

## Ethnic Quotas and Political Mobilization:

### Caste, Parties, and Distribution in Indian Village Councils

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Abstract: Electoral quotas for marginalized castes and tribes in India, like ethnic quotas more generally, are often expected to boost the distribution of material benefits to disadvantaged groups. Yet, the presence of an ethnic quota does not imply that political mobilization takes place along ethnic lines: quotas may even create incentives for the formation of more inclusive multi-ethnic parties, since all parties must run candidates from particular ethnic categories to contest ethnically-reserved seats. This may lessen the tendency of parties to target benefits selectively to particular castes, plausibly mitigating the distributive effects of quotas. In this paper, we evaluate the impact of quotas for the presidencies of village councils in the state of Karnataka, using a randomized regression-discontinuity design to isolate the effects of quotas. Drawing on our original surveys of voters, council members, presidents, and bureaucrats—which provide fine-grained information on distributive outcomes as well as the most comprehensive available data on the role of political parties in local elections—we find very weak distributive effects of caste-based quotas. Instead, the presence of multi-caste parties appears to blunt the distributive impact of quotas, by creating incentives to allocate benefits along party rather than caste lines.

## I. Introduction

Caste-based quotas in India, like ethnic quotas in other parts of the world, have been seen as an important tool for redressing still-persistent inequalities based on caste (Parikh 1997; Wilkinson 2003). In a setting in which social and economic discrimination against lower castes and tribes often remains profound—with lower-caste citizens forbidden from worshipping in upper-caste temples in many parts of rural India, and caste-associated inequalities apparent in both education and labor markets—political inclusion of marginalized groups should in principle engender greater benefits to members of those groups. Quotas for village council presidents, as well as members of district and municipal councils, state legislative assemblies, and the national parliament, are intended to boost the substantive representation of marginalized castes and tribes and other underrepresented groups such as women (Bhavnani 2009). While one rationale for ethnic quotas is the achievement of descriptive representation (Pitkin 1975: 60-91), the provision of political power is also intended to affect the distribution of material benefits.

Yet, the presence of quotas for marginalized castes does not imply that political mobilization takes place along caste lines, and this may have implications for distributive outcomes. Indeed, we suggest in this article that caste-based quotas can, under some conditions, actually diminish the role of caste-based mobilization. For instance, the need to field candidates for legislative seats reserved for particular ethnic groups may tend to make the memberships of political parties more multi-ethnic, and their appeals more multi- or non-ethnic (Chandra 2004), thereby lessening the tendency of parties to target benefits selectively to particular caste groups. While the greater ethnic inclusiveness of parties subject to caste-based quotas may indeed foster descriptive representation, quotas may fail to bring to power organizations or parties that primarily or disproportionately seek to advance the material interests of lower-caste voters. Just

as social cleavages are not automatically translated into the party system (Chhibber 1999), then, a caste-based quota does not necessarily entail caste-based political mobilization. Because quotas do not imply caste-based targeting, the presence or absence of a caste-based quota in any electoral term may not greatly affect the distribution of policy benefits to marginalized groups.

In this paper, we present new evidence on the effects of ethnic quotas in the Indian state of Karnataka, focusing on the “reservation” of village council presidencies for Scheduled Castes (SC) and Scheduled Tribes (ST).<sup>1</sup> The effects of such quotas are typically difficult to infer because unobserved confounders are likely to be associated with the presence of quotas, and this may bias empirical estimates of quotas’ effects. In most Indian states, quotas for council presidencies are not assigned purely at random but instead depend in a systematic way on the proportion of the local population comprised by marginalized castes or tribes—and the proportion of marginalized castes or tribes is highly correlated with income and literacy rates, as well as other, more unobservable variables that might affect policy outcomes. Here, we therefore use a randomized regression-discontinuity (RD) design to select village councils for inclusion in our study. We take advantage of the fact that quotas rotate systematically across councils, on the basis of lists of council constituencies ranked in descending order by a proxy for the population proportion of marginalized castes and tribes. Since only very minor differences distinguish councils on either side of certain population thresholds—save the presence and absence of the quotas—we can reliably infer the causal impact of quotas, in the neighborhood of these thresholds. The internal validity of our design is bolstered further by the fact that, for many

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<sup>1</sup> Scheduled Castes (SCs)—a group that includes Dalits (formerly known as untouchables)—and Scheduled Tribes (STs) are designated on “schedules” denoting eligibility for employment, educational, or political benefits. Reservation is the name given to the quota policy in India, according to which council presidencies or legislative seats are reserved for particular caste categories such as SC or ST.

councils located near these thresholds, quotas are assigned through an actual randomized procedure (the drawing of lots), which is why we call this a randomized RD design.

After using this design to select 200 village councils located across Karnataka—100 with quotas for SC or ST presidents in the most recent electoral term, and 100 without such quotas—we interviewed a probability sample of nearly 2,000 citizens in these council constituencies, as well as 481 council members and presidents and 186 local bureaucrats. Our original surveys generated fine-grained information on distributive outcomes and council priorities, as well as the most detailed data of which we are aware on party affiliation in local village councils. We complemented these formal surveys with fieldwork in a number of villages, which motivated our interpretation of our findings and in turn generated additional tests of our hypotheses.

We reach several central conclusions. First, we find that caste- and tribe-based quotas for village council presidents—who have substantial discretion over the allocation of distributive benefits from housing, employment, and welfare schemes at the local level—have strikingly weak policy and distributive effects. For example, we find that reservation of the presidency for a politician from a marginalized caste or tribe does not affect the probability that a citizen from these castes and tribes receives a job or benefit from the village council. Nor do quotas affect the extent of participation by lower-caste citizens in open meetings or shape their perception that their group constitutes a council priority. Among bureaucrats, council members, and presidents, reservation does not affect the perceived effectiveness of the council in delivering benefits to marginalized groups, or the power of either the council president or of marginalized castes and tribes generally. Finally, reservation has no discernible effects on the type or composition of taxes or fees, or on the extent of council spending on programs targeted towards marginalized castes or tribes. Concerned that our null findings might reflect the relatively small size of our study group

(N=200 councils) and consequent limitations on statistical power, we replicated our regression-discontinuity design to draw a much larger study group of councils (N=1,430) from all 5,626 village councils across the state of Karnataka, using audited state data on fiscal outcomes rather than our own survey data. Here, too, we find that quotas have no discernible fiscal or distributive effects. These findings contrast with an important literature on reservation in India, which has tended to argue that quotas do have important distributive effects.

Next, we argue that the character of political mobilization—and in particular, the role of multi-caste party organizations at the local level—helps explain the weak effects of caste-based reservation we estimate. Our survey data show that party affiliation is strongly salient both for voters in council elections and for council members, despite the fact that campaigning on party symbols is formally banned in local elections. Our qualitative fieldwork also suggests the predominant role that parties play in financing candidates for local elections and in helping to obtain party majorities on councils. Local politicians—including council presidents—serve as “brokers” who mobilize the vote for party higher-ups in elections for district councils, state legislative assemblies, and national parliaments, in exchange for resources with which to run their campaigns and pay off voters.

Crucially, however, these payoffs to voters are structured along party lines, not caste lines. Indeed, we show that unlike caste-based quotas, party affiliation is strongly related to benefit receipt among citizens: belonging to the political party of the council president is a strong and significant positive predictor of receiving a job or benefit from the village council. Moreover, material payoffs are distributed—in village councils with and without caste-based quotas alike—to both lower- and upper-caste co-partisans. This is because, although at least two of the three major parties in Karnataka retain some caste identification at the state level, all parties are

strikingly multi-caste organizations at the local level. Indeed, though our evidence on this point is more tentative, we suggest that the rotation of reservation itself may help to engender multi-caste parties and thereby help to produce the lack of caste-based targeting that we observe.

Our argument should not be interpreted to imply that caste-based quotas have no effect on any outcomes. For example, quotas may influence citizen attitudes and behaviors (Beaman et al. 2008, Chauchard 2010) as well as political preferences and perceptions (Dunning 2011). It is also important to emphasize that as in previous work on the effects of gender-based reservation in Indian village councils (e.g. Chattopadhyay and Duflo 2004), here we cannot readily estimate the effects of the *institution* of reservation—since we cannot observe a set of outcomes given the presence of the rotating reservation scheme we describe below and a set of outcomes in its absence. It is in principle possible that equilibrium outcomes across all councils are different, given the institution of rotation of reservation, than they would be in its absence. Yet, we are also skeptical that this can fully explain the remarkably weak effects of the presence of a quota that we estimate here, for this interpretation involves strong claims about the nature of inter-temporal bargaining between caste groups—and it is cannot readily explain our evidence that the partisan identity of the council president *does* shift the distribution of benefits. We return to the discussion of our results below, after describing our design and presenting our main findings on the effects of caste-based quotas and the role of party affiliation.

## **II. The Distributive and Policy Effects of Quotas**

Electoral quotas have often been used to advance the interests of both religious minorities (during the colonial period) and lower-caste citizens in India. In elections to the national parliament as well as state assemblies, some seats are reserved for particular castes or tribes, in

the sense that while all voters in that seat's constituency may vote, only candidates from the particular caste or tribal category for which the seat is reserved may be elected. This reservation policy was extended to rural village councils (known as *gram panchayats*) by the 73<sup>rd</sup> amendment to the Indian constitution in 1993. Village council constituencies are typically comprised of several neighboring villages; in Karnataka, one or more council members are elected to seats from each ward, which may comprise an individual village or a smaller geographic area inside a village.<sup>2</sup> In each election, the council presidency is reserved for a particular caste category or left unreserved, with the announcement of the reservation category being made after the election.<sup>3</sup> Several members' seats are typically reserved for caste categories such as SCs or STs; these quotas rotate across wards in different electoral terms through a process that is independent of the reservation of the council presidency.<sup>4</sup> The election of the council president is indirect, as voters elect members of the council, and members then elect the president from among their ranks—though they must elect a president from the caste category for which the presidency is reserved.

Village councils are significant conduits for central and state government funds, and previous studies have found that quotas for council presidencies have a substantial impact on the allocation of government benefits.<sup>5</sup> Many of the benefits that are allocated by village councils—such as housing, employment, and receipt of individual welfare schemes—are targeted goods. Moreover, even apparently local public goods such as wells for drinking water can take on a rival and exclusionary character—since a well may be located near an upper-caste temple or instead

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<sup>2</sup> Thus, village council seats in Karnataka are a rare example of multi-member districts in India.

<sup>3</sup> There is also reservation of at least 1/3 of seats and presidencies, within each caste category, for women.

<sup>4</sup> Quotas for members' seats rotate across wards, within village council constituencies, using a process that is similar to the rotation of quotas for council presidencies, across councils, as described below. This process depends on population proportions within each ward and thus does not affect the selection of the council presidency for reservation, which depends on proportions in the constituency as a whole.

<sup>5</sup> The literature on caste-based quotas is discussed below. See Chattopadhyay and Duflo (2004), Duflo (2005), and Beaman et al. (2008) on gender-based quotas in village councils.

near a Scheduled Caste residential colony. Our fieldwork and the evidence we present below indeed suggest that council members—and especially the council president—can exercise substantial discretion in targeting such benefits. The central and state governments may stipulate that funds from specific welfare schemes be put to particular purposes; formal eligibility requirements for some schemes exist; and council members may hold consultations with citizens about the selection of beneficiaries (in *gram sabhas* or village meetings). Yet, the council ultimately decides who should benefit from these schemes. Moreover, as an agenda-setter on the council and the person who works most closely with local bureaucrats to implement schemes, the council president typically has especially strong influence over the selection of beneficiaries.

There are both theoretical and empirical reasons to believe that quotas for lower-caste presidents should shape distributive outcomes. Social discrimination against lower castes and tribes often remains profound in rural India, and reservation may provide a useful tool for redressing inequalities and promoting voice for marginalized castes in villages (Duflo 2005). Moreover, in a setting in which caste-based distribution is said to motivate voting behavior (Chandra 2004), and in which members of different caste groups may have distinct preferences over policy outcomes, caste-based quotas might well be expected to promote caste-based distribution. Several previous studies do indeed find evidence that caste-based quotas shape distributive outcomes, in Karnataka as well as other Indian states. For example, Besley, Pande, and Rao (2008), for instance, drawing on Besley et al. (2004, 2007), analyze data from a village- and household-level survey conducted in Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu in September-November 2002. These authors find that SC/ST households are seven percentage points more likely to receive a targeted benefit from the village council when the presidency is reserved for Scheduled Castes or Scheduled Tribes. Bardhan, Mookherjee, and Parra Torrado

(2005) find that SC/ST reservation in West Bengal improves the flow of credit to SC/ST citizens, though it appears to worsen employment opportunities. Chattopadhyay and Duflo concentrate on the impact of reservation for women, yet find some effects of SC/ST reservation on the allocation of spending across villages, though not on its composition. At the state level, Pande (2003) finds that Scheduled Caste legislators distribute more SC-targeted schemes to their constituencies.<sup>6</sup>

Yet, since caste-based quotas are not generally assigned purely at random, it is challenging to infer the causal effects of caste-based reservation by comparing constituencies with and without quotas—even after controlling for observables that might be related to the presence of quotas. As described below, assignment to quotas depends on a complex process that differs in each Indian state. In many states, caste-based quotas rotate across village councils in each administrative sub-district in a way that depends on the specific proportion of the population comprised by marginalized castes or tribes in that sub-district, as well as in the council constituencies that comprise it. This implies that at a minimum, regressions of outcome variables on indicator variables for reservation status must include sub-district as well as state fixed effects, as in Besley et al. (2004, 2008). Yet, even this strategy may be insufficient for validly estimating the effects of reservation, because in a given election year reservation is only as good as randomly assigned at *particular* population thresholds *within* a given sub-district. We describe the complex process of reservation, and our strategy for leveraging it to obtain unbiased, non-parametric estimates of the causal effects of reservation, in the next sub-section.

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<sup>6</sup> There is a separate well-known literature on quotas for women in village councils (Chattopadhyay and Duflo 2004; Beaman et al. 2008) and municipal councils (Bhavnani 2009). Gender-based quotas are sometimes assigned truly at random (though not in all Indian states; see Nilekani 2010), so our methodological critique does not apply with the same force to this literature.

## 2.1 Empirical Strategy: A Regression-Discontinuity Design

In the state of Karnataka, council presidencies are reserved for Scheduled Castes and Scheduled Tribes through a procedure governed by state electoral regulations and implemented by district-level bureaucrats, for each sub-district under their jurisdiction.<sup>7</sup> (A sub-district, also called a block or *taluk*, is an administrative unit that contains, on average, about 35 village councils). First, the relevant bureaucrat uses census data on group proportions in each sub-district to determine the total number of council presidencies that must be reserved for Scheduled Castes within the sub-district, in any electoral term. For example, if 25 percent of the citizens in a given sub-district are from the Scheduled Castes, then 25 percent of the councils in that sub-district must have their presidencies reserved for members of the Scheduled Castes. Then, to allocate quotas to particular councils, the bureaucrat lists the councils in each sub-district in descending order by the number of council members' seats that are reserved for SCs. This number is in turn a proxy for the SC population proportion within each village council constituency. For instance, if SCs comprise 20 percent of the population of a given council constituency, then 20 percent of the members' seats in that council are reserved for SCs.

This procedure is used to rotate reservation of the council presidency across different councils, in different electoral terms. Thus, in the first council elections subject to reservation—which occurred in Karnataka in 1994, following the passage of the 73<sup>rd</sup> amendment—the relevant bureaucrat would reserve the presidencies of the required proportion of councils appearing at the top of the list. In the example above, the presidencies of the top 25 percent of councils on the list would be reserved for Scheduled Castes. The bureaucrat would work down this list in the next

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<sup>7</sup> Similar systems of rotation are used in other Indian states (see Chauchard 2010 on Rajasthan). However, the details differ, since the 73<sup>rd</sup> constitutional amendment left implementation of reservation to the states.

elections in 2000, reserving the presidencies of the next 25 percent of councils on the list, and would then continue down the list in subsequent elections.<sup>8</sup> One final detail is crucial for our empirical strategy: if the number of councils with a given number of members' seats exceeds the number of councils that must be selected for reservation from that group, the bureaucrat selects the councils to be reserved by drawing lots.<sup>9</sup> For example, if in the year 1994, seven councils had to have their presidencies reserved in a given sub-district, and if at the top of the sorted list there were four councils with five SC members and then eight councils with four SC members, all four councils with five SC members would have their presidencies reserved—and then three councils would be selected at random from the eight councils with four SC members. This randomization of reservation ensures that in expectation, there are no differences between reserved and unreserved councils, at the threshold of four SC members' seats.

In Karnataka, various institutional safeguards help to protect the integrity of this process. After each election, a bureaucrat appointed by the District Commissioner explains the reservation rules to council members in sub-district assemblies; we were able to verify that at least some of these meetings have taken place. Most importantly, we obtained data on the history of reservation for all councils in the state of Karnataka from the State Election Commission, which allows us to verify the extent to which reservation procedure has been followed.

Table I.A shows an example of the reservation process, using data on the history of Scheduled Caste reservation in the sub-district of Magadi (district of Bangalore Rural). The first column of the table lists all the village councils in this sub-district, sorted in descending order by

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<sup>8</sup> Rotation of council presidency reservations has occurred in 2000, 2002, 2005, 2007, and 2010. Council members have five-year terms, but beginning in 2000 the presidency was rotated every 30 months.

<sup>9</sup> Interviews, Karnataka State Election Commission; Order of the State Election Commission, No. SEC 54 EGP 99, February 16, 2000, Annexure dated February 23, 2000.

the number of seats reserved for Scheduled Caste (SC) members. The next two columns show the total number of members' seats in each council and the number of SC members' seats. The final five columns indicate whether the presidency of the council was reserved for Scheduled Castes in 1994, 2000, 2002, 2005, and 2007, respectively, with a "1" indicating presence of reservation and a blank cell indicating its absence. For ease of presentation, here the councils are sorted by reservation status within each stratum defined by the number of SC members' seats, so that councils that had their presidencies reserved appear first in each stratum.

[TABLES I.A AND I.B ABOUT HERE]

The history of reservation depicted in Table I.A closely follows the expected diagonal pattern, in which the 1's move from the top left of the table to the bottom right. Where village councils that share the same number of SC seats differ in reservation status, in any electoral term, it is because some of those councils have been selected at random, through the drawing of lots, for reservation of the presidency (with one exception).<sup>10</sup> For example, at the bottom of the list of 1's in the final column of Table I, the village councils of Sathanur and Shankighatta both have two SC members' seats—and thus both could have had their presidencies reserved for Scheduled Castes in 2007. Yet, Sathanur was selected at random for a quota, while Shankighatta was not.

For a little over half of the councils in our study group, reservation was truly randomized at the relevant threshold of members' seats (as for Sathanur and Shankighatta in Table I.A). This provides our most important source of leverage for identifying causal effects, because randomization implies that no observed or unobserved variables should be correlated with assignment to quotas, in expectation. In other cases, we rely on the fact that at some sub-district-

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<sup>10</sup> For 2005 and 2007, the number of SC members' seats in each council is based on data from the 2001 Census. This may account for minor discrepancies in our data for earlier years, when reservation was based on the 1991 census (e.g., Hanchikuppe may have had 3 SC seats instead of 4 in 2000).

specific thresholds—for example, in sub-districts where the presidency of a council with two SC members’ seats was reserved, and the presidency of a council with one SC member’s seat next down on the list was not—the assignment of reservation is plausibly as good as random (though not actually randomized). This is because reservation rotates systematically down the list sorted in descending order by numbers of SC members’ seats, and quite small SC population differences may separate councils with different numbers of SC members’ seats at the threshold. In the neighborhood of the threshold, potential confounders such as the salience of caste politics should not be systematically associated with reservation; and potential outcomes (those we would observe under SC reservation and those we would observe without SC reservation) should be smooth functions of the assignment covariate, that is, the SC population proportion. This idea is similar in spirit to regression-discontinuity designs in which a pre-treatment covariate such as an exam score is used to sort students into “treatment” and “control” groups (Thistlewaite and Campbell 1960), with the difference here being that the relevant threshold value of the covariate is specific to each sub-district and varies across elections. The design is also similar in spirit to RD designs in which near-winners of close elections are compared to near-losers (Lee 2008).

Table I.B illustrates another advantage of our RD procedure. Because different lists are used in different sub-districts, the threshold value at which councils are assigned to reservation varies across sub-districts. In some sub-districts, bureaucrats had only worked down to the middle or bottom of the descending list of councils by 2007 (as in Magadi sub-district shown in Table I.A), while in others bureaucrats had cycled through the list of councils and gone back up to the top of the list by 2007—as is the case of Chamarajanagar sub-district shown in Table I.B. Thus, there is substantial variance in our study group in the proportion of the population from the Scheduled Castes or Scheduled Tribes; in some constituencies, Scheduled Castes or Scheduled

Tribes constitute a near-majority of the population, while in others, they are a small minority. This helps to mitigate in some ways the standard concern that units selected at the RD threshold may not be representative of a broader population of interest (e.g. Deaton 2009). Below, we will take advantage of the variation in SC and ST population proportions in our study group to assess whether the numerical size of these groups shapes the effect of reservation.

The process used to assign reservation for Scheduled Caste presidencies is repeated for Scheduled Tribes, using exactly the same procedure: councils are sorted in descending order by the number of members' seats reserved for Scheduled Tribes, and the presidencies of the required number of councils are selected for reservation. If a single presidency should in principle be reserved for both the Scheduled Caste and Scheduled Tribe categories in any electoral term, based on placement on the respective lists, the presidency is reserved first for Scheduled Castes and then for Scheduled Tribes, in a subsequent electoral term.<sup>11</sup> In most sub-districts, however, the number of presidencies that must be reserved for Scheduled Tribes is relatively small (typically just one or two councils), because Scheduled Tribes comprise only a small proportion of sub-district populations, outside of so-called "tribal" areas. Thus, reservation for ST presidencies has only a small impact on the process of rotation of SC reservation for council presidencies.<sup>12</sup>

To select our study group of councils, we first purposively sampled six districts in Karnataka, which we chose to maximize variation on factors that could affect the role of caste in village councils, such as the identity of particular dominant castes (see Dunning 2009).<sup>13</sup> The

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<sup>11</sup> Order of the State Election Commission No. 54 EGP 99, February 16, 2000; interviews, Karnataka State Election Commission staff, January-February 2009.

<sup>12</sup> In one-third of councils in which the presidency is not reserved for SC or ST, the presidency is reserved for Other Backward Classes (OBCs); of these, 80 percent are reserved for BC-A castes and 20 percent for BC-B castes (a subset which includes Vokkaligas and Lingayaths). As elsewhere in India, at least one-third of council presidencies are also reserved for women, using an analogous procedure (Nilekani 2010).

<sup>13</sup> The districts are Bangalore Rural, Chamarajanagar, Davanagere, Mandya, Mangalore, and Ramanagar.

representativeness of these districts and other external validity issues are discussed below. Then, we mimicked the reservation process as closely as possible, using 2001 census data to sort the council constituencies within each sub-district in descending order of SC and ST population proportions. At the time we constructed our study design, in December 2008, we lacked data on SC members' seats as well as the entire history of reservation, but we had data on presidency reservation in 2007 and census data on group proportions, on which the number of SC members' seats are based. By sorting councils in each sub-district in descending order by SC (or ST) population proportions and using our data on reservation of the presidency, we could therefore find the lower population proportion bound between councils with reserved and unreserved presidencies.<sup>14</sup> Thus, in each sub-district, we selected “treatment” and “control” councils located at the sub-district-specific threshold, which have very similar SC or ST population proportions but differ in reservation status.<sup>15</sup> Using this RD design, we constructed a study group of 200 village councils—100 of which had their presidencies reserved for Scheduled Caste or Scheduled Tribe presidents in 2007, and 100 of which were unreserved or reserved for Backward Classes.<sup>16</sup>

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<sup>14</sup> Because bureaucrats use the numbers of members' seats reserved as a proxy for the population proportions of each reserved category and each council has one member for each 400 residents, larger council constituencies might tend to be found at the top of the list (interviews, Karnataka State Election Commission, January 2009). Our procedure should not lead to bias, however, since population should be independent of Scheduled Caste and Scheduled Tribe population proportions in the neighborhood of our regression-discontinuity thresholds. Empirically, there is only a weak correlation between village size and the proportion Scheduled Caste or Scheduled Tribe in Karnataka ( $r=0.009$ ). Reserved and unreserved councils in our study group are also balanced with respect to population, as we show below.

<sup>15</sup> For Scheduled Caste reservation, we required the difference in the population proportions for each pair of reserved and unreserved councils at the RD threshold to be less than one percent; in our study group, the mean difference across the treatment and control groups is 0.33 percent, with a median of 0.25 percent. For Scheduled Tribe reservation, we adopted a more permissive band of 1.5 percent, yet the average difference across treatment and control is still just 0.49 percent, with a median of 0.29 percent.

<sup>16</sup> In Karnataka, Other Backward Class (OBC) reservation tends to be a mechanism for rotating office among different dominant backward castes (Shastri 2009), and there are few forward castes in villages. Thus, in our analysis, we treat “unreserved” and “reserved for OBC” as analytically equivalent.

To assess the claim of random or as-if random assignment to quotas, Table II presents a balance check, comparing reserved and unreserved councils on measured pre-treatment covariates such as literacy rates and employment data drawn from the 2001 census. As the table shows, reserved and unreserved villages are statistically indistinguishable on these covariates. In particular, reserved and unreserved villages are balanced with respect to village size, literacy rate and the number of workers, as well as other pre-treatment variable drawn from the census and on the assignment covariates—just as they should be after true randomization. As described below, we also replicated our regression-discontinuity design using statewide data on village councils; even with the greater statistical power afforded by this much larger group of up to 1,430 councils, we cannot reject the null hypothesis of equal means across reserved and unreserved councils for most variables. It is also worth noting—perhaps because of the fact that the sub-district specific RD threshold varies across sub-districts (compare Tables I.A and I.B), creating variation on SC population proportion in our study group—that our RD study group ends up being fairly representative of the state of Karnataka, at least as measured by census covariates. Table III compares the means of key covariates for the 200 councils in our study group and all 5,626 councils in the state; while the constituencies in our study group are on average a bit smaller, and while differences-of-means tests show other statistically-significant differences on other variables, the differences are substantively small.

[TABLES II AND III ABOUT HERE]

To gather data on distributive and fiscal outcomes, we interviewed citizens, council members and presidents, and local bureaucrats called secretaries, in each of the 200 councils in our RD study group. Our sampling design called for a stratified random sample of 10 citizens in the headquarter village of each of the 200 councils. Because we oversampled Scheduled Caste

and Scheduled Tribe citizens by design, in some of the analyses below we use sampling weights to recover parameter estimates that are valid for the population in our study group of councils.<sup>17</sup> Citizens were asked a range of questions about benefit receipt and perceptions of council priorities, and they also participated in an experiment designed to assess the role of caste in shaping voting preferences, which is described below and also discussed in Dunning (2011).<sup>18</sup> In each village, we also surveyed the council president, council secretary, and two council members (including at least one SC/ST member, if the council president was not SC/ST). Fieldwork was undertaken in January-February 2009, over a year after the election of the council president in September 2007; the survey instruments and other materials are available online.<sup>19</sup> Descriptive statistics for responses to many of our survey questions are presented in Tables IV and V.

[TABLES IV AND V HERE]

### **III. The Weak Distributive Effects of Reservation**

Do caste-based quotas for the council presidency stimulate the distribution of greater benefits to Scheduled Caste or Scheduled Tribe citizens? To investigate this topic, we first asked citizens whether they had received a benefit or job from the village council in the previous year. We then compare average answers to this question across reserved and unreserved councils, which estimates the causal effect of reservation on the distribution of benefits.

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<sup>17</sup> In each village council constituency, we selected at random four SC citizens (ideally, two each from the Holaya and Madiga sub-castes), one ST citizen, and five citizens from the general category, using an interval sampling method. This is an oversample of SC citizens, who comprise about two in ten citizens on average. The stratified random sampling was facilitated by the residential segregation by caste in villages.

<sup>18</sup> The interviews were conducted by around forty field investigators, most of them M.A. students in political science at Bangalore University; they were sometimes accompanied by one of us (Dunning).

<sup>19</sup> See <http://www.thaddunning.com/research/all-research>.

As the first row of Table VI indicates, reservation does not increase the probability that members of either the Scheduled Castes or Scheduled Tribes receive benefits or jobs from the village council. Indeed, the negative but statistically-insignificant point estimate suggests that Scheduled Caste respondents are, if anything, less likely to receive a benefit when the council presidency is reserved for Scheduled Castes. Note that here we pool across reservation for Scheduled Caste and Scheduled Tribe presidents. However, results are substantively identical when we analyze SC and ST reservation separately.<sup>20</sup> We also find no effect of reservation on the probability of benefit receipt by all citizens, rather than just SC/ST respondents. As we discuss further below, there may be some heterogeneity of effects across different quartiles of the SC and ST population distributions. However, our data are not consistent with the claim that quotas boost the distribution of benefits to marginalized castes and tribes, at least on average.

[TABLE VI ABOUT HERE]

Quotas for SC and ST presidents also have no discernible effect on whether Scheduled Caste and Scheduled Tribe respondents say (i) that the council serves their group effectively (second row of Table VI); (ii) that their group has the most power or influence over the council (third row of Table VI); or (iii) that the president of the village council favors his or her caste (fourth row of Table VI).<sup>21</sup> Caste- or tribe-based quotas for president do appear to boost the percentage of Scheduled Caste or Scheduled Tribe respondents who say that the council gives greatest priority to their group (fifth row of Table VI); this evidence is consistent with other

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<sup>20</sup> With 968 respondents from the Scheduled Castes and Scheduled Tribes, these are not low-power statistical tests—though below we develop alternative, higher-power tests as well. Note that with 5 Scheduled Caste and Scheduled Tribe respondents per village, there is some small degree of clustered randomization here, since all respondents in the same village are assigned either to a quota or to its absence. The presence of clustering only increases the true standard errors, however; thus, adjusting for the clustering makes us even *less* likely to reject the null hypothesis, which we fail to do anyway.

<sup>21</sup> These answers code responses to open-ended questions about which group (caste) has the most power or influence, and which group receives the council's priority.

evidence presented below and in Dunning (2009) suggesting that quotas have some effect on voter perceptions, if not on actual patterns of distribution.<sup>22</sup> Thus, while there is some evidence that quotas lead members of the targeted groups to say that the council prioritizes them, quotas do not boost perceptions that the council effectively serves SC and ST communities.<sup>23</sup>

Quotas also do not promote greater engagement with the local political process, on the part of Scheduled Caste or Scheduled Tribe citizens. Not only are citizens from marginalized castes and tribes no more likely to participate in council meetings and other public fora—such as Gram Sabhas (biannual open meetings), Ward Sabhas (meetings in local constituencies), or Panchayat Jamabandis (village social audits)—in reserved council constituencies, but those who do participate are no more likely to say that their participation was effective in helping them obtain resolution of a problem that mattered to them (Table VI).

Turning to our interviews of council members, presidents, and secretaries, we find even weaker policy effects of reservation (Table VII). Here, we find no effect of quotas on whether Scheduled Castes and Scheduled Tribes are said to have the most power or influence over the council or whether these groups receive priority from the council in allocating benefits.<sup>24</sup> These null effects persist whether we consider responses from members, presidents or bureaucrats, and also when we restrict the sample to SC and ST council members.<sup>25</sup> The one exception is that councils with reserved presidencies are deemed to serve SC and ST communities somewhat more

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<sup>22</sup> Interestingly, averaging across reserved and unreserved councils, 31.9 percent of respondents from these groups say that SC or ST groups have the most influence.

<sup>23</sup> The biggest contrast across reserved and unreserved councils (of 61 percentage points) regards the percent of citizens who identify the council president as being from an SC or ST caste. Yet, this simply serves as an indicator of political knowledge (there are few SC or ST presidents in the absence of quotas).

<sup>24</sup> On average, about 20 percent of respondents identified Scheduled Castes and Scheduled Tribes as receiving priority from the council.

<sup>25</sup> Members, presidents and secretaries rate the extent to which the council effectively serves SC and ST members at 4.3 on a 5-point scale (though citizens less optimistically rate effectiveness at just 2.0).

effectively.<sup>26</sup> Yet, this finding is driven by the answers of presidents (the difference for members alone is not significant), so the answers are conceivably self-serving.<sup>27</sup> Nor does reservation of the presidency for lower-castes appear systematically to affect the internal functioning of village councils. For example, reservation does not affect the reported number of Gram Panchayat meetings held in the previous six months, whether members of the village council report working well together, or whether the primary source of disagreement among members is the choice of beneficiaries of council spending.<sup>28</sup> There is also no effect of reservation on how transparent is the availability of council funds to members or presidents. Council members, presidents, and secretaries do not indicate any effect of reservation on whether open council, local constituency, or social audit meetings are held or how effective they are deemed to be.

[TABLE VII ABOUT HERE]

What about actual council spending patterns? We obtained data on revenues and expenditures from council secretaries (in some cases, from annual reports provided to us by secretaries, in other cases through our detailed interviews with secretaries).<sup>29</sup> We find that there is no significant effect of quotas on the level or composition of taxes in the 200 village councils in our study group (Table VIII). For example, quotas have no significant effect on the amount of revenues raised through property taxes, water taxes, license fees, or other fees, or on whether the council levies house/property fees at all. There is one significant effect of reservation for a

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<sup>26</sup> The question reads: “I would like to know, in your opinion, how effectively the council responds to the needs of Scheduled Castes and Scheduled Tribes.” The answer categories are “very effectively, somewhat effectively, neither effectively nor ineffectively, somewhat ineffectively, very ineffectively.”

<sup>27</sup> We also asked whether members and presidents favor their own castes in allocating benefits from schemes. Members in *unreserved* councils were slightly, though significantly, more likely to say yes, but the result does not persist among Scheduled Caste members alone.

<sup>28</sup> One of the few significant findings is that bureaucrats report that presidents work one half-day per week less in reserved councils. However, among council members from both the upper and lower castes, reservation has no effect on evaluations of the number of days worked by presidents.

<sup>29</sup> There are some missing data here, but the missingness is statistically unrelated to reservation status.

residual revenue category, “other taxes.” However, this finding is strongly affected by a few large values in the unreserved group; moreover, when applying a standard Bonferroni correction to account for the multiple statistical comparisons we are making, this effect is insignificant.<sup>30</sup>

[TABLE VIII ABOUT HERE]

Quotas also do not increase spending on welfare programs targeted to Scheduled Castes or Scheduled Tribes. In Table VIII, we compare total SC-targeted spending across reserved and unreserved councils, as well as disaggregated expenditures on three schemes: the Ashraya Rural Housing Programme, which provides subsidies and loans to aid the construction of dwellings for members of the SC and ST groups, as well as other citizens below the poverty line; the Indira Awaas Yojana (IAY), which provides income support and shelter based on a poverty standard; and the Ambedkar Housing Scheme, which builds houses for Scheduled Caste and Scheduled Tribes. While such programs are funded at the state or central level and are supposed to be spent program- or project-wise—that is, towards the kinds of projects to which they are dedicated—our field work and previous research suggest that village councils have substantial levels of discretion, both in the selection of beneficiaries and in the amount of funding put towards any particular program. Thus, quotas might well be expected affect the level of actual expenditures by councils on such SC- and ST-targeted schemes. Yet, for none of these three schemes do we find an effect of quotas on the level of spending. Nor do we find a significant effect for any one of the other 25 schemes for which we collected expenditure data.<sup>31</sup>

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<sup>30</sup> The Bonferroni correction reflects the fact that with multiple comparisons, a certain number of significant test statistics—in expectation, 5 out of 100—will arise, even under the null hypothesis. The correction divides the level of the test by the number of comparisons made.

<sup>31</sup> We collected data on spending on central-government schemes (the 11/12<sup>th</sup> Finance Fund, Mini Water Supply, and SGRY), state-government schemes (Section 206 of the PRI Act of 1993, Developmental Grants, and Nirmal Karnataka), and other or mixed schemes (Swacha Grama Yojane, Male Neeru Koilo,

Two sets of concerns about our evidence might arise at this point. First, despite the wide range of outcome indicators we have gathered through our detailed surveys—including data on individual benefit receipt, perceptions of council priorities, and aggregate spending—perhaps it is the case that these measures are simply insufficiently nuanced to capture subtler effects of quotas on distributive outcomes. For example, it might be the case that Scheduled Caste and Scheduled Tribe council presidents help citizens from their groups to obtain income or caste certificates or access other bureaucratic services; yet, these more subtle benefits may conceivably not be captured by our survey questions. A related concern is that measurement error could be pronounced for at least some of our outcome indicators, which would make our estimators less precise. However, as we show below, the party affiliation of the respondent *does* strongly predict one of our most important indicators—having received a job and benefit from the council in the previous year or two. This substantially allays the concern that our measures are simply too coarse or too noisy to capture distributive effects.

A second concern is that these null findings are simply an artifact of our relatively small sample size. With 100 councils assigned to treatment and 100 assigned to control, and with surveys of ten citizens per council constituency, our statistical power is not trivial. Nonetheless, it is conceivable that we could fail to reject small treatment effects with relatively high probability. To address this concern, we replicated our regression-discontinuity design for a much larger study group, drawn from 5,626 councils across the state of Karnataka. This larger RD sample contains 1,430 councils—715 with quotas for Scheduled Caste or Scheduled Tribe presidents and 715

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Library, Vada Samvadhana, Kugrama Suvarna Grama, Namma Bhumi Namma, Mid-Day Meals, Gram Swaraj, Employment Guarantee—NREGA, Total Sanitation, Swajaladara, Watershed Development, Continuing Education, SGSY, PMGY, Jal Nirmal, Jala Rakshane, Bharath Nirman, and drinking water maintenance). We also found no significant effect of reservation on expenditures or the council's opening or closing balance, funds from central or state grants, and revenues from taxes, fees, or other sources.

without—using data from the 2005-2007 council reservation period. Here, as before, balance tests fall to reject the null hypothesis of equality of means on pre-treatment covariates.<sup>32</sup> While we cannot measure the distribution of benefits or perceptions of caste politics in the same detailed manner afforded by our proprietary surveys in the N=200 study group, the much larger size of this statewide RD sample sharply elevates our statistical power.<sup>33</sup>

We draw on two sources of outcome data for this larger RD sample. First, we use publically-available data from the Karnataka Department of Rural Development and Panchayati Raj, including data on the structure of local taxes and fees, the extent of expenditures on particular welfare programs, the numbers of council meetings held, and numbers of latrines or wells built by village councils. Second, we obtained extensive fiscal indicators gathered by the World Bank’s “Gram Swaraj” project (a local governance program financed jointly with the Government of Karnataka); some of these data are available for the entire state and some are only available for the 39 sub-districts in which the Gram Swaraj project is working. Because the Gram Swaraj fiscal data have been independently audited, their accuracy likely rivals the data we gathered directly from secretaries for our smaller RD study group. Though we used these data to estimate causal effects for hundreds of outcome indicators, in Table IX we present results for indicators similar to those presented for our N=200 study group in Table VIII.

Even with this much larger study group, we find no discernible effects of quotas on distributive allocations or council performance. For instance, reservation does not affect total taxes, property taxes, or the fees levied by the council; nor does it affect expenditures on SC- and

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<sup>32</sup> The pre-treatment covariates on which we assessed balance include total population, female population, number of literates, number of workers, and number of marginal workers; results available on request.

<sup>33</sup> For a true treatment effect of 0.15 of one standard deviation, the probability of rejecting the null hypothesis of no effect is about 80 percent.

ST-targeted schemes, such as the Ashraya Rural Housing Programme, the IAY, and Ambedkar housing scheme. Even the effect of reservation on total council fees, which was significant in our N=200 sample (though only without a correction for multiple comparisons), is here statistically insignificant. Furthermore, quotas have no effect on the number of council meetings, Gram Sabha meetings, expenditures on infrastructure for drinking water, number of individual latrines built, and community latrines built. We hypothesized that these latter indicators might conceivably be most sensitive to quotas for SC or ST presidents, because the programs under which latrines are financed are supposed to give preference to SC or ST households but allow councils substantial discretion. Moreover, as Duflo (2005) points out, SC and ST households are poorer on average, and they may be the most likely to benefit from the building of individual latrines or other targeted poverty alleviation programs. Yet we find that quotas do not have any apparent effect on such outcomes. We also tested the effects of reservation on many other outcome indicators not reported in Table IX and found no discernible effects of quotas. Using the data from the Rural Department and Panchayati Raj, we found just 2 significant effects in 108 tests (that is, 27 outcome indicators measured at four different six-month intervals). Using the Gram Swaraj data, we found just 3 significant effects in 178 tests (89 variables each measured in two different years). None of our five “significant” results come close to surviving standard Bonferroni corrections for multiple comparisons.

[TABLE IX ABOUT HERE]

Our statewide data also allow us to explore an additional topic—what is the value-added of our regression-discontinuity design in terms of reducing the bias in causal-effect estimators? Suppose that we compare all reserved and unreserved councils across the state of Karnataka—that is, we do not select a sub-set of all councils using an RD design but instead make the “naïve”

comparison of distributive outcomes across councils with reserved and unreserved presidencies. Using this approach, we find 93 statistically-significant differences between the reserved and unreserved councils on the 286 outcome variables analyzed above (108 from the RDPR dataset and 178 from the Gram Swaraj dataset)—compared to the 5 statistically-significant differences we found using the RD design.

Such a striking contrast is unlikely merely to reflect greater precision in the estimation of treatment effects due to the inclusion of nearly all the councils in the state.<sup>34</sup> Instead, it plausibly illustrates the bias that arises in naïve comparisons between reserved and unreserved councils. This suggests that the most likely explanation for the differences between our results and previous research, especially work on Karnataka, is methodological: our randomized RD design strips out bias due to unobserved confounders associated with the presence of a quota. Using this approach, our data resoundingly reject the notion that caste-based quotas for presidencies have a strong average effect on council performance or on the distribution of benefits.

#### **IV. What Explains Invariance? Political Mobilization By Multi-Caste Parties**

Why, then, does the reservation of council presidencies for politicians from marginalized castes and tribes have little apparent effect on the distribution of benefits in Karnataka? In a longer working-paper version of this article, we explore and reject several potential explanations for the invariance of distributive outcomes to the presence of caste-based quotas. First, drawing on experimental evidence from Dunning (2009), who studied the effect of quotas on caste-based political preferences using the same group of village councils as in this paper, we discard the (implausible) notion that caste is simply irrelevant in rural India. In a context in which caste-

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<sup>34</sup> Our statewide dataset has 2005 reservation data for 5,300 councils. Using the RD design cuts the sample size to 1,430 or about one-quarter of the cases.

based discrimination is prevalent, voters do prefer, other things equal, to vote for members of their own castes (Chandra 2004). Next, consistent with previous evidence about the agenda-setting powers of council presidents (Besley et al. 2004, 2008; Chattopadhyay and Duflo 2004), we show that village council presidents are perceived to have substantial influence over the distribution of individual benefits, relative both to other council members and to local bureaucrats, and that this is equally true in both reserved and unreserved councils. Thus, the impotence of council president cannot readily explain the invariance of distributive outcomes to the reservation of the presidency.

Finally, using our detailed survey data on caste and voting behavior, we show that the explanation for our findings does not lie in any straightforward way in the numerical (and thus electoral) superiority of dominant castes.<sup>35</sup> In principle, since SC and ST voters are typically numerical minorities with council constituencies, upper-caste voters could coordinate to elect pliant lower-caste presidents in the presence of a quota—that is, presidents who share their policy preferences more closely than would a lower-caste citizen selected at random.<sup>36</sup> If this explanation is correct, however, the distributive effects of reservation should be stronger where marginalized castes and tribes form a larger proportion of the population, for instance, where they form a majority or near-majority of the population. Yet, we do not find strong evidence that effects are larger in the upper quartiles of the SC and ST population distributions: while the point estimates for effects are larger, they are not statistically-significant in analyses that account for

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<sup>35</sup> On average, SCs constitute 18.4 percent of council constituencies in Karnataka while STs comprise 8.1 percent; in only a small fraction of constituencies do SCs or STs constitute a majority or near-majority.

<sup>36</sup> This observation echoes debates about quotas in colonial India. Commenting on Jaffrelot (2003), Wilkinson (2003) notes that “the designation of certain constituencies as ‘Scheduled Caste constituencies’—in which members of all communities could vote but only SC candidates could stand for election—did not give Scheduled Castes a real radical ‘voice’ ... because politicians in these constituencies still had to appeal to more conservative upper and middle caste voters to get elected.” Shastri (2009) makes a similar argument about contemporary politics in Karnataka.

the clustered-randomized nature of our data.<sup>37</sup> Perhaps more importantly, if it were true that the electoral dominance of upper-castes allows them to elect pliant lower-caste leaders, we should observe upper-castes coordinating on the selection of candidates. Yet in fact, as we will see shortly, voters from the same castes are split in their preferences over parties and candidates, even within villages. Thus, it is not the case that upper-caste voters coordinate on particular candidates, while lower-caste voters coordinate on others.

Our survey data suggest instead that voters and council members are divided not by caste, but by political party. We were somewhat surprised to find evidence of the strong salience of parties in local elections. Consistent with Gandhi's ideal vision of apolitical village life, council elections are supposed to be party-free in Karnataka: candidates for local councils are banned from running on party symbols.<sup>38</sup> However, our surveys show that citizens and members themselves nonetheless have substantial knowledge of the party affiliation of council members. An estimated 81.8 percent of citizens can identify the political party of the council president, while 87.7 percent know the party of the candidate for whom they voted in the most recent elections. These data suggest that political party may be roughly as salient as caste, as far as voter knowledge goes, since about 95.8 also claim to know the caste of the council president (Table IV).<sup>39</sup> Party membership is also widespread among voters: 73.3 percent of citizens report membership in a political party. Finally, party affiliation also appears strongly related to electoral

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<sup>37</sup> We conducted analysis by cluster (village) mean to account for the clustered randomization. While the number of villages in the upper quartile is relatively small (N=50), thereby limiting statistical power, we conducted a similar analysis for the much larger state-wide dataset described below. Full results are available upon request and will be posted in an online Appendix.

<sup>38</sup> The Karnataka Panchayat Raj (Conduct of Election) Rules—1993, Rule 20.

<sup>39</sup> Due to some problems involved in the coding of responses to open-ended questions about the party and caste of the council president, here we take citizens' claim to know the party and the caste at face value, rather than investigate the accuracy of their knowledge using our data on the partisan composition of councils. However, the other evidence we present suggests that citizens' and especially members' knowledge of party affiliations is likely to be quite accurate.

behavior. For example, 78.8 percent of party members (and 71.8 percent of Scheduled Caste and Scheduled Tribe citizens who are party members) said they voted for their party's candidate in the most recent elections. When we asked council members to list the party affiliations of all other members of their councils on our questionnaire, the great majority was able to do so without difficulty, which also underscores the salience of party identification among council members.

Moreover, most candidates for village councils, from each of the three major political parties, draw support from both dominant and marginalized castes; correspondingly, voters of the same caste, even in the same village, frequently support different parties. For example, in each village, we interviewed up to (but no more than) four SC citizens; in 63 percent of the villages in which at least two SC respondents identified the party for which they voted in the most recent election, they had voted for at least two different parties.<sup>40</sup> Moreover, SC and ST members on the same village council often come from different parties: in those villages in which we surveyed more than one SC or ST council member, and in which at least two of these members answered our party affiliation question, we found that these SC/ST members on the same council came from the same party only 56 percent of the time. Party leaders also stressed the multi-caste character of their parties in field interviews. For example, at meetings with one of us (Dunning) in Malavalli sub-district, interviewees from the BJP block leadership went to pains to point out the presence of local party leaders from the Scheduled Castes, from each of the dominant backward sub-castes in Karnataka (the Vokkaliga and the Lingayath sub-castes), and from other castes.<sup>41</sup>

At the local level, then, parties in Karnataka are multi-ethnic (Chandra 2004): party and caste

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<sup>40</sup> Across our sample of council constituencies, Scheduled Caste and Scheduled Tribe citizens are somewhat more likely to be members of Congress than members of the BJP or JD(S), while dominant backward castes are somewhat more likely to support the BJP or the JD(S). However, there are substantial splits along party lines within villages.

<sup>41</sup> Thus, while parties in Karnataka may be identified with particular castes at the state level (Shastri 2009), our evidence suggests that they have a decidedly multi-caste character at the local level.

membership cross-cut each other, in that members of the same caste often support different parties, and members of the same party come from both dominant and marginalized castes.

This observation about the existence of multi-caste parties takes us to a final explanation for the invariance of distributive outcomes to caste-based quotas, one that *is* supported by our data as well as by our qualitative fieldwork. We first show that targeted benefits from the village council are in fact distributed along party rather than caste lines. Our surveys asked citizens and council presidents to which political party they belong; a follow-up question asked citizens (including those who professed no party membership) to which party they feel closest. We used these responses to code two indicator variables.<sup>42</sup> The first is equal to one if the respondent shares the political party of the village council president and zero otherwise; the second is equal to one if the respondent feels closest to the party of the council president and zero otherwise.<sup>43</sup>

We find that party affiliation is strongly and significantly related to the allocation of benefits. Citizens who share the political party of the council president are nearly 13 percentage points more likely than other citizens to have received a job or benefit from the council in the previous year, a difference that is highly significant (Table X, first row). Among citizens from Scheduled Castes and Scheduled Tribes, the difference is nearly 10 percentage points (Table X, second row). We also found that citizens who share the party of the council president are 13 percentage points more likely than other citizens to say they had received a gift from a political party or candidate before an election, in return for turning out to vote (significant at the 0.001

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<sup>42</sup> We asked presidents and members to name their own party affiliation (and the party affiliation of every other member of the village council). Because of some problems with the coding of the presidents' self-reports, in the analysis below we use the party identified by the largest number of council members as the president's party. However, results are similar if we instead use presidents' self-reports.

<sup>43</sup> Citizens who did not report a party affiliation or a party to which they feel closest were dropped. However, results are similar if we include these respondents among those who do not share the party affiliation of (or who do not feel closest to) the party of the council president.

level).<sup>44</sup> These findings on the effects of party affiliation obviously contrast sharply with the null effect of caste-based quotas on benefit receipt (presented again in the final row of Table X).<sup>45</sup>

[TABLE X ABOUT HERE]

These results are not necessarily conclusive about the causal effect of party affiliation, of course: party membership is not randomly assigned, and there could in principle be confounders associated both with sharing the party of the council president and receiving benefits from the council. Yet, as shown in the third row of Table X, merely feeling closest to the party of the council president is *not* statistically related to benefit receipt. This finding may allay some concerns about reverse causality: after all, if we had found a stronger relationship here, it could well have been that benefit receipt causes citizens to feel close to the council president's party, rather than the other way around. Instead, it appears that integration into party networks, through party membership, causes citizens to be rewarded by the party in power with material benefits.<sup>46</sup>

Yet, why are benefits allocated along party lines at the local level? First, as our qualitative field research made clear, parties help to finance the increasingly high cost of campaigns. In interviews, several candidates as well as party officials at the district and sub-district levels independently estimated the per-candidate cost of local campaigns at about \$2,500 (100,000 Rupees)—a shockingly high sum that dwarfs the official salary of council members and

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<sup>44</sup> The relevant survey question read: “Have you ever received a gift from a political party or political candidate before an election, to induce you to turn out to vote on election day?”

<sup>45</sup> We also looked at the relationship between the partisan composition of the council—in particular, the margin between the proportion of members belonging to the largest and second-largest parties—and the targeting of voters, as a way of assessing how electoral competition may shape targeting. We did not find strong relationships here. However, our measures of partisan composition are much noisier than our measures of the president's party, due to some coding errors on the part of survey enumerators.

<sup>46</sup> Our evidence also doesn't readily distinguish between the party of the president and the majority/plurality party of council members: in 94 percent of councils on which we have full party affiliation data, the president is a member of the party that has the plurality of council members. Yet, this observation does not affect our argument about the importance of mobilization along party lines.

is presumably far more than even an entrepreneurial council member could make in bribes and kickbacks during a five-year term.<sup>47</sup> According to interviews with members of all three major parties, party leaders help to fill the financing gap. Parties also contribute to the cost of horse-trading and vote buying at the council level. For example, in councils that are split along partisan lines—for instance, where 7 members are from the Janata Dal (Secular) party, 5 are from Congress, and 3 are from the Bharatiya Janata Party (BJP)—parties are said to help to supply the funds necessary to buy members' votes and thus obtain majorities for important council decisions.<sup>48</sup> Finally, parties play an important role in structuring career advancement for politicians—for instance, for council members and presidents who aspire to candidacies for sub-district or district councils. Party leaders at higher levels are frequently in contact with their affiliates on village councils, and leaders, including members of state legislative assemblies, are sometimes present at village council meetings (Wilkinson 2006).

In return for the largesse of their parties, council members and presidents are expected to mobilize votes for the party, especially in elections to fill positions in district councils, the state legislative assembly, and even the national parliament. In interviews, party workers at the district and sub-district level spoke of the way in which a single broker in each village—often a council member or the president—takes responsibility for coordinating mobilization efforts around election time. The distribution of targeted benefits plays a role in this mobilization. These statements accord with other accounts that stress the role of local party intermediaries in buying votes or mobilizing electoral turnout (Breeding 2008), and they are consistent with our finding

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<sup>47</sup> Candidates pass a significant portion of this sum to voters in direct gifts. Since there are on average about 400 citizens per council member, the per-citizen, per-candidate amount works out to 250 Rupees.

<sup>48</sup> Here, too, 100,000 Rupees is said to do the trick. Interviews, Malavalli Taluk, Mandya District, Karnataka, March 2010.

above that members of the president's party are disproportionately rewarded with benefits to turn out to vote on election day.

In sum, the fact that council members and presidents are rewarded by their parties for turning out the vote at election time may create strong incentives to allocate benefits to co-partisans.<sup>49</sup> This may, in turn, undercut the distributive effects of quotas because, as we described above, all three major parties are to a greater or lesser extent multi-caste parties—which encourages benefits to flow to citizens from both dominant and marginalized castes, regardless of the presence or absence of quotas. In principle, it might be the case that quotas encourage SC and ST presidents to direct benefits disproportionately to citizens who are both SC/ST *and* co-partisans. Yet, we do not find statistically-significant interaction effects in this regard. The big effects are instead for party affiliation, not for the presence of caste-based quota. Our data suggest that councils target SC/ST and non-SC/ST citizens alike: despite the fact that many schemes are formally means-tested and/or targeted to SC and ST citizens, nearly 40 percent of non-SC/ST respondents in our survey had received a job or benefit from the council in the previous year. Most importantly, the mix of SC/ST and non-SC/ST beneficiaries is unaffected by the presence of a quota.

#### **4.2 Does Rotation Itself Engender the Invariance of Distributive Outcomes?**

In sum, linkages between upper- and lower-caste council members, within multi-caste party organizations, appear to blunt the distributive impact of quotas by creating incentives for allocating benefits to both upper- and lower-caste party members. This takes us to a final

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<sup>49</sup> There is an important debate about the conditions under which parties target “core” or loyal voters, as opposed to swing or indifferent voters; one reason parties might target loyal voters is to mobilize turnout at elections, though local brokers may have incentives to do so for other reasons as well. See Dixit and Londregan (1996), Cox (2007), Nichter (2008), and Dunning and Stokes (2009).

observation about the possible effects of reservation: it is plausible that rotation may itself help to create locally multi-caste parties. After all, reservation requires parties to field candidates from reserved categories such as SC or ST, if they hope to capture reserved seats; and the rotation of quotas—both across seats within villages and across council presidencies—implies that party leaders may find it rational for their local party organizations to become more multi-caste over time. Evidence that rotation itself promotes the emergence of multi-caste party organizations, at least locally, is difficult to acquire, since we don't have data on party affiliation at the local level before 1994 (when council elections were not in any case mandated by the central government). Yet, we can at least point here to the current contrast between politics at the state level—where there is no rotation of quotas, and at least two of the three major parties are identified as caste-based parties dominated by backward castes<sup>50</sup>—and the local level, where, as we have seen, local party organizations go to pains to emphasize their multi-caste leadership and draw support from voters of many different castes in local elections.<sup>51</sup>

This argument may have a deeper corollary, from the point of view of our finding that the presence or absence of a caste-based quota has little or no distributive effect: it is at least possible that equilibrium outcomes across all councils are different, given the institution of rotation of reservation, than they would be in its absence. Dixit, Grossman, and Gul (2000), building on Alesina (1988), provide some theoretical underpinnings for this claim. These authors construct an infinite-horizon model in which two groups rotate in power according to some fixed exogenous probability, and they characterize the set of efficient allocation rules that arise in equilibrium. The

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<sup>50</sup> That is, the Lingayath caste in the case of the BJP, and the Vokkaliga caste in the case of JD-(S) (Shastri 2010).

<sup>51</sup> Future research should investigate the effects of local elections and the rotation of reserved constituencies on incentives for the formation of multi-caste organizations at the local level, for example, through further elite interviews with party leaders.

key insight of their dynamic model, which is familiar from other models of inter-temporal bargaining, is that each group alters policy much less dramatically when in power than it would in a one-shot interaction. This idea might be used to characterize the process of intra-party bargaining between dominant and marginalized castes *within* the council's governing party—since the randomized application of reservation corresponds well to the exogenous process described in Dixit, Grossman, and Gul's (2000) model. Following this logic, it is also possible that all parties adopt distributive policies in equilibrium that are more favorable to lower-castes—but that they do so whether or not a quota is in place.

Yet, we are skeptical that this interpretation can fully explain the remarkably weak effects of quotas that we estimate here. Models such as Dixit et al.'s (2000), while useful for illustrating dynamic forces that can lead to policy compromise, also involve strong claims about inter-temporal foresight, and it seems unlikely that inter-temporal bargaining between caste groups alone could make the caste identity of the current president fully irrelevant and thus explain our null results. For example, this argument would imply that in village councils that do not have and have never had a quota in the past, policy is nonetheless fully adjusted “downwards” to the benefit of lower-caste voters in that village—simply because council members know there will be a quota for a lower-caste president at some point in the future. This seems to involve an implausible degree of forward-looking behavior, in a setting that is otherwise characterized by electoral uncertainty and short-term opportunistic behavior.<sup>52</sup> One might also point out that inter-temporal bargains could be struck between political parties, so that the policy moderation due to repeated interactions might also lead us to expect invariance of outcomes to the identity of the

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<sup>52</sup> We also do not find any evidence that a history of past reservation impacts whether caste-based quotas shape distributive outcomes.

particular party in power. Of course, this argument cannot readily explain our evidence that the party identity of the council president *does* shift the distribution of benefits.

In any case, our larger point is that the mechanism through which any such inter-temporal bargains are struck appears to involve political parties—and this helps explain why the targeting of benefits takes place not along caste lines, but along party lines. Our data, which provide some of the first systematic evidence on the interaction of quotas, caste, and party politics at the local level, establish that given the system of rotation of quotas, party affiliation is strongly related to distribution. However, caste-based quotas simply are not, at least on average. The presence of a caste-based quota does not imply that political mobilization takes place along caste lines—and this can have important implications for the distributive effects of quotas.

## **Conclusion**

An important literature suggests that quotas for disadvantaged groups should promote the adoption of policies favored by these groups (Duflo 2005). Yet, our findings cast doubt on the generality of this hypothesis. Using a research design in which the fiscal effects of political reservation are unlikely to be confounded by omitted variables, we find at most very weak effects of quotas on distributive or policy outcomes. We show that several potential explanations for this finding are not consistent with our data. Instead, the character of party organization at the local level may explain why policy appears relatively invariant to the presence of electoral quotas.

What is the larger significance of our findings? One central point is that the effects of quotas for marginalized groups may be conditional on the nature of political mobilization. In some settings, there may be tradeoffs between descriptive and substantive representation—a point familiar from debates about the effects majority-minority districts in the United States (Cameron,

Epstein, and O'Halloran 1996). Yet, while quotas may not lead to caste-based mobilization in some settings, the presence of such mobilization might make quotas more effective redistributive tools. For example, we might well expect different results in states with caste-based political parties, such as Uttar Pradesh, where Chief Minister Mayawati of the Bahujan Samaj Party (BSP) has successfully mobilized many lower-caste voters while limiting appeals to certain upper-caste constituencies (Chandra 2004). Other institutional differences across Indian states, such as the presence of direct elections to council presidencies might tend to limit the influence of parties over candidate selection and thus lead to contrasting results. Since many Indian states use similar principles (though different specific rules) to rotate reservation across councils, future studies should use randomized RD designs such as ours to assess the conditional effects of quotas.

Viewed more broadly, our null results may seem like good news from a policy perspective. After all, councils with reserved presidents do not perform any *worse* than councils without reserved presidents. Moreover, our suggestion that rotation of reservation helps to engender multi-caste parties at the local level may indicate the success of quotas in fostering descriptive representation. Yet, in the context of the continued economic and social marginalization of Scheduled Castes and Scheduled Tribes, our results may also have more troubling normative and positive implications: if even explicit electoral quotas for politicians from these groups do not result in greater allocation of benefits to such marginalized groups, it is difficult to see what alternative interventions would have such effects. That is why further research that clarifies how complementary conditions enhance the effects of formal institutions is crucial, since such research may also suggest how policy could usefully shape the contexts in which political reservation takes place.

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**Table IA. History of Scheduled Caste Reservation  
(Magadi Sub-District, Bangalore Rural District, 1994-2007)**

VILLAGE COUNCIL	Total Seats	SC Seats	1994	2000	2002	2005	2007
BACHENAHATTI	18	5	1				
THAGGIKUPPE	17	5	1				
KALYA	16	4	1				
SOLURU	16	4	1				
BITTASANDRA	14	4	1				
BELAGUMBA	16	4	1				
LAKKENAHALLI	15	4		1			
KANNANUR	10	4		1			
BANAVADI	15	4		1			
HANCHIKUPPE	17	4			1		
AGALAKOTE	14	3		1			
MADABAL	14	3		1			
MATHIKERE	13	3		1			
SEEGEKUPPE	14	3			1		
AJJANAHALLI	15	3			1		
MOTAGONDANAHALLI	17	3			1		
BISKURU	14	3			1		
HULLENAHALLI	13	3			1		
MADIGONDANAHALLI	14	3				1	
KUDUR	21	3				1	
THIPPASANDRA	14	2				1	
ADARANGI	11	2				1	
NARASANDRA	15	2				1	
HULIKAL	10	2				1	
CHIKKAMUDIGERE	13	2					1
GUDEMARANAHALLI	14	2					1
SRIGIRIPURA	11	2					1
NETHENAHALLI	15	2					1
KALARI KAVAL	15	2					1
SATHANUR	14	2					1
SHANKIGHATTA	14	2					
CHIKKAHALLI	14	1					

In the final five columns, 1=Council presidency is reserved for Scheduled Caste. See text for explanatory notes.

**Table IB. History of Scheduled Caste Reservation  
(Chamrajanagar Sub-District, Chamrajanagar District, 1994-2007)**

<b>Village Council</b>	<b>Total Seats</b>	<b>SC seats</b>	<b>1993</b>	<b>2000</b>	<b>2002</b>	<b>2005</b>	<b>2007</b>
HONGANOOR	18	9	1				1
ATTAGULIPURA	15	8	1				1
SANTHEMARAHALLI	20	7	1				1
JYOTHIGOWDANAPURA	21	7	1				1
HEBBASUR	16	7	1				
SHIVAPURA	17	7		1			
MASANAPURA	15	6	1				
PUNAJANUR	17	6	1				
KAGALAVADI	18	6		1			
BISALAVADI	15	6		1			
BAGALI	14	5		1			
NAGAVALLI	18	5		1			
ALUR	21	5		1			
KUDERU	17	5			1		
BHOGAPURA	14	5			1		
BHOGAPURA	14	5			1		
NAVILUR	16	4		1			
KUDALUR	15	4			1		
KEMPANAPURA	17	4			1		
MADAPURA	17	4			1		
VENKATAIAHNA CHATRA	21	4			1		
BADANAGUPPE	22	4				1	
HEGGOTARA	19	4				1	
MANGALA	16	3			1		
DEMAHALLI	15	3			1		
ERASAVADI	11	3		1			
KOTHALAVADI	19	3				1	
YARAGANHALLI	17	3				1	
HARAVE	18	3				1	
UDIGALA	16	3				1	
HONNAHALLI	14	3				1	
CHANDAKAVADI	18	3				1	
AMACHAVADI	17	3				1	
ARAKALAVADI	18	3				1	
UMMATHUR	13	2				1	
MALIYURU	14	2					1
NANJEDEVANAPURA	18	2					1
KULAGANA	14	2					1
GULIPURA	15	2					1
HARADANAHALLI	19	1					1
SAGADE	16	1					1

**Table II. Randomization of Quotas: Balance Tests on Pre-Treatment Covariates**

	Quota for SC/ST President <b>(A)</b>	No Quota for SC/ST President <b>(B)</b>	Difference of Means <b>(A) - (B)</b>	p-value
Mean number of illiterates (Standard error)	2608.76 (129.47)	2758.36 (113.77)	-149.61 (172.35)	0.39
Mean number of workers (Standard error)	2861.22 (104.63)	3027.82 (92.77)	-166.60 (139.84)	0.24
Mean number of marginal workers (Standard error)	644.77 (41.84)	634.66 (43.62)	10.12 (60.44)	0.87
Mean population (Standard error)	5675.62 (205.94)	6083.95 (180.12)	-408.33 (273.60)	0.14
Mean male population (Standard error)	2869.12 (105.75)	3079.33 (92.69)	-210.21 (140.62)	0.14
Mean population aged 0-6 (Standard error)	698.54 (27.52)	759.23 (25.39)	-60.70 (37.44)	0.11
Mean SC population (Standard error)	1119.56 (92.86)	1121.33 (68.15)	-1.77 (115.18)	0.99
Mean ST population (Standard error)	503.36 (57.26)	446.64 (44.27)	56.73 (72.38)	0.43
N	100	100	200	

The unit of analysis is the village council. Data are from the 2001 census. P-values in the final column give the probability of observing a t-statistic as large in absolute value as the observed value, if Group 1 and Group 2 have equal means. Other tests indicate balance on the number of households, total female population, male population aged 0-6, female population aged 0-6, and illiteracy rates (not reported, available on request).

**Table III. Representativeness of the RD Study Group**

	Average of Councils in Study Group <b>(SD)</b>	Average of Councils in State of Karnataka <b>(SD)</b>	Difference of means <b>(SE)</b>
Population	5869.7 (1912.03)	6132.1 (2287.1)	-262.4 (9.57)
Scheduled Caste population	1116.7 (805.7)	1129.7 (760.2)	-13.0 (5.58)
Scheduled Tribe population	475.2 (506.5)	512.5 (715.8)	-37.3 (2.53)
Number of literates	3196.1 (1133.4)	3122.7 (1326.7)	73.4 (5.67)
Number of employed workers	2938.9 (979.3)	3005.9 (1092.5)	-67.0 (4.89)
Number of councils	200	5760	--

The unit of analysis is the village council; data are from the 2001 census.

**Table IV. Descriptive Statistics: Citizen Surveys**

	All respondents (SD)	SC/ST respondents (SD)
Received a job or benefit from village council in previous year—%	42.2 (49.4)	50.8 (50.0)
Scheduled Castes or Scheduled Tribes have the most influence or power over council*—%	32.1 (46.7)	31.9 (46.7)
Scheduled Castes or Scheduled Tribes receive the most priority when the council allocates funds*—%	49.4 (50.0)	47.3 (50.0)
Council effectively serves the needs of Scheduled Castes and Scheduled Tribes*—ascending 1-5 scale	1.96 (0.95)	2.00 (0.98)
Attended an open meeting (Gram Sabha) in previous two years—%	63.8 (48.1)	63.5 (48.2)
Participation in open meeting (Gram Sabha) was effective for obtaining resolution to a problem—ascending 1-7 scale	4.36 (1.63)	4.31 (1.68)
Attended a neighborhood constituency meeting (Ward Sabha) in previous two years—%	43.9 (49.5)	43.0 (24.5)
Participation in constituency meeting (Ward Sabha) was effective for resolution to a problem—ascending 1-7 scale	4.03 (1.68)	4.04 (1.70)
Attended a social audit meeting (Panchayat Jamabandi) in previous two years—%	37.4 (48.4)	34.9 (47.7)
Participation in social audit (Panchayat Jamabandi) was effective for obtaining resolution to a problem—ascending 1-7 scale	3.88 (1.91)	3.81 (1.90)
Knows the name of village council president—%	88.8 (31.6)	88.6 (31.8)
Knows the caste ( <i>jati</i> ) of village council president—%	95.8 (21.0)	95.4 (21.0)
Knows the political party of village council president—%	81.8 (38.6)	81.8 (38.6)
Knows the party of the candidate for whom he or she voted in most recent council elections—%	87.7 (32.9)	89.1 (31.2)
Knows the party of the candidate whom he or she preferred in most recent council elections—%	79.7 (40.2)	80.3 (39.8)
The respondent identified the council president's caste ( <i>jati</i> ) as Scheduled Caste or Scheduled Tribe—%	42.5 (49.4)	42.9 (49.5)
Council presidents favor their own castes or tribes in allocating jobs and benefits—% saying yes	30.0 (45.8)	30.0 (45.9)

The table reports mean responses, averaging across reserved and unreserved villages. Standard deviations are in parentheses. N= 1,966 citizens in 200 Gram Panchayats. For percentages and means in the first column, sampling weights are used to correct for the oversampling of SC/ST citizens; standard deviations are based on the sample data. For questions about respondents' knowledge of the name, party, and caste of the council president or the candidate for whom the respondent voted, answers of "didn't know" and "didn't reply" are coded as zero. Otherwise, "didn't know" and "didn't reply" are treated as missing. Questions marked with \* were only asked in the survey's second phase (N=1,567).

**Table V. Descriptive Statistics: Surveys of Members, Presidents, and Secretaries**

	Members	Presidents	Secretaries
Scheduled Castes or Scheduled Tribes have the most power or influence over council—% saying yes	11.4 (31.8)	15.4 (36.2)	16.8 (37.5)
Scheduled Castes or Scheduled Tribes receive the council's priority in allocating funds—% saying yes	20.7 (40.6)	18.7 (39.1)	21.5 (41.2)
Council effectively serves needs of Scheduled Castes and Scheduled Tribes—ascending 1-5 scale	4.4 (0.8)	4.3 (0.8)	--
Voters in this council constituency favor politicians from their caste—% saying yes	36.2 (48.2)	37.8 (48.7)	32.4 (46.9)
Members of the council favor their own caste in allocating jobs and benefits—% saying yes	44.2 (49.7)	46.0 (50.0)	--
Number of council meetings held in previous six months	4.2 (1.8)	4.1 (1.8)	4.1 (1.9)
Full days that council president works each week on council matters	3.9 (1.6)	4.2 (1.7)	4.4 (1.7)
Council's perceived effectiveness in undertaking desired works—ascending 1-5 scale	4.3 (0.9)	4.3 (0.9)	4.4 (0.9)
Stated priority of respondent is perceived as the council's actual priority—%	85.4 (35.4)	91.4 (28.1)	91.8 (27.6)
Council members work well together—ascending 1-5 scale	4.4 (0.7)	4.6 (0.6)	4.4 (0.9)
Council members most often disagree about the identity of beneficiaries, rather than other topics—% saying yes	36.8 (48.3)	33.6 (47.4)	29.1 (45.6)
In case of disagreement among council members, the president decides the issue—% saying yes	23.2 (42.4)	23.2 (42.4)	23.9 (42.8)
Extent of president's power to decide expenditures on projects, relative to members—ascending 1-5 scale	4.0 (1.0)	4.3 (0.7)	—
Extent of president's power to decide beneficiaries of schemes, relative to members—ascending 1-5 scale	3.8 (1.0)	4.1 (0.8)	—
Extent of secretary's power to decide expenditures on projects, relative to members—ascending 1-5 scale	3.8 (1.0)	3.9 (1.1)	3.9 (1.0)
Extent of secretary's power to decide beneficiaries of schemes, relative to members—ascending 1-5 scale	3.7 (0.9)	3.7 (1.0)	3.7 (1.0)
Council raises revenues from property taxes—%	97.4 (15.8)	97.4 (16.0)	—
Expenditures of council are transparent to respondent—% saying yes	88.0 (32.5)	86.4 (34.4)	—
Council secretary gave us copy of council's annual report—%	—	—	44.7 (49.9)

N=667 (310 members, 171 presidents, and 186 secretaries), in 200 village councils. Standard deviations are in parentheses. Blank cell indicates that the question was not asked to this category of respondent.

**Table VI. The Causal Effects of Quotas: Citizens' Survey, SC/ST Respondents  
(Differences of Means or Percentages, Reserved Minus Unreserved Councils)**

	Quota for SC/ST President <b>(A)</b>	No Quota for SC/ST President <b>(B)</b>	Estimated Causal Effect of Quotas <b>(A-B)</b>
Respondent received job or benefit from village council in previous year—%	51.00 (2.36)	50.54 (2.33)	-0.46 (3.32)
Council serves Scheduled Castes/Scheduled Tribes effectively—ascending 1-5 scale	2.00 (0.05)	2.00 (0.05)	0.00 (0.07)
Scheduled Castes/Scheduled Tribes are the most influential group—% saying yes	30.90 (2.73)	32.89 (2.73)	1.98 (3.86)
Council president favors his or her own caste—% saying yes	29.23 (2.30)	30.75 (2.31)	-1.52 (3.26)
Council prioritizes Scheduled Castes/Scheduled Tribes—% saying yes	53.85 (2.72)	40.97 (2.64)	12.9*** (3.78)
Participated in open council meeting (Gram Sabha) in previous two years—%	61.34 (2.27)	65.68 (2.19)	-4.34 (3.15)
Effectiveness of Gram Sabha participation—ascending 1-7 scale	4.32 (0.09)	4.31 (0.08)	0.01 (0.13)
Participated in constituency meeting (Ward Sabha) in previous two years—%	41.78 (2.33)	44.16 (2.31)	-2.38 (3.28)
Effectiveness of Ward Sabha participation—ascending 1-7 scale	4.13 (0.11)	3.95 (0.11)	0.18 (0.15)
Participated in social audit meeting (Panchayat Jamabandi) in previous two years—%	35.00 (2.28)	34.78 (2.22)	0.23 (3.18)
Effectiveness of social audit participation—ascending 1-7 scale	3.86 (0.14)	3.77 (0.12)	0.09 (0.18)
Says council president is from Scheduled Caste or Scheduled Tribe—%	73.1 (2.38)	11.8 (1.76)	61.2*** (2.96)

The table reports the estimated causal effects of quotas, using survey data from Scheduled Caste and Scheduled Tribe respondents (N=968). The estimated causal effect of quotas is the difference of means or percentages, across villages with and without quotas for the council president. Standard errors are in parentheses. \* p<0.05, \*\*\* p<0.001

**Table VII. The Causal Effects of Quotas: Council Members, Presidents, and Secretaries  
(Differences of Means or Percentages, Reserved Minus Unreserved Councils)**

	Members	Presidents	Members and Presidents	Secretaries
Scheduled Castes or Scheduled Tribes have the most power or influence (difference of %)	-5.25 (-1.36)	1.80 (0.30)	-1.23 (-0.40)	6.57 (1.06)
Scheduled Castes or Scheduled Tribes receive the council's priority in allocating funds (difference of %)	-8.32 (-1.68)	-3.88 (-0.61)	-5.63 (-1.52)	-2.65 (-0.39)
Council effectively serves needs of Scheduled Castes and Scheduled Tribes (difference of means)	0.08 (0.90)	0.25* (1.96)	0.17* (2.22)	--
Voters favor politicians from their caste (difference of %)	-4.28 (-0.72)	-4.64 (-0.06)	-3.51 (-0.76)	0.85 (0.12)
Number of council meetings held in previous six months (difference of means)	0.07 (0.32)	0.02 (0.08)	-0.039 (-0.25)	0.15 (0.54)
Full days per week worked by president (difference of means)	0.12 (0.64)	-0.22 (-0.83)	0.01 (0.05)	-0.54* (-2.17)
Council's effectiveness in undertaking desired works (difference of means)	-0.21* (-1.97)	-0.12 (-0.86)	-0.12 (-1.53)	0.03 (0.25)
Priority of respondent is council's actual priority (difference of %)	1.11 (0.26)	-3.26 (-0.75)	-1.01 (-0.33)	5.56 (1.35)
Council works well together (difference of means)	-0.09 (-1.13)	0.06 (0.62)	0.03 (0.43)	0.05 (0.40)
Council members most often disagree about the identity of beneficiaries (difference of %)	2.54 (0.41)	1.13 (0.13)	3.08 (0.66)	3.23 (0.44)
President decides in case of disagreement (difference of %)	7.28 (1.47)	-11.83 (-1.75)	2.13 (0.56)	-9.20 (-1.42)
President has the power to decide expenditures (difference of means)	-0.21 (-1.78)	-0.10 (-0.81)	-0.12 (-1.40)	--
President has the power to decide beneficiaries of schemes (difference of means)	0.14 (1.22)	-0.20 (-1.54)	0.07 (0.87)	--
Secretary has the power to decide expenditures (difference of means)	0.03 (0.22)	0.08 (0.41)	0.06 (0.53)	-0.31* (-2.03)
Secretary has the power to decide beneficiaries (difference of means)	-0.13 (-1.03)	-0.13 (-0.77)	-0.12 (-1.21)	0.09 (0.57)
Secretary gave us copy of annual report (difference of %)	--	--	--	4.30 (0.59)

The table reports the estimated causal effects of reservation, using surveys of council members, presidents, and secretaries (N = 310 members, 171 presidents, and 186 secretaries in 200 village councils). The cells report only the estimated causal effect of reservation (the difference of means or percentages); see Table V for descriptive statistics. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001. Here, t-statistics are in parentheses.

**Table VIII. The Causal Effects of Quotas: Fiscal Outcomes  
(N=200 Study Group, in Rupees)**

Fiscal Outcome	Quota for SC/ST President (A)	No Quota for SC/ST President (B)	Estimated Causal Effect of Quotas (A-B)	p-value
Total Taxes Levied	263,573.4 (68,604.5)	383,233.3 (117,627.9)	-119,659.9 (135,096.4)	0.38
Property Taxes	171,596.2 (42,530.2)	243,576.0 (68,329.3)	-71,979.8 (79,690.8)	0.37
Water Taxes	101,278.6 (26,516.4)	82,049.6 (14,528.5)	19,228.9 (31,153.1)	0.54
Other Taxes	41,869.7 (10,888.9)	121,653.8 (40,063.6)	-79,784.1* (38,836.0)	0.04*
Total Fees Assessed	66,647.4 (25,758.9)	48,306.9 (10,739.8)	18,340.5 (30,246.1)	0.55
Other Revenue Sources	44,790 (12,312.6)	57,317.3 (20,415.9)	-12,527.3 (23841.3)	0.60
Total SC-targeted spending:	895,380.2 (137,571.8)	1,137,102.0 (129,492.8)	-241,721.5 (189,239.2)	0.21
Ashraya Scheme	618,633.3 (97,158.5)	776,149.1 (104,832.6)	-157,515.7 (14,4181.1)	0.28
IAY Scheme	156,272.0 (32,861.8)	211,928.2 8(62,744.0)	-55,656.2 (71,650.6)	0.44
Ambedkar Housing Scheme	66,658.2 (26,868.2)	123,142.8 (42,924.0)	-56,484.6 (49,742.0)	0.26

N=129 councils (as low as 82 on some outcomes, due to missing data, which is statistically unrelated to reservation). Standard errors in parentheses. \* significant at  $p < 0.05$ , based on two-tailed t-test.

**Table IX. The Causal Effects of Reservation: Fiscal Outcomes  
(State-Wide Study Group)**

	Quota for SC/ST President <b>(A)</b>	No Quota for SC/ST President <b>(B)</b>	Estimated Effect of Quotas <b>(A-B)</b>	p- value
<b>Rural Development and Panchayati Raj data:</b>				
Number of Gram Panchayat Meetings Held	4.39 (0.07)	4.28 (0.06)	0.11 (0.09)	0.24
Number of Gram Sabha Meetings Held	1.80 (0.08)	1.75 (0.07)	0.05 (0.11)	0.66
Total Spending on Drinking Water Infrastructure (Rs)	76,903.18 (3,057.68)	81,278.22 (3,005.40)	-4,375.0 (4287.2)	0.31
Individual Latrines Built	65.51 (5.82)	66.27 (5.94)	-0.77 (8.315)	0.93
Community Latrines Built	1.11 (0.21)	1.16 (0.18)	-0.05 (0.28)	0.87
<b>Gram Swaraj project data:</b>				
Total taxes collected (Rs)	227,194.0 (18,799.28)	253,589.9 (26,298.2)	-26,395.9 (32,341.4)	0.42
Property taxes collected (Rs)	143,320.4 (16,360.4)	172,157.6 (23,257.9)	-28,837.2 (28,449.3)	0.31
Fees collected (Rs) <sup>†</sup>	16,883.0 (2,9867.0)	13,535.4 (1,932.178)	3,347.1 (3,556.4)	0.35
Expenditures on Ashraya Scheme (Rs)	168,742.5 (8,157.4)	175,703.2 (8,278.368)	-6,960.7 (11,622.8)	0.55
Expenditures on IAY scheme (Rs)	171,198.5 (8987.8)	182,993.4 (9,421.8)	-11,794.9 (13,022.5)	0.37
Expenditures on Ambedkar Housing Scheme (Rs)	5,946.8 (5,507.0)	3,039.6 (2,873.7)	2,907.1 (6,219.9)	0.64

RDPR data: N=1388, data from April 2006 to March 2007. Gram Swaraj data: N=1420 (437 for Ambedkar Scheme), data from April to September 2006. <sup>†</sup> excludes license fees. Standard errors in parentheses.

**Table X. Political Party Membership and Receipt of Council Benefits  
(Percent of Citizens Who Received a Job or Benefit from the Council)**

	Group 1: Yes <b>(A)</b>	Group 2: No <b>(B)</b>	Difference of Percentages <b>(A-B)</b>	p-value
Respondent Is Member of Council President's Party (All respondents)	53.7 (3.5)	40.8 (2.0)	12.9 (4.1)	0.001***
Respondent is Member of Council President's Party (SC/ST respondents only)	57.5 (4.4)	47.7 (2.7)	9.8 (5.2)	0.06*
Respondent Feels Closest to Council President's Party (All respondents)	45.9 (2.8)	43.0 (2.3)	2.9 (3.6)	0.43
Council Presidency is Reserved for SC/ST (SC/ST respondents only)	51.0 (2.4)	50.5 (2.3)	0.5 (3.3)	0.89

Cells in the second and third column report the percentage of citizens who reported receiving a job or benefit from the council in the previous year. The fourth column gives the difference of these percentages, and the fifth column gives the two-sided p-value for the difference. Standard errors are in parentheses. In rows 1 and 3, sampling weights are used to correct for the oversampling of SC and ST respondents. \* p<0.1 \*\*\* p<0.001