

# POLITICAL CLIENTELISM AND CAPTURE: Theory and Evidence from West Bengal, India<sup>1</sup>

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## ABSTRACT

We provide a theory of political clientelism, which explains sources and determinants of political clientelism, the relationship between clientelism and elite capture, and their respective consequences for allocation of public services, welfare and empirical measurement of government accountability in service delivery. Using data from household surveys in rural West Bengal, we argue that the model helps explain observed impacts of political reservations in local governments that are difficult to reconcile with standard models of redistributive politics.

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# 1 Introduction

The political economy literature on government accountability in developing countries has focused on distortions in the political mechanism that may impede the choice of pro-development and pro-poor policies by elected governments, such as inequalities between different socio-economic classes with regard to political rights, awareness, political participation, ability to lobby and contribute to election campaigns. These inequalities translate into higher implicit welfare weights assigned to wealthier and more powerful classes in policy making and implementation, a phenomenon commonly referred to as *elite capture*. This concept has dominated the discussion on the pros and cons of decentralization of public service delivery (e.g., see the 2004 World Development Report, surveys of the literature by Mansuri and Rao (2004, 2011), and various references cited later in this paper). Empirical work has therefore focused on ways of measuring elite capture and its consequences. Underlying socio-economic inequality e.g., with regard to ownership of land or education, social status, or measures of poverty — is typically taken to be a prime determinant of elite capture, which is then related to allocation of public services across socio-economic classes (e.g., on pro-poor targeting of anti-poverty programs) or corruption among elected officials (Araujo, Ferreira, Ozler, and Lanjouw (2008), Bardhan and Mookherjee (2006a,b), Galasso and Ravallion (2005), Galiani, Gertler and Schargrodsky (2009), Pandey (2010)). Theoretical models of political economy reasons for the role of historical conditions on long-run development also rely on similar formulations of political distortions (Acemoglu, Johnson and Robinson (2001), Acemoglu and Robinson (2008), Banerjee and Iyer (2005), Benabou (2000), Borghignon and Verdier (2000)).

This approach overlooks a different form of political distortion — *clientelism* — also important in developing country democracies, fundamentally different in nature from elite capture. Clientelism refers to strategic transfers made by political parties and governments to poor and disadvantaged groups as a means of securing their votes, in an effort to consolidate political power. By their very nature such transfers provide an appearance of successful pro-poor targeting of public services. But they usually come at the expense of long-term development, since they create biases towards private transfer programs with short-term payoffs rather than public goods or private benefits of a long-run nature (such as education or health). They are usually implemented to benefit narrow subsets of intended beneficiary groups, resulting in horizontal and vertical inequity. These adverse consequences of clientelism tend to be missed by conventional measures of government accountability that focus only on targeting of public services to intended beneficiary groups, without regard to the composition of these services or allocation within beneficiary groups. Moreover, clientelism can be a potent tool used by incumbent governments to consolidate their grip on power, lowering effective political competition.

Political clientelism has featured prominently in institutional descriptions of the pol-

itics of many developing countries as well as historical accounts for currently developed countries such as Italy, Japan and US city politics (elaborated in Section 2 below). Yet there are relatively few theoretical models or empirical analyses of clientelism that we are aware of which analyse the sources and consequences of clientelism (exceptions are described in Section 2). The first part of this paper provides a theoretical analysis of clientelism, which helps explain how it may arise, the distinction between clientelism and capture, as well as the relation between these two phenomena. The model helps explains why clientelism tends to decline as countries develop, on the welfare consequences of clientelism, and provides a framework to guide empirical analysis to detect the presence and identify consequences of clientelism. The second part of the paper uses data from household surveys in rural West Bengal to illustrate how this approach can help explain some hitherto puzzling results concerning the targeting impact of reservation of village council (*gram panchayat*) chairpersons (*pradhans*) for women and socially disadvantaged candidates (referred to as scheduled caste in India). Resulting implications for welfare effects of these reservations as well as general lessons for how to evaluate targeting of public programs are then discussed.

Our theoretical analysis extends standard models of probabilistic voting and competition between two parties in the Downsian tradition (Lindbeck and Weibull (1987), Dixit and Londregan (1995) and Grossman and Helpman (1996)). However, two departures from the standard model are necessary. The first is incorporation of multiple private goods in addition to a public good. This is essential for highlighting the distinction between capture and clientelism and deriving empirical methods to discriminate between them. The second point of departure involves a distinction between *instrumental* and *non-instrumental* motives for the way voters choose how to cast their ballot. The latter is more standard, where voters vote on the basis of their perceptions of how the policies of the two parties will affect their interests, even though they are aware that their personal vote is unlikely to alter the eventual outcome of the election. The former arises also in a context of clientelistic transfers which are conditioned partly on the way that they vote. Voters become aware that their voting affect their own personal interest even if it has no effect on the outcome of the election. This may also partly explain why voter turnouts tend to be higher in traditional, poor societies. At the same time, non-instrumental motives must also co-exist for vote shares to be affected by public goods provided.

Section 2 summarizes existing evidence from case studies of middle-income and developing countries concerning the prevalence of political clientelism, as well as existing theoretical analyses and empirical evidence. Section 3 introduces assumptions concerning preferences and technology, and characterizes welfare optima that serve as a normative benchmark. We then introduce our extension of the probabilistic voting model. Section 4 analyzes political equilibria, starting with a benchmark case characterized by absence of any clientelism or capture, where classic Downsian results obtain. Next we examine

the consequences of clientelism alone, whereupon Downsian results (such as policy convergence) no longer obtain. The analysis of clientelism *sans* capture allows us to assess positive and normative effects of clientelism *per se*. Section 5 then introduces elite capture (as in Grossman and Helpman (1996) or our earlier work Bardhan and Mookherjee (2000)). The full-blown model is characterized by co-existence of clientelism and capture, which we use to explore the relationship between these two phenomena.

Section 6 discusses empirical implications. We first discuss implications for how to measure government accountability when clientelistic transfers may be significant. Then we discuss evidence from rural West Bengal concerning prevalence of clientelism. It is argued the model developed in this paper can help explain some facts concerning targeting impact of political reservations of chairperson positions in elected village councils that are inconsistent with standard theories of redistributive politics. Finally, Section 7 concludes.

## 2 Descriptions of Clientelism and Existing Literature

Kitschelt and Wilkinson (2007) provide an overview of studies from Africa, India, Latin America and Japan documenting pervasiveness of ‘patronage-based, party-voter linkage’:

“In many political systems citizen-politician linkages are based on direct material inducements targeted to individuals and small groups of citizens whom politicians know to be highly responsive to such side-payments and willing to surrender their vote for the right price. Democratic accountability in such a system does not result primarily from politicians’ success in delivering collective goods..., nor does it rest on improving *overall* distributive outcomes along the lines favored by broad categories of citizens (e.g., income and asset redistribution through taxes and social benefit schemes). Instead, *clientilistic accountability* represents a transaction, the direct exchange of a citizen’s vote in return for direct payments or continuing access to employment, goods and services.” (op.cit, p.2)

They point out a key problem of enforcement that the implicit *quid pro quo* of favors for votes entails on either side: politicians may not want to follow through on their promises to deliver services once they have been elected, and voters may not want to vote for them upon having received these services (particularly with a secret ballot, where monitoring individual votes is difficult). Politicians therefore have to build expensive organizational surveillance and enforcement structures: ‘organizational hierarchies

of exchange between electoral clients at the ground floor of the system, various levels of brokers organized in a pyramidal fashion, and patrons at the top....In this process, clients and politicians gain confidence in the viability of their relationship by iteration, i.e., the repeated success of exchange relations that makes the behavior of the exchange partner appear predictable and low risk' (op.cit., p.8). Accordingly, Kitschelt and Wilkinson define clientelistic exchange by three components: 'contingent direct exchange, predictability and monitoring' (op.cit. p.9).

The monitoring and enforcement dimension helps explain why public declarations of support by voters for specific parties are necessary, such as badges, party colors, signs or participation in political rallies:

“..public pledges by influential members of these (.ethnic, religious or clearly identified social..) groups have multiplier effects on the voting preferences of the group as a whole. By forcing members of a group to publicly pledge support to the incumbent party rather than the opposition, for example, group members are then effectively cut off from any expectation of rewards if the opposition should win. This increases the probability that group members in general..will actually vote for the incumbents in order to avoid punishment if the opposition wins and increase their chances of a reward if the incumbent is reelected.” (op.cit., p.15)

Monitoring individual voters is enabled by tactics observed in 19th and early 20th century US precincts such as marked or preprinted ballots, forcing voters to ask for help from party workers in the voting booth because they were 'disabled' or 'illiterate', or voting systems that required voters to publicly identify themselves if they did not wish to vote for officially approved candidates' (op.cit. p.16). In some cities 'machines were configured so as to allow a straight party ticket to be voted quickly with a distinctive ringing sound, whereas voting for the opposition or for a mixed slate required additional time with no accompanying ring, a combination that clearly signaled one's preferences to those outside the booth' (op.cit., p. 16). In addition:

“Ethnographic studies of elections indicate that party workers quickly become skilled at determining from brief interviews whether particular voters support their party or not. The intentions of those who try to mask their preferences can be further uncovered by asking individuals to accept party literature, be contacted in the future, or show their support by wearing badges or displaying party colors and signs. In many electoral systems party workers also pass out goods such as sweets and liquor to their supporters outside polling places, the object being to make voters publicly declare their allegiance to one party or another.” (op.cit., p. 16)

Another method is for politicians to monitor groups of voters:

“..politicians have ... options to monitor groups’ voting. Voting returns and opinion polls, if sufficiently disaggregated, can also provide sufficient information to politicians to enable them to verify a group’s support with a high level of accuracy...Until 1971 ballots in India were counted at each local polling station, which enabled politicians to quickly determine whether a village had kept to its side of the political bargain.” (op.cit., p.17-18)

One consequence is that clientelistic exchanges inherently require patrons to provide private goods to their clients:

“In many systems characterized by relatively high levels of poverty — such as Thailand, India, Pakistan or Zambia — patrons directly purchase clients’ votes in exchange for money, liquor, clothes, food or other immediately consumable goods...much more frequent than single-shot transactions of this nature, however, are webs of exchange, obligation, and reciprocity sustained over a longer period, in which patrons provide private goods or club goods to their clients.” (op.cit., p. 19)

Low levels of development and high poverty among voters facilitate clientelism, partly because their votes are cheap to purchase. In the process of development, clientelism tends to decline for a variety of reasons. Apart from declining poverty which makes votes more expensive to buy, citizens increasingly demand public goods as their societies and aspirations develop:

“..principal-agent relations of exchange will be limited to a small elite within which “prebendal” patrimonial exchange prevails. Scale upgrading and market commodification of social relations generates demands for societal coordination through centralized authoritative political decisions. This initially gives rise to new group loyalties serviced by clientelistic networks beyond the realm of kinship and family...But as the process of further societal scale upgrading proceeds, clientelistic linkages – providing private and local public goods — become too narrow and give way to class, sectoral and professional linkages in the formation of national and global markets. People demand goods from politicians who serve increasingly large clubs for whose members clientelistic linkages are too costly in terms of transactional arrangements. Some of these goods serve everyone in a polity (“collective goods”).” (op.cit., p. 25)

Complementary supply-side factors that cause clientelistic practices to erode with the process of development include increased difficulty of monitoring when citizens become spatially mobile, ‘less trapped in rigid, durable social networks...programmatic politics takes over when mobility increases and makes the delivery of clientelistic goods unreliable’ (op.cit., p.26). Moreover development is often characterized by erosion of ethnocultural divisions which facilitate clientelistic exchange. Increased media exposure undermines clientelistic practices as variants of ‘cronyism, nepotism, corruption, fraud and favoritism’ (op. cit. p. 27), and voters become more receptive to such media accounts as they become more literate.

Wantchekon (2003) provides evidence for the significance of clientelistic politics in Benin with a field experiment. In collaboration with four political parties involved in the 2001 presidential elections, clientelist and broad public policy platforms were designed and run in twenty randomly selected villages of an average of 756 registered voters. He found that clientelist messages had positive and significant effect in all regions and for all types of candidates. Stokes (2005) conducted a survey of 1920 voters in three Argentine provinces, and found 12% of low income respondents reported receiving goods from political parties during an election campaign that had occurred two months earlier. About one in five of these admitted these transfers affected their vote. A logit regression showed the likelihood of receiving private rewards from a party was significantly negatively correlated with income, education and housing quality, with population size of the community, and positively with having received their ballots directly from party operatives rather than in anonymous voting booths. Private benefits were less likely to be given to party loyalists, consistent with the expectation that they would be targeted to ‘swing’ voters. These patterns are consistent with a theoretical model of a repeated relationship between politicians and voters, where individual votes are observable by politicians with a fixed exogenous probability, followed by a ‘grim trigger’ strategy wherein a deviant voter is denied private benefits for ever whenever this voter’s patron comes to power.

Robinson and Verdier (2003) provide a theory of clientelism, wherein the two-sided problems of enforcement explain why redistribution often takes the form of public sector employment rather than income transfers or public goods: they argue a job is a credible, selective and reversible method of redistribution which ties the continuation utility of a voter to the political success of a political patron. Even if individual votes are unobservable, this renders the clientelistic exchange incentive compatible. Also related are papers by Lizzeri and Persico (2001, 2004), Keefer and Vlaicu (2005) and Khemani (2010) who focus on undersupply of public goods under different electoral systems which affect incentives of politicians to deliver private benefits in a clientelistic fashion. Our principal interest is to extend standard models of probabilistic voting and elite capture to incorporate clientelism to study the allocative consequences of clientelism and how these differ from those of capture. We subsequently use this to empirically assess the prevalence of clientelism in West Bengal. Accordingly we construct a static model, and

black-box the problem of enforcement by assuming an exogenous probability that votes cast will become known to party workers or candidates and thereby lead to denial of benefits if the corresponding party candidate is elected.

### 3 Model

#### 3.1 Agents, Services and Preferences

There are a number of groups of voters in the population, labelled  $i = 1, \dots, G$ . Group  $i$  constitutes fraction  $\mu_i$  of the population. Each group is homogeneous in terms of endowments and preferences. Different groups correspond to distinct socio-economic categories distinguished by asset ownership, location, age and gender of head, ethnicity or race.

There are  $K$  private goods labeled  $k = 1, \dots, K$  and a single public good. The local government provides both the public good and transfers of the private goods to citizens. A household receives either no transfer of any given private good  $k$ , or an indivisible amount  $\underline{t}_k$ . Examples of private good programs in the context of West Bengal include provision of housing, latrines, drinking water taps, public distribution eligibility (BPL) cards, subsidized loans, agricultural extension programs, or employment in public-work programs. Public goods include construction of schools or roads, provision of law and order, security and dispute settlement.

We will further simplify by assuming that preferences are separable between different private and public goods. A group- $i$  voter's expected utility is

$$W_i = \sum_k q_{ik} u_k(\omega_{ik} + \underline{t}_k) + (1 - q_{ik}) u_k(\omega_{ik}) + V_i(g) \quad (1)$$

where  $u_k$  is a strictly concave function representing utility from the  $k$ th good,  $\omega_{ik}$  denotes the endowment of an  $i$ -type agent of the  $k$ th good,  $q_{ik}$  is the fraction of group  $i$  agents that receive a transfer of the  $k$ th good, and  $V_i$  denotes the utility of these agents for the scalar public good  $g$  provided. Normalizing utilities so that  $u_k(\omega_{ik}) = 0$  and using  $v_{ik}$  to denote  $u_k(\omega_{ik} + \underline{t}_k) \equiv u_k(\omega_{ik} + \underline{t}_k) - u_k(\omega_{ik})$ , expression (1) reduces to

$$W_i = \sum_k q_{ik} v_{ik} + V_i(g). \quad (2)$$

We shall assume that  $V_i'(0) = \infty$  for all  $i$ , to ensure that a positive level of public good is always provided.



Note that in this formulation  $v_{ik}$  is strictly decreasing in  $\omega_{ik}$ , so the poor value any given private transfer more. This relies on the notion that the private good transferred is a pure consumption good. It is possible, however, that some of them are production inputs, such as agricultural input kits or irrigation water. In the presence of economies of scale or complementarity of such inputs with other inputs that the wealthy are more endowed with, it is possible that the transfer is valued more by the wealthy. We impose no restrictions on the valuations  $v_{ik}$  in what follows, so both kinds of transfer programs can be accommodated. In general, however, we will expect different marginal rates of substitution across pairs of goods between groups: the poor will have a greater preference for subsistence or inferior goods such as housing, sanitation, drinking water or BPL cards relative to agricultural inputs. We also impose no restrictions on how relative preferences for private versus public goods vary across rich and poor groups. Public schools are likely to be valued more by the poor while roads and irrigation may be valued more by the landed.

We shall assume that the local government in question obtains from higher level governments a total grant  $A$  which it allocates across different expenditure programs. We can normalize units of each good so each of them has the same unit cost. The budget constraint is

$$\sum_i \sum_k \mu_i q_{ik} t_k + g = A. \quad (3)$$

This allocation is the main responsibility of the local government. In practice local governments do not receive untied or block grants; often there are different programs corresponding to different goods, where for each good  $k$  they receive a total amount  $A_k$  to allocate across residents. Then the discretion afforded to the local government is considerably more restricted. Usually, however, there is some scope for substitution across different programs (e.g., public works programs can be directed to building schools or houses or latrines or roads or canals). Moreover, the amounts of different goods received under a tied grant system is often the result of negotiation between officials of the local government with higher-level bodies. Part of the responsibility of local government officials is to enter into negotiations that define the scale of different programs within the local area. Then the allocation of negotiation effort by local government officials across different kinds of programs generates scope for substitution as represented by the budget constraint (3).

The budget constraint implies that an *allocation* can be represented by the vector  $\{q_{ik}\}$  of private good transfers, with the public good amount generated equal to  $A - \sum_i \sum_k \mu_i q_{ik} t_k$ .

### 3.2 Welfare Optimal Allocations

The utilitarian optimal allocation  $\{q_{ik}^*\}$  maximizes

$$\sum_i \mu_i \sum_k q_{ik} v_{ik} + V(A - \sum_i \sum_k \mu_i q_{ik} \underline{t}_k) \quad (4)$$

where  $V$  denotes  $\sum_i \mu_i V_i(g)$ .

This will serve as a useful benchmark in what follows. It will be convenient to characterize the nature of the optimal allocation, and contrast it with the allocation resulting from political competition. In the utilitarian allocation, the welfare weight assigned to any group is its demographic share. In succeeding sections we shall illustrate the allocative implications of clientelism and capture by the implicit welfare weights they respectively induce. Specifically, let  $\delta_i \mu_i$  denote the implicit welfare weight of group  $i$ , so  $\delta_i$  represents the political distortion. We then consider the corresponding quasi-utilitarian optimal allocation as the solution to the following problem: select  $\{q_{ik}\}$  to maximize

$$\sum_i \delta_i \mu_i \sum_k q_{ik} v_{ik} + V(A - \sum_i \sum_k \mu_i q_{ik} \underline{t}_k). \quad (5)$$

### 3.3 Elections and Voting

There are two parties denoted  $L$  and  $R$ . We model each party in a Downsian fashion: they seek power for its own sake, and have no personal or ideological preferences over policies. Each party seeks to maximize its probability of being elected, and therefore its share of votes cast.

Each party  $p = L, R$  selects a *policy*  $\pi^p$  which consists of an allocation  $\{q_{ik}^p\}_{i,k}$  satisfying  $q_{ik}^p \in [0, 1]$  and financial feasibility:  $\sum_i \sum_k \mu_i q_{ik} \underline{t}_k \leq A$ . Let  $\Pi$  denote the set of all policies.

Voting behavior is composed of three sets of influences:

(a) *Loyalties and Campaign Spending*: Group- $i$  voters' loyalty  $\epsilon_i$  to party  $L$  relative to  $R$  is drawn from a uniform distribution centered at  $l_i + h(C^L - C^R)$  over a range of width  $\frac{1}{\sigma_i}$  (so it has a constant density of  $\sigma_i$ ). Here  $C^L, C^R$  denote campaign spending by parties  $L, R$  respectively, and  $h$  is a parameter of effectiveness of campaign spending in swaying 'uninformed' voters, as in Grossman-Helpman (1996). The effectiveness of campaign funds will provide scope for elites to capture the government by linking their campaign contributions to policy choices. Hence  $h$  will end up determining the extent of local elite capture in the model. We shall refer to it as the 'capture' parameter.

The parameter  $l_i$  represents the mean loyalty of group- $i$  voters to party  $L$ , formed on the basis of historical, ethnic or gender identity.  $\sigma_i$  represents the extent to which voters in group  $i$  are amenable to ‘swing’, as we shall see. It is assumed small enough (i.e., the range of loyalties is large enough) to ensure that both parties obtain positive vote shares, and an additional property to be introduced below.

(b) *Issue-Based Non-Instrumental Voting*: Again as in standard Downsian theory, voters are additionally presumed to evaluate their own expected utilities under the policies espoused by the two parties, and vote partly on this basis. Voters in group  $i$  would therefore be more inclined to vote for party  $L$  if the difference between their expected utilities

$$N_i(\pi^L) - N_i(\pi^R) \tag{6}$$

is higher, where if  $\pi = \{q_{ik}\}_{ik}$ , expected utility  $N_i(\pi) \equiv \sum_k q_{ik}v_{ik} + V_i(A - \sum_j \sum_k q_{jk}t_k)$ .

In the standard theory of probabilistic voting, a voter from group  $i$  with relative loyalty  $\epsilon_i$  to party  $L$  will vote for  $L$  if  $N_i(\pi^L) - N_i(\pi^R) + \epsilon_i > 0$ . In a large population no voter expects to be instrumental, i.e., make a difference to the outcome of the election. So one interpretation of voting behavior is that voters seek to ‘express’ their personal evaluation of the issues. And in the remote event that their vote is pivotal, this way of voting would be consistent with their preferences over the outcome of the election.

We now add a third dimension of voting behavior relevant to clientelism.

(c) *Clientelistic Instrumental Voting*: Parties may seek to ‘buy’ votes from voter groups against the promise of delivering personalized benefits to such groups. The enforcement of the *quid pro quo* in such exchanges are fraught with difficulty with a secret ballot. The descriptive literature on clientelism has described a number of ways that this is resolved in practice, as explained in Section 2.

We represent *party p clientelism* by the threat of party  $p$  withholding private transfers to a group- $i$  voter with a probability  $z_i^p$  if this voter does not vote for party  $p$ , conditional on party  $p$  being elected. In practice more severe punishments can be meted out, but we shall assume here that these consist only of withholding of the private benefits that would otherwise be delivered to the group.

Each voter therefore perceives that his entitlement to the private benefits associated with a given party could be jeopardized if he did not vote for that party. Accordingly voting has an instrumental impact on his own expected utility, even if it has no impact on the overall electoral outcome. This provides a third source of motivation for voting, as described below.

Specifically, a voter in group  $i$  assesses an expected utility of

$$I_i \equiv \gamma_L[V_i(g^L) + \sum_k q_{ik}^L v_{ik}] + (1 - \gamma_L)[V_i(g^R) + (1 - z_i^R) \sum_k q_{ik}^R v_{ik}] \quad (7)$$

of voting for party  $L$  where  $g^p$  denotes the public good level associated with party  $p$ 's policy:  $g^p \equiv A - \sum_j \sum_k q_{jk}^p t_k$  and  $\gamma_L$  denotes the perceived probability that party  $L$  will win the election. And she assesses an expected utility of

$$\gamma_L[V_i(g^L) + (1 - z_i^L) \sum_k q_{ik}^L v_{ik}] + (1 - \gamma_L)[V_i(g^R) + \sum_k q_{ik}^R v_{ik}] \quad (8)$$

of voting for party  $R$ . Accordingly her inclination to vote for party  $L$  on instrumental grounds rises with the difference between (7) and (8), i.e., with

$$\gamma_L z_i^L \sum_k q_{ik}^L v_{ik} - (1 - \gamma_L) z_i^R \sum_k q_{ik}^R v_{ik}. \quad (9)$$

The potency of the clientelism motive will therefore depend on the parameters  $z_i^L, z_i^R$  representing the probabilities that the respective parties will withhold private transfers if they came to power and the voter in question did not vote for the winning party. In what follows we shall refer to these as the *clientelism parameters*.

Note that the clientelism motive involves only the private transfers and the likelihood that these may be withheld if votes were cast for the non-winning party. They do not depend on public goods  $g^L, g^R$  that each party is expected to deliver. To the extent that votes cast do depend to some degree on public goods provided, non-instrumental motives (where public goods do matter) must co-exist with instrumental motives. Below we shall assume that the relative weight of these two motives is exogenously given (represented by a parameter  $\theta \in (0, 1)$  which reflects the relative importance of the non-instrumental motive).

Note also that the instrumental motive will depend on voters' assessment of the likelihood  $\gamma_L$  of the election's outcome. This reflects the forward-looking nature of voters. Voters will be more willing to 'sell' their vote to the party that is more likely to win. Hence voters have to 'pick winners', a feature absent from non-instrumental voting. It implies also that the model has to be closed by specifying how voters form these beliefs. Below we shall require that voters have correct or rational beliefs, and look for an equilibrium in which these beliefs are self-confirming.

A voter of type  $i$  will vote for party  $L$  if

$$\theta[V_i(g^L) + \sum_k q_{ik}^L v_{ik} - V_i(g^R) - \sum_k q_{ik}^R v_{ik}] + (1 - \theta)[\gamma_L z_i^L \sum_k q_{ik}^L v_{ik} - (1 - \gamma_L) z_i^R \sum_k q_{ik}^R v_{ik}] + \epsilon_i > 0 \quad (10)$$

which implies that the vote share of party  $L$  will be

$$\begin{aligned}
S_L \equiv & \frac{1}{2} + \sum_i \mu_i \sigma_i \{l_i + h(C^L - C^R)\} \\
& + \sum_i \mu_i \sigma_i \{\theta[V_i(g^L) + \sum_k q_{ik}^L v_{ik} - V_i(g^R) - \sum_k q_{ik}^R v_{ik}]\} \\
& + (1 - \theta)[\gamma_L z_i^L \sum_k q_{ik}^L v_{ik} - (1 - \gamma_L) z_i^R \sum_k q_{ik}^R v_{ik}] \} \quad (10)
\end{aligned}$$

where  $g^p \equiv A - \sum_i \sum_k q_{ik}^p v_{ik}$ . In what follows we shall refer to this as a function  $S_L(\gamma_L; \pi^L, \pi^R)$  of the prior probability  $\gamma_L$  assigned by voters to the event that  $L$  will win, conditional on their respective choices of policies  $\pi^L, \pi^R$  which now includes both private transfers and campaign contributions  $C^L, C^R$ .

This expression incorporates all the factors that influence voting: intrinsic loyalties  $l_i$ , campaign finance  $C^L, C^R$ , non-instrumental and instrumental motives. The capture parameter  $h$  pertains to the strength of campaign finance, the clientelist parameters  $z_i^L, z_i^R$  reflect party organization and personalized monitoring capabilities. The strength of clientelistic factors depends partly on the utilities generated by private transfers  $v_{ik}$ . In more developed countries clientelism matters less because of weaker opportunities to impose selective punishments for voting the ‘wrong way’, and partly also because wealthier voters depend less on these private transfers. Clientelism enables votes of the poor to be bought more cheaply, as emphasized by many institutional descriptions of the phenomenon.

### 3.4 Pure Clientelism

To close the model, we need to specify how vote shares translate into probabilities of winning. We also need to specify how campaign finance is raised. To simplify the exposition we shall abstract from capture issues for the time being, and set  $h = 0$ . Then each party’s choices are confined to its chosen private transfers, and we focus on the clientelistic part of the model. The next section will explain how to extend the model to incorporate capture.

We shall assume that there is a monotone relationship between the two: party  $L$  wins with a probability  $\phi(S_L)$ , where  $\phi$  is a strictly increasing, smooth function mapping  $[0, 1]$  to itself. For reasons that will soon become evident, we shall assume that there is a finite upper bound  $\bar{\phi}'$  to the slope of this function. The existence of some aggregate uncertainty regarding the outcome of the election will generate this property.<sup>4</sup>

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<sup>4</sup>In other words, even if  $S_L$  as calculated above is predictable, there is some aggregate uncertainty represented by a random variable  $\chi$  reflecting shocks to the economy or possible ‘scandals’ that affect relative charisma of competing candidates, or errors in vote-counting such that party  $L$  will win if and only if  $S_L + \chi > 0$ .

We close the model by specifying the *equilibrium probability of party L winning* to be  $\gamma_L \equiv \gamma(\pi^L, \pi^R)$  which for any given choice of policies  $(\pi^L, \pi^R)$  is a fixed point of the function  $\phi(S_L(\cdot; \pi^L, \pi^R))$ :

$$\gamma_L = \phi(S_L(\gamma_L; \pi^L, \pi^R)) \quad (11)$$

In general there could be multiple equilibria of a ‘sunspot’ variety: higher expectations of party  $L$  could be self-fulfilling. To simplify the analysis and abstract from such phenomena, we assume that

$$\bar{\phi}' < \frac{1}{2(1-\theta) \sum_i \mu_i \sigma_i \max_k \sum_k v_{ik}}. \quad (12)$$

This can be viewed as imposing a minimum degree of electoral uncertainty, relative to the strength of clientelistic forces, i.e., instrumental voting motives  $(1-\theta, \sum_{i,k} v_{ik})$ , and the extent to which election outcomes can be influenced by clientelistic transfers (the swing vote parameter  $\sigma_i$ ).

**Proposition 1** *Assume (12) holds and the capture parameter  $h$  equals zero. Then there is a unique equilibrium which is characterized as follows. In this equilibrium, party  $p$  selects policy  $\pi^p$  which maximizes the quasi-utilitarian welfare function*

$$\sum_i \sum_k \mu_i \sigma_i [\theta + (1-\theta) z_i^p \gamma_p] q_{ik} v_{ik} + \theta \sum_i \sum_k \mu_i \sigma_i V_i(A - \sum_i \sum_k \mu_i q_{ik} t_k) \quad (13)$$

taking as given  $\gamma_p$ , the equilibrium probability of party  $p$  winning.

We sketch the logic of the argument. Assumption (12) ensures that the mapping  $\phi(S_L(\cdot; \pi^L, \pi^R))$  is a contraction, and therefore it has a unique fixed point. The Implicit Function Theorem ensures that the equilibrium probability  $\gamma_L(\pi^L, \pi^R)$  that party  $L$  wins is a smooth function of policy choices  $\pi^L, \pi^R$  of the two parties. The derivative of this with respect to private transfers is given by  $l$ :

$$\frac{\partial \gamma_L}{\partial q_{jl}^L} = \phi'(S_L) \frac{\mu_j t_l \{ \theta [\sigma_j v_{jl} - \sum_i \sigma_i V_i'(g^L)] + (1-\theta) \sigma_j v_{jl} \gamma_L z_j^L \}}{1 - \phi'(S_L)(1-\theta) \{ z_i^L \sum_k q_{ik}^L v_{ik} + z_i^R \sum_i q_{ik}^R v_{ik} \}} \quad (14)$$

Assumption (12) assures us that the denominator of (14) is positive. Hence (14) has the same sign as the numerator of the right-hand-side. This implies that the equilibrium involves choice of private transfer policies satisfying the property that  $q_{jl}$  is 1, interior or 0 according as the sign of

$$\theta [\sigma_j v_{jl} - \sum_i \mu_i \sigma_i V_i'(g^L)] + (1-\theta) \sigma_j v_{jl} \gamma_L z_j^L \quad (15)$$

is positive, zero or negative. This implies that party  $p$ 's equilibrium policies will maximize (13).

The intuition for this result is quite simple. Since the probability of winning is monotonically increasing in vote share, parties behave in order to maximize their vote share. Referring back to expression (10) for party  $L$ 's vote share, party  $L$  chooses its transfer policies to maximize the 'part' of it that it does control, while taking the other party's policies as given i.e.,  $q_{ik}^L$  maximizes

$$\sum_i \mu_i \sigma_i [\theta \{ \sum_k q_{ik}^L v_{ik} + V_i(g^L) \} + (1 - \theta) \{ \gamma_L z_i^L \sum_k q_{ik}^L v_{ik} \}] \quad (16)$$

where  $g^L \equiv A - \sum_i \sum_k q_{ik}^L t_k$ . This expression includes voters' assessment  $\gamma_L$  that party  $L$  will win, which the two parties take as given. In equilibrium this assessment will be correct. This implies that the welfare weight assigned by party  $L$  to private transfers to voters of type  $i$  equals  $\sigma_i [\theta + (1 - \theta) z_i^L \gamma_L]$ , the sum of the non-instrumental and instrumental voting effects, weighted by the extent  $\sigma_i$  that voters of type  $i$  are amenable to 'swing'. And the welfare weight assigned to public good valuation of voters of type  $i$  equals  $\sigma_i \theta$ , the product of the non-instrumental valuation of the public good by these voters, and their swing factor.

Proposition 1 has the following implications. As a benchmark consider first the case where there is no clientelism:  $z_i^p = 0$  for all  $i, p$ . If all voter types are equally amenable to swing ( $\sigma_i = \sigma_j$ , for all  $i, j$ ), it is evident that each party will select the utilitarian welfare optimal policy in equilibrium. In this situation there is no political distortion at all. Downsian convergence obtains more generally even if different voter groups are differentially amenable to swing, though in this case groups more amenable to swing will receive a higher welfare weight. Both parties assign a welfare weight to voter groups proportional to their respective swing factors.

With policy convergence, the equilibrium probability that party  $L$  wins is determined by intrinsic loyalties of voter groups:

$$\gamma_L^* = \phi \left( \frac{1}{2} + \sum_i \mu_i \sigma_i l_i \right) \quad (17)$$

Without loss of generality suppose party  $L$  commands greater loyalty on average:  $\sum_i \mu_i \sigma_i l_i > 0$  and is thus more likely to win:  $\gamma_L^* > \frac{1}{2}$ .

Against this benchmark we can evaluate the implications of clientelism. Now suppose that the parameters  $z_i^p$  are non-zero. Party  $L$  assigns welfare weight  $\sigma_i [\theta + (1 - \theta) \gamma_L z_i^L]$  to private transfers to group  $i$  voters. If party  $L$  who the voters prefer more on average ( $\sum_i \mu_i \sigma_i l_i > 0$ ) also has a stronger party organization (in the sense of having clientelism parameters  $z_i^L$  which are at least as large as  $z_i^R$  for every  $i$ ), it is evident that party  $L$  will

be more inclined to engage in clientelistic transfers than party  $R$ , and this will further reinforce party  $L$ 's electoral advantage. Now the equilibrium  $\gamma_L$  will be even higher than in the case with zero clientelism. This will further reinforce party  $L$ 's inclination to engage in clientelism. *The net result will be policy non-convergence between the two parties.* The more popular and organized party will be more clientelistic, further boosting its grip on power.

What are the welfare costs of clientelism? One is that clientelistic transfers will be directed towards those voter groups that are more amenable to swing (high  $\sigma_i$ ), and those more amenable to respond to clientelistic transfers. These are the groups that the party is more easily able to monitor voting at the personal or community level (high  $z_i^L$ ), and those who benefit more from private transfers (high  $v_{ik}$ ). This may be manifested by high targeting of 'inferior' consumption goods to poor groups who are politically 'amenable'. A certain lack of equity may nevertheless result: groups with low  $\sigma_i$  and low  $z_i^L$  will be discriminated against, even though they may be more deserving on a need basis.

The other welfare cost of clientelism is that it is associated with the expansion of private transfers at the expense of public goods. Under the conditions described above, it is easy to check that party  $L$  which behaves more clientelistically will provide less public goods, both compared with party  $R$  as well as compared with what it itself provides in the absence of clientelism.

If voters are subject to addictions and temptations as presumed by theories of hyperbolic discounting, there will also be a tendency for clientelism to concentrate on provision of addiction or temptation goods owing to their manipulative effect on voting patterns.

Moreover, under the above conditions, clientelism will be associated with lower electoral turnover and political competition. This will be further reinforced as incumbents gain an advantage over potential entrant owing to the salience of the clientelistic carrots and sticks currently provided by the former as against promises and threats of entrants. And the welfare cost of lower political competition in turn is to reinforce the clientelistic practices of the dominant party.

### 3.5 Capture-cum-Clientelism

Now we introduce campaign finance provided to the parties by local elites which enable capture, *a la* Grossman-Helpman (1996). Suppose there is a single elite group  $e$  which can make campaign contributions to either party.

In the preceding theory, we saw how each party effectively seeks to maximize its



vote share by selecting its private transfers, taking ‘vote prices’ or voters’ beliefs about winning probabilities as given.

As in the Grossman-Helpman theory, it is useful to focus on the *influence* rather than *electoral* motive for campaign finance: the elite acts as the principal and has all the bargaining power, while parties are the agents. The elite contributes to the campaign funds of each party in exchange for ‘policy-bending’ in a way that leaves each party as well off in the absence of any campaign contributions. Since each party seeks to maximize its vote share, it means the vote shares will be unaffected by the contributions: electoral probabilities of winning will be the same as in the absence of capture. So we can take these as given, in what follows. Let the equilibrium policies in the absence of capture be denoted by  $\hat{\pi}^L, \hat{\pi}^R$  and the associated win probability for  $L$  be  $\hat{\gamma}_L$ .

The elite will then select policies  $(\pi^L, \pi^R)$  ‘dictated’ to the two parties to maximize expected utility of a representative member of its group (using  $U_e(\pi)$  to denote the utility of the elite group  $e$  over transfer policy  $\pi$ ) :

$$\hat{\gamma}_L U_e(\pi^L) + (1 - \hat{\gamma}_L) U_e(\pi^R) - C^L - C^R \quad (18)$$

subject to the constraint that the participation constraint of each party is binding. For party  $L$  for instance this constraint reduces to the condition that its vote share would remain unaffected:

$$\begin{aligned} & \sum_i \mu_i \sigma_i [\theta \{ \sum_k q_{ik}^L v_{ik} + V_i(g^L) \} + (1 - \theta) \hat{\gamma}_L z_i^L \sum_k q_{ik}^L v_{ik}] + h \cdot C^L \\ & = \sum_i \mu_i \sigma_i [\theta \{ \sum_k \hat{q}_{ik}^L v_{ik} + V_i(\hat{g}^L) \} + (1 - \theta) \hat{\gamma}_L z_i^L \sum_k \hat{q}_{ik}^L v_{ik}] \end{aligned}$$

which provides the ‘cost’ of policy  $\pi^L$  to the elite of

$$C^L(\pi^L) = \frac{1}{h} \sum_i \mu_i \sigma_i [\theta \{ \sum_k (\hat{q}_{ik}^L - q_{ik}^L) v_{ik} + V_i(\hat{g}^L) - V_i(g^L) \} + (1 - \theta) \hat{\gamma}_L z_i^L \sum_k (\hat{q}_{ik}^L - q_{ik}^L) v_{ik}] \quad (19)$$

Hence the elite will select  $\pi^L$  to maximize  $\hat{\gamma}_L U_e(\pi^L) - C^L(\pi^L)$ , which is equivalent to maximizing expression (20) below.

**Proposition 2** *With a single elite group  $e$  which makes campaign contributions to both parties, the policy choice induced for party  $p$  maximizes*

$$\sum_i \mu_i \sigma_i [\theta \{ \sum_k q_{ik}^p v_{ik} + V_i(g^p) \} + (1 - \theta) \hat{\gamma}_p z_i^p \sum_k q_{ik}^p v_{ik}] + h \hat{\gamma}_p [\sum_k q_{ek}^p v_{ek} + V_e(g^p)] \quad (20)$$

*provided only the influence motive operates (i.e., the party’s participation constraint binds).*

**Corollary 3** *A rise in capture (i.e., the parameter  $h$ ) will reduce the public good, and increase private transfers to the elite group, provided the elite group has negligible preferences for the public good ( $V_e'$  is small enough).*

*A rise in clientelism ( $z_i^L$  for non-elites) will induce a rise in private transfers to non-elites, and decreases in the public good as well as private transfers to the elite.*

Just as in the Grossman-Helpman model, capture ends up augmenting the welfare weight of the elite group  $e$  by  $h \cdot \hat{\gamma}_L$ , which may be referred to as the *capture effect*. Capture provides an additional reason for policy non-convergence. The favored party is more subject to capture, as elites are more willing to contribute to it.

The net effect of capture-cum-clientelism is a political distortion of party  $L$ 's policy represented by a political weight of  $\sigma_i[\theta + (1 - \theta)z_i^L \hat{\gamma}_L]$  for private transfers to non-elite group  $i$ , and  $h \cdot \hat{\gamma}_L + \delta_e[\theta + (1 - \theta)z_e^L \hat{\gamma}_L]$  for private transfers to the elite group. The corresponding weights for public good valuations are  $\sigma_i \theta$  and  $\sigma_i \cdot h \cdot \hat{\gamma}_L + \theta$ .

Hence an increase in coverage  $q_{jl}$  of private transfer of good  $l$  to non-elite group  $j$  will entail comparing the marginal value of this transfer per rupee spent:  $\frac{v_{jl}}{t_l} \sigma_j [\theta + (1 - \theta)z_j^L \hat{\gamma}_L]$  with its cost in terms of reduction in public good provision:  $\theta \sum_{i \neq e} \mu_i \sigma_i V_i' + (\mu_e \delta_e + h \cdot \hat{\gamma}_L) V_e'$ . And private transfer of the same good to the elite group compares  $\frac{v_{jl}}{t_l} \sigma_j [\theta + (1 - \theta)z_j^L \hat{\gamma}_L + h \cdot \hat{\gamma}_L]$  with  $\theta \sum_{i \neq e} \mu_i \sigma_i V_i' + (\mu_e \delta_e + h \cdot \hat{\gamma}_L) V_e'$ .

This explains the comparative static effects of varying capture or clientelism parameters. If the elites do not value public goods, a rise in capture induces an increase in delivery to them of private goods (which they value). In turn this reduces the public good and raises the shadow cost of private goods delivered to non-elites. Hence targeting of private goods to non-elites, as well as public goods will fall.

Conversely, a rise in clientelism will raise clientelistic transfers to non-elites, lower public goods and transfers to elites. With regard to private transfers, thus, *capture and clientelism tend to be negatively correlated*.

## 4 Empirical Implications

Measuring government accountability by targeting of public expenditures on specific programs to population groups defined by socio-economic and demographic status may be

adequate when capture is the only political distortion. But it will not provide any indication of resource misallocations resulting from clientelism. A large fraction of public services flowing to poor or disadvantaged groups may provide an appearance of successful targeting, yet these may simply represent widespread incidence of clientelism. Information is rarely available concerning how narrowly concentrated these transfers are to specific subgroups *within* the targeted groups. Targeting measures for specific programs would not be able to incorporate the overall composition of public spending between different kinds of benefits. Of particular importance may be programs or transfers that are conspicuously absent, concerning public goods or investments in health or education which impart long-term benefits. These problems afflict many of the recent studies of government accountability in developing countries cited in the Introduction, including our own.

How can one empirically test for the presence of significant clientelism? It is evident from the theoretical analysis that one needs to distinguish between different private good programs, according to the way they are valued by elites and non-elites. Clientelism would tend to be marked by transfers of ‘inferior’ consumption goods (such as access to employment in public works, subsidized food, low-income housing or help in coping with personal emergencies) to select poor groups of voters in an implicit *quid pro quo* for their political support. There would be a bias in favor of recurring private benefits (food, work, help in emergencies) rather than one-time long-term benefits (such as land reform, housing, or obtaining business permits). By contrast, capture would tend to be marked by transfers of ‘superior’ production goods to local elites (in the West Bengal setting these comprise agricultural inputs: credit, fertilizers, or irrigation).

The two kinds of transfers will typically co-exist. Measuring pro-poor targeting by simple average counts aggregating across all private goods, or any particular private good provided, will provide a misleading impression of political distortions. There may be a large multitude of clientelistic programs each providing some inferior good to select non-elite voter groups, which may conceal the diversion of a few high-value superior goods to elites. Both kinds of programs come at the expense of public good programs, as well as programs that provide most of their benefits in the long-term. This complicates the empirical assessment of targeting, as one needs comprehensive information concerning a multitude of different programs, their relative values to elites and non-elites, whether the composition of public services or their intra-jurisdictional allocation shows biases reflecting the potential worth of these respective programs in extracting votes from key swing groups.

## 4.1 Evidence from West Bengal

We report results of some household surveys concerning receipt of public service benefits and political participation, carried out in 2004-05 in a random sample of 89 villages chosen from agricultural districts of West Bengal, whose results have been reported in Bardhan, Mitra, Mookherjee and Sarkar (2009) and Bardhan, Mookherjee and Parra Torrado (2010). There were 2410 households in the sample, representing approximately 25 households out of 400 per village selected randomly from different landowning classes. The survey was marked by a low non-response rate with regard to the questionnaire concerning asset, demographic, receipt of benefits from different kinds of government programs and questions concerning political awareness, participation and voting behavior (only 15 of the originally contacted households refused to participate). At the end of the survey respondents were asked to participate in a secret ballot, to vote for different political parties active in the local area. 2100 households agreed to participate in this exercise, which enables us to relate political support to benefits received at the household level.

Table 1 provides a summary of the distribution of household characteristics in the sample, across different classes defined by ownership of agricultural land. Almost half of all household heads were landless; among them only one-quarter listed agriculture as their principal occupation, and 40% of them had immigrated into the village since 1967. In contrast, over two-thirds of the remaining half of household heads were engaged in agriculture as their principal occupation, while about 15% of them were immigrants. Approximately 35% of households belonged to scheduled castes and tribes (SC/ST), and 11% of heads were female. These are two of the most vulnerable and poor groups in the population.

Table 2 provides the proportion of households in the village that received various kinds of benefits distributed by local governments, as well as the proportion of these benefits that were delivered to SC/ST and female-headed households respectively. 27% of the population received benefits from at least one program over the period 1998-2004. The most widespread benefits were reported for roads (9%), followed by drinking water access (4%), employment (4%), below-poverty-line (BPL) cards entitling recipients to subsidized food and other necessities delivered through the public distribution system (3%), housing and toilets built (2%), delivery of subsidized credit and agricultural inputs (minikits): less than 1% each. Receipt of land titles and tenancy registration, the two main land reform programs, registered even smaller numbers, as most of the land reforms in the state had already been carried out in the 1970s and 1980s.

Table 2 also shows that the low caste households were over-represented among recipients: the proportion of benefits going to these groups were higher than their demographic weight (34%), with respect to all of the major programs, most especially employment,

and housing and toilets. In contrast, female-headed households were under-represented relative to their demographic weight in most programs, with the exception of housing and toilets.

Table 3 presents evidence suggestive of the importance of clientelist motives in voting, drawn from Bardhan et al (2009, Table 16). It shows logit coefficients of the likelihood of a household head voting for the Left Front coalition (that dominated most local governments, with a median share of approximately 70% of village council *gram panchayat* (GP) seats across villages in the sample). We separate benefits into one-time benefits (drinking water, BPL card, housing and toilet, roads and land reform) and recurring benefits (employment, credit, mini-kits).<sup>5</sup> We also include a separate category of benefits representing help in personal emergencies, and help in connection with one's occupation (such as obtaining vendor permits or licenses, or avoiding police harassment at work). The number of benefits of each kind received since 1978 (when the local governments were established), are interacted with the Left Front share of seats in the local government at the time that the benefit was received. Benefits received by close acquaintances such as close friends or extended family are included in the regression. Also included are improvement in economic status (household income, own-housing, and income from agriculture) since 1978, besides household characteristics such as land, education, occupation, immigrant status, gender of head and village dummies.

The table shows that receipt of recurring benefits from Left-Front dominated governments were significantly correlated with the likelihood of voting for the Left-Front, but not the receipt of one-time benefits. Knowledge of distribution of such personalized benefits to close acquaintances by Left-dominated governments in contrast undermined political support for the Left by voters, controlling for one's own benefits received – indicating the rivalrous, excludable nature of these benefits. Political support for the Left Front was also correlated with receipt of help in personal emergencies, and with respect to one's occupation. General improvements in economic well-being were not related to voting patterns, but improvement in agricultural incomes in Left-dominated areas correlate positively with tendency to vote Left. These are consistent with the hypothesis of widespread clientelism, as supply of recurring personalized benefits and help with agricultural improvements are classic instances of party-voter clientelistic relationships in a rural setting.

These results are consistent with a case study evidence provided by Ruud (1999) in the context of two West Bengal villages in Bardhaman district. Ruud's ethnographic account shows how the Left Front forged a close relationship with a particular scheduled caste, the *bagdis*, favoring them in the distribution of land titles and subsidized IRDP

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<sup>5</sup>The status of roads is however unclear, whether it corresponds to a one-time or recurring benefit. The results do not materially change if it is moved from the one-time to the recurring group.

loans disproportionate to their demographic shares, while other scheduled castes such as the *muchis* received substantially less. The *bagdis* received 23-24% of land titles and IRDP loans, while comprising only 7.6% of the village population; *muchis* and scheduled tribes (*santals*) received between 5–7% while comprising 5% of the population each. As a result the *bagdis* almost doubled their (per household) ownership of agricultural land over the past three decades, and controlled by the 1990s nearly the same amount of land as the previous dominant caste, the *aguris*. Both these groups owned approximately 29% of land in the village by 1993, in contrast to 14% and 47% respectively in 1960. The *muchis* owned less than 3% of the land, both in 1960 and 1993. *Bagdis* came to be represented in the GP: in 1993 all but one SC/ST member on the GP was a *bagdi*. They also came to be represented on the boards of village cooperative societies and recently created gram committees. Interviews with local and district party activists indicated that ‘favouring party affiliates in the distribution of land and IRDP loans amounts almost to an unofficial party line’.

## 4.2 Impact of Political Reservations in Local Government

In Bardhan, Mookherjee and Parra Torrado (2010) we used the same dataset as in this paper to examine the impact of reservations of the position of chairperson *pradhan* of the local government council (GP). Since 1998, one third of GP *pradhan* positions have been reserved for women, besides reservations for SC and ST groups in accordance with their demographic share. Villages are randomly divided into three groups: reserved for SC candidate, reserved for ST candidate, and other. Within each group, every third village in a village list is reserved for women candidates, with different villages being chosen from this list in successive elections. Table 4 shows the proportions of villages in our sample reserved for women and SC/ST candidates respectively in the 1998 and 2003 elections.

The period covered 1998-2004 spanned two different GP administrations, one for 1998-2003 and another for 2003-04, the first year of GPs elected in 2003. We thereafter run regressions for the intra-village targeting ratios for SC/ST and female-headed groups respectively, using the village panel spanning the two GP administrations. Village and timeblock dummies are included, and the main regressor of interest is the effect of randomized reservation of the *pradhan* position for women. Later we examine the effect of reervation of the *pradhan* position for a SC/ST candidate. Since selection of such villages was based mainly on the demographic share of SC/ST households, we include this share among the controls. The data used in the regressions involve 87 villages for the two timeblocks in question. When examining the targeting of specific services the number of villages used shrinks, since intra-village targeting ratios can be constructed only for villages with a positive volume of services under any given program. Hence we end up

with an unbalanced village panel when examining targeting of specific programs.

Table 5a shows the impact of the women reservation on intra-village shares of SC/ST and female-headed households (FEMs hereafter) respectively, with regard to the total number of benefits disbursed, in the village panel corresponding to the two elected GPs. There is a significant negative effect on the SC/ST share (by over 10% compared with 45% for non-reserved villages), and a negative but statistically insignificant effect on the FEM share (1.6% lower share, compared with a mean of 8.6% in non-reserved villages). Hence reservation of pradhan positions for women candidates resulted in a deterioration of intra-village targeting to two of the most vulnerable groups in rural West Bengal.

This result is inconsistent with both classic Downsian theories (which predict no impact), as well as hypotheses that women elected to reserved pradhan positions act as rubber stamps for their spouses who wield effective political power.

The citizen-candidate model of Chattopadhyay-Duflo (2003, 2004) hypothesizes that women pradhan empathize with the needs of women in the village. This hypothesis would predict (contrary to the facts) a positive impact of the reservations on the FEM share, with no implications for the SC/ST share (owing to the fact that gender ratios are similar across caste groups).

Could a plausible variation on the hypothesized preferences of citizen-candidates be consistent with the evidence? One possible version could be that women elected to reserved posts came from affluent or politically well-connected families, who did not empathize much with SC/ST groups or women-headed households. In order to explain the evidence, however, one would require women from well-connected well-to-do families to be significantly more biased in their preferences against SC/ST groups against male members of their families. It is hard to imagine why this may be the case.

One way to test for this variation of the citizen candidate theory is to examine the effects of joint reservation of pradhan positions for SC/ST women. Women elected to reserved posts from SC/ST households could not plausibly be biased against their own caste group. Hence the effects of joint women SC/ST reservations should be substantially different from the effect of women reservations. Table 5b shows a regression for the effects of joint SC/ST pradhan reservations on the intra-village share of SC/ST households. We still see a 8% decline in the SC/ST share. The effect is not statistically significant, which owes partly to the fact that the proportion of pradhan positions reserved for women SC/ST candidates in our sample was small (16% and 9% in 1998 and 2003 respectively, compared with 39% and 28% seats reserved for women). Hence this variant of the citizen-candidate theory does not receive any support either.

Could the results be explained instead by an elite capture hypothesis? Such a theory

would posit the decline in the SC/ST and FEM shares as resulting from the pressure imposed by local elites on a politically inexperienced novice representing a vulnerable section of the population. An elite capture theory would predict the declines would be larger in villages with greater economic inequality, the key determinant of the extent of capture. Table 6 adds interactions of the reservations dummy with various measures of land inequality — the proportion of cultivable land owned by medium and big landowners, the proportion of SC/ST households that are landless or marginal landowners. It shows that the reduction in the SC/ST share is significantly attenuated in villages with greater land inequality between large landowners and SC/ST groups, in contrast to the prediction of the capture hypothesis. However, the presence of capture is indicated by the negative effect of land inequality itself (i.e., non-interacted with the female reservation dummy).

Now consider the implications of clientelism. As explained in Section 2, this requires personalized interaction of party activists with voters, and management of the party hierarchy by local leaders. The GP pradhan who plays an important role in the allocation of GP benefits, needs to be able to manage party organization and the distribution of personalized benefits to voters in line with their recent willingness to indicate their support for the incumbent party. It is a role that requires considerable political experience. Women have traditionally been highly under-represented in village politics or government, with less than 7% of GP seats occupied by women prior to 1993. In our sample, of the 34% of the women GP pradhans elected to a reserved seat, 29% had never held political office before. The reservations thus resulted in the election of politically inexperienced candidates to the apex position in the GP, which undermined the smooth operation of traditional forms of clientelistic exchange with favored sections of the local population. Since particular scheduled castes may be the recipient of such favors, the reservations would result in a reduction in such transfers to the traditionally favored groups. The net effect would be a reduction in the share of the SC/ST group as a whole, as well as other vulnerable groups such as FEMs. This is what we saw in Table 5a.

Our theory indicates the extent of clientelism is negatively related to the extent of elite capture. Hence the higher the extent of capture, the lower are clientelistic transfers in the absence of any reservations (consistent with the negative coefficient with respect to land inequality and SC/ST poverty rate in Table 6). The scope for clientelism to decline owing to political inexperience of the pradhan is then smaller. This can then explain why the adverse impact of the women reservations is attenuated in high elite capture villages, as seen in Table 6.

This also helps rule out explanations based on a combination of elite capture and the citizen candidate model, e.g., if those elected to the reserved posts were more likely (compared to those elected to unreserved seats) to come from elite households (owing to greater inequality of education and political participation among women compared



to men) with powerful male spouses. Such women pradhans might then be expected to discriminate against SC/ST households as well as female-headed households, more strongly compared to those elected to unreserved posts. This hypothesis would then predict the adverse SC/ST targeting impacts of women reservations to become worse in villages with high land inequality, contrary to what we see in Table 6.

Consider next the composition of benefits across different programs. Recall from Table 2 that SC/ST groups were particularly favored in the distribution of employment in public works, and housing and toilets, both inferior goods not desired by elites. Our theory predicts the negative impact of female reservations on targeting to the SC/ST group of inferior goods. Conversely it would imply less clientelistic transfers of superior goods to elites, which would imply more would become available to non-elites. Hence we expect a negative impact of SC/ST shares of inferior goods, and a positive impact for superior goods.

Table 7 examines the impact of the reservations for specific programs. Exactly as predicted, there is a significant negative impact on SC/ST shares of inferior goods, and a positive impact on their shares of superior goods if land inequality is low. As land inequality and elite capture rise, this positive impact on SC/ST share of the non-inferior goods is attenuated, as the increased power of elites imply greater resistance to erosion of their favored positions.<sup>6</sup>

Table 8 tests another implication of the preceding explanation in terms of political inexperience of the women pradhans elected in reserved pradhan posts. If true, the negative effects on SC/ST shares of inferior goods would be more significant for women pradhans that had no prior presence in the GP, compared with those who had been elected to a GP post before. The interaction of the reservation effect with the dummy for a new GP member is negative (though statistically insignificant) for inferior good programs as a whole, and negative and significant in the case of one of those programs: drinking water. The converse interaction effect on their share of kits is zero for the 1998-2004 period, but positive and significant for the 1978-2004 period.

What does our theory predict about the impact of SC pradhan reservations? Reservations on the basis of caste are likely to have very different effects, for a variety of

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<sup>6</sup>However, this negative interaction appears only with respect to the proportion of landless in the village, not the proportion of land owned by medium and large landowners. It could be argued that SC/ST households who are typically over-represented in the landless group, have less use for minikits if they are more likely to be landless. This could provide an alternative explanation for the negative interaction in the case of the minikits. It does not, however, explain the negative interaction in the case of the IRDP loans, which would be more valuable to the SC/ST population if they were less likely to own land.

reasons. Women elected to reserved positions may come from elite groups. Women in West Bengal have traditionally played a less active role in village political and social activities compared with men, owing to the greater role they play in household activities. Reservations based on caste have been in effect for many decades in India, in contrast to women reservations which started only in the late 1990s. Hence those elected to SC reserved positions are likely to have greater political experience and be better informed about the SC community compared to those elected to posts reserved for women. It is more likely that in the former there will be less scope for elite capture, and greater scope for clientelistic transfers to the SC community.

Both of these effects would raise the SC/ST share of benefits. The share of other vulnerable groups such as FEMs could also rise (there are female headed households within SC/ST groups, and even for non-SC/ST female headed households the reduction in elite capture would translate into higher shares). Table 9 presents the effects of the SC pradhan reservations. As predicted, shares of both SC/ST and FEMs increase significantly. The former effectively neutralizes to some extent the tendency for higher echelons of government to discriminate against the SC/ST community by allocating less benefits to villages where they constitute a larger share, as seen in the first column of Table 9, as well as in our earlier work using a different dataset (Bardhan and Mookherjee (2006a)).

Our theory also predicts the positive effect on benefits distributed to SC/STs and FEMs to occur for inferior good programs. Table 10 shows that this is indeed the case: their receipt of kits and IRDP does not go up significantly, while their receipt of inferior goods and roads does go up significantly.

## 5 Concluding Comments

We have presented a theory of political clientelism-cum-capture, which generates a number of testable implications for allocation of public services across different kinds of service programs and different recipient groups within the population. The empirical evidence from rural West Bengal is consistent with these predictions. Case studies indicate that the Left Front which has dominated the political landscape of rural Bengal since the late 1970s, forged clientelistic relations with selected low caste groups, favoring them in the distribution of benefits in exchange for their political support. Political support for the Left Front was related significantly to the receipt only of recurring program benefits by voters, not one-time benefits (such as land titles or housing) which are usually more significant sources of citizen welfare. The impact of political reservations of GP pradhan positions for women and SC candidates respectively had contrasting impacts on targeting of benefits to SC/ST and female-headed households: women reservations had an adverse effect, while SC reservations had a positive effect.

Similar results have been obtained in the context of South Indian villages by Besley, Pande and Rao (2005), and Besley, Pande, Rahman and Rao (2006). These results are difficult to reconcile with standard models of redistributive politics, such as Downsian, citizen candidate or elite capture theories, or combinations of these. We argued that they can be explained by the theory of clientelism-cum-capture: reserving pradhan posts for women resulted in a decrease in clientelism (and perhaps also capture) owing to the political inexperience of women elected to these posts, whereas the SC reservations resulted in increased scope for clientelism and reduced scope of elite capture. This suggests that the adverse effect of women reservations on targeting shares of SC/ST and female-headed households will decline over time as elected women candidates gain political experience (an issue explored by Beaman et al (2008)), while the positive effects of the SC reservations will endure.

This interpretation of the evidence suggests that targeting ratios alone cannot serve as a reliable measure of government accountability in service delivery. On the face of it the reservations of pradhan positions for women were associated with a decline in targeting performance of local governments measured by proportion of benefits flowing to poor and vulnerable groups within the village. At the same time reservations for SC/ST candidates were associated with an improvement in targeting. However, if our hypothesis is true that the effects of the women reservations resulted from a decline in clientelism and capture owing to the inexperience of elected women officials, the decline in targeting ratios represented a reduction in political distortions, and may thus have resulted in a net welfare improvement. Conversely, the increased targeting to SC/ST groups as a result of the SC/ST reservations may be a manifestation of enhanced clientelism. It may be the case that benefits were diverted from other needy non-SC/ST groups, or from public goods essential for long run development.

If clientelism is a significant phenomenon in developing countries, we therefore need to rethink how to measure government accountability. This is a complicated task. How can we distinguish genuine improvements in catering to the needs of poorer and needier groups from clientelism? The costs of clientelism are more subtle and more difficult to detect than the costs of elite capture. These include over-provision of inferior goods with short-term consumption benefits at the expense of public goods and other long-term benefits, and narrowness of recipient groups within vulnerable populations. By their very nature, clientelistic exchanges tend to occur with poorer sections of society, making it difficult to distinguish clientelism from genuinely pro-poor targeting. Clientelism tends to be directed to narrow subsections of the poor who are more amenable to sell their political support in exchange for private benefits supplied by politicians, rather than those with the greatest need. In a setting where public services are in short supply and not everyone who needs such services can be accommodated, it is intrinsically difficult to identify whether others with greater need but less political clout were ignored. Other adverse consequences of clientelism – such as perpetuating the political power of established and

dominant political parties, inhibiting political competition, and perhaps even creating perverse incentives among politicians to prevent long-term development in order to keep the price of votes low – are even harder to detect.

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**TABLE 1. Sample Characteristics: Household Heads**

| Agricultural Land Ownership | No. of households | Age | % Male | Maximum education in household | % SC | % ST | % Agriculture Occupation | % Immigrants |
|-----------------------------|-------------------|-----|--------|--------------------------------|------|------|--------------------------|--------------|
| Landless                    | 1214              | 45  | 88     | 6.6                            | 35   | 2.4  | 26                       | 40           |
| 0-1.5 acres                 | 658               | 48  | 88     | 7.8                            | 34   | 4.9  | 65                       | 17           |
| 1.5-2.5 acres               | 95                | 56  | 92     | 10.8                           | 15   | 7.4  | 82                       | 19           |
| 2.5-5 acres                 | 258               | 58  | 93     | 11.1                           | 24   | 3.1  | 72                       | 10           |
| 5-10 acres                  | 148               | 60  | 89     | 12.5                           | 22   | 4.1  | 66                       | 12           |
| 10 acres and above          | 29                | 59  | 100    | 13.9                           | 24   | 6.9  | 72                       | 14           |
| ALL                         | 2402              | 49  | 89     | 8.0                            | 32   | 3.4  | 47                       | 28           |

| <b>TABLE 2: PUBLIC BENEFITS RECEIVED DURING 1998-2004</b> |                |                     |       |
|---|----------------|---------------------|-------|
|   | VILLAGE %      | INTRAVILLAGE SHARES |       |
|   | HH's REPORTING | SC/ST               | FEM   |
| Any Benefit   | 26.92          | 41.56               | 8.58  |
| Drinking Water  | 4.03           | 38.03               | 8.19  |
| Housing and Toilet  | 1.95           | 50.31               | 12.38 |
| Employment  | 3.63           | 63.26               | 7.60  |
| BPL card  | 2.73           | 31.83               | 8.89  |
| Roads   | 9.32           | 33.82               | 9.03  |
| IRDP Loans  | 0.70           | 52.39               | 7.36  |
| Minikits  | 0.94           | 47.57               | 7.79  |

**Notes:** Intravillage shares: proportion of benefits reported by designated group.  
SC/ST: scheduled caste or tribes; FEM: female-headed households  
percent of village households for SC/ST: 35; for FEM: 10



| <b>TABLE 3: LOGIT REGRESSION FOR LEFT FRONT VOTE<br/>IN GP (LOCAL GOVT) ELECTIONS</b>   |                            |
|---|----------------------------|
|   | <b>Vote for Left Front</b> |
| # one-time own-benefits*Left-share  | .044<br>(.095)             |
| # one-time acquaintance-benefits*Left share   | -.038<br>(.073)            |
| # recurring own-benefits*Left share   | .403**<br>(.165)           |
| # recurring acquaint.-benefits*Left share   | -.277*<br>(.166)           |
| GP help with occupation*Left share  | .410**<br>(.186)           |
| GP help in emergencies*Left share   | .284*<br>(.159)            |
| Income improvement since 1978*Left share  | .020<br>(.014)             |
| Improvement in house type since 1978*Left share   | .128<br>(.202)             |
| Increase in #rooms since 1978*Left share  | .076<br>(.089)             |
| Agri. income improvement since 1978*Left share  | .093***<br>(.028)          |
| Number of observations, villages  | 1637,89                    |
| <p><b>Notes:</b> Dependent variable is based on vote cast at end of survey.<br/> Left Share denotes GP Left share at the time of receiving benefits.<br/> Controls include village dummies, agri. and other land owned, education,<br/> dummies for SC, ST, occupation, gender of head and immigrant.<br/> ***, **, * denotes significant at 1%, 5%, 10%.<br/> Standard errors in parentheses, clustered at GP level.</p> |                            |

| <b>TABLE 4: GP PRADHAN RESERVATIONS</b> |           |       |           |       |
|---|-----------|-------|-----------|-------|
|   | For Women |       | For SC/ST |       |
| Election year                           | # GPs     | % GPs | # GPs     | % GPs |
| 1998                                    | 22        | 39    | 19        | 33    |
| 2003                                    | 16        | 28    | 23        | 40    |

| <b>TABLE 5a: WOMEN PRADHAN RESERVATION EFFECTS<br/>TARGETING OF AGGREGATE NUMBER OF BENEFITS, 1998-2003-04</b>  |                           |                         |
|---|---------------------------|-------------------------|
|   | Intra-Village SC/ST Share | Intra-Village FEM Share |
| Reserved Dummy  | -.109**<br>(.043)         | -.016<br>(.014)         |
| constant  | .449***<br>(.018)         | .086***<br>(.009)       |
| Number observations, villages   | 164,87                    | 164,87                  |
| R-sq.   | .019                      | .115                    |
| <p><b>Notes:</b> ***, **, * denotes significant at 1%, 5%, 10%<br/> Robust standard errors clustered at GP level, in parentheses<br/> Village and GP timeblock dummies included<br/> Dependent variable: intra-village share of specified group in distribution of benefits<br/> Using data from two GP administrations: 1998-03, 2003-04</p> |                           |                         |

**TABLE 5b: JOINT SC/ST-WOMEN PRADHAN RESERVATION EFFECTS ON TARGETING TO SC/ST GROUPS (TOTAL NUMBER OF BENEFITS)**

|   | Intra-Village SC/ST Share |
|---|---------------------------|
| Reserved Dummy  | -.081<br>(.060)           |
| constant  | .540*<br>(.300)           |
| Number observations, villages   | 164,87                    |
| R-sq.   | .027                      |
| <p><b>Notes:</b> ***, **, * denotes significant at 1%, 5%, 10%<br/> Robust standard errors clustered at GP level, in parentheses<br/> Village and GP timeblock dummies included<br/> Dependent variable: intravillage share of SC/STs<br/> Includes control for demographic share of SC/STs</p> |                           |

**TABLE 6: HETEROGENEITY OF FEMALE RESERVATION EFFECT  
W.R.T. VILLAGE LAND INEQUALITY**

|                                   | Intra-village SC/ST share |
|-----------------------------------|---------------------------|
| Reservation dummy                 | -1.739***<br>(.445)       |
| Reservation*% Land Medium and Big | .603***<br>(.181)         |
| Reservation*SC/ST Landlack Rate   | 1.768***<br>(.413)        |
| % Land Medium and Big             | -.096<br>(.404)           |
| SC/ST Landlack Rate               | -3.624***<br>(.928)       |
| Constant                          | 3.961***<br>(1.880)       |
| Number of observations,villages   | 157,82                    |

**Notes:** SC/ST Landlack rate denotes fraction SC/STs either landless or marginal landowners. Controls include village and GP timeblock dummies, besides % households landless, % households SC/ST and their interactions with reserved dummy. \*\*\*, \*\*, \* denotes significant at 1%, 5%, 10%. Robust standard errors in parentheses, clustered at GP level.

|  | All Benefits     | Drinking Water  | Housing Toilet   | Employment      | BPL Card         | Roads           | IRDP Credit          | Kits               |
|--|------------------|-----------------|------------------|-----------------|------------------|-----------------|----------------------|--------------------|
| Reservation Dummy  | -.157*<br>(.093) | -.351<br>(.228) | .136<br>(.295)   | -.029<br>(.208) | -.375<br>(.246)  | -.172<br>(.185) | 3.430***<br>(.968)   | .527***<br>(.169)  |
| Reservation*% Land<br>Medium Big   | .298**<br>(.139) | .368<br>(.403)  | -.632<br>(1.484) | .306<br>(.295)  | .888**<br>(.349) | -.172<br>(.247) | .931**<br>(.407)     | -.041<br>(.880)    |
| Reservation*% HH<br>Landless   | -.062<br>(.203)  | .506*<br>(.287) | -.185<br>(.585)  | -.175<br>(.383) | .136<br>(.311)   | .197<br>(.302)  | -6.119***<br>(1.188) | -.979***<br>(.340) |
| Number of observations,villages  | 164,87           | 118,75          | 75,51            | 95,66           | 105,67           | 132,78          | 53,43                | 68,52              |
| R-sq.  | .03              | .20             | .08              | .04             | .19              | .10             | .83                  | .44                |
| <b>Notes:</b> Controls include village and GP timeblock dummies,% Land medium and big, % households landless.<br>***, **, * denotes significant at 1%, 5%, 10%.Robust standard errors in parentheses, clustered at GP level. |                  |                 |                  |                 |                  |                 |                      |                    |

**TABLE 8: HETEROGENEITY OF WOMEN RESERVATION EFFECT ON SC/ST SHARE  
W.R.T. PRIOR EXPERIENCE**

|                               | Intra-Village SC/ST Share of: |                     |                 |                   |
|-------------------------------|-------------------------------|---------------------|-----------------|-------------------|
|                               | All Benefits                  | Drinking Water      | Kits 1998-2004  | Kits 1978-2004    |
| Reserved Dummy                | -.100<br>(.105)               | .596<br>(.394)      | .403*<br>(.229) | .089<br>(.229)    |
| Reserved*New GP Member        | -.072<br>(.088)               | -1.091***<br>(.383) | .000<br>(.000)  | .537***<br>(.197) |
| New GP Member                 | -.077<br>(.049)               | -.001<br>(.105)     | .293<br>(.355)  | -.315**<br>(.127) |
| Number observations, villages | 160,87                        | 116,75              | 67,51           | 111,61            |
| R-sq                          | .25                           | .34                 | .45             | .58               |

**Notes:** New GP Member dummy: Pradhan is GP member for first time.  
Last two columns run on 1998-2004 and 1978-2004 village panels respectively.  
Controls include village and GP timeblock dummies, % Land medium and big, % households landless and interactions of these with reserved dummy.  
\*\*\*, \*\*, \* denotes significant at 1%, 5%, 10%. Robust s.e.'s in parentheses, clustered at GP level.

| <b>TABLE 9: IMPACT OF SC RESERVATIONS</b>  |                                 |                  |                 |
|--|---------------------------------|------------------|-----------------|
|  | Village<br>Per HH<br># Benefits | SC/ST<br>Share   | FEM<br>Share    |
| SC Pradhan Reservation   | .053<br>(.045)                  | .092**<br>(.042) | .033*<br>(.017) |
| % HHs SC/ST  | -.315***<br>(.104)              | -.068<br>(.669)  | .435<br>(.521)  |
| Constant   | .445***<br>(.046)               | .405<br>(.263)   | -.102<br>(.205) |
| Number of observations, Villages   | 178,89                          | 164,87           | 164,87          |
| R-sq.  | .24                             | .07              | .06             |
| <p><b>Notes:</b> Controls include village and time dummies.<br/> ***, **, * denotes significant at 1%, 5%, 10%.<br/> Robust standard errors in parentheses, clustered at GP level.</p> |                                 |                  |                 |



| <b>TABLE 10: IMPACT OF SC RESERVATIONS ON SPECIFIC BENEFITS</b>   |                   |                |                 |                  |
|---|-------------------|----------------|-----------------|------------------|
|   | All programs      | Kits and IRDP  | Inferior Goods  | Roads            |
| All HHs   | .052*<br>(.029)   | .004<br>(.003) | .016<br>(.014)  | .015<br>(.018)   |
| Number of observations, Villages<br>w-R-sq.   | 533,89<br>.48     | 533,89<br>.14  | 533,89<br>.37   | 533,89<br>.15    |
| SC/ST HHs   | .124***<br>(.045) | .008<br>(.006) | .058*<br>(.034) | .039**<br>(.018) |
| Number of observations, Villages<br>w-R-sq.   | 479,80<br>.41     | 479,80<br>.09  | 479,80<br>.27   | 479,80<br>.33    |
| FEM HHs   | .116**<br>(.046)  | .01<br>(.009)  | .075*<br>(.039) | .034<br>(.024)   |
| Number of observations, Villages<br>w-R-sq.   | 408,68<br>.32     | 408,68<br>.06  | 408,68<br>.15   | 408,68<br>.33    |
| <p><b>Notes:</b> Dependent variable is per household number of benefits of specified type for specified group. Inferior Goods include drinking water, employment, housing toilets and BPL cards. Controls include village and GP timeblock dummies, % SC/ST, landless; % Land Medium and Big. ***, **, * denotes significant at 1%, 5%, 10%. Robust s.e.'s in parentheses, clustered at GP level.</p> |                   |                |                 |                  |