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## Identities and public policies: Unintended effects of political reservations for women in India

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**Identities and Public Policies: Unintended Effects of Political  
Reservations for Women in India**

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# Identities and Public Policies: Unintended Effects of Political Reservations for Women in India

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## Abstract

Identity is an important determinant of economic behavior. A limitation of the existing literature is the focus on one identity dimension at a time. We show that the multiplicity of identity dimensions matters for economic behavior and that neglecting it may lead policy makers to overlook important, unintended effects of economic policies. We exploit the randomized nature of political reservations for women in India to show that a policy designed along one identity dimension (gender) alters the distribution of the benefits of this policy along another one (caste). We propose an important variation in gender norms across caste groups as a plausible mechanism.

**Keywords:** Intersectionality, identity economics, gender, quotas, affirmative action

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# 1 Introduction

Identity is an important determinant of economic behavior (Akerlof & Kranton, 2000; Fernández & Fogli, 2009; Fernández, 2011; Kranton et al., 2016). A large literature has underlined the role of identity - and in particular identity fractionalization and polarization - for conflicts (Esteban & Ray, 2008; Esteban et al., 2012), public goods provision (Alesina et al., 1999; Miguel & Gugerty, 2005; Banerjee & Somanathan, 2007) and economic outcomes in general (Easterly & Levine, 1997; Alesina & La Ferrara, 2005). The political economy literature has also recognized the importance of identity for policy making. The citizen candidate models (Osborne & Slivinski, 1996; Besley & Coate, 1997) and their empirical applications (Levitt, 1996; Besley & Case, 2000; Pande, 2003; Chattopadhyay & Duflo, 2004) emphasize how the identity of the elected representative may affect policy implementation. However, with the exception of the theoretical contribution of Mayoral & Ray (2016), a significant limitation of the existing literature is the focus on one *identity dimension* at a time. That is, individuals are studied along one identity dimension (ethnicity, language, gender, race, caste, class) but not along several dimensions at the same time (say gender *and* caste).<sup>1</sup>

This paper demonstrates the importance of the multiplicity of identity dimensions for economic behavior and public policy. In particular, we show that policies that fail to account for this may have unintended effects. To do so, we revisit a well studied policy - political reservations for women in local elections in India<sup>2</sup> (Chattopadhyay & Duflo, 2004; Besley et al., 2004; Banerjee & Pande, 2009; Bardhan et al., 2010; Munshi & Rosenzweig, 2015) - and show that it impacts policy implementation along the gender identity dimension (the classical finding in Chattopadhyay & Duflo, 2004), and that it also alters the distribution of benefits along another dimension, namely caste.

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<sup>1</sup>This is in sharp contrast with other social sciences, where the concept of “intersectionality” is widespread. Taking its origin in gender and racial studies, this concept underlines that an individual at the intersection of two discriminated identity dimensions may be exposed to a form of discrimination which is not necessarily the same as the sum of the discriminations faced along each dimension (Crenshaw, 1989, 1991).

<sup>2</sup>In rural India, the lowest official authority is the Gram Panchayat. Since 1992, one-third of the Gram Panchayat head positions have been randomly reserved for women, so that only women could be elected to the position of head.



We propose an important variation in gender norms across caste groups as the underlying mechanism. We differentiate between High Castes (HCs) and Low Castes (LCs), and define an HC as any Hindu who is not considered a LC according to the Government’s classification, i.e. a Hindu who is not a Scheduled Caste, a Scheduled Tribe or an Other Backward Class. It has been qualitatively documented that HCs tend to impose stricter restrictions on women’s mobility (Mencher, 1988; Chakravarti, 1993; Kapadia, 1997; Drèze & Sen, 2002; Joshi et al., 2017) and that this may affect economic behavior (Field et al., 2010; Luke & Munshi, 2011). Our quantitative evidence shows that the empowerment of HC and LC women does not differ within the household, but that HC women are much more restricted in their mobility outside the house. Next, we show how this translates into lower political participation by HC women, and - when there is a reservation for women - into a marked decline in: the number of HCs running for election; the likelihood that any HC will run, and eventually in the likelihood an HC wins the elections.

Our main dataset is the 2005-2006 edition of the “Rural Economic and Demographic Survey”. The household survey asks individuals about their preferences for a given list of public goods, and the village questionnaire provides details on public goods that have been constructed or maintained during each election term. As the enlisted public goods almost perfectly match, we can map preferences and implemented policies in a straightforward manner. Based on this information, we show that the sharp decrease in HC presidency influences the political agenda. Indeed, women elected under the reservation policy do not only align policies with the preferences of women, but also with the preferences of LCs. These findings are robust to the use of different measures of preferences, the inclusion of additional identity dimensions, such as education and wealth, and controlling for the main characteristics of the leader.

The paper makes three contributions. First, in the identity literature, it contributes to a recent stream of papers that underline its complexity (Cassan, 2015; Qian & Nix, 2015; Jia & Persson, 2017) and is - to the best of our knowledge - the first paper that embraces the multiplicity of identity dimensions, and that shows how this can importantly impact economic behavior and public policies. Second, in the growing “intersectionality” literature (Hughes, 2011, 2014; Celis

et al., 2014; Jensenius, 2016), the paper is the first to go beyond correlations and show the causal impact of gender quotas on the decline in HC representation and on the resulting pro-LC policy implementation. Third, the paper offers a novel view of the impact of political reservations in general (Pande & Ford, 2011) and in local elections in India in particular.

The structure of the paper is as follows. We first discuss the context and data in Section 2. Section 3 presents quantitative evidence on gender norms and HC political representation, and Section 4 shows that political reservations for women lead to the implementation of policies that are closer to the preferences of both women and LCs. Finally, we present robustness checks in Section 5, and conclude in Section 6.

## 2 Context and Data

### 2.1 The Caste System and Gender Norms

The caste system divides Indian society into groups, which are ranked by order of purity: the High Castes (henceforth *HCs*) are pure, while contact with the Low Castes (henceforth *LCs*) is polluting. Individuals are born and marry within their caste, and castes are traditionally associated with an occupation.<sup>3</sup> Castes also have different cultural practices. The HCs wear a sacred thread, practise vegetarianism, and - most importantly for the purpose of this paper - have gender norms that tend to differ from those of LCs. For example, one of the most brutal forms of gender discrimination, the ritual suicide of widows, called *Sati*, is traditionally an HC practice. Furthermore, several qualitative and quantitative studies establish that HC women are restricted in their mobility for ritual reasons, i.e. for the fear of pollution by LCs (Srinivas, 1962; Mencher, 1988; Chakravarti, 1993; Kapadia, 1997; Field et al., 2010; Luke & Munshi, 2011).<sup>4</sup> Hence, our reading of this liter-

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<sup>3</sup>Of course, in practice, the caste system is much more complex than this brief description. We refer the reader to the large historical, anthropological and sociological literature on the topic (Srinivas, 1962; Dumont, 1967; Bayly, 1999; Dirks, 2001), as well as to the growing economics literature (Munshi & Rosenzweig, 2006, 2009).

<sup>4</sup>Srinivas (1962): “The institutions of the ‘low’ castes are more liberal in the spheres of marriage and sex than those of the Brahmins. [...] Among Brahmins for instance, a wife is enjoined to treat her husband as a deity.” Chakravarti (1993) : “The lower caste male whose sexuality is

ature is that it is to be expected that HC women are more constrained in their mobility outside the house, but do not necessarily differ from LC women on other empowerment dimensions.

## 2.2 Quotas in Local Government

In rural India, the lowest official authority is the Gram Panchayat (GP). It is composed of 5 to 15 contiguous villages, and is led by a president.<sup>5</sup> The 73rd Amendment Act (1992) of the Constitution of India introduced an ambitious decentralization program. Two main responsibilities were passed onto the GP: managing public infrastructures and identifying villagers who are entitled to welfare schemes (Casini et al., 2017). It also introduced unique quota policies, providing that one-third of the seats in all GPs, as well as one-third of the president positions, must be reserved for women. As gender quotas rotate randomly, it is straightforward to estimate the causal impact of mandated representation of women on political participation and implemented policies. Furthermore, seats and president positions are reserved for LCs, as well as for women. Indeed, reservations for Scheduled Tribes, Scheduled Castes and Other Backward Classes are implemented in proportion to their population share in each district. For more details about these well studied policies, we refer the reader to the literature (among others, Chattopadhyay & Duflo, 2004; Besley et al., 2004; Bardhan et al., 2010).

## 2.3 Data

We use three sources of information. Our main dataset is the 2005-2006 edition of the *Rural Economic and Demographic Survey* (REDS). The data was collected

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a threat to upper caste purity has to be institutionally prevented from having sexual access to women of the higher castes, so women must be carefully guarded.” Field et al. (2010): “UCs [upper castes] maintain purity by avoiding sexual relations, marriage and, in extreme cases, contact with lower castes. Men are regarded as a source of pollution, so restrictions are placed on women to limit contact with men other than their husbands. Requirements include that a married woman remain veiled, not remarry if widowed, not interact with older men, and have restricted mobility outside of her house. These norms - particularly the latter two - significantly restrict female labor force participation. Maintaining purity by minimizing contact with lower castes is less relevant for SCs, who rank low in the hierarchy.”

<sup>5</sup>The population per GP varies across Indian states, but typically numbers several thousands. The GP president has a different name in different states, e.g. Pradhan, Mukhya and Sarpanch. Therefore, we opted for the English translation.

by the National Council of Applied Economic Research in Delhi. It provides a nationally representative sample of rural households. The data consist of a village census, and surveys at the village and household level. The village survey collects details on reservations, characteristics of the president, and public works that took place during the current and previous two election terms. Since we are interested in policy implementation, we removed the current, unfinished term from our sample. Indeed, in about 70% of the villages, the last election took place during the year of the survey or the year preceding it, so that the implementation of policies was not complete, or may not even have started. Finally, there is a household level survey that includes information on voting behavior and household members' preferences for public goods.

To investigate the variations in gender norms across castes, we use data from the 2011-2012 edition of the *Indian Human Development Survey* (IHDS)<sup>6</sup>, and the 2004 round of the *National Election Survey* (NES).<sup>7</sup> To the best of our knowledge, the latter is the only survey asking for opinions about women's participation in politics. For both datasets, we restrict the sample to our population of interest, which is rural households.

### 3 Gender Norms and HC Political Representation

We first provide quantitative evidence showing that the empowerment of HC and LC women does not differ within the household, but that HC women are much more restricted in their mobility outside the house. This translates into lower political participation by HC women, and - when there is a political reservation for women - into a marked decline in the number of HC running for election; the likelihood that any HC will run, and the likelihood of an HC winning an election.

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<sup>6</sup>Note that we could use the 2004 round of IHDS, which would be closer to the time period of our other sources of information. However, the 2011-2012 round has more questions on gender relations than the 2004 one. For the questions present in both surveys, the results are similar.

<sup>7</sup>The survey was conducted shortly after the 2004 general elections.

### 3.1 Variation of Gender Norms across Castes

We first investigate whether qualitative evidence on restricted mobility for HC women (as compared to LC women), can be confirmed in a quantitative analysis. To do so, we selected all of the questions on gender relations from the women module of the IHDS 2011-12<sup>8</sup>, and ran the following OLS regression:

$$F_{id} = \beta_0 + \beta_1 HC_i + \beta_2 X_i + V_d + \epsilon_{id} \quad (1)$$

where  $F_{id}$  is a measure of independence of woman  $i$  in district  $d$ ,  $HC_i$  a dummy that indicates the respondent is an HC, and  $X_i$  a vector of characteristics which includes the woman's age, age squared, years of education, marital status, and religion. To alleviate the concern that caste differences may be confounded with differences in wealth, we also control for the household's wealth as measured by the quantity of land owned and the square of quantity of land owned. Finally,  $V_d$  are district fixed effects and  $\epsilon_{id}$  is the error term.

Table 1 provides the results for the most relevant variables.<sup>9</sup> Panel A focuses on empowerment within the household, and Panel B on freedom to move. While the position of HC and LC women is similar within the household, their freedom to move differs significantly: It is 15 percentage points less likely that HC women ever worked for pay; they have less say in decisions about their work; have to ask permission to visit places more often, and are less likely to be in charge of food shopping.

Table 2 shows that the stricter gender norms translate into lower participation by HC women in politics, and a different attitude towards women in politics more generally. The outcome variables are created using additional questions from the IHDS (Panel A), and information from the NES (Panel B). Panel A documents the lesser political activity of HC women in a broad sense: Compared to LC women, HC women are two percentage points less likely to participate in a Self-Help Group or other savings group, and two percentage point less likely to have attended a Gram Sabha meeting in the past year (compared to the mean, this implies a

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<sup>8</sup>This module only includes women who are married, divorced or widowed.

<sup>9</sup>The results for the other variables do not change the conclusions and are available upon request.

Table 1: Gender Norms by Caste

<i>Panel A: Empowerment within the household</i>						
	Decision making	Interaction with husband	Has cash in hand	Name on documents house	Practices Purdah	Men eat first
	(1)	(2)	(3)	(4)	(5)	(6)
HC	0.05 (0.04)	0.01 (0.03)	0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	-0.00 (0.01)
Mean dependent	2.25	1.26	0.90	0.15	0.62	0.29
Observations	24011	24011	24011	24011	24011	24011
<i>Panel B: Freedom to move</i>						
	Ever worked for pay	Say on work	Permission needed for visits	Can visit alone	Food shopping	
	(1)	(2)	(3)	(4)	(5)	
HC	-0.15*** (0.01)	-0.03*** (0.01)	0.05* (0.03)	-0.05 (0.04)	-0.05*** (0.01)	
Mean dependent	0.46	0.46	2.93	2.67	0.54	
Observations	24011	20523	24011	24011	24011	

The dependent variables of Panel A are as follows: In column (1) it is the total number of decisions the woman has most say on among (i) what to cook on a daily basis, (ii) whether to buy an expensive item, (iii) the number of children to have, (iv) what to do if she falls ill, (v) whether to buy land or property, (vi) the amount of money to spend on a social function, (vii) what to do if a child falls ill, and (viii) to whom her children should marry. In column (2) it is the total number of topics the woman talks about with her husband among (i) things that happen at work or on the farm, (ii) what to spend money on, and (iii) things that happen in the community. In column (3) it is a dummy indicating the woman has cash in hand to spend on household expenditures, in column (4) that her name is on the ownership or rental papers for the house, in column (5) that she practises Purdah, and in column (6) that men eat first when the family takes the main meal. The dependent variables of Panel B are as follows: In column (1) it is a dummy indicating the woman ever worked for pay/wages, and in column (2) that she has most say in decisions about her work. In column (3) it is the total number of places for which the women has to ask permission to go among (i) the local health centre, (ii) the home of relatives or friends, (iii) the kirana shop, (iv) a short distance by train or bus, and in column (4) the total number of those places the women can visit alone. Finally, in column (5) it is a dummy indicating the women does the food and vegetable shopping in the household. All columns include district fixed effects and the following control variables: age, age squared, years of education, marital status, religion, total land owned and total land owned squared. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

*Source:* The 2011-2012 edition of the Indian Human Development Survey, women module, rural households.

decrease of 10 and 22% respectively). However, HC women are as likely as LC women to be a member of a political organization, though it is important to note that overall, only one percent of women are members of a political organization.

To study opinions about women in politics, we make two adjustments to equation 1. First, as the NES data contains information about both men and women, we look at gender differences by including an interaction term. Second, we do not have information about land ownership, but control for income categories instead. The results suggest that HCs tend to see women’s political participation more negatively, and that this negative view is shared by HC men and HC women.

In conclusion, HC women are more restricted in their mobility outside the house, tend to participate less in political life, and are exposed to a more negative view of women in politics. As a result, the cost of running for elections may be higher for HC women. Therefore, the reaction to political reservations for women may differ between HCs and LCs. We test this hypothesis in the next section.

### 3.2 Gender Quotas and HC Political Representation

To explore whether political reservations for women affect HC representation, we turn to the REDS data. Our full sample provides information about 270 GP elections, of which 65 were reserved for women, and 97 for LCs.<sup>10</sup> Since political reservations are allocated randomly, we can estimate the causal impact of reservations for women on HC candidacy and representation by running the following OLS regression:

$$P_{jdt} = \beta_0 + \beta_1 \text{Reserved\_women}_{jdt} + \beta_2 \text{Reserved\_lc}_{jdt} + V_d + W_t + \epsilon_{jdt}$$

$P_{jdt}$  are measures of HC candidacy and presidency in village  $j$ , which is located in district  $d$ , for the election term  $t$ .  $\text{Reserved\_women}_{jdt}$  and  $\text{Reserved\_lc}_{jdt}$  indicate the seat of president is reserved for women and LCs respectively. In addition to district fixed effects  $V_d$ , we now also include an election term fixed effect  $W_t$ .

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<sup>10</sup>We exclude the small number of elections that were jointly reserved for women and LCs (19 in total). We cannot consider these elections as reserved for women only, as they would distort the caste representation by construction and spuriously bias the results in favour of our expectations. The results are unchanged when controlling for the specific nature of these elections and are provided in Appendix B.

Table 2: Women's political participation by caste

<i>Panel A: Women's political activity, IHDS</i>			
	Member of an SHG (1)	Attended gram sabha last year (2)	Member of political organization (3)
HC	-0.02** (0.01)	-0.02** (0.01)	-0.00 (0.00)
Mean dependent	0.19	0.10	0.01
Observations	24011	24011	24011

<i>Panel B: Opinion about women's political activity, NES</i>		
	Against women in politics (1)	(2)
HC	0.02*** (0.01)	0.03*** (0.01)
Woman	-0.06*** (0.01)	-0.05*** (0.01)
HC woman		-0.02 (0.02)
Mean dependent	0.25	0.25
Observations	20332	20332

In Panel A, the dependent variables are dummies indicating that the woman is a member of a SHG or another savings group (column (1)), attended at least one Gram Sabha meeting over the past year (column (2)), and is a member of a political organization (column (3)). See Table 1 for a description of the control variables, standard errors and data source.

In Panel B, the dependent variable takes value one if the respondent is against women in politics, and zero otherwise. All columns include district fixed effect and the following control variables: age, age squared, education level categories, religion and income categories. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent. *Source*: National Election Survey, 2004, rural individuals.

The results in Table 3 show that reservations for women have a large impact on HC candidacy: The total number of candidates goes down by 0.8, which is entirely explained by a decrease in HC candidates. The probability that at least one HC runs for election falls by 31 percentage points, which eventually results in a 20 percentage points lower probability of having an HC president. The impact of reservations for LCs on HC candidacy and presidency is roughly twice as large as the effect of reservations for women.



Table 3: Characteristics of Candidates and the President by Reservations for Women

	Number of candidates (1)	Number of HC candidates (2)	Any HC candidate (3)	President is an HC (4)
Reserved for LC	-0.28 (0.30)	-1.38*** (0.22)	-0.64*** (0.08)	-0.50*** (0.10)
Reserved for women	-0.78** (0.33)	-0.84*** (0.24)	-0.31*** (0.07)	-0.20** (0.09)
Mean dependent	3.10	0.90	0.39	0.30
Observations	270	270	270	270

In column (1) the dependent variable is the total number of candidates who ran for election; in column (2) the total number of HC candidates; in column (3) a dummy indicating at least one HC ran for election, and in column (4) a dummy that takes value one if the president is an HC. All columns include district and election term fixed effects. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

*Source:* Local governance module of the REDS 2006 village data.

The results confirm our hypothesis. It is plausible that differing gender norms make political participation costlier for HC women than for LC women. As a result, reservations for women reduce the likelihood an HC runs for election, and therefore the probability of having an HC president.

## 4 Gender Quotas and Policy Implementation

Political reservations for women lead to a sharp decrease in HC presidency. In this section, we study whether this impacts the political agenda, and in particular the alignment of policies with preferences of women, LCs, or both women and LCs. We introduce our measure of preferences in Section 4.1, and study the alignment of preferences and policy implementation in Section 4.2.

### 4.1 Measuring Preferences and Public Goods Provision

The REDS household survey asks individuals about their preferences for a given list of public goods, and the village questionnaire provides details on public goods that have been constructed or maintained during each election term. As the enlisted

public goods almost perfectly match, we can map preferences and implemented policies in a straightforward manner. Following [Munshi & Rosenzweig \(2015\)](#), we focus on six public goods: water, sanitation, public lighting, communication, roads and electricity.<sup>11</sup>

Our measure of public goods provision is based on the local governance module of the village questionnaire. For each street in the village, it indicates whether a public good has been constructed or maintained during each of the election terms. We use this information to construct two measures of public goods provision. First, we calculate the share of streets in which the public good was constructed or maintained during the election term. Second, we create a dummy indicating the public good was constructed or maintained during that term in at least one street in the village.

The household level survey provides details on public goods preferences for five different household members.<sup>12</sup> It is not clear how the members were selected, but it systematically includes the male head of the household and his spouse. To have comparable information across households, we only keep information on these two members. As in [Chattopadhyay & Duflo \(2004\)](#), we calculate preferences at the district level, which is an administrative level above the GP. This is important to alleviate concerns about reverse causality between declared preferences and implemented policies at the village level. The preference  $Pref_{gjp}$  of a group  $g$  for a public good  $p$  in district  $d$  is calculated as the share of group members in a district who want the GP to allocate part of the budget to that particular good:

$$Pref_{gdp} = \frac{\sum_i I(\text{allocation}_{igdp} > 0)}{N_{gd}}, i = 1, \dots, N_{gd} \quad (2)$$

where  $N_{gd}$  is the total number of members of the group in the district. We compute preferences for four different groups: men, women, LCs and HCs. Our variable of

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<sup>11</sup>We do not include health and education because decision making takes place at a higher level than the GP. We also had to exclude irrigation because we cannot match the information on preferences and on implemented policies.

<sup>12</sup>The question is: “If Govt. wishes to spend Rs. 1 lakh on local development and it is undecided regarding the nature of allocation and expects that panchayat has to arrive at a formula to allocate it then how would you advise the panchayat to allocate this amount on these issues?”

interest is the difference in preferences across groups within a district:

$$\begin{aligned} PrefDif\_Caste_{dp} &= Pref_{HCdp} - Pref_{LCdp} \\ PrefDif\_Gender_{dp} &= Pref_{MENdp} - Pref_{WOMENdp} \end{aligned}$$

There is a large variation in preference differences by gender and by caste across districts in India. The Figures 1 and 2 graphically represent this for the public goods *water* and *roads* respectively.<sup>13</sup>

We divided the districts into four equal groups according to preference differences of men and women, and HC and LC. The darker a district on the map, the more men want a good compared to women (on the left), and HC compared to LC (on the right). The graphs suggest that preference differences for a particular public good are not systematically the same across India. This can also be seen from the scatter plots, where each point indicates a district. In the left plot, a point on the 45° line reflects a district where men and women have the same preference for the public good. A point above (below) the 45° line implies men want it more (less). The figures reveal certain tendencies. Men have a more pronounced preference for water and roads than women, but while LC prefer water more than HC, on average, HC and LC seem to have a similar preference for roads. Note that, while we have information about public goods provision for each election term, we obtained information about preference differences at one point in time only. We discuss this limitation in detail in Section 5.1.

## 4.2 Gender Quotas and Policy Implementation

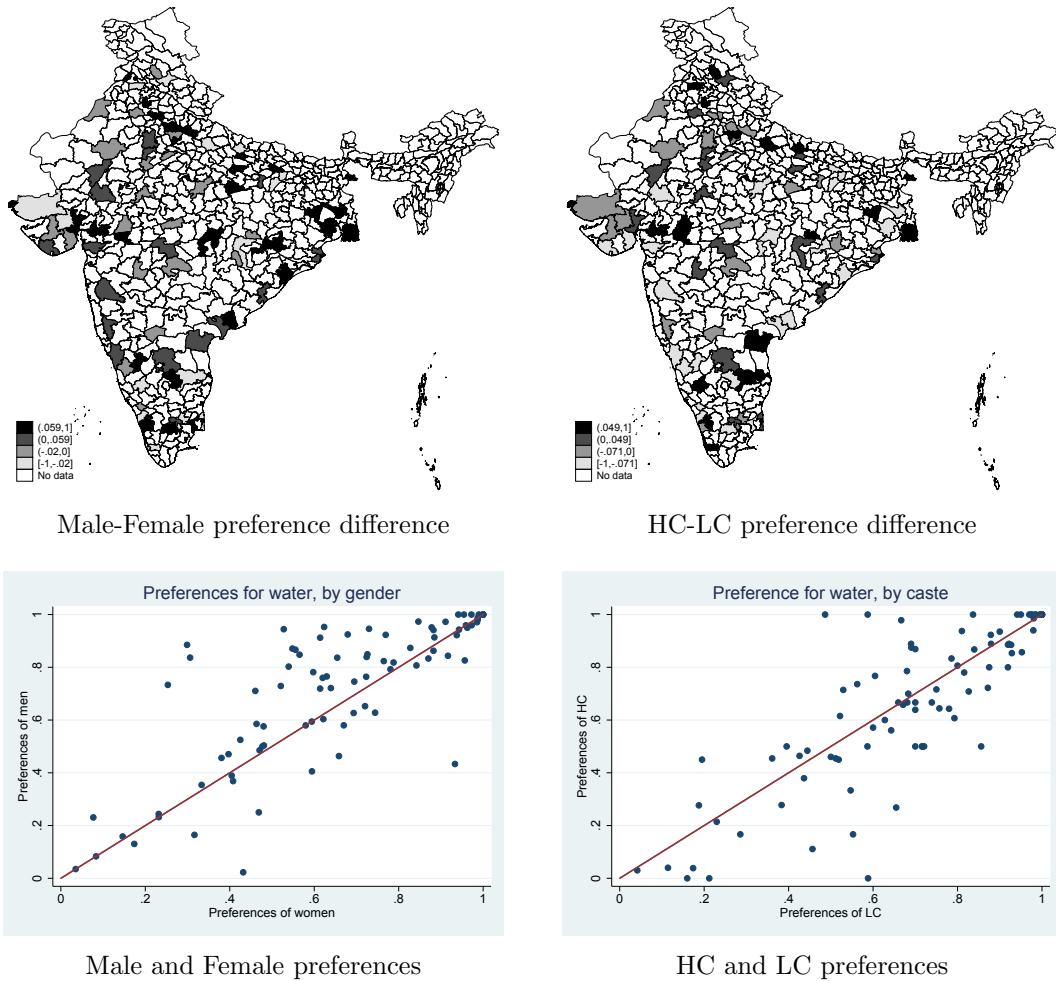
As explained earlier, we have information on preferences and implemented policies for the same set of public goods. This allows us to test whether presidents elected under a gender or caste quota are more likely to implement policies that are preferred by women (Section 4.2.1), LC (Section 4.2.2), or both women and LC (Section 4.2.3).

Table 4 provides descriptive statistics of the variables that will be used in our empirical analysis. The sample consists of 1,620 observations (270 election terms × 6 public goods). On average, for each public good, maintenance or construction

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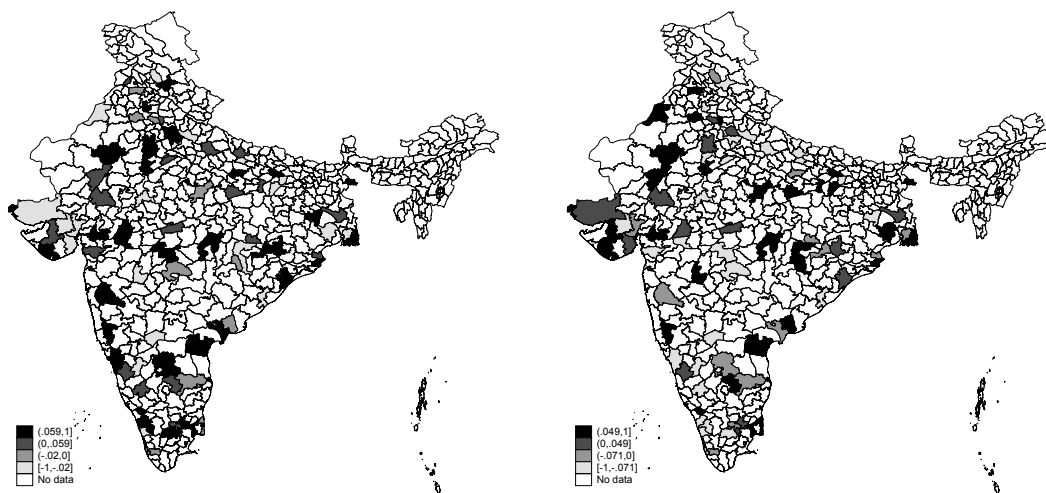
<sup>13</sup>Appendix A provides the same information for the other four public goods.

Figure 1: Differences in preferences for water by gender and caste



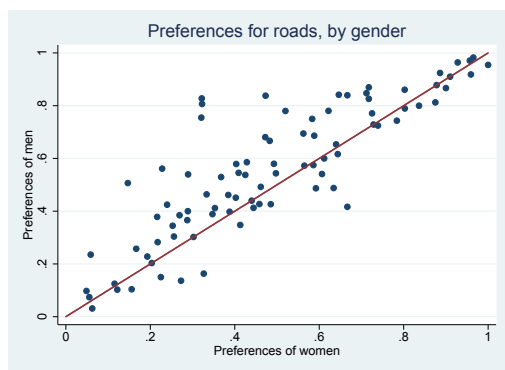
took place in about one third of the streets in a village, and in at least one street in half the villages. While 33% of the seats of president should be reserved for women, the summary statistics indicate this was the case for only 24% of the seats. This is due to the exclusion of GP elections that were reserved for women and LC simultaneously (see Section 3.2). Finally, while the average difference in preferences is close to zero, the range is remarkable. This is in line with the graphical representation of the preference differences in Section 4.1 and Appendix A.

Figure 2: Differences in preferences for roads by gender and caste

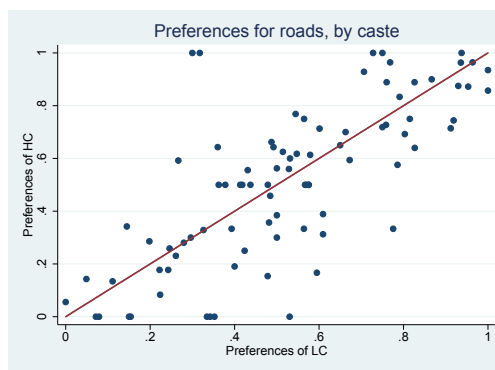


Male-Female preference difference

HC-LC preference difference



Male and Female preferences



HC and LC preferences

Table 4: Descriptive statistics

	Mean	Standard Deviation	Minimum	Maximum
<b>Dependent variables</b>				
Share constructed	0.27	0.35	0	1
Share maintained	0.31	0.37	0	1
Any construction	0.48	0.50	0	1
Any maintenance	0.52	0.50	0	1
<b>Independent variables</b>				
Reserved for women	0.24	0.43	0	1
Reserved for LC	0.36	0.48	0	1
Pref dif: men - women	0.02	0.10	-0.56	0.59
Pref dif: HC - LC	-0.01	0.16	-0.82	0.89
Number of observations	1,620			

Source: The REDS 2006 data.

#### 4.2.1 Gender Quotas and the Provision of Goods preferred by Women

Chattopadhyay & Duflo (2004) show that political reservations for women do not only impact women's representation, but also policies themselves. Indeed, they find that presidents invest more in infrastructure that is requested by their own genders. We now investigate whether these results hold in a nationally representative sample. First, we confirm that reservations for women strongly impact women's representation: The share of elected presidents who are women increases from 6.5% during unreserved elections to 95.4% under the gender quota. Second, we run the following regression to test whether these presidents are more likely to implement policies preferred by women:

$$\begin{aligned}
F_{jdt p} = & \beta_0 + \beta_1 \text{Reserved\_LC}_{jdt} + \beta_2 \text{Reserved\_Women}_{jdt} \\
& + \beta_3 \text{PrefDif\_Gender}_{dp} \\
& + \beta_4 \text{PrefDif\_Gender}_{dp} * \text{Reserved\_LC}_{jdt} \\
& + \beta_5 \text{PrefDif\_Gender}_{dp} * \text{Reserved\_Women}_{jdt} \\
& + V_j + W_t + Z_p + \epsilon_{jdt p}
\end{aligned} \tag{3}$$

$F_{jdt p}$  is a measure of the provision of public good  $p$  during election term  $t$  in a village  $j$ , which is located in district  $d$ . The variables  $Reserved\_LC_{jdt}$  and  $Reserved\_Women_{jdt}$  are dummies indicating the election is reserved for LC and for women respectively.  $PrefDif\_Gender_{dp}$  is the difference in preferences between men and women,  $V_j$  are village fixed effects,  $W_t$  election term fixed effects, and  $Z_p$  public good fixed effects. Finally,  $\epsilon_{jdt p}$  is the error term. The inclusion of village fixed effects implies our results do not rely on cross sectional variation across villages, but on changes within the village.<sup>14</sup> Presidents elected under general seats align policies more with the preferences of men if  $\beta_3$  is positive, and gender quotas shift policies towards the preferences of women if  $\beta_5$  is negative. Table 5 shows this is indeed the case: Policies are more aligned with the preferences of men, but this tendency is reversed when the seat of president is reserved for women.

Finally, we would also like to point out that reservations for LCs do not significantly alter the advantage of men.

#### 4.2.2 Gender Quotas and the Provision of Goods preferred by LCs

Political reservations for women lead to a sharp decrease in HC presidency. We now study whether this changes policy implementation in favor of LCs. To do so, we replace the preference difference between men and women ( $PrefDif\_Gender_{dp}$ ) by the preference difference between HC and LC ( $PrefDif\_LC_{dp}$ ) in equation (3). The results in Table 6 show the change in public goods provision. During unreserved election terms, the construction of new public goods is more aligned with the preferences of HCs. However, the bias in favor of HCs is cancelled out when there is a reservation for women.

There are two other noteworthy patterns. First, the maintenance of public goods is not affected, which suggests that the caste of the president does not influence maintenance once public goods are constructed. This may be a strategy to reduce the risk of antagonizing other caste groups. Second, although reservations for LCs do not significantly change policies in favor of the preferences of LCs, they reduce the usual advantage of HC for the construction of public goods.

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<sup>14</sup>We obtain similar results when we include district fixed effects instead of village fixed effects.

Table 5: Impact of Reservations and Gender Preferences on Public Goods Provision

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women * Reserved for women	-0.48** (0.19)	-0.34* (0.18)	-0.46** (0.22)	-0.47** (0.20)
Pref diff: men - women * Reserved for LCs	-0.13 (0.15)	-0.00 (0.17)	0.04 (0.21)	-0.12 (0.20)
Pref diff: men - women	0.23** (0.11)	0.32** (0.13)	0.17 (0.16)	0.43*** (0.16)
Reserved for women	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	0.04 (0.03)
Reserved for LCs	0.03 (0.03)	0.01 (0.01)	-0.01 (0.03)	0.01 (0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for woman	-0.24* (0.14)	-0.02 (0.13)	-0.29* (0.16)	-0.03 (0.17)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	0.10 (0.12)	0.32** (0.13)	0.21 (0.15)	0.31* (0.16)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1620	1620	1620	1620
Village-terms	270	270	270	270

In column (1) and (2) the dependent variable is the share of streets in the village where construction or maintenance of a given public good took place, and in columns (3) and (4) a dummy indicating construction or maintenance of that good took place in at least one of the streets. All the columns include village, election term, and public good fixed effects. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

*Data source:* Local governance module of the REDS 2006 village data.



Table 6: Impact of Reservations and Caste Preferences on Public Goods Provision

	Share con- struction (1)	Share main- tenance (2)	Any con- struction (3)	Any main- tenance (4)
Pref diff: HC - LCs * Reserved for women	-0.20** (0.09)	0.01 (0.11)	-0.24** (0.12)	-0.06 (0.16)
Pref diff: HC - LCs * Reserved for LCs	-0.12 (0.10)	0.01 (0.10)	-0.13 (0.12)	0.08 (0.14)
Pref diff: HC - LCs	0.14** (0.06)	0.05 (0.06)	0.20*** (0.07)	0.12 (0.09)
Reserved for women	0.00 (0.02)	0.01 (0.02)	0.01 (0.02)	0.03 (0.03)
Reserved for LCs	0.02 (0.03)	0.01 (0.01)	-0.01 (0.03)	0.01 (0.02)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.05 (0.07)	0.07 (0.11)	-0.04 (0.10)	0.06 (0.17)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.02 (0.09)	0.06 (0.09)	0.08 (0.11)	0.20* (0.12)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1620	1620	1620	1620
Village-terms	270	270	270	270

See Table 5 for a description of the dependent variables, control variables and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

### 4.2.3 Gender Quotas and the Provision of Goods preferred by Women or LCs?

Is it indeed the case that a female president implements the preferences of LCs, or does she implement the preferences of women and are those close to the preferences of LCs? To test this, we include the preference differences between men and women and HC and LCs simultaneously in the regressions. As can be seen in Table 7, this exercise does not affect the results: reservations for women align the provision of public goods with the preferences of women *and* LCs.

The interaction between reservations for LCs and the preference difference between men and women is not significant. As a result, policy implementation is still closer to the preferences of men when there is a reservation for LCs. More remarkable is that the interaction between reservations for LCs and the preference difference between HCs and LCs is negative, but not significant either. This suggests that reservations for women may have been more effective than reservations for LCs in altering the usual advantage of both men and LCs.

## 5 Robustness Checks

In Section 5.1, we show that our results are robust to removing the village of interest in the calculation of district level preferences, and in Section 5.2 that our conclusions do not change when we include additional identity dimensions, such as education and wealth.

In addition, Appendix B shows the results do not change if we (i) keep election terms that were simultaneously reserved for gender and caste, (ii) use the intensity of preferences for a public good, and (iii) control for characteristics of the president.

### 5.1 Alternative Measure of Preferences

As mentioned in Section 4.1, our measure of preferences does not vary over time. While we have information on public goods provision for each election term, preferences are elicited only once, at the time of the survey. As a result, we link preferences during election term  $t$  to policies implemented during the election terms  $t - 1$  and  $t - 2$ . This could bias the results upwards if individuals of a given group

Table 7: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women * Reserved for women	-0.49** (0.19)	-0.34* (0.18)	-0.47** (0.22)	-0.47** (0.20)
Pref diff: men - women * Reserved for LCs	-0.14 (0.15)	-0.01 (0.17)	0.02 (0.21)	-0.16 (0.20)
Pref diff: men - women	0.24** (0.11)	0.32** (0.13)	0.18 (0.16)	0.44*** (0.16)
Pref diff: HC - LCs * Reserved for women	-0.20** (0.09)	0.01 (0.12)	-0.24** (0.12)	-0.07 (0.16)
Pref diff: HC - LCs * Reserved for LCs	-0.13 (0.10)	-0.02 (0.10)	-0.15 (0.12)	0.05 (0.14)
Pref diff: HC - LCs	0.15** (0.06)	0.06 (0.06)	0.21*** (0.08)	0.13 (0.09)
Reserved for women	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	0.04 (0.03)
Reserved for LC	0.03 (0.03)	0.01 (0.01)	-0.01 (0.03)	0.01 (0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for woman	-0.24* (0.14)	-0.02 (0.13)	-0.29* (0.16)	-0.04 (0.17)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	0.10 (0.13)	0.31** (0.14)	0.20 (0.15)	0.28* (0.16)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.05 (0.07)	0.07 (0.11)	-0.03 (0.10)	0.06 (0.17)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.02 (0.09)	0.04 (0.09)	0.06 (0.11)	0.18 (0.12)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1620	1620	1620	1620
Village-terms	270	270	270	270

See Table 5 for a description of the dependent variables, control variables and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

want to validate the policies implemented by their president in the past. While we do not think this is a credible scenario, we test the robustness of our results to removing the village of interest in the calculation of district level preferences. Table 8 shows that the results remain qualitatively and quantitatively similar, but that the estimation is slightly less precise due to the reduced sample size.

## 5.2 Gender Quotas and Other Identity Dimensions

Thus far, we have showed that gender quotas change the gender and the caste of the GP president, and that this shifts policy implementation towards the preferences of both women and LCs. However, it remains an open question whether other dimensions are relevant as well. We will focus on education and wealth, because, on average, women are less educated than men and LCs are less wealthy than HCs.<sup>15</sup> As a result, the effects we have been attributing to gender and caste may be driven by preference differences along the education or wealth dimension. Although this would not hurt the main message of the paper, it would significantly alter its conclusion. Table 9 presents the results of our main regression, in which we now include preference differences between the rich and the poor and between villagers with a high level of education and those with a low level of education, along with the usual interactions. A villager is “Rich” if he owns more land than the median villager in the district, and “high educated” if his educational attainment is higher than the median person in the district. The additional dimensions do not significantly impact public goods provision, and do not alter our main results. Therefore, we feel comfortable in concluding that our results are due to gender and caste, and not due to other identity dimensions.

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<sup>15</sup>Another dimension we wanted to study is religion. However, as 92% of the presidents in our sample are Hindu, there is not sufficient variation to exploit this dimension.

Table 8: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision - Alternative Measure of Preferences

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women * Reserved for women	-0.28 (0.22)	-0.33* (0.17)	-0.36 (0.25)	-0.44* (0.23)
Pref diff: men - women * Reserved for LCs	-0.09 (0.13)	0.03 (0.15)	-0.06 (0.20)	-0.14 (0.20)
Pref diff: men - women	0.10 (0.10)	0.23* (0.12)	0.13 (0.15)	0.41** (0.17)
Pref diff: HC - LCs * Reserved for women	-0.26*** (0.07)	-0.00 (0.08)	-0.27*** (0.08)	-0.05 (0.14)
Pref diff: HC - LCs * Reserved for LCs	-0.05 (0.09)	0.09 (0.09)	-0.02 (0.11)	0.16 (0.12)
Pref diff: HC - LCs	0.11* (0.06)	0.01 (0.06)	0.14** (0.07)	0.01 (0.09)
Reserved for women	0.01 (0.02)	0.01 (0.02)	0.02 (0.02)	0.04 (0.03)
Reserved for LCs	0.03 (0.03)	0.00 (0.02)	0.00 (0.03)	0.02 (0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for woman	-0.17 (0.18)	-0.10 (0.12)	-0.23 (0.22)	-0.03 (0.16)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	0.01 (0.10)	0.26** (0.10)	0.07 (0.13)	0.28** (0.13)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.15*** (0.05)	0.01 (0.06)	-0.13* (0.07)	-0.03 (0.10)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.06 (0.08)	0.10 (0.07)	0.12 (0.09)	0.17** (0.08)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1386	1386	1386	1386
Village-terms	231	231	231	231

In village  $j$ , the preferences for a public good  $p$  are now measured by the share of members in the same district, but outside village  $j$ , who want to invest a positive amount in good  $p$ . See Table 5 for a description of the dependent variables, control variables and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

Table 9: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision - Including Other Identity Dimensions

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: rich - poor *	0.12	-0.01	0.02	-0.04
Reserved for women	(0.15)	(0.15)	(0.22)	(0.23)
Pref diff: rich - poor *	0.17	0.03	0.33*	0.13
Reserved for LCs	(0.17)	(0.14)	(0.19)	(0.21)
Pref diff: rich - poor	-0.08	-0.03	-0.05	0.04
	(0.11)	(0.12)	(0.15)	(0.17)
Pref diff: high - low educated *	0.06	-0.15	-0.15	-0.35
Reserved for women	(0.22)	(0.19)	(0.28)	(0.28)
Pref diff: high - low educated *	-0.09	-0.08	-0.08	-0.12
Reserved for LCs	(0.23)	(0.25)	(0.29)	(0.33)
Pref diff: high - low educated	0.09	0.08	0.15	0.04
	(0.18)	(0.19)	(0.26)	(0.27)
Pref diff: men - women *	-0.50**	-0.30	-0.44*	-0.38*
Reserved for women	(0.20)	(0.19)	(0.25)	(0.22)
Pref diff: men - women *	-0.12	0.01	0.05	-0.13
Reserved for LCs	(0.16)	(0.18)	(0.21)	(0.21)
Pref diff: men - women	0.22*	0.30**	0.14	0.43**
	(0.11)	(0.14)	(0.15)	(0.16)
Pref diff: HC - LCs *	-0.21**	0.02	-0.23*	-0.04
Reserved for women	(0.09)	(0.11)	(0.12)	(0.16)
Pref diff: HC - LCs *	-0.13	-0.02	-0.15	0.07
Reserved for LCs	(0.10)	(0.11)	(0.12)	(0.14)
Pref diff: HC - LCs	0.15**	0.05	0.20**	0.12
	(0.06)	(0.06)	(0.08)	(0.09)
Reserved for women	0.01	0.01	0.02	0.04
	(0.02)	(0.02)	(0.02)	(0.03)
Reserved for LCs	0.03	0.01	-0.01	0.01
	(0.03)	(0.01)	(0.03)	(0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for woman	-0.29*	-0.00	-0.30	0.05
	(0.15)	(0.14)	(0.19)	(0.17)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	0.10	0.31**	0.19	0.30*
	(0.13)	(0.15)	(0.16)	(0.17)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.06	0.08	-0.03	0.08
	(0.07)	(0.11)	(0.10)	(0.16)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.02	0.04	0.05	0.19
	(0.09)	(0.09)	(0.12)	(0.13)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1620	1620	1620	1620
Village-terms	270	270	270	270

See Table 5 for a description of the dependent variables, controls and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

## 6 Conclusion

This paper revisited a well-studied policy - reservations for women in local elections in India - to document the importance of taking into account the multiplicity of identity dimensions in the design of public policies. In India, High Caste women are restricted in their mobility outside the house, which makes them less likely to participate in local politics. This may explain the marked decline in the likelihood that High Castes run for elections and are elected, when there is a political reservation for women. As a result, gender quotas lead to the implementation of policies that are closer to the preferences of women and Low Castes. This implies that a policy designed along one identity dimension (gender) alters the distribution of benefits along another one as well (caste). Remarkably, our findings suggest that reservations for women may even be more effective than reservations for Low Castes in altering the political agenda in favor of Low Castes. This is an unexpected, but highly important, result that paves the way for more research on potential unintended effects of public policies due to the multiplicity of identity dimensions.

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# Appendices

## Appendix A: Preferences for Public Goods

This Section provides a graphical representation of the variation in public good preferences across groups and across India for lighting (Figure 3), electricity (Figure 4), sanitation (Figure 5), and communication (Figure 6).

Figure 3: Preferences for Lighting by Group: Maps and Scatter Plots

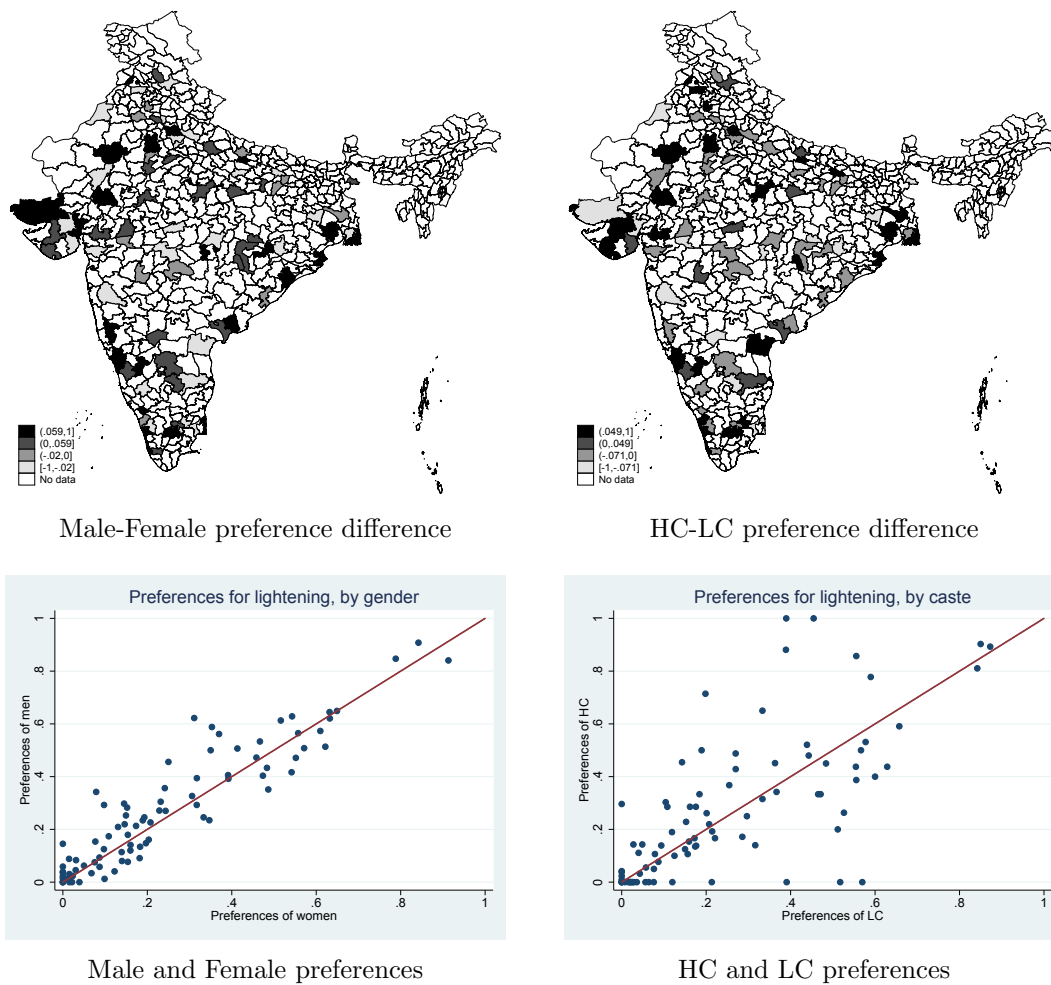
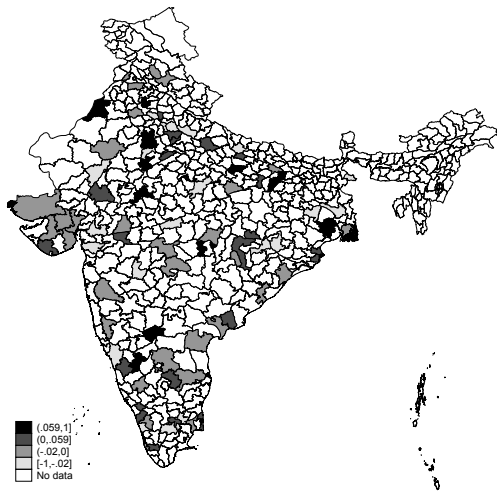
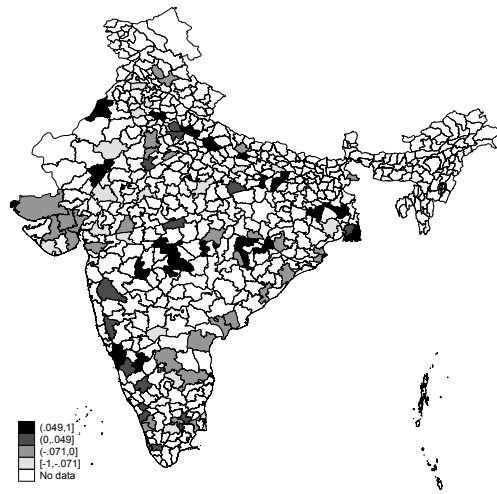


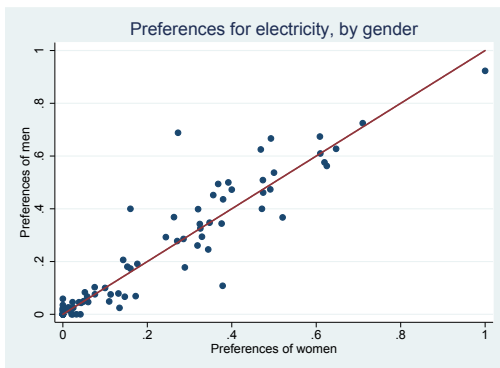
Figure 4: Preferences for Electricity by Group: Maps and Scatter Plots



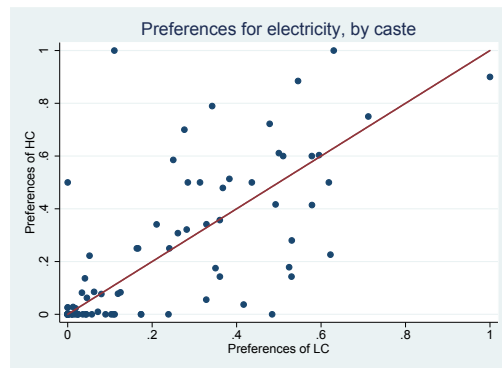
Male-Female preference difference



HC-LC preference difference

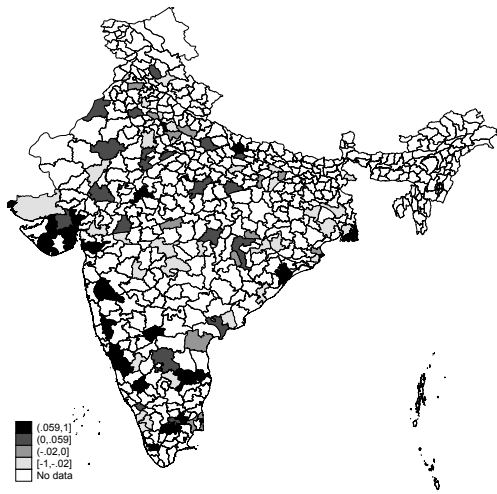


Male and Female preferences

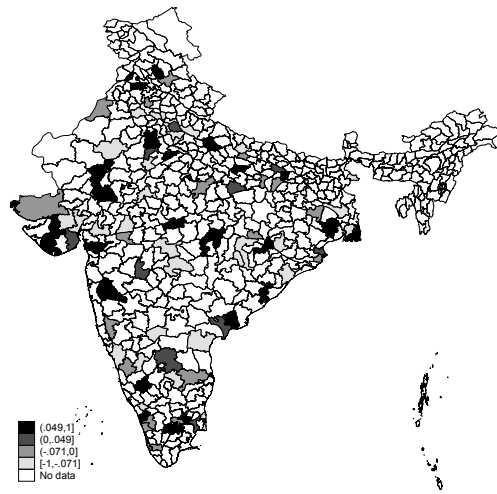


HC and LC preferences

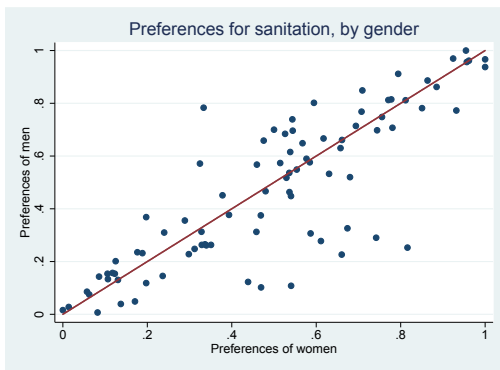
Figure 5: Preferences for Sanitation by Group: Maps and Scatter Plots



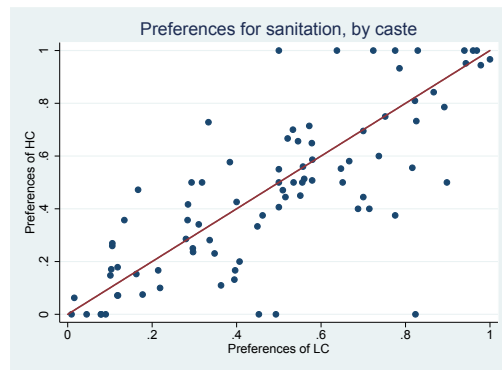
Male-Female preference difference



HC-LC preference difference

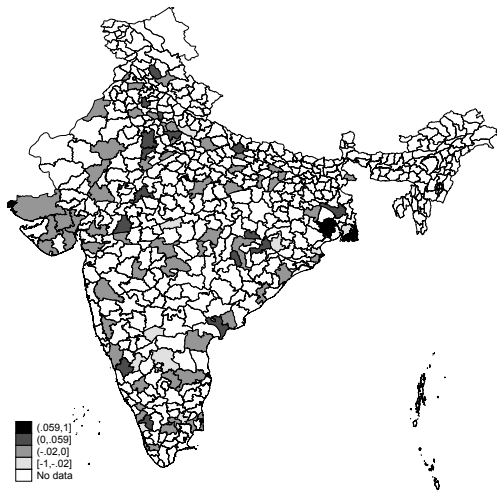


Male and Female preferences

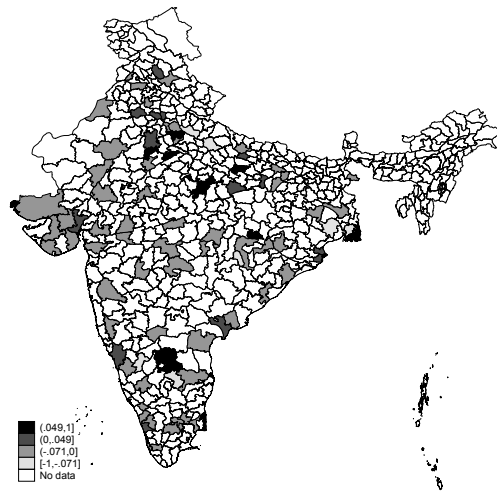


HC and LC preferences

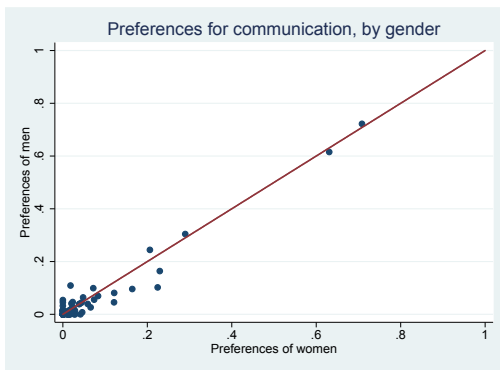
Figure 6: Preferences for Communication by Group: Maps and Scatter Plots



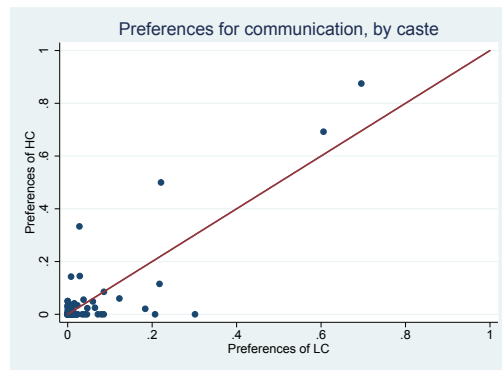
Male-Female preference difference



HC-LC preference difference



Male and Female preferences



HC and LC preferences



## Appendix B: Additional Robustness Checks

We now show that the results are robust to (i) keeping election terms that were simultaneously reserved for gender and caste, (ii) using the intensity of preferences for a public good, and (iii) controlling for characteristics of the president.

### Inclusion of Elections Reserved for Both Caste and Gender

Table 10 is similar to Table 7, but we now include the 19 elections that were jointly reserved for women and LCs, and add three control variables to the regression: A dummy indicating the election is reserved for both women and LCs, and its interaction with the preference differences. The limited number of elections that were jointly reserved make it difficult to interpret those specific coefficients, but our main results are unchanged.

### Using the Intensity of Preferences

The household questionnaire asks individuals how they want to divide the GP budget among a given list of public goods. Thus far, we used this information to create dummies that take value one if a person wants to allocate part of the budget to the good, and zero otherwise (see equation 2). We now re-estimate our main regression using the intensity of preferences:

$$Pref_{gdp} = \frac{\sum_i allocation_{igdp}}{N_{gd}}, i = 1, \dots, N_{gd}$$

$Pref_{gdp}$  is now the average share of the budget allocated to public good  $p$  by members of group  $g$  in district  $j$ . We did not use this measure in our main specification, because it is subject to more noise. Therefore, it is not surprising that the results - shown in Table 11 - are less precisely estimated. However, the impact is qualitatively similar, and our conclusions remain unchanged.

Table 10: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision - Including Elections that were Simultaneously Reserved for Gender and Caste

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women *	0.19	-0.22	0.46	0.12
Reserved for women and LC	(0.53)	(0.35)	(0.48)	(0.36)
Pref diff: men - women *	-0.49**	-0.33*	-0.47**	-0.46**
Reserved for women	(0.19)	(0.18)	(0.22)	(0.20)
Pref diff: men - women *	-0.15	-0.01	0.02	-0.16
Reserved for LC	(0.15)	(0.17)	(0.21)	(0.21)
Pref diff: men - women	0.24**	0.32**	0.17	0.44***
	(0.11)	(0.13)	(0.16)	(0.16)
Pref diff: HC - LC *	0.42**	0.00	0.45*	0.41
Reserved for women and LC	(0.19)	(0.33)	(0.26)	(0.45)
Pref diff: HC - LC *	-0.20**	0.01	-0.25**	-0.06
Reserved for women	(0.09)	(0.11)	(0.11)	(0.16)
Pref diff: HC - LC *	-0.14	-0.03	-0.15	0.05
Reserved for LC	(0.10)	(0.10)	(0.12)	(0.14)
Pref diff: HC - LC	0.15**	0.06	0.21***	0.12
	(0.06)	(0.06)	(0.08)	(0.09)
Reserved for women and LC	-0.03	0.01	-0.07	-0.03
	(0.08)	(0.06)	(0.06)	(0.07)
Reserved for women	-0.01	0.02	0.01	0.05*
	(0.02)	(0.02)	(0.02)	(0.03)
Reserved for LC	-0.00	0.01	-0.02	0.00
	(0.03)	(0.02)	(0.03)	(0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for women	-0.25*	-0.01	-0.30*	-0.02
	(0.14)	(0.13)	(0.16)	(0.17)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	0.09	0.32**	0.19	0.29*
	(0.13)	(0.14)	(0.16)	(0.17)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.05	0.07	-0.04	0.06
	(0.07)	(0.11)	(0.10)	(0.17)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.02	0.03	0.06	0.17
	(0.09)	(0.09)	(0.11)	(0.12)
Mean dependent	0.27	0.31	0.48	0.51
Observations	1734	1734	1734	1734
Village-terms	289	289	289	289

See Table 5 for a description of the dependent variables, control variables and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

Table 11: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision - Using the Intensity of Preferences

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women * Reserved for women	-0.76** (0.35)	-0.36 (0.32)	-0.74* (0.38)	-0.52 (0.39)
Pref diff: men - women * Reserved for LC	-0.52* (0.29)	0.15 (0.31)	-0.27 (0.33)	-0.06 (0.35)
Pref diff: men - women	0.29 (0.22)	0.19 (0.23)	0.24 (0.26)	0.36 (0.28)
Pref diff: HC - LC * Reserved for women	-0.43** (0.20)	0.01 (0.24)	-0.39 (0.25)	-0.11 (0.31)
Pref diff: HC - LC * Reserved for LC	-0.30 (0.21)	-0.04 (0.23)	-0.29 (0.26)	0.04 (0.28)
Pref diff: HC - LC	0.34*** (0.12)	0.15 (0.15)	0.39** (0.16)	0.32* (0.18)
Reserved for women	0.00 (0.02)	0.01 (0.02)	0.01 (0.02)	0.03 (0.03)
Reserved for LC	0.02 (0.03)	0.01 (0.01)	-0.01 (0.03)	0.01 (0.02)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for woman	-0.47* (0.27)	-0.17 (0.23)	-0.50 (0.33)	-0.16 (0.29)
Total effect of <i>Pref diff: men - women</i> when there is a reservation for LCs	-0.23 (0.23)	0.34 (0.28)	-0.02 (0.24)	0.30 (0.30)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for woman	-0.10 (0.19)	0.16 (0.21)	-0.01 (0.25)	0.22 (0.28)
Total effect of <i>Pref diff: HC - LC</i> when there is a reservation for LCs	0.04 (0.18)	0.11 (0.19)	0.09 (0.22)	0.36 (0.23)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1620	1620	1620	1620
Village-terms	270	270	270	270

See Table 5 for a description of the dependent variables, controls and data source. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.

## Controlling for President Characteristics

Our final check - which is inspired by [Chattopadhyay & Duflo \(2004\)](#) - looks at the robustness of our results to the inclusion of characteristics of the president and their interaction with the preference differences. This allows the coefficients on the preference differentials to vary with the following characteristics: Dummies indicating the president was a member of the previous GP as well, received a primary education, and is a Muslim, a Sikh or a Christian. Table 12 shows that the results are again unaltered.

Table 12: Impact of Reservations, Gender and Caste Preferences on Public Goods Provision - Controlling for Characteristics of the President

	Share construction	Share maintenance	Any construction	Any maintenance
	(1)	(2)	(3)	(4)
Pref diff: men - women * Reserved for women	-0.54*** (0.19)	-0.33* (0.19)	-0.52** (0.21)	-0.39* (0.20)
Pref diff: men - women * Reserved for LC	-0.19 (0.16)	0.01 (0.17)	-0.05 (0.20)	-0.19 (0.19)
Pref diff: men - women	0.55** (0.23)	0.39 (0.28)	0.57* (0.30)	0.13 (0.39)
Pref diff: HC - LC * Reserved for women	-0.14* (0.08)	0.11 (0.13)	-0.20** (0.10)	0.09 (0.16)
Pref diff: HC - LC * Reserved for LC	-0.13 (0.09)	0.03 (0.09)	-0.15 (0.12)	0.11 (0.13)
Pref diff: HC - LC	-0.11 (0.15)	-0.32* (0.19)	-0.06 (0.17)	-0.45** (0.17)
Reserved for women	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)	0.05* (0.03)
Reserved for LC	0.02 (0.02)	0.01 (0.02)	-0.02 (0.03)	-0.00 (0.02)
Mean dependent	0.27	0.31	0.48	0.52
Observations	1602	1602	1602	1602
Village-terms	267	267	267	267

See Table 5 for a description of the dependent variables and data source. In addition to village, election term, and public good fixed effects, all columns now include the following additional control variables: dummies indicating the president was a member of the previous GP as well, received a primary education, and is a Muslim, a Sikh or a Christian. We also include the interaction of each of these five dummies with the preference difference between men and women, and with the preference difference between HC and LC. Standard errors, clustered at the district level, are provided in parenthesis. \*\*\* significant at 1 percent, \*\* significant at 5 percent, \* significant at 10 percent.