Impact of Political Reservations in West Bengal Local Governments on Anti-Poverty Targeting

Pranab K. Bardhan[*]   Dilip Mookherjee[†]

Monica Parra Torrado[‡]

[CORRECTED VERSION]

[*]University of California, Berkeley, bardhan@econ.berkeley.edu

[†]Boston University, dilipm@bu.edu

[‡]Fedesarrollo, Bogota, Colombia, mparratorrado@worldbank.org

Impact of Political Reservations in West Bengal Local Governments on Anti-Poverty Targeting[*]

Pranab K. Bardhan, Dilip Mookherjee, and Monica Parra Torrado

[Corrected Version]

Abstract

Political reservation for disadvantaged groups is believed to be a way of improving targeting of publicly provided goods to those groups. This paper examines the impact of political reservations for women and scheduled castes and tribe (SC/ST) candidates in local governments in West Bengal, India between 1998-2004 on targeting to landless, low caste and female-headed households. It differs from existing literature by differences in geographic coverage, time span, and use of self-reported household benefits across a broad range of programs. Reservation of chief executive (pradhan) positions in local government for women was associated with a significant worsening of within-village targeting to SC/ST households, and no improvement on any other dimension of targeting. Reservation of pradhan posts for SC/ST members was associated with a significant increase in benefits received by the village as a whole, improvement in intra-village targeting to female-headed households, and to the group (SC or ST) of the pradhan. The effects of women's reservations are not consistent with simple citizen-candidate or elite capture models of electoral politics. They are consistent with a more complex hypothesis of capture-cum-clientelism which is weakened by election of politically inexperienced women to reserved pradhan posts.

KEYWORDS: Bengal, poverty, targetting

---

1. Introduction

Improving governance is an essential aim of development policy. Many countries have embarked on programs of decentralization in which local governments are given greater authority over delivery of development programs in an effort to promote government accountability. The design of local governance includes rules ensuring representation of minorities and women. An important goal of gender or minority reservation of political elected positions is to improve targeting of developmental and welfare programs to women and vulnerable groups.

However, the extent to which targeting is actually improved depends on the extent to which such mandated reservations succeed in transferring effective power to members occupying the reserved positions, and on the integrity and competence of such officials. It also depends on the extent to which personal preferences of elected leaders affect actual policies and programs (stressed by citizen candidate models of electoral politics), rather than voter preferences and needs (stressed by Downsian models).[1] It is appropriate, therefore, to empirically evaluate the effect of reservations implemented so far on targeting of public service delivery.

This paper studies the effect of political reservations in local governments in favor of women, scheduled castes and tribes (SC/ST) in the Indian state of West Bengal on provision of government services and local public goods. Political reservations at the village level were mandated by the 73rd amendment to the Indian Constitution in 1992.[2] This amendment requires a fraction of seats and Pradhan (chief executive) positions be reserved for SC/ST candidates, in accordance with their demographic share in each Gram Panchayat (GP, or village level council). In addition, one-third of GP seats and one-third of Pradhan positions are reserved for women. In West Bengal, reservations of council seats were implemented since 1993 and Pradhan positions since 1998. GPs with reserved positions are selected randomly according to a rotation schedule for successive elections.

The Indian Parliament is currently considering a bill to amend the Constitution to expand the scope and extent of these reservations to state legislative assemblies and the national Parliament to mirror the reservations at the local government level. The state of Kerala has recently expanded the proportion of seats in local governments and all civic bodies reserved for women to 50%.

---

[1] See Bardhan and Mookherjee (2008) for a discussion of these different models of electoral politics and an empirical test of their relative validity in the context of land reform implementation in the same sample of West Bengal villages.

[2] The 74th amendments to the Indian Constitution mandated political reservations at the (urban) municipality level in 1992.

Rajaraman and Gupta (2008) quote the *Economist* which reported gender-based quotas in elected posts or in political party candidate fields in force in 110 countries in 2008. Whether reservations improve governance significantly is thus a question of considerable policy significance.

The fact that allocation of reserved seats were randomly assigned helps avoid problems of statistical identification of cause and effect. However, since most available statistical data pertains to outcomes of local government actions, it is a challenging task to infer from these how *processes* of local governance function and the way they are modified by reservations. The problem is compounded by the significant social, economic and political heterogeneity across different regions. This limits the scope of the evaluation based on statistical data to effects of political reservations on the *outcomes* of local governance, such as measures of performance with regard to delivery of public services or targeting of different benefit schemes administered by local governments.

A number of papers have already examined this issue in different settings, following the seminal work of Chattopadhyay and Duflo (2003, 2004) for selected districts in states of West Bengal and Rajasthan. These include Besley, Pande, Rahman and Rao (2004), Besley, Pande and Rao (2005) and Ban and Rao (2008) in the context of three South Indian states, Rajaraman and Gupta (2009) in four central Indian states (Orissa, Madhya Pradesh, Chattisgarh and Rajasthan), and an earlier paper of ours (Bardhan, Mookherjee and Parra Torrado (2005)) in the state of West Bengal.[3] Given the substantial heterogeneity of impact that one would expect across different regions or kinds of programs administered by local governments, it is necessary to examine whether the findings of existing studies are specific to their respective contexts.

This paper focuses on the state of West Bengal, using the same set of villages as in our earlier study. We revisit these villages to take advantage of substantially better data. We use a household survey rather than data provided by local governments concerning distribution of benefits. To the extent there may be corruption and diversion of private good benefits away from intended beneficiaries, government records may conceal the actual pattern of targeting. With regard to local public goods such as roads and drinking water (key services provided by local governments), analyses based on government records are not detailed enough to record their location and proximity to different household

---

[3] We should also mention the work of Munshi and Rosenzweig (2008) who stress the importance of the size of caste groups on competence and commitment of the representatives elected from such groups. They exploit the effects of the randomized reservations for SC/ST groups to demonstrate this. Hence they are not concerned with estimating the effect of the reservations *per se.* Their results indicate that the effectiveness of these reservations depend on the relative size of the SC/ST group within the village. To incorporate this possibility, we estimate a regression which permits the effect of the reservations to vary with the demographic share of SC/ST groups.

groups. Asking individual households to identify various local government programs that they have significantly benefitted from provides a way of assessing intra-village targeting of these local public goods.

Another major weakness of our previous study is that it was based on government records for 1998, the very first year of the Pradhan reservations. A newly installed chief executive is likely to take some time to learn the job and settle into the task of administration. Even if they have a distinct impact their effects may not be discernible in the first year or two. This paper is based on a household survey carried out in 2003-04, five or six years after the original Pradhan reservations in 1998. By pooling the data from 1998-2004, this enables a more comprehensive assessment of the wave of Pradhans elected to reserved seats in 1998.

Yet another difference from existing literature concerns geographic coverage, the range of local government programs covered, and measures of targeting. Chattopdhyay and Duflo, the only other authors studying West Bengal, focus only on Birbhum, a single district (out of 18 districts in the state). Our study covers all the 16 agricultural districts in the state, including Birbhum. We exclude only Kolkata, an urban area, and Darjeeling a hill district. Our use of a household survey enables us to study a wider range of local government programs including private benefits such as housing and toilets constructed, employment provided in public works programs, below-poverty-line (BPL) cards, IRDP loans and agricultural minikits distributed. It also enables us to assess the targeting of local public goods directly based on household responses. Chattopadhyay and Duflo study impacts of the reservations on the extent of congruence between allocation of local government expenditures across different programs and preferences expressed by women *vis-à-vis* men; they do not examine distribution of private benefits, or the effect on targeting to landless or SC/ST groups.

Our main findings are the following. With regard to effect of women reservations, we find no improvement in any dimension of targeting, and a worsening of intra-village targeting to SC/ST groups. In contrast, we find a significant positive effect of SC/ST Pradhan reservation on per capita benefits in the village as a whole, and on intra-village targeting to female headed households, as well as the group (SC or ST) for whom the position is reserved. The improvements in village-level benefits partially redressed a systematic tendency for higher level governments to allocate lower benefits to villages with high SC/ST populations. Joint reservations of Pradhan position for women SC/ST candidates resulted in a mixture of the respective effects of reservations for women and SC/ST: an improvement in village average benefits, and deterioration in a number of dimensions of intra-village targeting.

Hence women reservations resulted in some deterioration of targeting, while SC/ST reservations resulted in some improvements. Particularly surprising

is the absence of any significant effect of the women reservations on intra-village targeting to female-headed households, and the adverse spillover on targeting to SC/ST groups. This evidence is not consistent with simple citizen candidate models of electoral politics in which reservations in favor of a particular group result in greater allocation of publicly provided goods to that group.

In order to explore whether adverse targeting effects of women Pradhan reservations could be accounted by possible vulnerability of women Pradhans in reserved seats to the power of local elites, we subsequently examine interactions between the effects of reservations with determinants of elite capture such as land inequality, poverty rates within the village and within SC/ST groups.[4] We find the adverse impact of Pradhan reservations for women on intra-village share of SC/ST groups was significantly smaller in villages **more** susceptible to elite capture (e.g., with greater land inequality and higher poverty within SC/ST groups), contrary to the hypothesis of local elites undermining the power of women elected to reserved Pradhan positions.

Since the evidence does not seem to be consistent with standard versions of either citizen-candidate or elite capture models, we explore a more complex hypothesis of coexistence of elite capture and clientelism which affect the allocation of different benefit programs according to relative preferences of elites and non-elites. Processes of capture within the village involve landed elites appropriating some of the goods they value (such as agricultural minikits and subsidized credit) at the expense of non-elites and minorities. The resulting electoral fallout is minimized via clientelistic arrangements of elites with select SC/ST groups in which the latter are compensated by higher transfers of the goods that the minorities value but the elites do not (such as housing and sanitation, below-poverty-line cards, drinking water and employment on public works programs). Village case studies as well as survey-based evidence analysed elsewhere have pointed to such clientelistic arrangements.[5] Electing a woman with little previous involvement in village politics reduces the effectiveness of such capture-clientelistic practices. Hence they are expected to lower allocation of goods to SC/ST households that only the poor value, while raising the allocation of minikits and credit to them (benefits valued by elites and non-elites alike). Aggregating across different benefit programs, the former effect dominates, thus explaining why the total number of benefits distributed to SC/ST groups falls. The extent to which this happens is attenuated in villages with greater land inequality (as strong elites resist the dilution of capture-clientelistic practices caused by a politically inexperienced Pradhan).

---

[4] See Bardhan and Mookherjee (2000, 2006) for an elaboration of elite capture and empirical investigation of its role in targeting patterns in the same sample of West Bengal villages.
[5] See for instance Ruud (1999) for some village case studies, and Bardhan, Mitra, Mookherjee and Sarkar (2008) for evidence from the same survey as used in this paper.

We find the evidence with respect to effects of women Pradhan reservations on delivery of different programs to SC/ST groups to be consistent with these predictions. This suggests that reservations for women have operated essentially by allowing new faces to appear in local government, which have undermined traditional capture-clientelism mechanisms. The welfare effects of this are complex to assess, as SC/ST groups have lost some clientelism benefits while gaining other benefits owing to reduced capture. Moreover, these effects may be temporary in nature: it is difficult to predict whether the newly elected women leaders will eventually succumb to the traditional capture-clientelism mechanisms as they gain experience.

The remainder of the paper is organized as follows. Section 2 summarizes the institutional background of political reservations and local governments in West Bengal. Section 3 presents the data and explains the empirical strategy. Section 4 presents the main results. Section 5 describes the relation of these results to those in existing literature in more detail, while Section 6 concludes.

2. Institutional Background

Local Governments in West Bengal
In 1950 the Indian Constitution set directions for States to take steps towards decentralized local self-governments[6]. The state of West Bengal established a three-tier system of local self-government under the Panchayat Act in 1957 and the Zilla Parishad Act in 1963. However, it was only until the late 1970s when the Left Front, a political alliance led by the Communist Party of India (CPI), won the state elections that the three-tier political system was properly implemented.

The Left Front created the Gram Panchayat (GP) as the lower level of the three-tier system of local self-government in rural West Bengal[7]. The GP is a village council popularly elected every 5 years since 1978, comprising about 8 to 15 villages (around 12 thousand people)[8]. Each GP has 15 to 20 seats and is chaired by the Pradhan (executive chief) who is elected among the council members. The GP has limited capacity to raise local revenue relying mainly on higher-level government grants allocated at the GP level.[9] The main responsibilities of the GPs include the selection of beneficiaries of government welfare and poverty alleviation programs, such as the IRDP credit program, local

---

[6] "Article 40 of the Constitution which enshrines one of the Directive Principles of State Policy lays down that the State shall organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government" Statement of Objects and Reasons, The Constitution Seventy-Third Amendment Act, 1992.
[7] Urban municipalities are administered by a separate system.
[8] Bardhan and Mookherjee (2006)
[9] See Bardhan and Mookherjee (2006) for details of GP revenue sources for this sample.

public works-cum-employment program, the distribution of agricultural minikits, and the investment on village public infrastructure[10]. In order to ensure accountability and empowerment of the people, the 73rd Constitutional Amendment in 1992 established that villagers need to be consulted on GP decisions regarding these allocations in annual GP-level meetings (Gram Sabha) and biannual village constituency meetings (Gram Sansad). In West Bengal these meetings are held since 1998 and allow voters to participate in budgetary planning and allocation process and monitor elected council members.

The other two levels of the three-tier system are the Panchayat Samiti (PS) and Zilla Parishad (ZP). The PSs are councils at the block level representing about 115 villages and a rural population of approximately one and a half million[11]. The elected chief executive, the Sabhapati, assumed many of the executive powers previously vested in the Block Development Officer (BDO)[12]. The ZPs are councils at the district level; hence there are 18 ZPs, one for each district. The chief executive of the ZP is the Sabhadhipati and enjoys state minister ranking[13]. These councils provide the link between the Panchayats and higher-level administration with members representing lower-level officers as well as state-level bureaucrats.

Political Reservations

The Indian Constitution mandated the reservation of seats for SC/ST, in the House of the People and the Legislative Assemblies of the States in proportion to their demographic participation (Articles 330 and 332 respectively). In 1992, the 73rd and 74th Amendments to Indian Constitution mandated political reservation in local governments (Gram Panchayats and municipalities respectively) of Pradhan positions and council seats in favor of SC/ST and women. The number of seats and the number of Pradhan offices reserved for SC/ST are required to be proportionate to their demographic share. In the case of women reservation, at least one third of the total number of seats and of the total number of Pradhan offices are reserved for women. In addition, no less than one third of the reserved seats for SC/ST are required to be reserved for women belonging to SC/ST. All provided reservations are required to be allotted by rotation to different Panchayats at each level. Lastly, SC/ST reservations (including women SC/ST) should cease after a period of 50 years as specified in the Article 334 of the Constitution.[14]

---

[10] The GPs also implemented the land reforms led by the Left Front since 1978.
[11] Ghatak and Ghatak (2002)
[12] Ibid.
[13] Ibid.
[14] Article 243D of The Constitution Seventy-Third Amendment Act, 1992.

In West Bengal political reservations of seats in favor of SC/ST and women were implemented in 1993. Following the 73rd amendment, a number of seats proportionate to the SC/ST demographic share were reserved for SC/ST candidates and one third of all seats were reserved for women candidates. However, in 1998 the Panchayat Constitution Rule of West Bengal was modified to include explicitly the reservation of Pradhan offices to SC/ST and women. The number of Pradhan offices to be reserved was set again at a proportionate share of the SC/ST population for SC/ST and one third for women.

The selection of GPs with reserved positions is done randomly according to a rotation schedule for successive elections. As explained in Chattopadhyay and Duflo (2003) and Beaman et al. (2008), GPs are randomly assigned to three groups[15]: Reserved for SC, Reserved for ST and unreserved. Next, they are ordered according to their administrative number and every third GP in each group is assigned to be reserved for women. In the first election, the selection process starts with the first GP of the list; in the second election, it starts with the second GP from the list; and so on.

3. Data and Empirical Strategy

3.1. Data

Benefits
We use data from a household survey conducted between 2003 and 2005 in 89 villages that belong to 57 GPs spread throughout 15 districts in West Bengal. The sample of villages corresponds to a sub-sample of an original stratified random sample of villages selected by the Socio-economic Evaluation Branch (SEEB) of the Department of Agriculture, Government of West Bengal. This stratified sample is drawn from all major agricultural districts of the State[16] according to a sampling plan where each village is paired with another one from the same block within an 8-mile radius. The blocks are also selected randomly per district (about 2 or 3 blocks per district).[17]

The survey collected information from a stratified[18] random sample of 20 households per village. It included current and retrospective information on family composition and characteristics, land and assets holdings, income, credit, political awareness and participation. Additionally, it collected information on benefits received by households from the GP since the time they were created.

---

[15] GPs with less than 5% of SC/ST population are not included in the reserved groups.
[16] We exclude Darjeeling and Kolkata.
[17] The same sample of villages were used in Bardhan and Mookherjee (2004, 2006) and Bardhan et al. (2005, 2007)
[18] Stratification was done by land ownership.

The benefits include IRDP and other credit schemes, agricultural minikits, drinking water, employment programs, housing and toilet construction and improvements, roads, BPL cards, among others. The survey did **not** ask respondents to evaluate their respective panchayat chairpersons, and focuses instead on factual questions concerning their demographics, assets, living standards, government benefits received and participation in local politics. Hence it is unlikely to reflect perception biases with regard to panchayat chairpersons selected from minority groups, of the sort studied by Beaman *et al* (2008).

The advantage of using information on benefits reported by the households themselves is that it helps overcome problems usually found in government data such as over-reporting of benefits disbursed to intended beneficiaries who frequently happen to be disadvantaged groups (e.g., many schemes such as the Integrated Rural Development Program (IRDP) program providing subsidized credit, employment in public works (e.g., *Jawahar Rozgar Yojana)*, housing and toilets (under the *Indira Awas Yojana)* and Below-Poverty-Line (BPL) cards are earmarked or prioritized for SC/ST, landless households or women[19]). In addition, it provides some indication of the incidence of benefits from local public goods among different residents.

Figure 1 presents the average proportion of households reporting (at the time of the 2004 survey) having benefitted from various programs in past five year timeblocks corresponding to different elected GP administrations.[20] As can be observed, there is a clear increase in the proportions corresponding to more recent time periods. Given that our data is based on retrospective self-reported information at the household level, this trend could be reflecting a recall problem. In order to avoid bias in this respect, we focus mainly on the most recent period 1998-2004. But we also report corresponding estimates for the longer panel spanning 1978-2004, based on the assumption that recall lapses are uncorrelated with recent political reservations.

---

[19] See Bardhan and Mookherjee (2006) for more details.

[20] Table A..1 in the Appendix presents descriptive statistics of inter-village and intra-village benefits received.

Figure 1 Inter-village Average of Benefits Received
(Proportion of households)
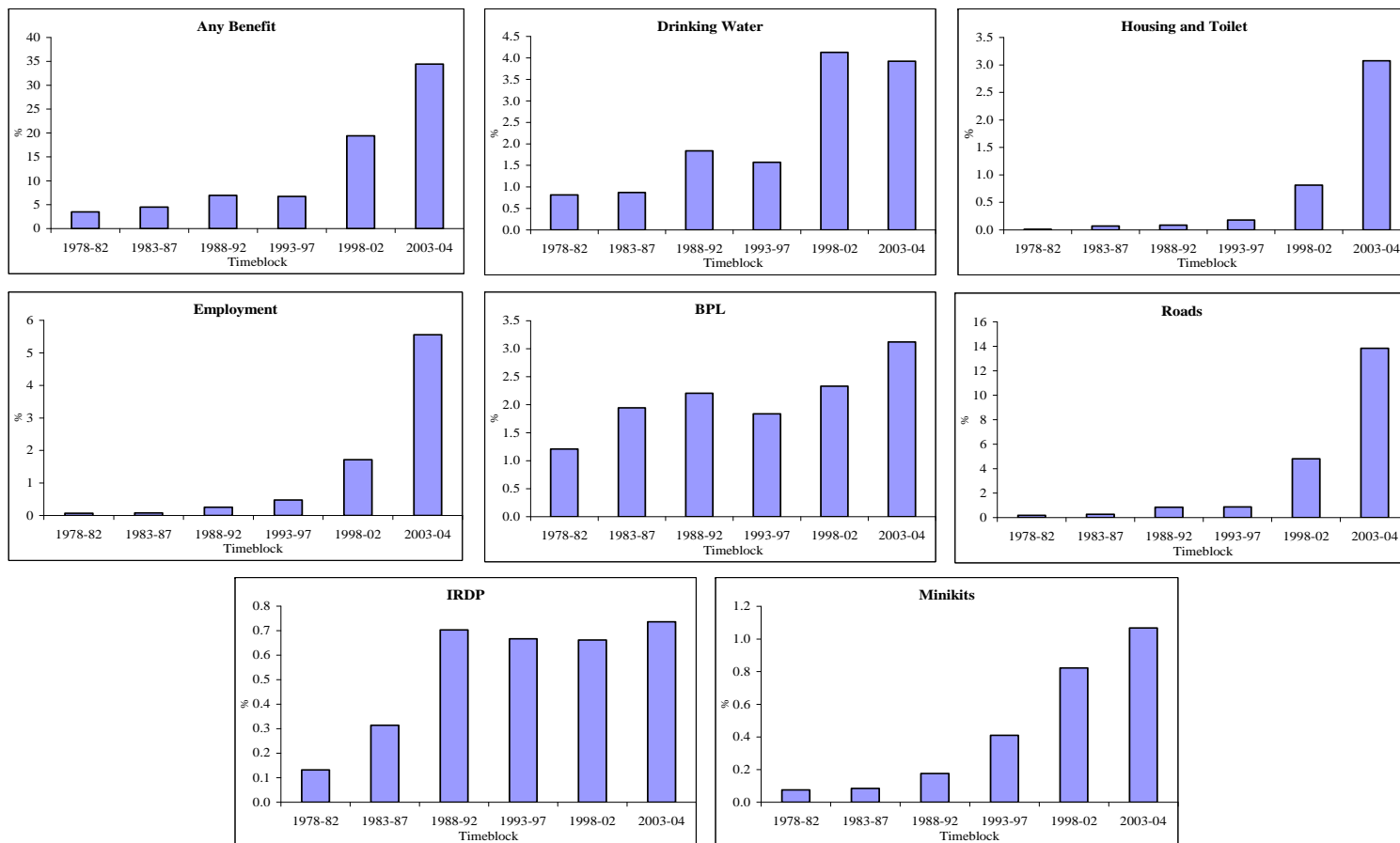
Figure 2 presents average intra-village targeting performance for different programs: the average proportion of households from different vulnerable groups (female-headed households, landless, and SC/ST households) that reported receiving benefits, relative to all households who reported receiving the same type of benefits within the village. Comparing these with the average demographic share of each group provides an indication of the extent to which these groups were favored or discriminated against. On the whole SC/ST and landless groups appear to have been favorably treated. For example, SC/ST households which represented 35% of the sample households, received around 60% of employment benefits, 50% of housing and IRDP benefits, 45% of the minikits and 38% of drinking water benefits. Landless households which accounted for less than 40% of the households in the sample received 60% of housing benefits, 50% of employment benefits, and between 40 and 50% of drinking water and IRDP benefits. However, they received less BPL and road benefits than their demographic share. They also received a significantly smaller share of minikits, but are less likely to derive any benefits from these as they are less likely to engage in cultivation than households owning land. Female-headed households however did not show any indication of being favorably treated: they accounted for 10% of households, and received less than 10% of most programs, with the exception of housing. Accordingly one way of gauging the effectiveness of political reservations for women in promoting interests of women is to examine their effect on targeting shares of female-headed households.

Figure 2 Intra-village average benefits received, 1998 – 2004

SC/ST Households

Landless Households

Female-headed Households

Demographic share.

Percentage of benefits received by a group of households relative to all households receiving that type of benefits in the village.
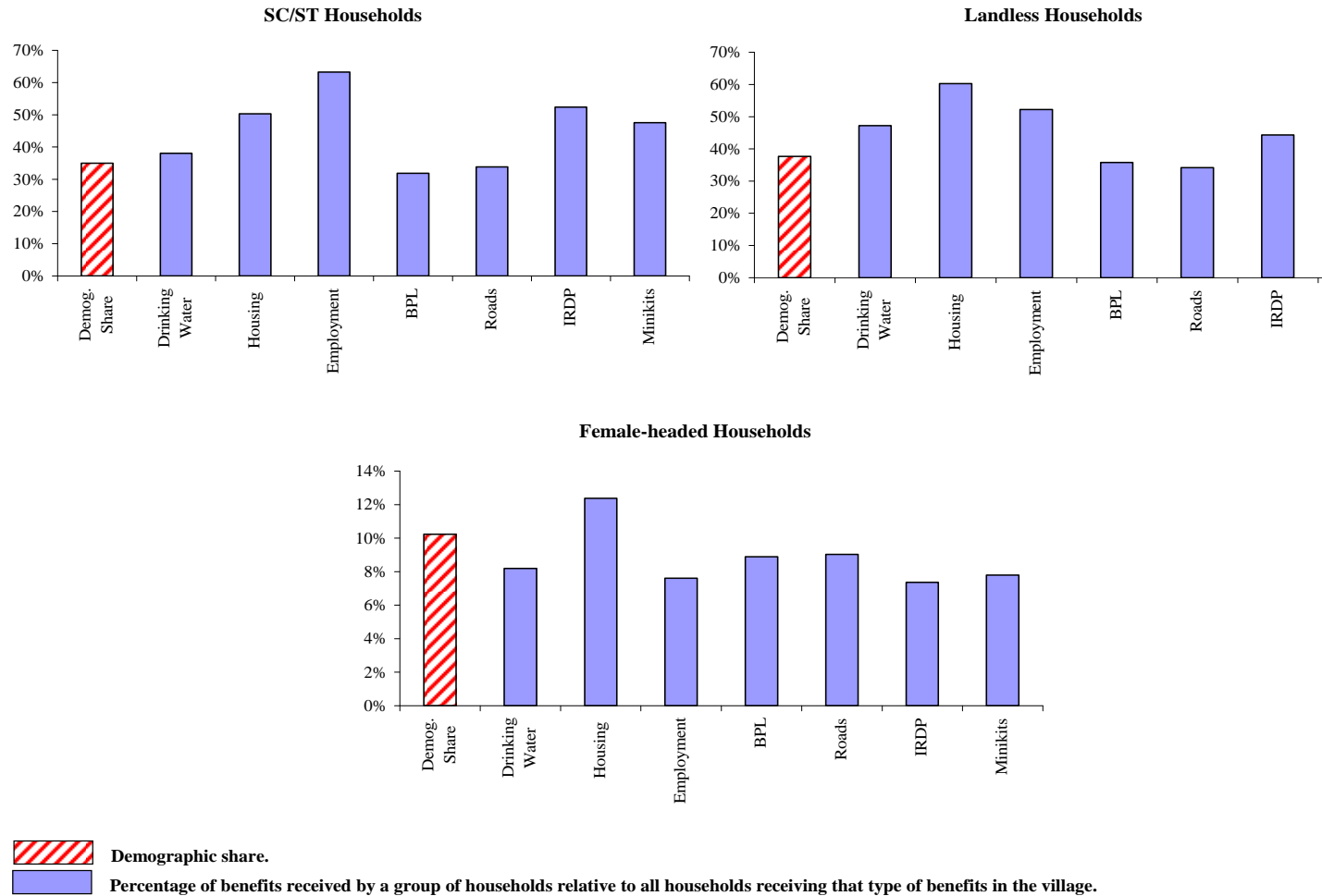
Political Reservations

Information regarding political reservations was obtained from the Election Commission. This includes reservation status of the Pradhan position and the council seats, the type of reservation (SC/ST, Woman) and the village where the Pradhan resided. We have this information for three consecutive elections after the 73rd Constitutional amendment: 1993, 1998 and 2003.

Table 1 Political Reservations in West Bengal

	Reserved for women		GP Seats	Reserved for SC/ST		GP Seats	Reserved for SC/ST Women		GP Seats
	Pradhan			Pradhan			Pradhan		
	GPs	%	%	GPs	%	%	GPs	%	%
)3	3	5%	31%	11	20%	31%	1	2%	12%
)8	22	39%	31%	19	33%	41%	9	16%	15%
)3	16	28%	33%	23	40%	40%	5	9%	15%

Table 1 presents the percentage of GPs with Pradhan positions reserved for women and SC/ST as well as the percentage of seats reserved in each GP. In 1993 about one third of seats were reserved for women and SC/ST but only 5% of women were elected for Pradhan positions and 20% for SC/ST members. Given this somehow disappointing election results the Panchayat Constitution Rule of West Bengal was modified in 1998 to introduce mandatory reservation of Pradhan positions for women and SC/ST members. Following this reform, in 1998 the proportion of Pradhan positions reserved for women increased to 39% and for SC/ST members to 33%. The Table shows that these proportions were closely maintained in the 2003 election.

3.2. Empirical Specification

In order to identify the impact of political reservations on the allocation of benefits we estimate a fixed effect regression given by equation (1) below. The dependent variable pertains either to a measure of inter-village targeting (benefits disbursed in the village as a whole), or intra-village targeting (shares of different disadvantaged groups in benefits disbursed within the same village).

In the case of the former, the dependent variable could be chosen to be either the proportion of households who reported receiving benefits in a village in a given timeblock, or the corresponding average number of benefits per household. The two numbers may differ when some households receive the same benefit more than once. This happens sometimes in the context of two programs:

housing and toilets, and employment. We report the results concerning the average number of benefits, since this includes information not just about the proportion of households who received some benefits but also the number of times each household received them. The results concerning proportions of households are very similar and are available upon request.

In the case of the intra-village effects, the dependent variable corresponds to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock.

The simplest regression specification is (for the SC/ST reservation effects):

$$Y_{vt} = \beta_0 + \beta_1 * R_{gt} + \beta_2 (R_{gt} * S_{vt}^{SC/ST}) + \beta_3 S_{vt}^{SC/ST} + \eta_v + \tau_t + \xi_{vt} \qquad (1)$$

where Y_{vt} denotes the dependent variable, as described above, in village v corresponding to timeblock t pertaining to a given elected administration. R_{gt} denotes the reservation variable in GP g at timeblock t. When assessing the effect of Pradhan reservations, this variable corresponds to a dummy taking the value of one if the GP is reserved (for women, for SC/ST, or for SC/ST women candidates). When assessing the effect of reservation of GP seats, this variable corresponds to the share of reserved seats in the GP in favor of women, SC/ST or SC/ST women candidates. Since SC/ST reservations were allocated according to the demographic share of SC/ST households, we include these as controls in regressions estimating effects of SC/ST reservations. We are thus comparing villages with similar demographic shares of SC/ST groups, where some had reserved positions for SC/STs and others did not, owing to the randomness in the assignment of these reservations. In the case of the women reservations, the SC/ST demographic share control and interactions are not included in the main specification (though the effects of their inclusion on SC/ST targeting are provided in Table 7). We present regressions for both the longer panel 1978-2004 which spans six elected administrations, and the shorter panel 1998-2004 which spanned two administrations. Hence we include village fixed effects η_v and common time-block effects τ_t, with ξ_{vt} denoting the error term. Errors are clustered at the GP level, since there are typically two or more villages per GP in the sample. The results were very similar when errors were clustered instead at the district level, so they are not shown in the paper.

Following Besley *et al.* (2004), the next specification also estimates the effect of the location of the village of residence of the reserved Pradhan by interacting the reservations variable with a dummy variable, P_{vt}, denoting whether the reserved Pradhan lives in that village. This allows us to examine the extent to which reservations modified or exaggerated favoritism towards the Pradhan's own village within the GP. This specification is:

$$Y_{vt} = \beta_0 + \beta_1 R_{gt} + \beta_2 (R_{gt} * S_{vt}^{SC/ST}) + \beta_3 S_{vt}^{SC/ST} + \beta_4 P_{vt} + \beta_5 \left(R_{gt} * P_{vt} \right) + \eta_v + \tau_t + \xi_{vt} \quad (2)$$

Finally, to explore possible heterogeneity of the impact of reservations, we interact these in a subsequent specification with a number of village characteristics. Much of the literature on local governance has stressed the possibility of capture by local elites, which may be expected to be more pronounced when there is greater socio-economic inequality within the local area and minorities are more vulnerable.[21] So we subsequently present regressions where the reservations variable is interacted with measures of land inequality (proportion of cultivable land owned by large or medium landowning families, each owning in excess of 5 acres; the proportion of landless households within the village), and extent of land-poverty among SC/ST groups (the proportion of such households who are either landless or marginal landowners, owing less than 2.5 acres of cultivable land).

It is not clear what pattern to expect concerning how effectiveness of political reservations vary with these measures of potential elite capture. If elite capture significantly restricts successful targeting to vulnerable groups, there is scope for political reservations to make a difference and improve targeting. But a woman Pradhan elected to a reserved position may also come from one of the elite families, in which case there is no change in political will in the GP. Even if the reservation is for a SC/ST candidate who wants to improve targeting to SC/ST groups, the elites may be more able to thwart the efforts of the new Pradhan to improve targeting to his own group if the elites are more powerful and the SC/ST groups are poorer. Another characteristic we interact reservations with is the demographic share of the SC/ST group. Here one might expect the effectiveness of a SC/ST reservation to be stronger when the SC/ST group is larger both because the group now comprises a larger share of voters in the village, and also because SC/ST representatives may be more accountable to their own groups (as stressed by Munshi and Rosenzweig (2008)).

---

[21] See, e.g., Bardhan and Mookherjee (2000, 2006).

4. Empirical Results

4.1 Women Reservations

In this subsection we present estimations of the effects of women reservation of Pradhan positions and GP seats on number of benefits reported per household. The tables presented below have the following structure: the first two columns correspond to the estimations of the inter-village effects for the periods 1978-2004 and 1998-2004, respectively. The next six columns correspond to intra-village shares of female-headed households, landless households, and SC/ST households. The top and middle panels show effects of women Pradhan reservations using equations (1) and (2) respectively. At the bottom of the table we present estimations of the effect of GP seats (rather than Pradhan positions) reserved for women, using equation (2).

There are no statistically significant effects, except on the effect of the Pradhan reservation on intra-village targeting share of SC/STs. The effect on targeting share of female headed households has a negative sign but is statistically insignificant. On the other hand, the effect on SC/ST targeting share during 1998-2004 is significantly negative: the share drops from an average of 45% to 33%. In the inter-village allocation in Panel B we see a slight positive bias in favor of the Pradhan's own village relative to other villages in the GP, which is statistically insignificant. Women Pradhan reservations lower this bias but again this effect is insignificant. Seat reservations for women have in general a negative effect on all measures of targeting but these effects are all insignificant.

Later in this section we shall examine the effect of women reservations on targeting of specific programs, in order to better understand the preceding results.

4.2. SC/ST Reservations

Now turn to the effect of SC/ST reservations. Table 3 follows the same structure as Table 2 for reservations of Pradhan and GP seats in favor of SC/ST candidates, with the difference that the demographic share of SC/ST households in the village is included as a control since the SC/ST reservations were allocated according to this share.

We find a significant positive effect of Pradhan reservations for SC/ST on the village average of number of benefits per household. It rises by 0.08 above an average of 0.42 for the 1998-2004 period, and by 0.05 above an average of 0.09 for the 1978-2004 period as a whole. Strikingly, the village average is strongly negatively related to the demographic share of SC/STs in the village, reflecting the same perverse pattern of inter-village targeting found in our previous work

Table 2: Impact of Women Reservation on Targeting

	Inter-village (averages)		Female-headed households (shares)		Landless households (shares)		SC-ST-headed households (shares)	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Reservation of Pradhan								
Panel A								
Pradhan reserved	0.040	0.043	-0.016	-0.016	0.002	-0.012	-0.033	-0.109**
	(0.035)	(0.046)	(0.015)	(0.014)	(0.026)	(0.032)	(0.034)	(0.043)
Constant	0.035***	0.331***	0.059***	0.086***	0.380***	0.398***	0.348***	0.449***
	(0.009)	(0.020)	(0.010)	(0.009)	(0.032)	(0.012)	(0.031)	(0.018)
Observations	533	178	459	164	459	164	459	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.472	0.225	0.023	0.019	0.015	0.027	0.029	0.115
Panel B								
Pradhan reserved	0.042	0.056	-0.018	-0.013	-0.012	-0.007	-0.036	-0.108**
	(0.043)	(0.058)	(0.017)	(0.016)	(0.033)	(0.040)	(0.040)	(0.047)
Pradhan village	0.006	0.095	0.018	-0.008	-0.038	0.057	-0.043	0.035
	(0.025)	(0.081)	(0.016)	(0.017)	(0.041)	(0.043)	(0.034)	(0.079)
Pradhan reserved * Pradhan village	-0.012	-0.057	0.014	-0.024	0.069	-0.019	0.010	0.003
	(0.061)	(0.106)	(0.035)	(0.038)	(0.062)	(0.063)	(0.079)	(0.105)
Constant	0.035***	0.319***	0.059***	0.086***	0.380***	0.391***	0.349***	0.445***
	(0.009)	(0.025)	(0.010)	(0.009)	(0.032)	(0.014)	(0.031)	(0.022)
Observations	533	178	459	164	459	164	459	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.472	0.238	0.026	0.027	0.017	0.043	0.031	0.120
Panel C								
Reservation of GP Seats								
Share of seats reserved	-0.039	-0.097	0.001	-0.107	-0.226	-0.166	-0.162	-0.342
	(0.130)	(0.361)	(0.092)	(0.123)	(0.327)	(0.444)	(0.205)	(0.226)
Constant	0.035***	0.376***	0.058***	0.116***	0.381***	0.449***	0.348***	0.527***
	(0.009)	(0.123)	(0.010)	(0.039)	(0.032)	(0.077)	(0.031)	(0.076)
Observations	534	178	460	164	460	164	460	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.47	0.22	0.02	0.02	0.02	0.03	0.03	0.02

***, **, *: denotes significance at the 1, 5 and 10% level respectively.

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock.

based on government level records. The Pradhan reservation alleviates this bias to some extent, but does not offset it entirely.

As in Table 2, Panel B shows no evidence for a significant bias in favor or against the village in which the Pradhan resides, and no significant effect either of the Pradhan reservation on this bias.

With regard to intra-village targeting, the effects of the Pradhan reservation are generally positive and statistically significant, with the exception of the share of female-headed households which rose during 1998-2004. The only significant effect of reservation of GP seats for SC/ST candidates was to raise the intra-village share of landless households. It also raised the share of SC/ST households but this was not statistically significant. Below we report results on targeting to SC and ST groups separately.

Looking at effects of the SC/ST reservations on specific programs, not shown in the tables, we found a significant positive effect of the SC/ST Pradhan reservation on housing and toilet benefits for the village as a whole. The intra-village share of female-headed households rose for drinking water (in the longer panel) and BPL cards (in the shorter one). There was a negative effect on the landless share of employment benefits (significant in the longer panel), and a positive effect on the SC/ST share of these (significant in the shorter panel). This suggests a diversion of employment benefits from non-SC/ST landless towards SC/ST groups.

We also found evidence that SC/ST Pradhans on reservations allocated more employment benefits to landless households in their own village when the SC/ST population share in the village was high. This is consistent with the Munshi-Rosenzweig hypothesis of superior accountability of SC/ST leaders when these groups are numerically more dominant within the village. Other effects were insignificant, including impacts on the allocation of BPL cards, a result which contrasts with findings in Besley et al. (2005) for South Indian villages.

Reservation of GP seats (rather than the Pradhan position) for SC/ST groups had no significant effects in general, with the exception of a positive effect on the intra-village share of landless during 1998-2004. On the allocation of specific benefits, we found contrasting village-level effects in the two panels on employment benefits and minikits. There were significant improvements in shares of female-headed households for employment, drinking water and BPL cards, in the landless share of road benefits, and SC/ST share of drinking water benefits. However there was a negative effect on the share of SC/ST in minikits. In summary, we find improvements in most dimensions of intra-village targeting of specific programs, with some ambiguous results concerning village-level average benefits.

Another relevant question pertains to the differences between effects of SC and ST reservations for Pradhan. STs constitute a smaller overall fraction of

the population (3.4%) than SCs (32%), and they tend to be geographically more concentrated: there are a number of villages where STs form a majority. Deriving their origins from the indigenous tribes of the country, STs are often less integrated into the mainstream. Amongst the 33% reserved Pradhans for SC/STs, 29.8% were reserved for SCs and 3.5% for STs. Given the very small number of ST reserved Pradhans the estimate of these reservations are likely to be estimated imprecisely. In order to examine possible heterogeneity of impact of ST and SC reservations we therefore present the effect of the SC reservations alone in Table 4 and contrast it with the result of the combined SC/ST reservations shown in Panel A of Table 3.   Table 4 shows no significant effect of the SC reservations on the village average benefits received, indicating that the positive effect in Table 3 of the SC/ST reservations owed mainly to the ST reservations. We have verified this latter result in an independent regression (not shown here) for village average benefits in the 1998-2003 period estimating the effect of the ST reservations alone, after controlling for the ST population share in the village.[22]

Comparisons of intra-village targeting between Tables 3 and 4 show a comparable improvement in targeting to female headed households from SC reservations as from the combined SC/ST reservations, and a superior improvement in targeting to SC/ST households (which is now statistically significant at 10%). Regressions (not shown here) which separate the effects on targeting to SC and ST households for the 1998-2003 time-block after controlling for the SC and ST population shares separately show SC reservations raised targeting to SC households and lowered targeting to ST households, with the opposite being the case for ST reservations.[23] The fact that the SC households comprise a larger fraction of the population than ST households thus partially account for the larger improvement in targeting to the joint SC/ST group for SC reservations alone.

These results provide some explanation for the insignificant effects in Table 3 on SC/ST targeting when we pool the SC and ST reservations: SCs and STs elected to reserved Pradhan positions diverted resources to their own

---

[22] Separate data on SC and ST population shares are available only from the 2004 direct household survey, i.e., at a single point of time. Hence this regression was run for a single time-block 1998-2003 rather than a panel covering two successive GP administrations, and is thus not comparable to the regressions shown in Tables 3 and 4 (which use the extrapolated time series of SC/ST population shares from the two indirect household surveys in 1978 and 1998). ST reservations were associated with an increase of per capita village benefits of 0.157, significant at the 1% level, controlling for the ST population share. By comparison, SC reservations were associated with an increase of 0.006 benefits per capita in the village, which was statistically insignificant at the 10% level.
[23] Specifically, SC reservations raised average benefits to the SC group by 0.089, significant at 5%, and lowered average benefits to the ST group by 0.242, significant at 1%. ST reservations raised benefits to the ST group by 0.260, significant at 5%, and lowered benefits to the SC group by 0.63, significant at 10%.

Table 3: Impact of SC/ST Reservation on Targeting
Including demographic share of SC/ST as control

	Inter-village (averages)		Female-headed households (shares)		Landless households (shares)		SC-ST-headed households (shares)	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Reservation of Pradhan								
Panel A								
Pradhan reserved	0.054*	0.079**	0.018	0.032**	0.012	0.029	0.046	0.070
	(0.031)	(0.038)	(0.014)	(0.015)	(0.025)	(0.027)	(0.034)	(0.044)
% HH SC/ST	-0.157	-0.298***	0.105	0.476	-0.286	0.113	0.080	0.006
	(0.120)	(0.096)	(0.118)	(0.521)	(0.211)	(0.597)	(0.255)	(0.751)
Constant	0.088**	0.424***	0.021	-0.120	0.480***	0.337	0.319***	0.380
	(0.043)	(0.043)	(0.042)	(0.205)	(0.079)	(0.233)	(0.100)	(0.299)
Observations	533	178	459	164	459	164	459	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.480	0.256	0.026	0.063	0.018	0.038	0.032	0.049
Panel B								
Pradhan reserved	0.063*	0.072	0.011	0.027	0.021	0.042	0.053	0.062
	(0.036)	(0.044)	(0.014)	(0.017)	(0.033)	(0.032)	(0.037)	(0.047)
% HH SC/ST	-0.158	-0.310***	0.105	0.467	-0.287	0.152	0.082	0.046
	(0.119)	(0.098)	(0.119)	(0.507)	(0.212)	(0.602)	(0.257)	(0.761)
Pradhan village	0.017	0.054	0.008	-0.024	-0.002	0.079*	-0.025	0.030
	(0.024)	(0.058)	(0.018)	(0.025)	(0.035)	(0.041)	(0.037)	(0.062)
Pradhan reserved * Pradhan village	-0.047	0.036	0.039	0.026	-0.050	-0.062	-0.038	0.050
	(0.051)	(0.081)	(0.025)	(0.029)	(0.074)	(0.065)	(0.062)	(0.101)
Constant	0.089**	0.423***	0.021	-0.113	0.481***	0.311	0.319***	0.362
	(0.043)	(0.043)	(0.042)	(0.199)	(0.079)	(0.239)	(0.101)	(0.304)
Observations	533	178	459	164	459	164	459	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.481	0.267	0.030	0.069	0.019	0.063	0.034	0.063
Reservation of GP Seats								
Panel C								
Share of seats reserved	0.095	-0.123	0.018	0.113	-0.016	0.349*	0.084	0.209
	(0.057)	(0.265)	(0.044)	(0.087)	(0.076)	(0.187)	(0.103)	(0.272)
% HH SC/ST	-0.180	-0.327***	0.098	0.409	-0.270	0.058	0.034	-0.142
	(0.114)	(0.114)	(0.115)	(0.518)	(0.216)	(0.544)	(0.259)	(0.683)
Constant	0.096**	0.520***	0.024	-0.127	0.476***	0.223	0.334***	0.380
	(0.040)	(0.121)	(0.040)	(0.208)	(0.081)	(0.225)	(0.101)	(0.323)
Observations	534	178	460	164	460	164	460	164
Number of villages	89	89	88	87	88	87	88	87
R-squared	0.477	0.227	0.023	0.034	0.018	0.079	0.030	0.013

***, **, *: denotes significance at the 1, 5 and 10% level respectively.

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock.

Table 4: Impact of SC Reservation on Targeting
Including demographic share of SC/ST as control

	Inter-village (averages)		Female-headed households (shares)		Landless households (shares)		SC-ST-headed households (shares)	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
SC Pradhan reserved	0.027	0.053	0.025*	0.033*	0.002	0.013	0.056	0.092**
	(0.033)	(0.045)	(0.015)	(0.017)	(0.025)	(0.025)	(0.036)	(0.042)
% HH SC/ST	-0.157	-0.315***	0.105	0.435	-0.283	0.060	0.082	-0.068
	(0.122)	(0.104)	(0.118)	(0.521)	(0.211)	(0.590)	(0.257)	(0.669)
Constant	0.088**	0.445***	0.021	-0.102	0.479***	0.366	0.318***	0.405
	(0.044)	(0.046)	(0.042)	(0.205)	(0.079)	(0.228)	(0.101)	(0.263)
Observations	533	178	459	164	459	164	459	164
Number of mouza	89	89	88	87	88	87	88	87
R-squared	0.473	0.237	0.027	0.059	0.018	0.027	0.033	0.073

***, **, *: denotes significance at the 1, 5 and 10% level respectively

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock.

respective groups away from the other. This is not surprising, as SCs and STs are distinct in terms of their ethnic, religious and political identities. These results indicate that aggregation of SCs and STs into a single group represents an oversimplification of the cleavages that exist within West Bengal villages. Nevertheless, we continue with this practice of aggregation, partly in order to focus on the separation between these two groups and the rest of the village population, and to limit the complexity of the analysis.

4.4. Joint SC/ST-Women Reservations

Table 5 shows effects of Pradhan positions being jointly reserved for SC/ST women on targeting of the leading programs. In contrast to women reservations alone, joint SC/ST women reservations improved benefits received by the village as a whole, particularly housing and employment benefits.

Regarding intra-village targeting, we do not find any evidence that Pradhan reservation in favor of SC/ST women had a positive impact on the allocation of benefits to female-headed households. We do find, however, that SC/ST women reserved candidates seem to be worse at targeting housing benefits to SC/ST population and at targeting employment benefits and BPL cards towards the landless.

Hence the effects of the joint reservations are somewhere in-between the effects of the separate reservations: SC/ST-women reserved Pradhan had a positive impact on per capita benefits, but a negative effect on targeting them within the village to vulnerable groups.

4.5 Heterogeneity of Targeting Impact

In order to better understand how political reservations may have influenced local governance, we now examine heterogeneity of their impacts with measures of socio-economic inequality within villages, as discussed in Section 3.2 above. Table 6 examines this for the women Pradhan reservations. We examine how the targeting impact varied with measures of land inequality (proportion of cultivable land owned by medium and large landowners, and of households that were landless). In the case of the intra-village share of SC/ST households, we also examine (in the last column) how the reservations effect varied with the demographic share of SC/ST households in the village, and the proportion of SC/ST households that were poor (either landless or marginal landowners).

We see significant interactions only in the regression for the intra-village share of SC/ST groups for the 1998-2004 panel. In contrast to results in our previous paper based on government records, we find here that the positive effect of a reserved woman Pradhan was significantly greater in villages with greater

Table 5: Effect of Joint Woman-SC/ST Pradhan Reservation on Targeting
Including demographic share of SC/ST as control

		Any Benefits		Housing and toilet		Employment		Drinking water		Roads		BPL	
		1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Inter-village effects (average number of benefits)													
	Pradhan	0.119*	0.130*	0.012	0.017	0.011*	0.023***	0.006	-0.003	0.035	0.032	0.015*	0.009
	reserved	(0.062)	(0.071)	(0.009)	(0.010)	(0.006)	(0.007)	(0.015)	(0.024)	(0.035)	(0.052)	(0.009)	(0.010)
	% HH SC/ST	-0.149	-0.307***	-0.017	-0.044***	-0.005	-0.043	-0.003	-0.022	-0.123**	-0.195**	-0.015	-0.024
		(0.122)	(0.096)	(0.017)	(0.016)	(0.042)	(0.035)	(0.025)	(0.037)	(0.052)	(0.081)	(0.019)	(0.018)
	Constant	0.086*	0.448***	0.006	0.046***	0.002	0.070***	0.009	0.048***	0.044**	0.209***	0.017**	0.039***
		(0.044)	(0.045)	(0.005)	(0.008)	(0.015)	(0.017)	(0.009)	(0.015)	(0.018)	(0.035)	(0.007)	(0.008)
	Observations	534	178	534	178	534	178	534	178	534	178	534	178
	N. of villages	89	89	89	89	89	89	89	89	89	89	89	89
	R-squared	0.231	0.180	0.231	0.180	0.219	0.147	0.088	0.055	0.044	0.010	0.134	0.055
Intra-village effects (shares)													
Female-headed households	Pradhan	0.021	0.013	-0.051	-0.001	-0.122	0.020	0.007	0.044	-0.003	-0.023	0.029	0.071
	reserved	(0.025)	(0.015)	(0.063)	(0.063)	(0.083)	(0.045)	(0.045)	(0.079)	(0.054)	(0.064)	(0.051)	(0.082)
	% HH SC/ST	0.115	0.430	0.569	3.197**	-0.671	0.705	0.006	1.633	-0.815**	-1.127	0.142	0.800
		(0.118)	(0.564)	(0.847)	(1.338)	(1.331)	(0.915)	(0.351)	(1.549)	(0.358)	(0.876)	(0.193)	(2.173)
	Constant	0.018	-0.089	-0.016	-1.268**	0.354	-0.225	0.060	-0.582	0.291***	0.558	0.021	-0.217
		(0.042)	(0.220)	(0.287)	(0.608)	(0.540)	(0.365)	(0.123)	(0.588)	(0.106)	(0.348)	(0.065)	(0.782)
	R-squared	0.025	0.021	0.072	0.124	0.090	0.014	0.015	0.106	0.075	0.051	0.005	0.017
Landless households	Pradhan	0.036	0.047	0.062	0.118	-0.165	-0.372**	-0.048	0.058	0.064	0.026	-0.048	-0.247***
	reserved	(0.034)	(0.052)	(0.155)	(0.179)	(0.165)	(0.161)	(0.093)	(0.114)	(0.058)	(0.046)	(0.076)	(0.063)
	% HH SC/ST	-0.276	0.136	-0.206	-1.926	-0.107	1.270	0.388	-0.639	-1.259**	-1.811	-0.409	-2.335
		(0.210)	(0.646)	(1.293)	(1.699)	(1.145)	(1.273)	(0.467)	(1.150)	(0.558)	(1.624)	(0.530)	(3.331)
	Constant	0.477***	0.336	0.827*	1.439*	0.273	0.124	0.206	0.736	0.775***	1.069	0.499***	1.258
		(0.079)	(0.252)	(0.452)	(0.751)	(0.478)	(0.510)	(0.163)	(0.442)	(0.232)	(0.645)	(0.178)	(1.205)
	R-squared	0.019	0.039	0.080	0.087	0.081	0.205	0.029	0.023	0.043	0.034	0.025	0.140
SC/ST households	Pradhan	-0.075*	-0.081	-0.240***	-0.214	0.026	0.055	-0.021	0.015	-0.013	-0.055	-0.115*	-0.070
	reserved	(0.042)	(0.060)	(0.085)	(0.153)	(0.140)	(0.120)	(0.111)	(0.134)	(0.058)	(0.090)	(0.068)	(0.107)
	% HH SC/ST	0.084	-0.297	-0.884	-1.158	1.052	1.090	1.185	3.461	-0.738	-0.823	-0.193	-2.660
		(0.251)	(0.757)	(1.344)	(1.766)	(0.697)	(1.792)	(0.799)	(2.348)	(0.800)	(1.564)	(0.555)	(1.639)
	Constant	0.320***	0.540*	0.759	1.016	-0.288	0.143	-0.023	-0.936	0.627**	0.673	0.350*	1.296**
		(0.099)	(0.300)	(0.559)	(0.813)	(0.322)	(0.702)	(0.263)	(0.883)	(0.285)	(0.622)	(0.195)	(0.614)
	R-squared	0.033	0.027	0.174	0.066	0.140	0.029	0.030	0.043	0.030	0.013	0.021	0.038
	Observations	460	164	108	75	141	95	293	118	219	132	321	105
	N. of villages	88	87	54	51	70	66	83	75	83	78	75	67

***, **, *: denotes significance at the 1, 5 and 10% level respectively.

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock. iv) The number of observations in the intra-village estimations is smaller due to the fact that some villages do not receive certain types of benefits in a given year making the denominator in the dependent variable equal to zero.

Table 6: Heterogeneity of Targeting Impact of Women Pradhan Reservation

	Inter-village (averages)		Female-headed households (shares)		Landless households (shares)		SC-ST-headed households (shares)	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Pradhan reserved	0.057	0.032	-0.034	-0.033	-0.115*	-0.115	-0.533	-1.739***
	(0.124)	(0.131)	(0.023)	(0.028)	(0.065)	(0.078)	(0.607)	(0.445)
Pradhan reserved * % Land medium and big	0.044	0.014	0.173	0.081	0.034	-0.091	0.018	0.603***
	(0.149)	(0.229)	(0.104)	(0.079)	(0.089)	(0.108)	(0.230)	(0.181)
Pradhan reserved * % HH landless	-0.063	-0.030	-0.044	0.000	0.236**	0.261	-0.103	-0.311
	(0.174)	(0.198)	(0.052)	(0.059)	(0.108)	(0.185)	(0.152)	(0.192)
% Land medium and big	0.006	-0.289	0.088	0.013	0.051	-0.389	-0.034	-0.096
	(0.127)	(0.504)	(0.066)	(0.219)	(0.151)	(0.543)	(0.154)	(0.404)
% HH landless	-0.202*	-1.915***	-0.225***	0.083	0.096	-0.399	-0.107	0.357
	(0.115)	(0.641)	(0.076)	(0.291)	(0.183)	(0.490)	(0.183)	(0.667)
Pradhan reserved * % HH SC/ST							-0.103	0.003
							(0.086)	(0.129)
Pradhan reserved * % Poverty Rate SC/ST							0.617	1.768***
							(0.597)	(0.413)
% HH SC/ST							0.159	-0.617
							(0.260)	(0.700)
% Poverty Rate SC/ST							-0.092	-3.624***
							(0.103)	(0.928)
Constant	0.116**	1.307***	0.122***	0.045	0.322***	0.660**	0.430***	3.961***
	(0.054)	(0.308)	(0.028)	(0.134)	(0.090)	(0.275)	(0.126)	(0.880)
Observations	533	178	459	164	459	164	434	157
Number of villages	89	89	88	87	88	87	82	82
R-squared	0.479	0.273	0.048	0.031	0.025	0.092	0.043	0.379

***, **, *: denotes significance at the 1, 5 and 10% level respectively.

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock. iv) Poverty rate: % poor SC/ST headed households among SC/ST headed households. "Poor" refers to either landless or marginal landowner.

Table 7: Heterogeneity of Targeting Impact of SC/ST Pradhan Reservation

	Inter-village (averages)		Female-headed households (shares)		Landless households (shares)		SC-ST-headed households (shares)	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Pradhan reserved	0.105	0.101	-0.014	0.037	-0.113	0.001	0.715	0.854
	(0.097)	(0.106)	(0.027)	(0.026)	(0.072)	(0.079)	(0.430)	(0.559)
Pradhan reserved * % Land medium and big	-0.102	-0.286***	0.235*	0.447	-0.379	0.029	0.227	-0.128
	(0.131)	(0.087)	(0.131)	(0.568)	(0.240)	(0.639)	(0.278)	(0.872)
Pradhan reserved * % HH landless	0.015	-0.015	0.146	0.109	-0.021	-0.028	-0.381*	-0.093
	(0.150)	(0.202)	(0.096)	(0.068)	(0.103)	(0.110)	(0.198)	(0.203)
% Land medium and big	-0.121	-0.060	0.002	-0.064	0.286**	0.073	-0.046	-0.253
	(0.135)	(0.168)	(0.046)	(0.051)	(0.118)	(0.174)	(0.151)	(0.186)
% HH landless	0.019	-0.344	0.100	0.074	0.041	-0.335	0.049	0.574
	(0.133)	(0.469)	(0.060)	(0.215)	(0.176)	(0.595)	(0.165)	(0.442)
Pradhan reserved * % HH SC/ST	-0.168	-1.831***	-0.254***	0.291	0.107	-0.271	-0.095	0.295
	(0.118)	(0.599)	(0.074)	(0.321)	(0.190)	(0.554)	(0.178)	(0.749)
Pradhan reserved * % Poverty Rate SC/ST							-0.207**	-0.017
							(0.088)	(0.160)
% HH SC/ST							-0.520	-0.705
							(0.424)	(0.554)
% Poverty Rate SC/ST							-0.014	-3.146***
							(0.108)	(1.030)
Constant	0.133*	1.360***	0.046	-0.259	0.454***	0.561	0.298*	3.169***
	(0.071)	(0.277)	(0.047)	(0.220)	(0.128)	(0.408)	(0.150)	(1.048)
Observations	533	178	459	164	459	164	434	157
Number of villages	89	89	88	87	88	87	82	82
R-squared	0.488	0.306	0.051	0.100	0.033	0.053	0.056	0.302

***, **, *: denotes significance at the 1, 5 and 10% level respectively.

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects. iii) *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock. iv) Poverty rate: % poor SC/ST headed households among SC/ST headed households. "Poor" refers to either landless or marginal landowner.

land inequality (measured by proportion of land owned by medium and big landowners). Land inequality *per se* had an insignificant but negative effect on the targeting share of the SC/ST, while the rate of landlessness among SC/ST groups had a strong negative effect on the share of the SC/ST group. There was a significant positive interaction between the women Pradhan reservation and poverty within SC/STs, i.e., the negative effect of SC/ST poverty on their share was attenuated when the Pradhan position was reserved for women. The total impact of a woman-reserved Pradhan on the SC/ST share was nearly zero in a village even with 100% land-poverty rate among the SC/STs if the fraction of land in medium and big holdings was not too large.[24] Women-reserved Pradhans thus merely managed to avoid the large negative effects observed on the SC/ST share in general, when the SC/ST groups were highly land-poor. Overall, the results do not provide support to explanations of the inferior targeting to SC/STs resulting from women Pradhan reservations owing to the power of local landed elites. In the next subsection we shall discuss a more complex hypothesis, based on elite capture in conjunction with clientelism, where reservations affect the composition of goods provided to different groups within the village.

Table 7 shows the analogous results concerning how the effect of SC/ST Pradhan reservations varied with land inequality, demographic share and poverty of SC/ST groups. The reservation resulted in attenuation of the benefit to the village as a whole if more land was owned by medium and big landowners, and if there were a higher fraction of SC/ST households. With regard to intra-village targeting to female-headed households or the landless, there are no clear patterns. The effect on the intra-village share of SC/ST households in the longer panel was lower in villages with greater landlessness both in the village as a whole and among the SC/ST groups. This is consistent with a conventional elite capture hypothesis.

4.6 Effect on Targeting of Specific Programs

In order to better understand the puzzling effects of the women Pradhan reservation on the intra-village targeting to SC/ST households and how these varied with land inequality in the village, Table 8 shows the effects on the intra-village SC/ST share for specific programs. Given the complexity of these results, we describe a hypothesis that may help interpret and explain the observed patterns. We have seen above that a simple elite capture hypothesis --- wherein women elected to a reserved post are less able to stand up to the power of local elites that seek to appropriate GP-distributed benefits at the expense of SC/ST groups --- does not fit the facts. Such a hypothesis would imply that the effect of

---

[24] The proportion of cultivable land in medium and big holdings in the sample in 1998 was approximately 25%: see Bardhan and Mookherjee (2006).

Table 8: Effect of Women Reservation on Intra-Village SC/ST Share of Specific Benefits

	Any benefits		Drinking water		Housing and toilet		Employment		BPL		Roads		IRDP		Minikits	
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Pradhan reserved	-0.013	-0.157*	-0.146	-0.351	0.105	0.136	0.196	-0.029	-0.255*	-0.375	-0.337*	-0.172	-0.326	3.430***	0.544***	0.527***
	(0.095)	(0.093)	(0.233)	(0.228)	(0.266)	(0.295)	(0.251)	(0.208)	(0.135)	(0.246)	(0.185)	(0.185)	(0.260)	(0.968)	(0.176)	(0.169)
Pradhan reserved * % Land medium and big	-0.081	0.298**	-0.254	0.368	-0.569	-0.632	0.130	0.306	0.530***	0.888**	0.277	-0.172	1.270***	0.931**	-1.919***	-0.041
	(0.143)	(0.139)	(0.370)	(0.403)	(0.797)	(1.484)	(0.327)	(0.295)	(0.186)	(0.522)	(0.221)	(0.247)	(0.363)	(0.407)	(0.522)	(0.880)
Pradhan reserved * % HH landless	-0.012	-0.062	0.447	0.506*	-0.406	-0.185	-0.404	-0.175	0.194	0.136	0.303	0.197	-0.073	-6.119***	-0.633**	-0.979***
	(0.137)	(0.203)	(0.358)	(0.287)	(0.385)	(0.585)	(0.393)	(0.383)	(0.197)	(0.311)	(0.270)	(0.302)	(0.437)	(1.188)	(0.312)	(0.340)
% Land medium and big	-0.047	0.370	-0.445	2.553***	0.389	0.954	0.876*	-0.116	0.308	1.288**	-0.428	0.262	-0.147	-2.822	-0.022	-1.398
	(0.148)	(0.443)	(0.326)	(0.881)	(0.403)	(1.653)	(0.490)	(1.230)	(0.240)	(0.629)	(0.305)	(0.808)	(0.489)	(2.107)	(0.624)	(0.835)
% HH landless	-0.123	-0.808	0.230	3.315	-2.774***	1.129	-0.089	1.430	0.076	0.133	-0.483	-1.253	-0.604	1.182	-3.648***	2.553
	(0.148)	(0.587)	(0.584)	(2.449)	(0.874)	(1.902)	(0.953)	(3.103)	(0.392)	(1.460)	(0.734)	(1.055)	(0.789)	(1.506)	(0.817)	(3.179)
Constant	0.416***	0.766**	0.454	-1.760	1.327***	-0.210	-0.145	-0.002	0.152	0.014	0.714**	0.932	0.858*	0.415	1.603***	-0.469
	(0.089)	(0.321)	(0.273)	(1.312)	(0.288)	(1.174)	(0.375)	(1.589)	(0.185)	(0.791)	(0.326)	(0.583)	(0.439)	(0.402)	(0.268)	(1.587)
Observations	459	164	292	118	108	75	141	95	320	105	218	132	152	53	116	68
Number of villages	88	87	83	75	54	51	70	66	75	67	83	78	69	43	62	52
R-squared	0.031	0.184	0.034	0.197	0.289	0.078	0.159	0.036	0.042	0.189	0.051	0.105	0.157	0.830	0.549	0.437

***, **, *: denotes significance at the 1, 5 and 10% level respectively

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects.

women's reservation on the SC/ST share would be smaller in villages with greater land inequality where elites are expected to be more powerful. In contrast to this prediction Table 6 showed that the interaction of the reservation effect with land inequality was instead positive and significant.

Consider now a more complex version of the elite capture hypothesis, where elites value only some of the goods distributed by the GP such as minikits and subsidized credit, and not others such as provision of drinking water, employment in public works or low-income housing and sanitation. Landed elites are likely to engage in cultivation and thus benefit from agricultural minikits and credit. Since they own *pucca* homes well provided with water taps and toilets, they are unlikely to benefit from public water taps, low income housing or crude toilets constructed outside the home, or the opportunity to provide manual labor in a local construction program. Elites may thus seek to appropriate minikits and credit at the expense of others in the village, while keeping a grip on political power by clientelistic relations with chosen groups.

Such clientelism often takes the form of buying votes and loyalties of specific caste groups by offering them publicly provided benefits that the elites themselves do not value. Case studies (such as Ruud (1999)) as well as evidence concerning political participation and voting behavior by Bardhan et al (2008) from the same household survey as this paper indicate that SC/ST groups form such `clients' in the context of West Bengal villages. SC/ST groups for instance have been politically loyal to the ruling Left Front coalition that has dominated most West Bengal GPs over the past three decades. At the same time, they signal their loyalties by attending political meetings, and the evidence in Bardhan et al (2008) indicates a strong positive correlation between political meeting attendance and receipt of GP-administered benefits. Local party leaders have close personal knowledge of political attitudes and behavior of individual households in the village, and arrange for GP benefits to be distributed to those they think deserve to be `rewarded'. Elites also seek to provide political benefits for landless and low caste workers that they employ on their farms and in their homes. Such forms of political clientelism have been extensively documented in many other developing countries (e.g., see Kitschelt and Wilkinson (2007) and Stokes (2005)). In a male-dominated society such as rural Bengal, elite roles both in politics and in employment of workers are typically occupied by males.

It is plausible in this context that election of a politically inexperienced woman to a reserved Pradhan position in the GP will result in some frictions in the operation of such `patronage machines', resulting from lack of personal knowledge of relevant characteristics and behavior of specific households in the village. This will result in a decline in delivery of benefits such as water, housing,

employment and BPL cards traditionally earmarked for politically loyal clients, which often include SC/ST groups. At the same time it will lower delivery of benefits such as minikits and credit to elites, implying less diversion to elites and hence greater provision to non-elites, including SC/ST groups. Hence we would expect to see women Pradhan reservations to result in a change in the composition of benefits to SC/ST groups: less water, housing, employment etc and more minikits and credit. When we add up across all benefits, the former (being more numerous to start with) effect dominates, resulting in a significant reduction in the total number of benefits to SC/STs.

However, the extent of this change would be attenuated in villages where elites are more powerful and also have more to lose from such `frictions': there they ensure that the women nominated for Pradhan positions are from elite families themselves and represent the interests of the elites more closely. This moderates the change in composition of benefits provided to SC/ST clients resulting from a reservation of the Pradhan post for a woman. Hence we expect to see interactions of the reservation dummy with measures of land inequality which are opposite in sign to those of the reservation dummy itself: positive for goods not valued by the elite, and negative for goods that the elite seek to appropriate. Again the former outweighs the latter, consistent with the positive interaction in SC/ST targeting seen in Table 6 when aggregating across all programs.

Table 8 presents estimated effects of the reservations on SC/ST targeting of different programs. The results are broadly consistent with the capture-cum-clientelism hypothesis. The direct effect of the reservation for SC/ST receipt of low income housing and road benefits is significantly negative in the 1978-04 panel (consistent with increased frictions in clientelism). The interaction of reservations with land inequality has the opposite sign (positive) for water (with respect to proportion of households that were landless), and for BPL cards (with respect to proportion of land owned by medium and big landowners) during 1998-2004 --- consistent with attenuation of the weakening of clientelism in high inequality villages. The direct effect of land inequality itself (hypothesized to raise capture-cum-clientelism) is positive for water and BPL cards (with respect to the landownership-based measure) during 1998-2004, though the opposite is the case for housing (with respect to the landlessness-based measure) for the longer panel.

In contrast, we find that reservations dummy *per se* resulted in an increase in SC/ST share of credit during 1998-2004 and minikits in both panels, consistent with the prediction of frictions in elite capture resulting from reservation of the Pradhan post for a woman. The interaction with respect to land inequality is negative for minikits (with respect to both inequality measures in both panels), and also for credit with respect to the landlessness-based measure, though not for the big-landownership-based measure. The direct effect of land inequality

(associated with greater capture) is negative for SC/ST receipt of minikits with respect to the landlessness-based measure in the longer panel. All other effects are statistically insignificant.

The evidence thus indicates some support for our hypothesis of capture-cum-clientelism which tends to be undermined by reservations of Pradhan positions for politically inexperienced women. Another way to check this is to examine how the reservation effect varied between women Pradhans (elected in reserved seats) who had been elected to GP positions in a prior administration, and those that had never held a GP position before. It turns out that the vast majority of the women elected to reserved positions were `new': of the 34% women in reserved Pradhan posts, 29.4% had never held a GP post before. Table 9 shows how the reservations effect interacted with the `newcomer' effect, with regard to village average benefits, and average benefits received by SC/STs aggregating across all programs, as well as two specific programs: drinking water and minikits.[25] We see no significant interaction for the benefits received by the village as a whole. For SC/ST receipt of drinking water benefits we see a significant negative interaction (in the shorter panel), and a significant positive interaction for minikits. The direct effect of increased land inequality is the opposite: it lowers the SC/ST receipt of minikits and raises drinking water benefits. Hence this is again consistent with our interpretation of drinking water benefits provided to SC/ST groups by elites in a clientelistic arrangement, while they tend to appropriate minikits for themselves --- a process which gets disrupted by the arrival of a `newcomer' as the GP Pradhan.

5. Relation to Existing Literature

Besley, Pande, Rahman and Rao (2004) used household and village survey data from local government in three South Indian states conducted between September and November 2002. They found that SC/ST Pradhan reservations increased the provision to SC/ST households of `private' benefits such as housing and toilet constructions, private water and electricity connections. On the other hand, the allocation of high-spillover public goods (construction of roads, drains, streetlights and water sources) was higher in the village where the Pradhan resided, irrespective of the reservation status. In a second study on the same set of villages, Besley, Pande and Rao (2005) studied the impact of political and Pradhan reservation on the selection of beneficiaries of BPL (below poverty line) cards. They found that SC/ST reserved Pradhans targeted BPL cards to reserved politicians and SC/ST households more favorably. Conversely, reservation of women Pradhan had no effect on targeting of BPL cards and that they were more

---

[25] For SC/ST receipts of all other specific programs, the interaction effects were insignificant, hence they are not shown here.

Table 9: Prior Experience and Womens Reservation Effect on Targeting

| | Inter-village (averages) | | SC-ST-headed households (shares) | | | | | |
| | | | Any benefit | | Drinking Water | | Minikits | |
	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004	1978-2004	1998-2004
Pradhan reserved for woman	0.030	0.069	-0.101	-0.100	-0.179	0.596	0.089	0.403*
	(0.079)	(0.092)	(0.130)	(0.105)	(0.296)	(0.394)	(0.229)	(0.229)
Pradhan is a new GP member	0.032*	0.089**	-0.064*	-0.077	-0.015	-0.001	-0.315**	0.293
	(0.018)	(0.035)	(0.035)	(0.049)	(0.071)	(0.105)	(0.127)	(0.355)
Pradhan reserved for Woman * Pradhan is a new GP member	0.008	-0.089	0.036	-0.072	0.041	-1.091***	0.537***	0.000
	(0.065)	(0.085)	(0.114)	(0.088)	(0.245)	(0.383)	(0.197)	(0.000)
Pradhan reserved for Woman * % Land medium and big	0.010	-0.041	0.045	0.406***	-0.297	0.835**	-1.375**	-0.286
	(0.097)	(0.188)	(0.119)	(0.126)	(0.379)	(0.352)	(0.539)	(0.899)
Pradhan reserved for Woman * % HH landless	-0.059	-0.031	0.092	-0.013	0.491	0.541	-0.667**	-0.671
	(0.119)	(0.145)	(0.119)	(0.144)	(0.384)	(0.325)	(0.326)	(0.568)
% Land medium and big	0.005	-0.098	-0.061	0.212	-0.453	2.680***	-0.612	-0.997
	(0.091)	(0.364)	(0.146)	(0.418)	(0.339)	(0.859)	(0.856)	(1.324)
% HH landless	-0.117	-1.211**	-0.149	-0.600	0.223	7.016***	-1.835*	2.662
	(0.078)	(0.467)	(0.152)	(0.640)	(0.606)	(1.910)	(1.076)	(3.199)
Constant	0.078*	0.790***	0.428***	0.732**	0.459	-3.579***	1.186***	-0.815
	(0.040)	(0.215)	(0.089)	(0.320)	(0.281)	(1.037)	(0.254)	(1.696)
Observations	517	173	448	160	288	116	111	67
Number of mouza	0.501	0.292	0.040	0.254	0.036	0.338	0.582	0.454
R-squared	89	89	88	87	83	75	61	51

***, **, *: denotes significance at the 1, 5 and 10% level respectively

Notes: i) Robust standard errors, clustered at the GP level, in parentheses. ii) All regressions include time dummies and village fixed effects.

likely to give BPL cards to ineligible members of the GP. While these results differ from ours in various details, and pertain to Southern Indian states rather than West Bengal, there is a broad similarity insofar as SC/ST Pradhan reservations improved targeting in some respects, while women Pradhan reservations did not. There are some specific similarities as well: e.g., our results regarding negative effects of woman Pradhan reservations on targeting of BPL cards, and that SC/ST reserved Pradhans allocate more benefits to their own village when the SC/ST demographic share is high.

Ban and Rao (2008) examined a range of other effects of the reservations in the same sample of South Indian villages: on measures of participation of women in village meetings, on the number of activities (from a list including water, health, education, sanitation, roads, transport, electricity) that survey respondents thought the GP had been especially active following the last election; whether they thought that the GP had improved its performance in these different areas. They did not find significant effects of the women Pradhan reservations on any of these, with the exception of the activity level in education. They also examined the characteristics of the kinds of women who were elected to these reserved posts as well as village characteristics and how these affected their effectiveness in enhancing perceived GP activity levels. They found a significant negative interaction of the reservations with previous political experience of those elected, and also with the proportion of land owned by upper caste households. However, land inequality (as measured by the Gini coefficient) did not significantly affect the impact of the reservations. Our results again are broadly similar, insofar as we fail to find evidence of any significant positive targeting impacts of women Pradhan reservations, and that women leaders were not significantly less effective in villages with high land inequality.

Chattopadhyay and Duflo (2003, 2004) used village-level data collected in a single district (Birbhum) in West Bengal, and a single district (Udaipur) in Rajasthan, to study the impact of minorities' leadership on policy decisions. They found that women Pradhans elected to reserved seats invested more in drinking water and roads in Birbhum and drinking water in Udaipur. Women residents expressed greater concerns for these public goods compared to others. Hence the reservations helped move spending on different public goods in line with women's preferences. As explained above, we do not find any significant effect on benefits reported by female-headed households, nor village-level benefits from drinking water or roads. Our study differs by its wider regional coverage, use of different measures of targeting and of different time spans (their results are based on 1998-2000, whereas ours are based on 1998-2004 and 1978-2004). Chattopadhyay and Duflo also found that Pradhan reservations in favor of SCs in Birbhum increased allocation of (the same) goods to SC hamlets, but otherwise had no effect on the composition of investment.

Our earlier paper (Bardhan, Mookherjee and Parra Torrado (2005)) examined the effects of Pradhan reservations for SC/ST and women on targeting to poor and SC/ST households of a large range of private benefits and budgetary spending on different infrastructure programs for a single year 1998, the first year that the Pradhan reservations went into effect. It used data from official records of disbursing institutions from the same sample of West Bengal villages as in this paper. It found that women reservations improved targeting of IRDP credit, but worsened targeting of employment generating programs. Also, GPs with reserved Pradhan positions for women were found to be less effective in raising local revenues from non-tax sources and those with SC/ST reservation raised less from local taxes. The net effects of women reservations thus amounted to worse targeting to SC/ST and landless households, and this was more pronounced in villages with greater land inequality and poverty among SC/ST groups.

The results of this paper are consistent with some of the findings in our previous work, such as the negative effects of women reservations on benefit delivery to SC/ST households. On the other hand, our previous paper found improvements in per capita IRDP benefits obtained in villages covered by reserved seats for women Pradhans in 1998, a result that we did not find here. Also in villages with more land inequality the previous paper found the negative effect on SC/ST targeting was accentuated, whereas here we found the opposite. However neither paper finds any positive targeting impacts.

Rajaraman and Gupta (2008) examine the effects of women Pradhan reservations on GP expenditures on water, on buildings, and on revenue raised, in a sample of 780 GPs from seventeen districts in four central Indian states (Chattisgarh, Madhya Pradesh, Rajasthan and Uttar Pradesh). Their survey was carried out in 2005-06. They do not find a significant effect on whether the GP carried out any expenditures on water and sanitation, or on own-revenues collected. Expenditures on water were explained by per capita funding, household access to water-pumps and spatial dispersion of villages within the GP. But they do find a positive effect of the reservations on GP spending on building construction.

6. Conclusion

In summary, we do not find evidence of a positive impact of women reservations in GPs on any measure of targeting, and a significant negative effect on some dimensions such as targeting to SC/ST groups. In contrast SC/ST reservations improved some dimensions of targeting, without significant negative effects on others. Particularly puzzling is the pattern of the significant effects of each kind of reservations, which were pronounced on the *other* group: women Pradhan reservations worsened targeting to SC/ST groups, not female-headed households.

SC/ST reservations improved targeting to female-headed households but not to SC/ST households.

More detailed examination of the SC/ST reservation effects show that these are consistent with standard citizen candidate models of electoral politics. For instance, SC reservations improved delivery to SC groups and reduced delivery to ST groups, with the opposite in the case of ST reservations: the negative spillover to the other group accounts for the insignificance of the effect on the two groups combined. The women Pradhan reservation effects are on the other hand not consistent with either citizen candidate models or elite capture models. We described a more complex model of capture-cum-clientelism which turned out broadly consistent with the evidence concerning effects of women reservations, in which elites deliver goods they do not themselves value to SC/ST `clients' in exchange for their political support, while diverting benefits such as agricultural minikits and credit that they do personally value. Reservations of the GP Pradhan position for politically inexperienced candidates ruptures such traditional capture-clientelism `machines', at least temporarily. The extent of rupture is attenuated in villages with greater socio-economic inequality.

It is nevertheless worth noting that the women reservations may have generated pure `empowerment' effects which were not mirrored in targeting outcomes. Alternatively, the first few years of reservations may have been periods in which women gained self-confidence and the general voting population became more receptive towards women leaders, an issue explored by Beaman *et al* (2008). This may lead to positive targeting impacts in the longer run. Clearly, further research is needed to gauge possible long-term impacts.

References

Ban R. and V. Rao (2008), "Tokenism or Agency? The Impact of Women's Reservations on Village Democracies in South India," *Economic Development and Cultural Change*, 501—530.

Bardhan, P., S. Mitra, D. Mookherjee, and A. Sarkar, (2008), "Local Democracy in Rural West Bengal: Political Participation and Targeting of Public Services". mimeo, Boston University: http://people.bu.edu/dilipm/wkpap/index.html.

Bardhan P. and D. Mookherjee (2000), "Capture and Governance at Local and National Levels", *American Economic Review*, pp. 135–139 (May).

Bardhan, P. and D. Mookherjee (2006) "Pro-Poor Targeting and Accountability of Local Governments in West Bengal", *Journal of Development Economics*, Vol. 79, pp. 303-327.

Bardhan, P. and D. Mookherjee (2008) ``Determinants of Redistributive Politics: An Empirical Analysis of Land Reforms in West Bengal, India,' mimeo, Boston University: http://people.bu.edu/dilipm/publications/recentpublications.html. Forthcoming, American Economic Review.

Bardhan P., D. Mookherjee and M. Parra Torrado (2005), "Impact of Reservations of Panchayat Pradhans on Targeting in West Bengal", Working Paper, Institute for Economic Development, Boston University. To appear in *Some Contemporary Issues in Development and Growth Economics,* edited by Arpita Dhar, Allied Publishers, Calcutta.

Beaman L, Chattopadhyay R., Duflo E., Pande R. and Topalova P. (2008), ``Powerful Women: Does Exposure Reduce Bias?' Working Paper, Department of Economics, MIT.

Besley T., R. Pande, and V. Rao (2005), "Political Selection and the Quality of Governments: Evidence from South India", Working Paper N. 921, Economic Growth Center, Yale University.

Besley T., R. Pande, L. Rahman and V. Rao (2004), "The Politics of Public Good Provision: Evidence from Indian Local Governments", *Journal of the European Economic Association,* April-May 2004; 2(2-3), pp. 416-426.

Chattopadhyay, R. and E. Duflo (2003), "The Impact of Reservations in the Panchayati Raj: Evidence from a Nationwide Randomized Experiment", Working Paper, MIT, Cambridge MA.

Chattopadhyay, R. and E. Duflo (2004). "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India", *Econometrica*, Sep. 2004; 72, 5; pp. 1409-1443.

Duflo, E. and P. Topalova (2004) "Unappreciated Service: Performance, Perceptions, and Women Leaders in India", Working paper, MIT, Cambridge MA.

Kitschelt H. and S. Wilkinson (2007), *Patrons, Clients and Policies: Patterns of Democratic Accountability and Political Competition*, Cambridge University Press: Cambridge and New York.

Munshi K. and M. Rosenzweig (2008), ``The Efficiency of Parochial Politics: Caste, Commitment and Competence in Indian Local Governments," BREAD Working Paper no. 82.

Pande, R. (2003), "Can Mandated Political Representation Increase Policy Influence for Disadvantaged Minorities? Theory and Evidence from India", *American Economic Review*, Vol. 93, No. 4, pp. 1132-1151.

Ruud P. (1999), in Rogaly B., B. Harriss-White and S. Bose (Ed.) "Sonar Bangla? Agricultural Growth and Agrarian Change in West Bengal and Bangladesh," Sage Publications, New Delhi and Thousand Oaks, London. 1999.

Stokes S. (2005), "Perverse Accountability: A Formal Model of Machine Politics with Evidence From Argentina," *American Political Science Review*, 99(3):315-325.

Appendix

Table A.1 presents descriptive statistics of benefits received by households. The top panel corresponds to the average number of benefits per household proportion of households during the periods 1978-2004 and 1998-2004. The lower panel corresponds to intra-village shares of different groups for different benefits. The averages are calculated using information at the village-time-block level.

Table A.1 Summary Statistics of Benefits Provided by Local Governments in West Bengal

	Any benefits		Drinking water		Housing and toilet		Employment		BPL		Roads		IRDP		Minikits	
	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04	1978-04	1998-04
Inter-village (average number of benefits)																
Mean	12.58	26.92	2.19	4.03	0.71	1.95	1.36	3.63	2.11	2.73	3.47	9.32	0.54	0.70	0.44	0.94
Std. Dev.	17.81	24.34	3.83	5.54	2.56	4.15	4.55	7.27	2.69	3.44	8.26	12.22	1.24	1.65	1.17	1.70
Intra-village (shares)																
Female-headed households																
Mean	8.40	8.58	7.21	8.19	14.15	12.38	8.31	7.60	8.68	8.89	7.66	9.03	7.98	7.36	7.59	7.79
Std. Dev.	14.19	11.15	16.10	16.80	31.18	27.05	23.56	20.48	21.78	22.32	15.57	14.16	24.25	22.46	23.62	27.05
Landless households																
Mean	38.03	37.86	44.83	47.24	58.85	60.30	51.49	52.21	38.32	35.76	38.90	34.15	45.26	44.34	15.68	14.61
Std. Dev.	31.83	28.56	40.45	39.52	42.35	39.31	43.32	40.22	39.03	38.48	36.43	31.27	46.75	47.81	0.00	0.00
SC/ST households																
Mean	37.88	41.56	36.78	38.03	54.69	50.31	57.52	63.26	32.48	31.83	34.70	33.82	46.09	52.39	39.96	47.57
Std. Dev.	33.59	31.86	40.57	38.26	44.72	42.88	45.37	41.83	37.25	37.40	38.24	34.18	46.68	48.05	0.00	0.00

Note: *Inter-village* refers to the average number of benefits received per household in a village in any given timeblock. *Intra-village* refers to the share of a specific group (female-headed, landless or SC/ST households) in the benefits distributed within the village in any given timeblock. For presentation purposes, all numbers in the table are expressed in percentage.