Tokenism or Agency? The Impact of Women's Reservations on Village Democracies in South India[*]

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Abstract

There is increasing interest in whether improving the participation of women in government will lead to more gender equality. We test this with data collected from South India, using a natural experiment that randomly reserves 1/3rd of all presidencies in democratically elected village councils (panchayats) for women candidates. Previous research has found that such "reservations" result in policy decisions that are closer to the preferences of women, while qualitative research has argued, conversely, that it results in token appointments where women are appointed by elites, and are poorly educated and aged. We do not find evidence in favor of the tokenism hypothesis, finding that women leaders are drawn from the upper end of the quality distribution of women. However, we find that female leaders perform no differently than male leaders. Our results also indicate that institutional factors matter much more for women than for men - women perform better than men in situations where they have more political experience, live in villages less dominated by upper castes, and in states where the panchayat system is more mature.

1 Introduction

The link between democracy and development is increasingly being emphasized by influential scholars(Sen, 1999) and development institutions (World Bank, 2005). In particular, enhancing the participation of women within democracies is seen as central to improving governance (World Bank, 2001). India offers, perhaps, the best opportunity to learn about the impact of raising the participation of women in democratic institutions because of a remarkable attempt to improve the representation of women in local village government. The 73rd amendment to the Indian constitution, passed in 1992, mandated that no less than a third of the total number of seats in democratically elected village governments (panchayats), and no less than a third of the office of Chairperson of the Gram Panchayat (village government unit, henceforth GP) should be reserved for women. The aim of this was to ensure that women would have a voice in local government and, ultimately, help facilitate the formation of a more gender equal society. Since every Indian village is now required to participate in this exercise - the enormous variation and diversity among villages in India provide a remarkable laboratory to test models of democratic reform.

To analyze the effect of this policy, two questions need to be answered. First, what do the women presidents achieve relative to their male counterparts? Anecdotal evidence suggests that women,as newcomers to the political process, would be more enthusiastic and less corrupt and therefore more effective than entrenched male politicians. They would, therefore, generally improve the quality of governance (Vyasulu & Vyasulu, 1999) Second, who are these women presidents? Speculation and some anecdotal evidence suggest that they are tokens of powerful interests in the village; poorly educated, elderly, from impoverished families, easily manipulated and picked by elites to run (Ramesh & Ali, 2001). A more optimistic view is that effective, educated women choose to run for elections.

Econometric work by Chattopadhyay and Duflo (Chattopadhyay & Duflo, 2004b) - henceforth CD - looking at panchayats in the states of West Bengal and Rajasthan examined these issues in some detail and found some evidence consistent with an optimistic hypothesis: Women leaders tend to invest more in goods where women have expressed a preference, and less in goods preferred by men. Specifically, women leaders in West Bengal tend to invest more in water and road projects, and less in non-formal education,while in Rajasthan they invest more in water and less in roads. CD are able to identify the causal impact of reservations by establishing that reservation status is rotated among all GPs on a random basis – which allows

the reservation process to be treated as a randomized trial.

While CD's results demonstrate the effectiveness of the panchayat reservations experiment, the results are restricted to two states, Rajasthan and West Bengal, of a very large and diverse country. These states, both from the north, are among the most male-biased in the country: Rajasthan ranks 21st and West Bengal 18th out of 24 states in a composite index of the status of women in India (Filmer *et al.*, 1998). Thus, a question remains of how applicable these results are to the rest of the country.

CD find that women presidents[1] in reserved constituencies tend to be worse educated than presidents (almost all men) in unreserved constituencies, a fact that they attribute to the possible existence of tokenism. This, however, begs the question of whether this gender differential in education reflects patterns in the general population or is a consequence of the reservations system. It also raises an important secondary question of whether the quality of presidents matters more in reserved panchayats; do better educated women function more effectively as presidents?

More recent work by Duflo and Topalova (Duflo & Topalova, 2004) and by Bardhan, Mookherjee, and Torrado (Bardhan *et al.*, 2005) also econometrically analyzes the effect of women's reservation. Duflo and Topalova extend the CD findings to 24 states and examine whether the performance of women leaders are perceived differently than men. The authors find that women's reservation leads to more and better drinking water facilities in the village, although the quality effect is not significant. For other public goods they find no significant effect of women's reservation. They also find that villagers are less likely to pay bribes in GPs reserved for women. However, the villagers' satisfaction with the president's performance is lower in GPs reserved for women. Furthermore, women get less "credit" for quantity and quality improvements than men. Bardhan et al. examine the effect of women's reservation on the targeting of various local programs. They find that women's reservation improves the targeting of subsidized loans to disadvantaged groups but at the same time, worsens the targeting of employment grants.

The impact of women politicians is also examined by Clots-Figueras (Clots-Figueras, 2005). The author looks at women's political behavior as state legislators. She finds that women legislators elected in seats reserved for Scheduled Castes/Tribes are more likely to adopt women-friendly laws, relative to women elected in open seats.

Another important issue, a major theme in the "action research" literature, is the salience of local structures of inequality and power (Rai *et al.*, 2001). Villages dominated by powerful caste groups tend to be much more

dictatorial. Thus, when such villages are reserved for women one expects that the presidents would be more likely to be subservient to elites. This raises the question of whether local structures of oligarchy and inequality have more influence over women presidents. Bardhan, et al. find that the effect of women's reservations on targeting is indeed lower in villages with higher land inequality.

An evaluation of the effects of reservations for women must include both evidence on the process by which women are selected in reserved constituencies, and on how their performance compares with leaders in unreserved ones. The three other papers on women's reservation cited above only address the performance comparison. Besley, Pande and Rao (Besley *et al.* , 2005b) focus on the political economy of politician selection using the same data as ours. In examining the broader issue of political selection, they show that more educated and politically connected individuals are more likely to get elected, but this relationship does not hold in constituencies reserved for women.

In this paper we connect these two literatures by conducting a more detailed analysis of political selection in constituencies reserved for women, and examining the impact of women's reservation on performance. We find evidence against two potential channels for tokenism. First, tokenism does not appear to be working through the selection of weak women. Second, tokenism does not appear to be working through the spouse's influence. Less than 20 percent of women presidents are persuaded to run by their spouse. We also find that panchayats led by women are no worse or better in their performance than those with male leaders, and women politicians do not make decisions in line with the needs of women. Importantly, however, political experience enhances the performance of women leaders more than it does for men. Also, women in villages which are less dominated by upper castes, and in states that have relatively mature panchayat systems, perform better, and, respectively, no worse than men. This suggests that institutional factors affect women politicians more than they affect men.

Our data, from a survey conducted between November and December 2002 in the southern states of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, is interesting for two reasons: First in contrast to West Bengal and Rajasthan, these states have low levels of gender disparity compared to the rest of the country – with Kerala ranked on the top of all major Indian states on the status of women index (Filmer, King, Pritchett 1998). Thus comparing the CD paper with these results could provide some valuable insights into how women's reservations works within relatively more gender-equal societies.

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Second the four states present an interesting comparison within themselves in their approach to decentralization[2]: Kerala and Karnataka have been among the leaders in promoting village democracy in India. Karnataka has had women's reservations in place since 1959, and in 1983 it passed landmark legislation giving panchayats a streamlined organizational structure that served as a model for the 73rd amendment. Kerala has had a more checkered history, but was one of the first states to adopt and implement the 73rd amendment. This has been followed by a commitment to give panchayats meaningfully large budgets and the power and authority to make decisions. Andhra Pradesh on the other hand, despite a long history of panchayat legislation has not had regular elections. Moreover, since 1997 the state government also instituted a system of "participatory governance" that served to undermine the authority of panchayats[3]. Tamil Nadu, similarly, has instituted reforms from the 73rd amendment but without giving village panchayats much teeth with budgets and placing most of the decision making at higher levels of government.

2 Data

2.1 Sampling Strategy

The sample was selected, using a strategy designed to control for path-dependencies and cultural factors while making state comparisons, from two districts in AP – Medak and Chithoor, three in Karnataka – Bidar, Kolar and Dakshin Kanada, two in Kerala – Kasargod and Palakkad, and two in Tamil Nadu – Dharmapuri and Coimbatore. The districts within states were selected, with one exception, to focus on those that had belonged to the same administrative unit during colonial rule, but had been transferred to different units when the states were reorganized in 1956[4]. From these states, pairs of blocks (which are the next level of administrative unit) one from each state were selected to be similar on the language spoken by a majority of the population. All blocks from within the sampled districts are chosen to be the closest possible in their majority language to a block in the matching district of the neighboring state. Since language is a good proxy in these regions for cultural differences given the prevalence of caste and linguistic endogamy, language matching allows us to partially control for "unobservable" sociocultural differences.

The blocks are divided into several GPs or village government units – each of which consist of between 1 and 6 villages depending on the state. From each sampled block , in the states of AP, KA and TN, we randomly

sampled 6 GPs in every block. In Kerala the population per GP is roughly double that in the other three states. For this reason in Kerala we sampled 3 GPs in every block. This procedure gave a total of 201 GPs. From these we selected a village sample. In AP, Karnataka and Tamil Nadu we sampled all villages if the GP had 3 or fewer villages. If it had more than three villages, then we selected the president's village and randomly selected two other villages. We excluded all villages with less than 200 persons from our sampling frame. All hamlets with population over 200 were considered as independent villages in drawing the sample. In Kerala we directly sampled wards instead of villages (as villages in Kerala tend to be very large) – we sampled 6 wards per GP. This gave us a final village sample size of 527 villages[5]. For sampled villages, any associated hamlets were also included as part of the sample.

From every sampled block in AP, KA and TN we randomly selected 3 of our 6 sampled GPs and conducted household interviews in all sampled villages falling in these GPs. In Kerala we randomly selected 2 GPs in one block and one GP in the other block (the selection of which block to sample how many GPs from was also random), and within sampled GPs we conducted household interviews in all sampled wards. Overall this gave us a final sample size of 5180 households[6]. Twenty households were sampled at random from every selected village[7], of which four always belonged to Scheduled Caste or Tribes (henceforth SC/ST – who benefit from affirmative action programs mandated by the Indian constitution). In addition to these randomly sampled households the President of the GP was also subjected to a household interview with some supplementary questions. Thus our sample of presidents coincides exactly with the GPs. presidents were not available for interviews in a few of our GPs – so our final president sample is reduced from 201 to 192. The complete sample has been used for other analyses (Besley *et al.*, 2004a), but for the purposes of this study we have omitted the GPs that have multiple reservations for women and scheduled castes, keeping only GPs reserved for women and the unreserved GP. Thus our sample consists of 106 Gram Panchayats containing 310 villages in the four states and about 2100 households containing about 7100 individuals within them[8].

2.2 Questionnaires

Data was collected at the village, president and household level. At the village a questionnaire was administered using Participatory Rapid Appraisal (PRA) techniques (Chambers, 1997) to a group of individuals (mainly men)

selected to represent different social groups in the village, to assess their views on problems in the village, the work done by panchayat, and obtain measures of inequality and oligarchy. PRA techniques were also employed on a group of selected women to get measures of women's preferences on problems faced by the village. In addition, a facilities assessment was conducted by an investigator devoted to the task of looking at the quality of schools, clinics, roads, drinking water, and sanitation. We also obtained secondary data from the 1991 census of India for the villages in our sample.

In addition to this village level data, one randomly chosen adult from every household in the sample was asked questions on the household's socioeconomic status, household structure, views and use of public services in the village, private government benefits. They were also asked to rank-order problems in the village. Since the sample is divided between male and female respondents this provides yet another source of information on gender differences on preferences about village problems. All presidents in the sampled GPs had to answer the household questionnaire, but were also asked a series of questions to assess their knowledge about the political process – such as the names of prominent elected officials and reservation rules.

2.3   Reservation process

All GPs within a block are selected for women's reservation by rotation, with a third of all GPs mandated to be reserved for women presidents at any given time. The method of rotation varies across states and is determined by the state's election laws. Typically a list of GPs is prepared for each block – ordered by the proportion of women in the population, and the first GP in the list selected for reservation in the first election, along with the fourth, the seventh and so on, skipping three in sequence. In the next election the second GP in the list is selected, and additional GPs picked again by skipping three sequentially. This method, while not perfectly random, ensures that GPs are selected for women's reservation via an exogenous process. Two of the states – AP and Tamil Nadu have direct elections for the president – akin to a presidential system, while two – akin to a prime ministerial system - have indirect elections. Every village is divided into wards, each of which elects a member to the panchayats, and each ward is also reserved using a rotation system. Thus 1/3 of all GP members are always women. In reserved GP's with indirect elections the president is elected from among the women ward members. Table 1 presents a breakdown of the president's gender by reservation status and state.

To test the exogeneity of the reservations system we regress a dummy for

women's reservations, one at a time, on fourteen measures of public service quality and general levels of development, as well as demographics, from the 1991 census. Since census data are available to the election commissions to determine the composition of constituencies, if villages were selected for reservations on the basis of any endogenous criteria we would expect to see a correlation between reservations status and at least some of the census outcomes. State dummies are also included in all these regressions to allow for the possibility that states may have implemented the 73rd amendment reforms at a different pace, and used different rotation and election systems. Table 2 presents results from these regressions. Of the fourteen variables we tested, thirteen have coefficients that are not significantly different from zero. Only one variable – medical facilities in the GP – is significant for reasons that are unclear. This suggests that reservations were unlikely to have been allocated to GPs on the basis of observable characteristics and supports the assertion that they were exogenously allocated.

The 73rd amendment also mandated reserved seats for scheduled castes and tribes (SC/ST) and for other backward castes(OBC) on the basis of their proportion in the village population. In the four states we are studying, SC/ST and OBC reservation overlap with women's reservations. Thus approximately a third of GPs with SC/ST or OBC reservations would – randomly – also be reserved for women. This is likely to confound the impact of the two types of reservations so we focus on contrasting GPs exclusively reserved for women with unreserved GPs. The impact of SC/ST reservations on panchayats has been examined elsewhere (Besley *et al.* , 2004b), (Chattopadhyay & Duflo, 2004a).

2.4 Units of observation

The units of observation change through the course of the paper to allow us to analyze a more complete set of issues that relate to women's reservations. Since this could be a little confusing we provide a concise description of these changes; In the exogeneity tests, we estimate differences between GP level variables hence the unit of observation is the GP. Throughout the section dealing with the activities of women presidents the unit of observation is the village. An exception is the analysis of president's meeting with higher level officials, where the unit of observation is the GP (as there is one president for each GP). Throughout the section dealing with the characteristics of women presidents the unit of observation is the individual.

3 Results

3.1 Impact of Reservations on Women's Participation

One important impact of women's reservation is on women's political and community participation. Besley, Pande and Rao (Besley *et al.* , 2005a) show that community participation, measured by attendance in public village meetings, improves targeting towards disadvantaged sections of the village. CD find that in panchayats reserved for women, the fraction of women among village meeting (Gram Sabha) participants increased significantly, in West Bengal villages, while in Rajasthan it decreased - but not significantly. The results in Table 3 indicate that there is neither a significant effect of women's reservation on women's participation in the Gram Sabha, nor in the presence of women's organizations[9]. We conclude that the presence of women leaders does not have noticeable effects on women's participation. One reason for this divergence from CD is that in our sample women's participation in the Gram Sabha is already at a much higher level relative to West Bengal (33 percent vs 7 percent) so there is less room for growth.

3.2 Impact of Reservations on Panchayat Activities

Data on the activities of panchayats come from the PRA. In the PRA, respondents were asked to assess the number of activities of the panchayats after the last election on a variety of public good investments. In order to have comparable measures across the public goods categories we standardize the actual counts by subtracting its mean and dividing by its standard deviation[10]. Table 4 attempts to replicate CD's results by examining the unconditional difference in panchayat activities, for a variety of goods and services, between reserved and unreserved GPs. We first report mean activity levels in the two categories, and then the coefficient of a dummy variable for women's reservations from a regression that controls for block fixed effects with standard errors clustered at the GP level. From the seven activities we examine, we see a significant difference only for activities in education. Relative to unreserved panchayats, panchayats reserved for women had significantly more education-related activities. However, on the vast majority of activities, reserved presidents do no differently than unreserved presidents. Indeed, we see that the differences between reserved and unreserved panchayats in these six categories are not jointly significant.

Since the PRA was conducted with mostly male participants there is a potential male bias in the performance measures derived from the PRA. To address this bias we use a set of performance measures derived from the fa-

cility survey. In the survey we asked whether there were any improvements in different categories of public goods since the last GP election. We use these improvement indicators as performance measures[11]. We report mean levels in the two categories and then the coefficient for women's reservation from a linear probability regression (as these are binary measures) that controls for block fixed effects. These results also show that reserved presidents do no differently than unreserved ones.

It should be noted that, in three of these states, panchayats do not have control over large amounts of discretionary funds. The exception is the state of Kerala where panchayat budgets are the largest in the country(World Bank, 2004). This lack of budgetary discretion could impede the ability of GPs, both reserved and unreserved, to have much of an impact. But any short-term impacts would be more observable in the PRA which is picking up GP performance in the management of public goods, while the facilities data measure actual changes in the supply of public goods and are therefore less sensitive to short-term change.

In order to free ourselves from the assumption of budget availability we find a measure of activity that does not need financial resources. A major function of GPs is to lobby higher levels of government for public goods, resources and services. Therefore, we examine the extent to which GP presidents have meetings with officials from higher-levels of government[12]. The results show that women presidents are significantly less likely to meet with higher-level officials than unreserved presidents. We are unable to distinguish between whether this stems from poorer networks and communication skills among women presidents, or from an increased reluctance among higher officials to meet with women presidents.

Thus, we conclude that women presidents are very similar in their performance as providers of public goods to their male counterparts. The only substantial difference is in their reduced likelihood of meeting with higher level officials.

3.2.1 Reservations and Women's Preferences

CD show that the impact of women's reservations on the activities of panchayats is affected by the preferences of women. We test whether men and women differ significantly in their preferences for public good investments in the village. Note our data on priorities of men and women is based on a retrospective question on problems faced two years ago, while CD's is based on preferences revealed by the issues women petition the GP about. Therefore the preference data in the two surveys are not exactly comparable. But

even with our method we do notice significant differences between men and women both in PRA and household surveys - suggesting that the information is picking up gender differences. Table 5 reports the results comparing preferences from the men's and women's PRA. We see that the large differences are in water and sanitation, which women are more likely to see as a problem, and roads, which men are more likely to see as a problem. These differences are tested with a regression controlling for village fixed effects, and we see that the differences on water, sanitation and roads persist after village effects are controlled. However, on four of the seven priorities there is no gender difference observed.

PRAs are better suited to looking at public goods because they are the result of a public interaction where issues that require a collective consensus are more likely to arise. To examine issues that may matter more at the level of households, we contrast the PRA data with data on the ranking of problems from two years ago at the individual level in Table 6. Here we see that men have a greater preference for health and infrastructure, while women are more likely to consider water and electricity as a priority. Controlling for village fixed effects, however, no differences remain suggesting that they are driven by differences in village characteristics. Thus, while we see differences in preferences across men in women from two different sources of data, these differences are neither consistent with CD nor across our data sources. Recalling that women presidents are more active in education, we conclude there is no evidence to suggest that women presidents are acting in a manner that is more sensitive to the preferences of women[13].

3.3   Selection of women presidents

Having examined the performance of women presidents we move on to study the characteristics of women presidents. Particularly, we want to know whether women are tokens. Tokenism may work through different channels. Using our data we can empirically rule out two channels of tokenism. First, tokenism may work through spouses or political elites persuading women to contest the elections. Hence, we look at who persuaded presidents to contest elections. Table 7 provides simple cross-tabulations. We see that the responses for the two categories are similar – both groups were more or less equally likely to have been asked to contest by political elites - Members of the Legislative Assembly (MLAs), previous presidents, and important members of the community. The largest difference comes from reserved women being more likely to have been persuaded by their spouses to run than unreserved presidents. However, even with this large difference, less than 20

percent of women presidents were persuaded to run by their spouses.

Second, tokenism may work through the selection of weak women as presidents, so that they can be easily influenced by the male elites. To examine this channel we look at president characteristics in reserved and unreserved seats. Table 8 provides the summary statistics. It should be noted that age, education, and knowledge score are individual level variables, while all other variables are at the household level. Reserved presidents are younger, worse educated (by two years of schooling), have smaller land holdings, lower knowledge scores[14], and have less political experience than unreserved presidents. Note that the standard deviations on education and the knowledge score are larger for reserved women than for unreserved presidents – suggesting that women who stand for election in reserved seats are a very diverse group. However, it is possible that these differences merely reflect gender differentials in the general population, since 85% of presidents in unreserved GPs are men – and women are distinctly worse educated than men on average. We can check this by comparing women who become presidents with women, in the general population, who are eligible to stand for election (they have to be over 21 and literate). This comparison, column (4) with column (2), shows that women presidents are from the top end of the distribution of women on landholding, wealth and knowledge, and above average on education and age. Interestingly, women presidents have fewer small children (age 0-5) in their household than the average eligible woman suggesting that women with demanding family pressures are less likely to stand for office[15]. These summaries also shed light on whether women presidents are from the same elite families as men presidents. The results show that women presidents are less likely to have former presidents or ward members in their households than men presidents, but are about equally likely to have politicians in general in their households.

Given the extent of dispersion in these distributions it is possible that there is a lot of spatial variation in attributes and that these trends may not persist once spatial controls are included. To account for this we run the following OLS regression on individual level data:

$$P_{bi} = \alpha_b + DW_{bi} + \mu C_{bi} + \gamma V_{bi} + \varepsilon_{bi} \qquad (1)$$

Where P_{bi} is the set of individual i's characteristics in block b, α_b are block fixed effects, W_{bi} indicates whether the individual is elected president in a seat reserved for women, and C_{bi} is an indicator for an SC/ST household. V_{bi} is a vector of inequality and oligarchy in individual i's village, and ε_{bi} is the error term. We run two specifications. In the first specification,

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we restrict the sample to eligible women. In this specification D measures how different reserved(women) presidents are from other eligible women, thus providing a difference free of gender effects. In this specification we set $\gamma=0$. In the second specification, we restrict the sample to the set of presidents. D now measures how different reserved(women) presidents are from unreserved presidents in the observed attributes.

Table 9 reports the results for the coefficient D for a variety of attributes, for the three specifications mentioned above. Looking at the 2nd column which compares reserved and unreserved presidents, we see that reserved presidents are significantly worse off than unreserved presidents in their education, knowledge and political experience, and also tend to be younger. However, looking at the 1st column we see that they are better off than comparable women in the population in terms of land ownership, wealth and knowledge score. In terms of age, women president are older, and in education they are not different from the average eligible woman. They also have fewer small children in the household than the average eligible woman These results do not support the claim that claim that women presidents are weaker than the average woman.

To provide a benchmark for comparison, we also examine the difference in characteristics between individuals elected in unreserved constituencies (the vast majority - 85 percent - of whom are men) and eligible men. Comparing columns (1) and (3), we observe that unreserved presidents differ from eligible men in similar ways that women presidents do from eligible women. The only distinction is that unreserved presidents are substantially more educated than the average man.

Finally we examine whether the gap between women leaders and other women is different from the gap between unreserved leaders and other men. Here we see that the gap in the extent to which women leaders are more knowledgeable than other women is greater than the gap between unreserved leaders and other men, but that the reverse is true for the gap in land ownership.

We thus conclude that there is empirical evidence against two channels through which tokenism may act. We do not rule out however, that tokenism may also act through other, unobservable channels. Another conclusion is that the high levels of heterogeneity in the general population of women may be reflected in the high levels of heterogeneity among women leaders which may matter in their effectiveness as presidents.

3.3.1 Reservations and president characteristics

In testing the impact of women's reservation on panchayat activities, the heterogeneity in the quality of presidents has to be kept in mind. Does the quality of the president matter? Does it matter more in reserved GPs? Cognizant of the exogeneity of women's reservations, we can test these hypothesis in the OLS following framework:

$$Y_{bv} = \alpha_b + \beta P_{bv} + \gamma V_{bv} + \eta W_{bv} + \phi(p_{bv} * W_{bv}) + \varepsilon_{bv} \qquad (2)$$

Y_{bv} is a measure of overall panchayat activism in village v, block b. We use two different measures. The first one is derived from the PRA and is constructed as the mean of the standardized counts of activities across all public goods categories. The second one is an indicator for meeting with higher level officials[16]. α_b are block fixed effects. P_{bv} is the matrix of president characteristics[17], and V_{bv} is the set of village characteristics[18]. W_{bv} is an indicator for whether the GP to which the village v belongs is reserved for women. The coefficient η is an estimate of the impact of women's reservations conditioning on everything else. ϕ provides an estimate of the differential impact of president characteristics in villages with GPs reserved for women, relative to unreserved ones. p_{bv} is one column vector of P_{bv}[19]. We examine how the president's age, education, wealth, land holding and political experience affect his or her performance in reserved relative to unreserved panchayats.

Table 10 reports the results for these five specifications using the measure of performance from PRA. The most important result is that political experience matters in panchayats reserved for women. In fact, women presidents without previous political experience perform worse relative to their male counterparts. But, keeping in mind that experience is measured as number of terms served, as women gain experience they catch up to men and potentially surpass them. This is an optimistic result that provides an empirical basis for encouraging women to take leadership positions. When interpreting this result, it should also be noted that women face considerable hurdles in being elected president in unreserved constituencies. However the number of terms served includes terms served as ward member which perhaps are within reach of women even in the absence of reservations.

Table 11 illustrates how president characteristics impact the likelihood of meeting with higher level officials. Age, landholding and political experience have a significantly different impact on women and men presidents. Young and middle age women presidents are more likely to meet with higher level officials than young and middle age men presidents. At low levels of

land holding male presidents are more likely to meet higher officials, but as land holdings increase female presidents become more likely to meet higher officials. Political experience again plays an important role, particularly for women presidents; as women gain experience they start catching up with men in the likelihood of meeting higher officials.

3.3.2 Reservations and village characteristics

Another important question that has to be addressed is the extent to which inequality and concentration of power in one caste in the village affect the effectiveness of women presidents? Can elite domination affect panchayat governance, particularly in reserved GPs? We use an OLS framework identical to the previous one except that now we interact reservation with village characteristics.

$$Y_{bv} = \alpha_b + \beta P_{bv} + \gamma V_{bv} + \eta W_{bv} + \phi(v_{bv} * W_{bv}) + \varepsilon_{bv} \qquad (3)$$

The notations are the same as before; v_{bv} is a subset of V_{bv}. We examine the differential effect of upper-caste domination and land inequality in reserved and unreserved GPs. Table 12 presents the results for the measure derived from PRA. The first village characteristic of interest is the proportion of land held by upper castes - which indicates the extent to which upper castes are "dominant" in village life (Srinivas, 1959). We observe that, in reserved GPs, a higher proportion of land held by upper castes leads to lower overall GP activism. Furthermore, in villages where upper castes hold only small fractions of land women presidents are more effective than men[20]. Since the caste distribution of villages with women-reserved and unreserved presidents are not significantly different, these results should not be interpreted as high castes blocking the efforts of low castes, but of patriarchy being more pronounced in villages dominated by upper castes which stifles women's ability to lead. There is no significant differential effect of land inequality, which suggests that large fractions of land in the hands of a small group is only harmful if that group happens to be the upper caste. These results are, however, not observed in Table 13 which report on the determinants of meeting higher officials.

3.3.3 Reservations and States

The advantage of using block pair fixed effects (as described in the sampling strategy) is that it allows us to estimate state effects and thus it permits us to examine how reservations work across states, controlling for historic and

linguistic similarities. We use the same framework and introduce interaction with state dummies.

$$Y_{pv} = \alpha_p + \delta S_{pv} + \beta P_{pv} + \gamma V_{pv} + \eta W_{pv} + \phi(S_{pv} * W_{pv}) + \varepsilon_{pv} \qquad (4)$$

Y_{pv} is the measure of overall GP activism in village v, pair p. α_p represents the pair fixed effects. S_{pv} are state dummies[21]. The rest of the variables are the same as the block fixed-effects specification. In Table 14 we explore the extent to which the effects of women's reservation on the measure of activity derived from PRA, differs across states. Only in Andhra Pradesh do we see a significant difference between the performance in reserved and unreserved constituencies, with reserved constituencies underperforming. This result may be due to a politically immature reservation and electoral system in Andhra Pradesh. In the three other states the differences are not significant. However, this result should be interpreted with caution as there are only 3 woman Presidents in the Andhra Pradesh sub-sample.

Table 15 presents the results for the measures derived from meeting higher officials. The results show that the overall lower likelihood of meeting higher officials in reserved constituencies is driven by the state of Kerala. In Andhra Pradesh and Tamil Nadu, women presidents are more likely to meet higher officials, while in Karnataka there is no significant difference.

4   Conclusion

The results of this analysis do not show a simple women's reservations effect. We do however conclude that women presidents never perform worse than men. A notable exception is in their interaction with higher level officials were they do not do as well as men.   Unlike Chattopadhyay and Duflo (2004) there is no evidence to show that reserved women presidents act in ways that are more congruent with the preferences of women. The contrast with Chattopadhyay and Duflo may reflect the fact that their evidence is from Rajasthan and West Bengal, an area of India with much higher gender differentials than South India where our survey was conducted.

Concerning the characteristics of women presidents, we find evidence against two channels of tokenism. Women are as likely to be persuaded to contest by political elites as unreserved presidents; less than 20 percent are persuaded to contest by their husbands. Women presidents are not weak. They are from the upper end of the distribution of women and tend to be

more knowledgeable about political activities, more politically experienced, and wealthier than the average woman.

Another important message is that heterogeneity matters. In particular, women presidents in reserved GPs are unambiguously more effective when they are more experienced. Furthermore, we see that women in reserved GPs perform worse when most of the land in the village is owned by upper castes. This suggests that caste structures may be correlated with structures of patriarchy making the job of women particularly difficult when they are confronted with entrenched hierarchies. We also see that women presidents in reserved GPs in AP perform the worst, while those in Kerala and Karnataka tend to perform better. This again indicates the salience of the maturity of the reservations system since it has been in place much longer in Kerala and Karnataka than in AP. This effect in conjunction with the positive effect of the presidents political experience together point towards a hopeful future. As women acquire more experience via the reservations system, and as the system continuous to mature, women will become more effective leaders.

Thus, our results are far more supportive of the "optimists" than the "pessimists." In particular, women presidents become more effective when they acquire more political experience. The results also suggest that women reserved presidents would benefit from a more supportive environment in upper caste dominated villages, and in states where the reservations system is less mature.

Notes

[1] In West Bengal, village presidents are called "pradhans" and this is the term used throughout CD. However in the Southern Indian states which are the setting for our study, they are called "adhyakhsa," "sarpanch," or president. We will henceforth call them president.

[2] See Matthew and Buch, (Matthew & Buch, 2000) for a detailed account of the history of panchayats at the state level.

[3] Since 2005, a newly elected government in the state is attempting to shore up the authority of panchayats.

[4] These are the districts of Bidar and Medak from the erstwhile state of Hyderabad, now in Karnataka and AP respectively, Pallakad, Coimbatore, Kasargod, Dakshin Kanada, Dharmapuri, and Chithoor, all from erstwhile Madras state and now in Kerala, Tamil Nadu, Kerala, Karnataka, Tamil Nadu and AP respectively. Since Bidar and South Kanara district in Karnataka are "special" in that they represent the worst and best districts in the state in development indicators, we also sampled Kolar district which is the one exception to the block matching rule in our sample. Kolar was a part of erstwhile Mysore state the precursor to modern Karnataka and thus does not follow the colonial-rule matching process described above. However, adding it does allow for more variation when we compare the other three states with Karnataka. Furthermore, Kolar has common borders with both Chithoor in AP and Dharmapuri in TN - which allows for a three part comparison within the same geographic area.

[5] The state-wise break up is AP: 69 villages, KA: 182 villages, KE: 126 wards; TN 129 villages.

[6] Number of villages for household sample were: AP: 32 villages, KA: 90 villages, KE 66 villages, TN 71 villages.

[7] The survey team leader in every village walked the entire village to map it and identify total number of households. This was used to determine what fraction of households in the village were to be surveyed. The start point of the survey was randomly chosen, and after that every Xth household was surveyed such that the entire village was covered (going around the village in a clockwise fashion with X=Number of Households/20).

[8] Analyzing the complete data set with controls for GPs with multiple villages, produces results that are very clse to those reported in this paper. We have omitted GPs that have multiple reservations primarily to make the exposition less complicated.

[9] Note that about a third of villages in the sample did not answer the question on the proportion of women who attend gram sabha meetings. Of the 99 villages that did not respond to the question 24% are reserved for women which is less than the proportion of reserved villages (30%) in the full sample. It is possible that this could bias the results, but the direction of the bias is unclear.

[10] The summaries of the actual counts are presented in Annex 1.

[11] The summaries of these indicators are presented in Annex 2

[12] The summary is available in Annex 3

[13] We also conducted an analysis, similar to CD, with activity-specific regressions where women's reservations were interacted with women's preferences to see if these preferences were driving the activities of women-reserved pradhans. These results, available from the authors on request, also do not demonstrate any relationship between preferences and panchayat activites.

[14] Knowledge scores come from a series of political knowledge questions where respondents were asked to identify the names of prominent leaders such as the prime minister

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and chief minister, and to explain important rules such as the percentage of villages in a GP reserved for women. Only the respondent to the survey has a knowledge score, hence the smaller number of observations for this variable.

[15] We thank Bina Agarwal for this suggestion.

[16] The PRA results have more variation than the results from the facilities. Results using facilities data as outcomes tend to have similar signs as the PRA results but are almost always insignificant. Hence, for the sake of brevity, we do not report the facilities survey results in these interaction tables.

[17] age categories: young (21-30), prime(30-50), old(50+); education (years); number of terms previously served as either president or ward member; dummy for wealthy (= 1 if owns TV or radio, watch, and fan); landholding(acres)

[18] proportion land controlled by upper castes; land Gini categories: low (1st quartile), medium(interquartile range), high(4th quartile), literacy rate, fraction landless, pradhan's village

[19] 15% of pradhans in unreserved GPs are women so we can also control for pradhans sex in these regressions. Adding this slightly weakens the effect of reservation but does not change the effects of interactions. We do not report them.

[20] By our calculations (available on request), at the average level of upper caste land fraction (0.25) there is no significant difference between women and men presidents. However, as the proportion of land held by upper castes increases, women presidents tend to become significantly less effective than men presidents. A referee suggests an alternative explanation for these results; that in villages with high fractions of upper caste land, the upper castes may dominate PRA group surveys, so the effectiveness of women Presidents in these villages could simply be underreported in the PRA. We feel this is unlikely. PRA participants were carefully selected to represent all the numerically important groups in the village and moderators were instructed to prevent domination of the discussion by any one one group.

[21] We keep Kerala as the omitted category

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Table 1: Fraction Women among Presidents in Reserved and Unreserved GPs

	GP reserved for women	Unreserved GP
Andhra Pradesh		
number GPs (number villages)	3(6)	14(15)
Proportion of Female Presidents	100%	14.3%
Karnataka		
number GPs (number villages)	7(20)	23(62)
Proportion of Female Presidents	100%	34.8%
Kerala		
number GPs (number villages)	6(36)	8(48)
Proportion of Female Presidents	100%	0%
Tamil Nadu		
number GPs (number villages)	11(31)	34(92)
Proportion of Female Presidents	100%	2.9%
Overall		
number GPs (number villages)	27(93)	79(217)
Proportion of Female Presidents	100%	15.2%

Note: Sample excludes GPs reserved for SC/STs, OBCs, SC/ST women, or OBC women.

Table 2: Exogeneity of Reservation

Variable (1991 census)	Marginal effect on probability of being reserved	Number of Observations
Population	0.000	188
	(0.673)	
Proportion Women	15.311	187
	(1.399)	
Fraction villages with educational facilities in GP	-0.686	183
	-(1.699)	
Fraction villages with medical facilities in GP	-1.038	183
	-(2.142)**	
Fraction villages with drinking water in GP	-0.650	183
	-(1.446)	
Fraction villages with postal facility in GP	-0.246	183
	-(0.769)	
Fraction villages with communication facility in GP	-0.262	183
	-(0.742)	
Fraction villages with power supply in GP	-0.697	183
	-(1.520)	
Fraction irrigated land in GP	-1.194	184
	-(1.563)	
Average distance from town in GP	0.000	184
	-(0.014)	
GP female literacy	-0.772	187
	-(0.731)	
GP male literacy	-0.654	187
	-(0.685)	
GP female employment	0.232	187
	(0.238)	
GP male employment	-2.341	187
	-(0.965)	

Note: 1) The marginal effects are computed from individual probit regressions with state fixed effects,
2) The total number of GPs is 192, not all variables are available for all GPs hence
the lower number of used observations
3) z-values in parentheses ** significant at 5 percent
4) In a probit with all the RHS variables included a F-test cannot reject the hypothesis
that all the coefficients are jointly = 0

Table 3: Effect of Women's Reservation on Women's Participation

	Mean, Reserved GP	Mean, Unreserved GP	Difference	Nr.obs
Fraction women among	0.3619	0.3350	0.0270	211
Gram Sabha participants	(0.0145)	(0.0107)	(0.0180)	
Fraction villages with	0.0680	0.0326	0.0354	300
women's NGOs	(0.0221)	(0.0111)	(0.0269)	
Fraction villages with	0.2134	0.1999	0.0135	304
women's CBOs	(0.0396)	(0.0268)	(0.0470)	

Note: 1) Standard errors, controlling for block fixed effects, clustered at GP level in parenthesis.
2) Sample excludes GPs reserved for SC/STs, OBCs, SC/ST women, or OBC women.
3) The difference between the number of observations and total number of villages (310) is
due to the questions not being answered in all villages
4) CBO - Community Based Organization
5) Only NGOs and CBOs formed after last GP president election are counted

Table 4: President activity in reserved and unreserved villages, using outcomes from PRA, facilities, and president survey

	Reserved for Women	Unreserved	Difference	N
Outcomes from PRA				
Water	-0.047	0.020	-0.067	310
	(0.075)	(0.057)	(0.098)	
Health	0.056	-0.024	0.080	310
	(0.087)	(0.058)	(0.096)	
Education	0.129	-0.055	0.184	310
	(0.071)	(0.054)	(0.089)**	
Sanitation	0.012	-0.005	0.017	310
	(0.091)	(0.060)	(0.115)	
Roads	-0.020	0.009	-0.029	310
	(0.060)	(0.049)	(0.077)	
Transport	-0.028	0.012	-0.039	310
	(0.076)	(0.069)	(0.103)	
Electricity	-0.076	0.032	-0.108	310
	(0.097)	(0.062)	(0.119)	
Joint significance test p-value				0.392
Outcomes from Facilities				
Drinking water	0.239	0.253	-0.014	310
			(0.044)	
Schools	0.346	0.382	-0.036	310
			(0.066)	
Anganwadi	0.265	0.269	-0.004	310
			(0.034)	
Roads	0.492	0.526	-0.034	310
			(0.040)	
Joint significance test p-value				0.876
Outcomes from president Survey				
Met higher Panchayat	0.378	0.580	-0.202	106
			(0.078)**	

Notes: 1) The estimation of the difference includes block fixed-effects
2) ** significant at 5 percent

Table 5: Men's and women's priorities, 2 years ago, as expressed in the answers to the PRA questionnaire

Category	Fraction villages with women expressing preference	Nr obs with women's preferences	Fraction villages with men expressing preference	Nr obs with men's preferences	Difference: women - men
Water	0.466	307	0.392	310	0.075
					(0.033)**
Health	0.055	307	0.055	310	0.003
					(0.016)
Education	0.036	307	0.035	310	0.000
					(0.013)
Sanitation	0.101	307	0.048	310	0.052
					(0.019)***
Roads	0.094	307	0.177	310	-0.081
					(0.024)***
Transport	0.042	307	0.029	310	0.013
					(0.010)
Electricity	0.026	307	0.035	310	-0.010
					(0.013)

Note: 1) Preferences of women derived from women's PRA, preferences of men - from general PRA; 3 villages did not have a women's PRA

2) Difference is estimated with a linear probability model with the preference indicator as dependent variable and the female indicator as regressor

3) Village fixed effects included in estimation of difference

4) Standard errors of difference are clustered by village, in parenthesis

5) ** significant at 5 percent, *** significant at 1 percent

Table 6: Men's and women's priorities, 2 years ago, as expressed in the answers to the Household questionnaire

Category	Fraction women expressing preference	Fraction women expressing preference	Difference: women - men	Nr. Obs.
Water	0.357	0.351	-0.010	2113
			(0.020)	
Health	0.042	0.049	-0.005	2113
			(0.009)	
Education	0.019	0.022	0.003	2113
			(0.007)	
Infrastructure	0.309	0.316	-0.003	2113
			(0.021)	
Transport	0.042	0.046	0.003	2113
			(0.008)	
Electricity	0.058	0.044	0.013	2113
			(0.009)	
Housing	0.010	0.012	-0.001	2113
			(0.005)	

Note: 1) Difference is estimated with a linear probability model with the preference indicator as dependent variable and the female indicator as regressor
2) Village fixed effects included in estimation of difference
3) Standard errors clustered by village, in parenthesis
4) The sample consists of literate individuals at least 21 years old

Table 7: Persuasion

Person who persuaded to contest election	Reservation status	
	women	unreserved
Self initiated	2	16
	(7.41)	(20.25)
Political	5	14
	(18.52)	(17.72)
Spouse	5	1
	(18.52)	(1.27)
Relative and neighbors	4	13
	(14.81)	(16.46)
Caste and other groups	6	25
	(22.22)	(31.65)
Other	5	10
	(18.52)	(12.66)

Note:1)Percentages out of total reservation
 category size in parentheses
2) Political category includes: MP/MLA/party official,
previous president, important leader in community,
 other ward members
3)Other includes: NGO and other unspecified categories

Table 8: Summary of individual characteristics

Characteristic	(1) eligible population	(2) eligible women	(3) eligible men	(4) president reserved for women	(5) unreserved president
Age	38.096	36.760	39.091	39.148	43.468
	(14.161)	(13.800)	(14.346)	(10.862)	(11.502)
Education	6.474	5.746	7.016	6.074	8.456
	(4.312)	(4.319)	(4.227)	(4.287)	(3.426)
HH landholding	2.814	2.765	2.850	7.909	9.244
	(5.157)	(5.189)	(5.133)	(9.597)	(9.654)
HH wealthy	0.420	0.440	0.404	0.778	0.722
	-	-	-	-	-
Knowledge score	3.602	2.424	4.439	3.185	4.608
	(2.218)	(1.974)	(1.990)	(1.642)	(0.912)
HH members age 0-5	0.674	0.688	0.664	0.370	0.595
	(0.975)	(0.993)	(0.961)	(0.839)	(0.899)
HH members age 6-10	0.513	0.543	0.491	0.481	0.620
	(0.814)	(0.826)	(0.804)	(0.849)	(0.773)
HH members age 11+	5.229	5.170	5.273	4.778	5.570
	(2.464)	(2.474)	(2.455)	(1.717)	(2.735)
Former president. or				7.41%	12.66%
ward member. in HH				1	10
Any former political				29.63%	25.32%
position in HH				8	20
Political experience					
0				55.6%	46.8%
				15	37
1				44.4%	38.0%
				12	30
2+				0.0%	15.2%
				0	12
Nr Obs.	7179	3064	4115	27	79

Note: 1) Wealthy = 1 if owning TV or radio, watch, and fan

2) Knowledge score only available for respondent, not entire household roster

Table 9: President Characteristics Comparisons

	(1)	(2)	(3)	
	President in Reserved Seat		Unreserved Seat	
	Compared with eligible women	Compared with unreserved presidents	Compared with eligible men	(3) - (1)
Age	2.085	-4.734	5.475	
	(2.212)	(2.237)**	(1.342)***	
Education	1.245	-2.620	1.768	
	(0.842)	(0.766)***	(0.402)***	
Land owned	2.566	0.110	6.348	**
	(1.264)**	(1.499)	(1.150)***	
Wealthy (dummy)	0.369	0.054	0.317	
	(0.087)***	(0.110)	(0.050)	
Knowledge score	1.004	-1.413	0.383	
	(0.300)***	(0.292)	(0.122)***	***
HH members age 0-5	-0.427	-0.118	-0.119	
	(0.142)***	(0.196)	(0.108)	
HH members age 6-10	-0.133	-0.047	0.055	
	(0.163)	(0.188)	(0.087)	
HH members age 11+	-0.368	-0.520	0.403	
	(0.313)	(0.397)	(0.295)	
Political experience		-0.461		
		(0.188)**		
N	3064	106	4115	

Note: 1) Literate individuals, aged 21 and above are the eligible population
2) The coefficient reported is that of the dummy for being elected in a seat
reserved for women/unreserved
3) Block fixed effects included in all comparisons
4) The GPs reserved for SC/ST, SC/ST women, OBC and OBC women are excluded
5) Controls for SC/ST included in regressions (1), (2), and (3)
6) Controls for SC/ST, religion, household head literacy, household head occupation,
household size, village literacy rate, inequality, oligarchy in (2)
7) Standard errors, clustered at GP level in parentheses
8) * significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent

Table 10: Effect of women's reservation: Interactions with individual characteristics; Overall GP activity measured from PRA

	Overall GP activity				
	Age	Education	Wealthy	Land	Political exp.
Reservation for Women	0.188	0.090	0.207*	0.099	-0.358*
	(0.119)	(0.137)	(0.115)	(0.078)	(0.181)
President Young	-0.068				
	(0.173)				
President Prime	0.061				
	(0.127)				
Women Res * Young	0.230				
	(0.178)				
Women Res * Prime	-0.263*				
	(0.154)				
President Education		0.022*			
		(0.012)			
Women res * Edu		-0.003			
		(0.016)			
President wealthy			-0.186***		
			(0.066)		
Women res * wealthy			-0.178		
			(0.123)		
President land				0.006	
				(0.005)	
Women res * land				-0.005	
				(0.007)	
President Political Exp					-0.030
					(0.043)
Women res. * Exp					0.268**
					(0.111)
Adj. R-sq	0.501	0.493	0.495	0.493	0.500
N	297	297	297	297	297

Notes: 1)standard errors clustered at GP level in parenthesis,

* significant at p=0.1, ** significant at p=0.05

2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women

3) The difference between N (297) and the number of villages in the sample (310)
comes from villages for which the population is not available

4) Block fixed effects included in regression

5)Overall GP activity is an average of standardized measures from PRA

6)The levels of all variables in 9 and 10 are included in all specifications; the coefficients
on the levels are reported only for the interacted variables

7)In addition, variables included but not reported: fraction landless, literacy rate,
indicator for GP headquarter

Table 11: Effect of women's reservation: Interactions with individual characteristics; Meeting higher Panchayat

	Met higher Panchayat				
	Age	Education	Wealthy	Land	Political exp.
Reservation for Women	-0.639***	-0.082	-0.050	-0.320***	-1.028***
	(0.207)	(0.254)	(0.246)	(0.121)	(0.287)
President Young	-0.282				
	(0.220)				
President Prime	0.130				
	(0.137)				
Women Res * Young	0.912**				
	(0.388)				
Women Res * Prime	0.393*				
	(0.235)				
President Education		0.016			
		(0.022)			
Women res * Edu		-0.019			
		(0.033)			
President wealthy			0.178*		
			(0.103)		
Women res * wealthy			-0.217		
			(0.268)		
President land				-0.006	
				(0.006)	
Women res * land				0.017*	
				(0.009)	
President Political Exp					-0.060
					(0.067)
Women res. * Exp					0.533***
					(0.183)
Adj. R-sq	0.625	0.604	0.606	0.614	0.639
N	102	102	102	102	102

Notes: 1)standard errors clustered at GP level in parenthesis,
* significant at p=0.1, ** significant at p=0.05, *** significant at p = 0.01
2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women
3) The difference between N (102) and the number of presidents in the sample (106)
comes from villages for which the population is not available
4) Block fixed effects included in regression
5)The levels of all variables in 9 and 10 are included in all specifications; the coefficients
on the levels are reported only for the interacted variables
6)In addition, variables included but not reported: fraction landless, literacy rate,

Table 12: Effect of women's reservation: Interactions with village characteristics; Overal GP activity measured from PRA

	Overall GP activity	
	Proportion Upper caste land	Land Gini
Reservation for Women	0.157**	0.011
	(0.074)	(0.073)
Upper Caste Land Prop.	0.156	
	(0.103)	
Women res. * Upper Prop.	-0.367**	
	(0.177)	
Gini Low		-0.120
		(0.079)
Gini High		0.013
		(0.087)
Women res * Gini Low		0.152
		(0.147)
Women res * Gini High		0.052
		(0.133)
Adj. R-sq	0.498	0.493
N	297	297

Notes: 1)standard errors clustered at GP level in parenthesis,

* significant at p=0.1, ** significant at p=0.05

2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women

3) The difference between N (297) and the number of villages in the sample (310) comes from villages for which the population is not available

4) Block fixed effects included in regression

5)Overall GP activity is an average of standardized measures from PRA

6)The levels of all variables in 9 and 10 are included in all specifications; the coefficients on the levels are reported only for the interacted variables

7)In addition, variables included but not reported: fraction landless, literacy rate, indicator for GP headquarter

Table 13: Effect of women's reservation: Interactions with village characteristics; Meeting higher Panchayat

| | Met higher Panchayat | |
	Proportion Upper caste land	Land Gini
Reservation for Women	-0.161	-0.114
	(0.134)	(0.122)
Upper Caste Land Prop.	0.278	
	(0.201)	
Women res. * Upper Prop.	-0.176	
	(0.367)	
Gini Low		0.071
		(0.110)
Gini High		0.039
		(0.186)
Women res * Gini Low		-0.120
		(0.207)
Women res * Gini High		-0.579***
		(0.199)
Adj. R-sq	0.603	0.612
N	102	102

Notes: 1)standard errors clustered at GP level in parenthesis,

* significant at p=0.1, ** significant at p=0.05

2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women

3) The difference between N (102) and the number of presidents in the sample (106) comes from villages for which the population is not available

4) Block fixed effects included in regression

5)The levels of all variables in 9 and 10 are included in all specifications; the coefficients on the levels are reported only for the interacted variables

6)In addition, variables included but not reported: fraction landless, literacy rate,

Table 14: Effect of women's reservation: State Interactions; Overall GP activity from PRA

	Overall GP activity
Reservation for Women	0.175
	(0.127)
Andhra Pradesh	1.377***
	(0.355)
Karnataka	0.608***
	(0.194)
Tamil Nadu	0.248
	(0.180)
Women res. * AP	-1.074***
	(0.328)
Women res. * KA	0.108
	(0.211)
Women res. * TN	-0.215
	(0.160)
Adj. R-sq	0.347
N	285

Notes: 1)standard errors clustered at GP level in parenthesis,
* significant at p=0.1, ** significant at p=0.05, *** significant at p =0.01
2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women
3) The difference between N (285) and the number of villages in the sample (310)
comes from villages for which the population is not available,
and from one block which is not included in any block pair, hence dropping out of the estimation
4) Block pair fixed effects included in regression
5)Overall GP activity is an average of standardized measures from PRA
6)The levels of all variables in 9 and 10 are included in all specifications;
 the coefficients on the levels are reported only for the interacted variables
7)In addition, variables included but not reported: fraction landless,
literacy rate, indicator for GP headquarter

Table 15: Effect of women's reservation: State Interactions; Meeting higher Panchayat

	Met higher Panchayat
Reservation for Women	-0.490**
	(0.235)
Andhra Pradesh	-1.086***
	(0.298)
Karnataka	-0.312
	(0.227)
Tamil Nadu	-0.320
	(0.231)
Women res. * AP	0.539*
	(0.305)
Women res. * KA	0.577*
	(0.321)
Women res. * TN	0.052
	(0.272)
Adj. R-sq	0.556
N	100

Notes: 1)standard errors clustered at GP level in parenthesis,
* significant at p=0.1, ** significant at p=0.05, *** significant at p =0.01
2) Sample excludes GPs reserved for SC/STs, SC/ST women, OBC, OBC women
3) The difference between N (100) and the number of presidents in the sample (106)
comes from villages for which the population is not available,
and from one block which is not included in any block pair, hence dropping out of the estimation
4) Block pair fixed effects included in regression
5)The levels of all variables in 9 and 10 are included in all specifications
 the coefficients on the levels are reported only for the interacted variables
6)In addition, variables included but not reported: fraction landless, literacy rate

Annex 1: Summary of activity counts by reservation status

Nr.	water		health		education		sanitation	
Activities	woman	open	woman	open	woman	open	woman	open
0	68	136	67	157	60	145	74	157
%	73.12	62.67	72.04	72.35	64.52	66.82	79.57	72.35
1	23	72	20	47	29	63	17	54
%	24.73	33.18	21.51	21.66	31.18	29.03	18.28	24.88
2	2	9	6	13	4	8	2	5
%	2.15	4.15	6.45	5.99	4.30	3.69	2.15	2.30
3	0	0	0	0	0	1	0	1
%	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.46
4	0	0	0	0	0	0	0	0
%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
mean	0.29	0.41	0.34	0.34	0.40	0.38	0.23	0.31
N	93	217	93	217	93	217	93	217

Annex 1(cont): Summary of activity counts by reservation status

Nr.	roads		transport		electricity	
Activities	woman	open	woman	open	woman	open
0	46	110	89	199	45	103
%	49.46	50.69	95.70	91.71	48.39	47.47
1	39	87	4	17	35	79
%	41.94	40.09	4.30	7.83	37.63	36.41
2	8	16	0	1	12	27
%	8.60	7.37	0.00	0.46	12.90	12.44
3	0	4	0	0	1	2
%	0.00	1.84	0.00	0.00	1.08	0.92
4	0	0	0	0	0	6
%	0.00	0.00	0.00	0.00	0.00	2.76
mean	0.59	0.60	0.04	0.09	0.67	0.75
N	93	217	93	217	93	217

Annex 2: Summary of Outcomes from facilities data by reservation status

	drinking water		schools		anganwadi		roads	
	woman	open	woman	open	woman	open	woman	open
Improve since last GP election								
No	69	164	57	138	66	161	43	107
%	74.19	75.58	61.29	63.59	70.97	74.19	46.24	49.31
Yes	24	53	36	79	27	56	50	110
%	25.81	24.42	38.71	36.41	29.03	25.81	53.76	50.69
N	93	217	93	217	93	217	93	217

Annex 3
Summary of Meeting
higher panchayat

	woman	open
No	16	34
%	59.26	43.04
Yes	11	45
%	40.74	56.96
Total	27	79