebrated between those dates might have changed yearly allocations. We call this the *centralist logic* of the program, designed with the long-term goal of sustaining the PRI's electoral dominance at the national level.<sup>8</sup>

Our overriding hypothesis is that the bulk of Pronasol's allocations, for both private and public goods, should favor the PRI's core constituencies. However, we expect to find clear strategic differences in the distribution of particularistic and collective benefits. Private goods should be employed to *lock-in* PRI supporters and hence be disproportionately assigned to places where the party's vote shares have been declining

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<sup>8</sup> Elsewhere we model the extent to which Pronasol's allocations also responded to the short-term dynamics of local elections, including the timing of municipal elections, their level of competitiveness, partisan divisions in the local electorate, and the partisan identity of municipal government. We call this the *peripheral logic* of the program.

rapidly. Public goods, in contrast, should be assigned to municipalities with more heterogeneous electorates.

A substantial literature has already accumulated on Pronasol, but we depart from this body of work in several respects. Many studies employ state-level data for some years (Molinar and Weldon, 1994, and Bruhn, 1996) or, when looking at municipalities, focus on limited samples (Hiskey, 2002).<sup>9</sup> Our work studies all of Pronasol's programs, while many previous studies have focused on only one or two programs (see articles in Cornelius, Fox and Craig, 1994). In order to assess the political logic of Pronasol we have classified the programs into two general categories, private and public goods provision. This classification follows a simple criterion that was made explicit in chapter 1. One of the major goals of our research is to account in a systematic, quantitative way for the factors that make clientelism more or less prevalent and what shapes a politician's decision to invest in public goods. The extant literature does not address these questions. Before we proceed to our analysis, we turn to the issue of how to measure a party's core support.

## **5. How to measure core support**

When focusing on aggregate electoral data, the conventional measure for core support of a party in electoral studies (and in Mexican electoral studies) is the most recent vote share of the party. However, we hold that core support cannot be accurately measured using short-term indicators for two reasons. The first reason relates to problems

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<sup>9</sup> Magaloni (2006) analyzes the allocation of Pronasol for the full set of municipalities; while Cleary (2004) and Kurz (2004) do not study the determinants of the allocation of Pronasol but use it as an independent variable.

of endogeneity that stem from the fact that vote shares at time t-1 are likely to be shaped by allocation decisions at time t-1. “Since there may well be serial correlation and an effect of expenditures on elections, studies that disregard the possibility of simultaneity must be treated with caution” (p. Schady, 2000: 298).<sup>10</sup> The problems of endogeneity and our strategies to deal with it were discussed at length in chapter 2.

But there is a second theoretical reason why a party’s core base should not be inferred from vote returns of a single election. A party’s core backers are those voter groups which *honor partisan loyalties over long stretches of time*, but this stability is not readily captured by myopic measures for election data. Indicators like vote shares or victory margins in the preceding electoral cycle might be the reflection of factors idiosyncratic to that election and are generally agnostic about underlying trends in the electoral history of local jurisdictions as well as the dynamics of partisan loyalties.<sup>11</sup>

Students of Mexican electoral politics established since the 1960s a clear “modernization” trend, in which the PRI gradually lost support across the country, more rapidly in places exhibiting higher levels of development. The PRI kept on having secure electorates in vast regions, however, often running uncontested for decades. After the 1980s the process of dealignment from the hegemonic party was more complex, progressing at various paces throughout the country, with some hegemonic bastions holding sway while others rapidly eroding. In this time of challenged hegemony, short-term electoral patterns fail to give an accurate picture of the risks and expected electoral

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<sup>10</sup> Hiskey’s (1999 and 2002) analysis of Pronasol suffers from this problem –he infers Pronasol’s expenditures in the period 1988-1994 from vote shares in that same period.

<sup>11</sup> Molinar and Weldon (1994) and Bruhn (1996), for example, focus exclusively on the PRI’s vote share in 1988 presidential elections to study state-level allocations within the Solidarity program. Although Pronasol came in part as a response to the party’s deep split in 1987 and the consequent electoral debacle, the erosion of PRI support can also be traced to processes occurring over a longer period of time.

returns of the party. In particular, conventional measures of hegemonic party support, such as PRI vote shares, the closeness of electoral races as measured by the margin of victory, electoral competitiveness reflected in the effective number of parties or electoral volatility, as measured through vote swings from one election to the next, fail to capture the deeply rooted partisan attachments which had been so critical for sustaining hegemony over decades.

For these reasons, it is preferable to infer PRI core support and trends in partisan attachments from the long-term evolution in its vote shares in local elections, 1970-1988.<sup>12</sup> These longer-term vote patterns, we claim, are highly informative to politicians on the ground and are employed by parties to identify their core base of support as well as varying voter dispositions to defect to opponents. In order to focus on long-term measures of partisan affiliation we calculate two variables that are distinct from vote shares, closeness, competitiveness and volatility. The first one measures the *size of the PRI's core* support in each municipality. The second one captures the *erosion of partisan attachments through time*. Both measures reflect calculations that PRI operatives could make in each municipality as expected values of: 1) loyal voters the party could rely on for sure in each locality, even in the face of a national disaster; and 2) the degree to which loyalties are expected to erode extrapolating the trends observed over the previous decades.

The size of the core supporters in each municipality is calculated, borrowing from asset pricing analysis in the finance literature, by regressing PRI average vote shares in

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<sup>12</sup> The data is truncated on both ends because there is no compilation of municipal-level electoral data prior to 1970 and after 1988 electoral data suffers from the endogeneity problem discussed above.

the country as a whole ( $V_{Ni}$ ) on the vote share of each individual municipality ( $V_{mi}$ ). Hence for every individual municipality we estimate, across time  $i$ , the regression:

$$V_{mi} = \alpha + \beta V_{Ni} + \varepsilon_i$$

The specific measure of core support, alpha, is the predicted value of municipal PRI vote in the hypothetical scenario that the party receives no votes at the national level. It hence represents the way in which local electorates behave distinctly from national electoral patterns. In order to ensure that vote shares are bound between 0 and 1 we estimate the regressions in log-odds ratios. To understand better why alpha reflects the distinct safety of each municipality, one can express it in terms of the ordinary least squares framework:

$$\alpha = \bar{V}_m - \left( \frac{\text{Cov}[V_m, V_N]}{\text{Var}[V_m]} \right) \bar{V}_N$$

Notice that that alpha represents how much the average municipal vote share is higher than the national one, but corrected by risk (the term in brackets). The PRI's national vote share ( $V_N$ ) is not its support in federal elections, but rather its average electoral support in municipal elections held in different states each year between 1970 and 1988. *Alpha* is thus the predicted value of every municipality's PRI vote, *controlling for its national vote shares*. The expected value of national electoral results is adjusted

with the covariance between the national and the municipal electoral patterns divided by the variability of municipal elections.

By analogy with asset-pricing, *alpha* measures the degree to which a municipality outperforms or underperforms the national market in municipal votes. “Excess returns” in elections, then, signal the skill or capacity of a municipality party, its office-holders, brokers and candidates, organizational linkages and campaign strategies, in assuring relative support levels above the national trend or, at the very least, assuring them in bear markets. Chronic underperformance, in contrast, implies municipality parties unable to beat the market in any given election and headed for takeover or bankruptcy. The *alpha* parameter, in short, tells us how many more votes, or fewer, the PRI receives in each municipality, according to its known behavior in the past.

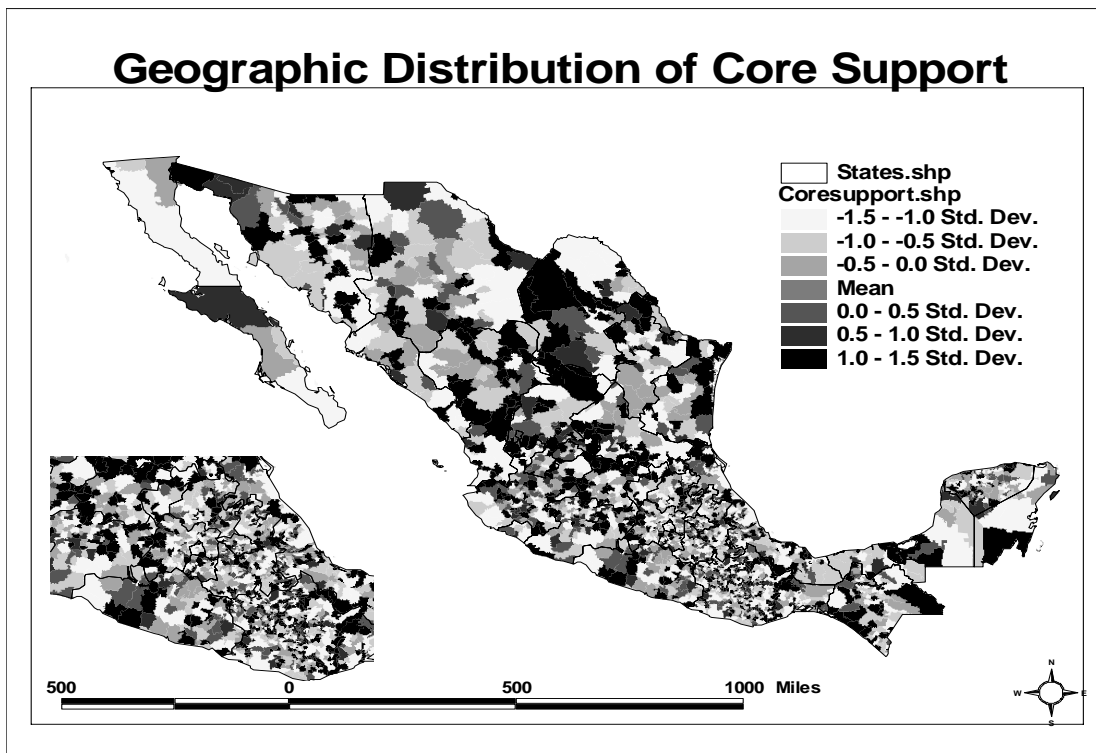
This means that alpha is similar in spirit to the calculation of electoral risk proposed by Wright (1975) in his seminal piece on the politics of social transfers during the New Deal in the United States, where he uses the de-trended standard deviation of electoral support for the Democratic Party in each state. But alpha incorporates more information, because it is related to both average levels of electoral support and what is known in the capital asset pricing model in the finance literature as beta risk, the sensitivity of a portfolio returns to market returns. In the diversification logic of financial investments, fund managers seek to include assets in their portfolios that give high rates of return, while keeping low risk exposures.

A useful illustration of the geography of *alpha* is provided in the municipal map below (figure 1). The darker zones have the highest *alpha* scores and include all municipal monopolies in which the PRI held sway in uncontested elections or sustained



its hegemony with at least 65% of the municipal vote since the onset of the series. The white zones are those with significant opposition presence, including several scores of municipalities won by opposition parties at least once between 1970 and 1988. The advantage of using log-odds ratios here is patent, as they magnify opposition strength in a pattern spread throughout the country.

Figure 1



To capture the *evolution of partisan attachments* over time, we propose the use of the linear trend in PRI municipal vote shares between 1970 and 1988. The trend is given by the slope of a time series regression for each municipality on a time trend of the form:

$$V_{it} = a + slopeT_t, \text{ where } T=1,2, \dots t$$

Note that this is not a pooled time series estimation, but rather the calculation of separate regressions, one for each municipality. In federal elections, on average, the PRI suffered a yearly decline of 1.25 percent of its national vote from the peak year of hegemony in 1961, when it garnered 91 percent of the total, through 1994. In municipal elections, the decline registered since 1970 averaged 1.5 percent per year over aggregated three-year cycles. In the case of municipal trends, the variation across units is quite large, given that the accumulated impact of demographic change, modernization, political and economic events and other election-relevant factors on that party's electoral fortunes was highly differentiated among the country's states and municipalities.

The slope of each of the regressions captures the rate at which municipal-specific voting support for the PRI expanded or eroded with the passing of time. Given the overall trend of secular decline for the PRI, this is equivalent to the rate of dealignment from this party in every locality. An analogous way to put it is that the slope is the municipal trend in volatility specific to one party.<sup>13</sup> We term this variable *decline* and expect it to be negatively associated with private good provision, meaning that the faster the erosion of partisan attachments over the long term, the more the PRI should resort to clientelism in an attempt to lock-in what remains of its core support base.<sup>14</sup> Stable or increasing levels of support do not receive this investment premium.

There is some overlap between this slope and the commonly used concept of volatility – more volatile municipalities do show more negative slopes for the PRI – but

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<sup>13</sup> On the decomposition of electoral risk see Morgenstern and Potthoff (2003), who draw on Stokes (1965).

<sup>14</sup> Given the secular decline of the PRI's vote, most slopes are negative. This means that for our variable a negative coefficient should be multiplied by a negative number, generating a positive impact on the dependent variable.

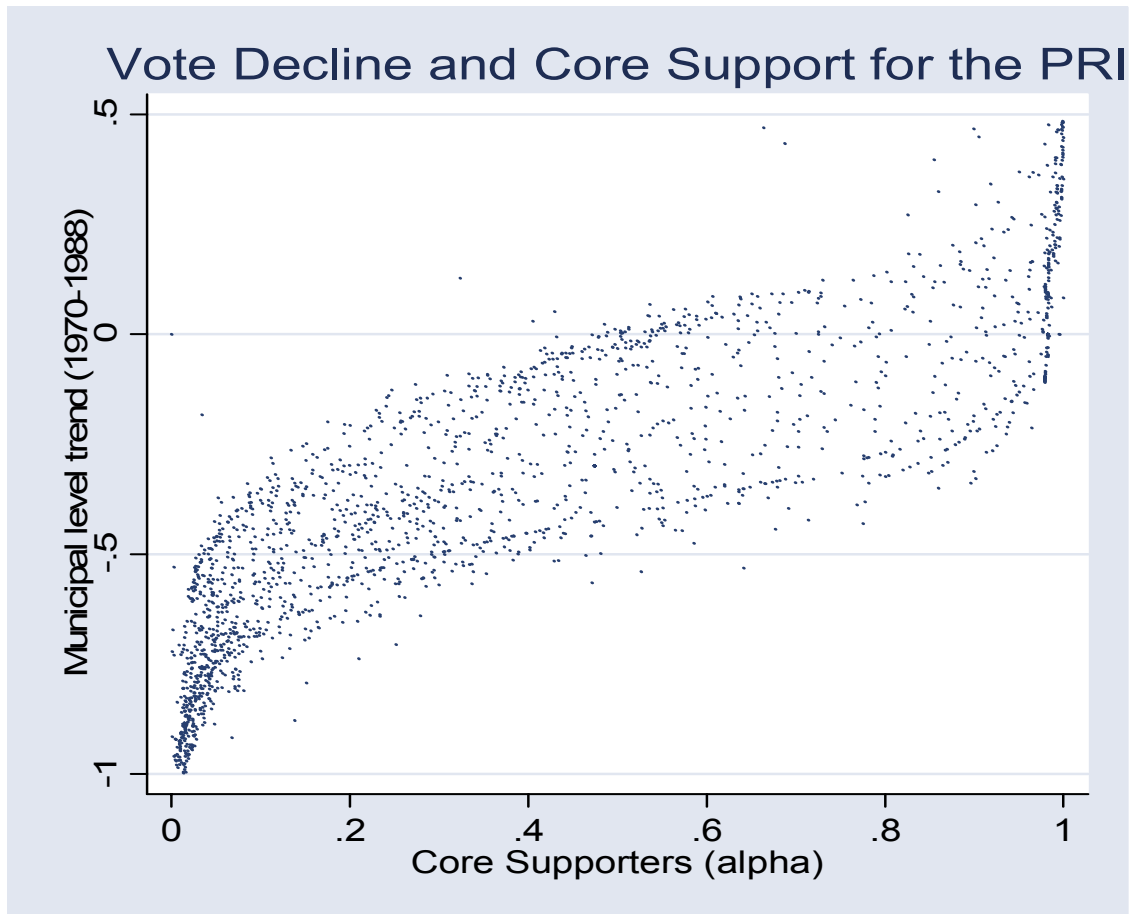
they are really very different indicators. The conventional standard for measuring volatility *in a party system* is the Pederson index. However, this suffers the same deficiency as vote share in *t-1* or first differences in consecutive election returns. Short-term volatility may simply not reveal sufficient or sufficiently accurate information about the electoral dynamics of a jurisdiction. Instead, a longer-term measure better reflects the cumulative effects of demographic change, geographical mobility, economic shocks and political events in the historical dealignment from the PRI, as well as the slow but steady growth of opposition support in that period.

Figure 2 provides a scattergram of *decline* and *alpha* for each municipality. In order to make the figures more intuitive, the graph shows *alpha* not as an odds-ratio coefficient, but recovered back to a percentage.<sup>15</sup> Naturally, there is a positive association between both variables, whereby higher levels of PRI core support are associated with lower levels of erosion over the years. However, the figure clearly reveals that for any given level of core support, on the horizontal axis, there are widely varying trends in electoral decline, on the vertical one. The average core value through 1988 was 0.47, while the average trend in dealignment was -0.29. Our theoretical expectations are, first, that the bulk of *Pronasol* transfers will favor high core values, meaning that *alpha* should be positively associated with allocations. Second, consistent with our argument that clientelism is used to *lock-in* a party's core backers, we expect private goods to be allocated preferentially to municipalities where the still ruling party's core is eroding at a faster rate. The effect of *decline* should thus be negative for private goods.

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<sup>15</sup> If L is the logistic transformation:  $V = \exp(L) / (1 + \exp(L))$

Figure 2



## 6. Modeling Pronasol's centralist logic

The model specification for our investigation of the *centralist* logic of Pronasol is exceedingly parsimonious. Aside from requisite controls for population size and levels of development, only three political variables are used, our measures of core (*alpha*) and erosion (*decline*), both constructed with long-term municipal electoral data from 1970 until 1988, and a measure of electoral shock from the 1988 presidential elections.

The system shock in 1988 resulted from the split in the ruling party wrought by Cuauhtémoc Cárdenas that cost the PRI almost a quarter of the national vote and created a strong and permanent opposition on the left. Following a bitter post-electoral conflict over fraud in the vote count, president-elect Carlos Salinas promised a dramatic shift in social policy, aimed at poverty relief and social development after six years of a roller-coaster economy and stringent austerity in public finances, which shortly mushroomed into the mega-program of Pronasol. Aside from the effort to mitigate protest and discontent, shore up legitimacy for the new government and marshal support for other parts of its reform agenda, Pronasol was an attempt to revive the ruling party reeling from its recent split and electoral meltdown (Dresser, 1994; Cornelius, Craig and Cook, 1994). Numerous studies of Pronasol spending patterns have stressed the specter of the 1988 elections in the calculations of the new government to showcase its Solidarity program. Specifically, this research highlights the apparent attempt to *buy back* the turncoat machines and voters that bolted to Cárdenas (Molinar and Weldon, 1994; Bruhn, 1996), finding evidence for the disproportional flow of transfers to states where support for Cárdenas was high.<sup>16</sup>

In order to gauge the accuracy of the buy-back claim, we include the controversial measure of the PRI's vote margins at the municipal level in the 1988 presidential race (*1988 margin*). This measure is controversial because the electoral data are incomplete. The electoral authorities at the time released the voting tallies for 55,000 precincts

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<sup>16</sup> Magaloni (2006) demonstrates, instead, that the bulk of *total* Pronasol's transfers went to municipalities where the PRI had been strong in 1988 and Cárdenas weak. However, in the local elections taking place between 1988 and 1994, the PRI adjusted investments strategically by simultaneously punishing municipalities controlled by the PRD and by the PAN *and* increasing transfers to places where Cárdenas had been strong in 1988. She interprets her results as an indication that the PRI punished opposition voters while rewarding disproportionately its own supporters who could more credibly threaten to exit.

nationwide, out of a total of nearly 100,000, but never revealed the remainder's vote counts. Once these partial data are aggregated into municipal-level figures, precinct coverage ranges from almost 100 percent (in cities where congressional district headquarters for the authorities were located) to just under 10 percent (in more outlying rural municipalities). While the bias of underreporting might be distributed along an expected continuum of high to low opposition support, as the precinct moves away from the cities, it is nonetheless the case that the geography of the Cárdenas vote in 1988, cutting a swathe across the middle and heavily populated part of the country, does not seem to fit the conjecture so closely. The 1988 vote margins only reach a correlation of .20 with the *alpha* measure of core support for the PRI, and one of .07 with the measure of *decline*. This low association between federal and local voting patterns should allow for a clean test of the impact on allocation decisions of the electoral shock from 1988.

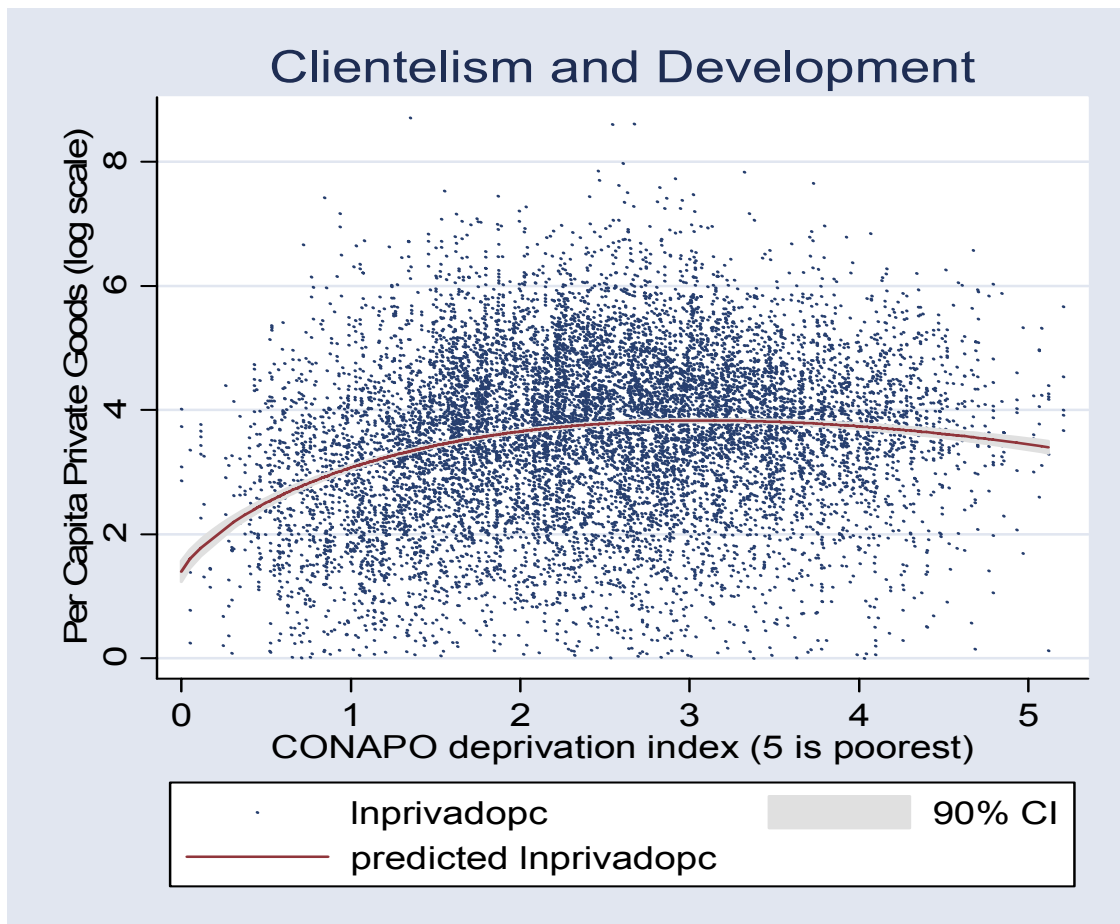
As for the control variables in the model, they are straightforward. Pronasol was ostensibly a program for poverty relief and social development. It is a reasonable assumption that the census-based measure of poverty or social marginality, known as the CONAPO index, guided the allocations made within the program over the course of its history. This index produced by the Mexican government reflects the level of marginality per municipality and is calculated using a set of indicators which include the percentage of the employed population living below the minimum wage, illiteracy, housing with access to sewage, electricity, drinking water, and the population living in rural localities.<sup>17</sup>

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<sup>17</sup> Since we are not concerned with the welfare effects of the program in this chapter, the full index is used instead of the partial one reconstructed for the analysis of policy effectiveness focused on infrastructure indicators

In addition to *Conapo*, we include its square value ( $Conapo^2$ ). In our joint earlier work (Magaloni, Diaz-Cayeros and Estévez, 2006), we found a curvilinear relationship between private goods provision and development levels, with more per capita funds going to municipalities at medium levels of development. Here, the reason for including the quadratic expression is to test for its impact on other categories of Pronasol expenditures that we use as dependent variables. Figure 4.3 shows the per capita allocation of private goods according to development levels as measured by the CONAPO index. Clientelism exhibits an inverted J-shape relationship with development, even without controlling for other variables, which is striking from the point of view of a modernization account. As we will demonstrate, this relationship does not depend on political configurations as reflected by the measures of core support and electoral decline (nor other conventional measures of political competition, such as the number of parties).

Figure 3



The finding that clientelism tends to fade at the highest levels of development is consistent with the socioeconomic theory of linkage building, which states that rich voters much prefer public good provision over private transfers, making it too expensive for a party to attempt to buy them off through particularism (Kitschelt, 2000). However, contrary to this theory, recourse to clientelism is greatest at middle levels of development, not in the poorest localities.

A question might remain as to whether core support, electoral decline, and in general political variables respond to economic development. Our dataset allows us to



separate the socioeconomic from the political processes that influence clientelism. In cross-national comparisons development is correlated with political competition and in Mexican studies development levels usually show a strong inverse relation with PRI support (Klesner, 2000). But our long-term measures of municipal electoral behavior are distinctly *political*. There is no correlation between the poverty index and the erosion of electoral support, as measured by our variable *decline* ( $\rho=.05$ ). And although poor localities tend to have larger shares of core voters, as one should expect, the correlation between the poverty index and *alpha* is relatively low ( $\rho=.24$ ).

We also control for municipal size in the models, employing the natural log of population (*logpop*). To some extent, one might expect that large and usually heterogeneous populations are associated with higher development levels; however, the Pearson's correlation between *logpop* and *Conapo* is 0.40, indicating that both variables measure distinct municipal-level traits. In a different order of calculation, were large cities to be favored with per capita expenditures, one could surmise a political interest in those jurisdictions with large voting power.

The dependent variables for the centralist models of Pronasol are total municipal-level expenditures from 1989 to 1994. We run four cross-sectional models. Model 1 considers total per capita expenditures; models 2 and 3, per capita private and public goods, respectively. These are all expressed in logarithmic terms. Model 4 tests the shares of private goods within total Pronasol transfers to each municipality. In order to ensure that the estimations do not suffer from spatially auto-correlated errors, a spatial lag is included. We have calculated a (queen) proximity matrix of order 2 in which both the contiguous and the contiguous-at-one-remove values in the dependent variable are taken

into account. The spatial weights and the regressions including the spatial lag were all run on GeoDA. Results are provided in table 1.

**Table 1 Centralist Logic of Pronasol: The Core Voter**

	1	2	3	4
	<b>Total PC Expenditures</b>	<b>Private Goods PC</b>	<b>Public Goods PC</b>	<b>Share (Private/Total)</b>
Spatial lag	0.031 (0.037)	-0.032 (0.055)	0.051 (0.041)	0.060 (0.058)
Constant	7.305 (0.257)**	3.866 (0.356)**	7.065 (0.274)**	-0.057 (0.052)
Logpop	-0.272 (0.012)**	-0.168 (0.020)**	-0.251 (0.013)**	0.011 (0.003)**
Conapo	0.014 (0.062)	0.804 (0.108)**	-0.249 (0.069)**	0.160 (0.017)**
Conapo <sup>2</sup>	-0.008 (0.012)	-0.132 (0.020)**	0.037 (0.013)**	-0.028 (0.003)**
Alpha	0.319 (0.076)**	0.395 (0.130)**	0.162 (0.083)*	0.035 (0.021)*
Slope	-0.233 (0.068)**	-0.628 (0.119)**	-0.048 (0.076)	-0.103 (0.018)**
1988 Margin	0.192 (0.038)**	0.033 (0.066)	0.250 (.042)**	-0.028 (0.012)*
N	2422	2422	2422	2422
R <sup>2</sup>	0.310	0.125	0.220	0.073

Coefficients from OLS cross-sectional regressions of municipal-level allocations (ln) from 1989 until 1994. Robust standard errors in parentheses.

\* significant at 5% level; \*\* significant at 1% level

The first result to highlight is that the total per capita transfers averaged over six years show only an extremely weak relationship with the municipal welfare levels as measured by the CONAPO index (column 1). This is partially mitigated by a strongly negative relationship with municipal size, which rules out a *big-municipio* strategy for

capturing large voter blocs. Thus, although Pronasol was supposedly intended to help the poor, in reality funds were spent with other political priorities in mind.

The strictly electoral variables are unambiguous in their impact. First, larger overall transfers are strongly associated with the PRI's traditional strongholds in municipal elections. The larger the core constituency for that party, as measured by *alpha*, the greater the total flow of per capita transfers. Second, the rate of vote loss over the long term also affects allocations in the expected direction. Stable or growing support for the PRI, tapped by positive *slope* values, goes unrewarded in favor of more intensive targeting of those municipalities undergoing stronger electoral erosion since 1970. Lastly, those localities staunchly loyal to the PRI in 1988 were favored with more transfers, while those that backed the opposition were punished, in relative terms. Thus, with respect to the centralist logic of Pronasol, a buy-back strategy aimed at opposition voters does not appear to have been a systematic criterion in the geographical distribution of funds. Nor could it have been, since to bribe prodigal municipalities back into the fold would have entailed the wrong type of incentives, namely to reward voter defection (Magaloni, 2006; and Diaz-Cayeros, Magaloni, and Weingast, 2001). In sum, the core-voter model is strongly buttressed by these results.

A more nuanced story is told through the distinction made between the two basic types of electoral investment contained within Solidarity (columns 2 and 3). Our expectations in this regard are that core supporters should be preferentially targeted for benefits, both private and public. However, the objectives sought by the provision of private versus public goods will separate according to the electoral risks of any given municipality. Clientelism as an investment strategy, we have argued, is intended to

preserve pre-existing core constituencies, preventing partisan attachments from eroding. We thus expect more private goods provision in municipalities experiencing higher rates of decline in PRI support. Public goods provision, on the other hand, is not as clear cut a strategy for vote-buying. Our argument is that public goods should be assigned to more competitive municipalities, a hypothesis that we address more fully in the analysis of what we have called the *peripheral logic* of Pronasol in the second section of this chapter. Lastly we posit a deterrence strategy consisting in the withdrawal of transfers from municipalities which have proved disloyal and jumped the fence to the opposition.

From columns 2 and 3 it is clear that for both categories of electoral investment, small municipalities as measured by population size (*logpop*) fare better than large ones. However, the poverty index and its squared value assume radically opposed associations with the two types of benefit outlays. With respect to clientelism, one observes an inverted J-shaped relationship with development level. Intermediate levels of development (or poverty) attract higher levels of private goods provision, while the polar opposites on the scale are less favored by particularistic transfers. In the case of public goods provision, the opposite relationship holds. It is the poorest and richest ends of the development continuum that receive larger transfers for collective goods, while the intermediate levels obtain fewer of these benefits. At the same time, the coefficients for the quadratic expression are much larger in the case of clientelism, indicating a pronounced differential in distribution. The curve for public goods is much flatter and is close to indicating a buckshot strategy, if not quite a universalistic one, for the distribution of collective goods at all levels of development. In any case, the important

result that poorest municipalities were not particularly favored by Pronasol continues to hold.

Strong core constituencies benefit from both types of investment. However, as expected, the effects of our variable *decline* on the two goods are starkly opposed. The historical trend in PRI support, our measure of dealignment, is a very powerful predictor of particularistic transfers. Municipalities with a record of stronger partisan dealignment away from the PRI are heavily targeted with clientelistic transfers. But with respect to public goods, the rates of dealignment do not seem to matter. This contrast points to a fundamental element in our earlier discussion of clientelism. Particularism is useful to incumbents in an environment of electoral drift, because it helps to *lock-in core voters who might otherwise defect*. It is less relevant for incumbents who face stable electoral environments. By comparison, public goods are not as effective at stemming partisan erosion and thus are allocated without regard for that phenomenon.

The last model we present tests for the determinants of the share of clientelism within the complete basket of Pronasol transfers to each municipality. A critical difference in our view with respect to the debate on core-versus-swing voters is that investment diversification entails obvious advantages for incumbent politicians with discretionary funds available for distribution. In the case of Pronasol, it is probably the case that the larger overall share of public goods provision within the program (an average 72% over six years) and the intense media campaign which accompanied its expansion served to protect from public scrutiny the clientelism that lay within and which increased in proportion over time. The specific combination of these investments for each municipality, we posit, reflected to some degree the risk assessment the PRI devised for

each locality and balanced the imperatives of catering to its long-term core constituencies and claiming credit for public welfare benefits.

The results of the diversification model are presented in the last column of table 4.1. The poverty index shows an inverted J-shaped curve, much like that of per capita private goods transfers. Municipalities at intermediate levels of development obtain the highest shares of private goods, but the poorest municipalities still receive almost double the share going to the richest. Population size is positively associated with the composition of the portfolio, with higher shares of clientelism going to larger municipalities.

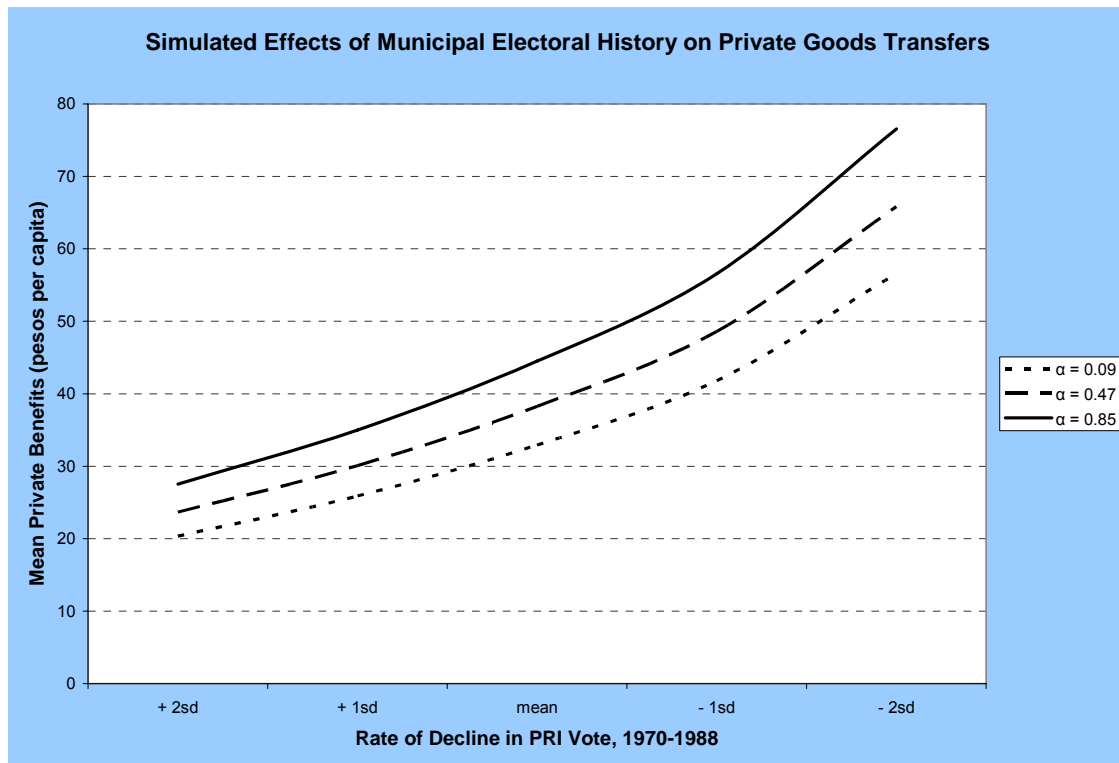
The *alpha* parameter reflecting core size is positively related to shares of clientelism, as it was (more strongly) for private transfer amounts. These results are an indication that, per our predictions, the relative share of public goods in the portfolio increases where the PRI's core is smaller and the party faces a more heterogenous electorate, a point that will become even more transparent when analyzing the peripheral logic of Pronasol with respect to local elections and local partisan configurations. Our variable *decline* measuring long-term electoral dealignment follows its earlier pattern, with an intensification of clientelism in those municipalities with higher rates of erosion of PRI support.

Finally, the shock waves from 1988 generate the expected inverse relationship with private goods shares, which means that the PRI responded to the electoral shock of 1988 by investing more in particularistic transfers in high risk municipalities where Cárdenas had been strong and at the same time by punishing those municipalities with fewer public goods. These last results provide support to our theory about the conditions

that make clientelism more prevalent that states that particularistic transfers will be favored over public good provision in situations of high volatility or where partisan loyalties are waning and ideological commitments weak.

To have a sense of the range of effects for our main explanatory variables *alpha* and *decline*, figure 4.4 simulates the predicted values of per capita private goods provision, according to varying electoral variables but with the socioeconomic controls and *1988 margin* set at their means. Shown are three scenarios for *alpha*: a stronghold municipality at one standard deviation above the mean, another at the mean and a last one at one standard deviation below the mean. The graph then plots the per capita transfers for private goods according to the rate of decline in party support over time. The simulated effects for both variables are substantively important: a stronghold with stable support for the PRI receives a bonus of 8 to 10 pesos per capita compared with one with few core supporters. Moreover, when the PRI's rate of decline increases from the mean rate (-.299) by one additional standard deviation (-.682), per capita allocations grow by about 10 pesos; when it jumps two standard deviations (-1.164), the benefits almost double in value per head.

**Figure 4**



Based on these general models of Pronasol allocations, the conclusion is inescapable. Solidarity was a program designed and operated on behalf of the PRI's core voter groups throughout the country and expenditures markedly benefited municipalities which had exhibited a long-term partisan loyalty to the ruling party. We also uncover a strategic behavior on the party of the PRI wherein more transfers were targeted to *higher risk municipalities* where the party's core base of support had been eroding more rapidly with the passing of time as a result of a multifaceted process of development. Furthermore, there is no evidence of a buy-back logic -disloyal municipalities, and especially those which supported Cárdenas in 1988, were punished with fewer per capita transfers, although clientelism became relatively more prevalent in these places. Overall,



Pronasol's total per capita expenditures were not disproportionately targeted to benefit the poor, but to sustain the PRI's electoral hegemony, to destroy the embryonic party formation that resulted from the Cárdenas split, and to lock-in ruling party voters through intensified clientelism and vote-buying.

## **7. Final remarks**

This paper presented empirical evidence to our theory of the logic of vote buying. Our theory departs from the core-swing literature in conceiving partisan loyalties as endogenous, shaped by the history of interactions and tactical redistributions. Voters' loyalties can't be taken for granted, we argue, and this is especially true where voters respond weakly to ideological and other symbolic appeals, as is the case in vast areas of the developing world.

Politicians in our view are motivated both by short and long-term considerations – they want to construct partisan coalitions that are stable over time and to win the current election. These often place parties in a strategic dilemma: if they appeal to swing voters to win the current election by delivering particularistic transfers to them, they risk alienating their core voters in future elections.

The strategy we uncover has a strong core-vote bias: parties should primordially target particularistic benefits to voters who have consistently supported them in the past. These voters are not only better known by local party brokers, but are also less expensive to buy-off and less risky because, given the history of strategic interaction, they would rather vote in these elections for their party than for an untested opponent. The core

strategy should be particularly favored, we have argued, under conditions of *high electoral volatility* or where a party's base of support is likely to fade away unless the party delivers benefits to keep them loyal.

Our theory argues that discretionary private transfers are preferable to collective goods to construct electoral coalitions that are stable over time. Since particularistic transfers can be targeted, a party can more credibly threaten to withdraw these benefits from those who defect to the opposition. Voters will remain loyal in part because of the benefits they receive, but also because of the threat that if they defect their patron will withdraw these benefits from them. Only private goods allow a party to make these threats credible. This form of political exchange is what we and others have characterized as clientelism.

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