

Caste, Political Parties, and Distribution  
in Indian Village Councils

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Abstract: Several prominent studies have found that electoral quotas for marginalized castes and women in Indian village councils generate policy benefits for members of those groups. However, using a regression-discontinuity design that allows us to isolate the causal effects of quotas, and drawing on original surveys in the state of Karnataka, we find very weak distributive effects of caste-based quotas for council presidencies. We explore and reject several mechanisms that could explain these findings, such as the dominance of local bureaucrats or the electoral power of majority castes. Instead, the presence of multi-caste political parties appears to blunt the distributive impact of quotas, by creating incentives to allocate benefits along party rather than caste lines. These results point to the importance of broader political coalitions in shaping the distributive impact of caste-based quotas.

## I. Introduction

Does reservation of political offices for marginalized groups lead to greater policy benefits for members of those groups? A growing and influential body of research on Indian village councils suggests that the answer is yes. For example, electoral quotas for women presidents have been found to promote provision of the types of public goods that female citizens prefer (Chattopadhyay and Duflo 2004; Duflo and Topalova 2004; Ban and Rao 2008). Quotas for politicians from marginalized castes and tribes, meanwhile, are alleged to lead to greater distribution of benefits to those groups (Besley et al. 2004; Besley, Pande, and Rao 2008; Palaniswamy and Krishnan 2008). These findings appear intuitive on theoretical grounds: after all, the idea that formal institutional rules shape distributive outcomes is a basic tenet of political economy. Just as extension of the suffrage to the poor may generate pressure for redistribution (Acemoglu and Robinson 2006), quotas for candidates from particular groups should in principle engender greater policy benefits for members of those groups (Duflo 2005).<sup>1</sup>

Yet, for methodological as well as substantive reasons, such findings may be either misleading or of limited generality. On the methodological front, unobserved heterogeneity across constituencies with and without quotas presents an important difficulty, especially for studies of the effects of caste-based quotas. In most Indian states, quotas for council presidencies are not assigned at random.<sup>2</sup> Instead, they depend in a systematic way on the proportion of the local population comprised by marginalized castes or tribes—and the presence of marginalized castes or tribes is highly correlated with income and literacy rates, as well as other, more unobservable

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<sup>1</sup> Policy outcomes are not the only rationale offered for electoral quotas: achieving “descriptive representation” may provide another motivation (Pitkin 1975: 60-91).

<sup>2</sup> This is sometimes true of gender-based quotas (Nilekani 2010), but the lack of randomization poses less inferential difficulties than in the case of caste-based quotas, as discussed below.

variables that might affect policy outcomes. Comparisons across village councils with and without quotas may therefore lead to biased estimates of the impact of caste-based reservation, even after conditioning on observables. On the substantive front, the effects of quotas for marginalized castes could be contingent on various social and political factors, such as the power of local elites or the nature of the party system. Studies of the effects of quotas in India have tended to concentrate on just a few states, such as Rajasthan, West Bengal, or several states in southern India. Yet, distinctive features of these polities may plausibly account for previous findings about the positive effects of quotas.

In this paper, we present new evidence from the Indian state of Karnataka, using a regression-discontinuity (RD) design to overcome the problem of unobserved heterogeneity. 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 councils located near these thresholds, quotas are assigned through an actual randomized procedure (the drawing of lots). Finally, the fact that different lists are used in different sub-districts implies that the relevant regression-discontinuity thresholds vary across different sub-districts. This produces a study group of councils that exhibits substantial variance on key covariates, which helps with some external validity concerns. Our research design thus allows us to be confident that unobserved heterogeneity does not confound our results, while also producing a fairly representative sample of village council constituencies.

Comparing across reserved and unreserved councils in our study group,<sup>3</sup> we find strikingly weak policy and distributive effects of reservation. 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—where, however, the available outcome measures are blunter than those available from our own surveys. Here, too, we find no discernible fiscal or distributive effects of reservation.

What explains these weak effects of electoral quotas? Our data allow us to explore and reject several potential explanations that are sometimes suggested by anecdotal accounts. First, drawing on experimental evidence from Dunning (2009), who studied the effect of quotas on caste-based political preferences using the same study 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-based discrimination is prevalent, voters do prefer, other things equal, to vote for

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<sup>3</sup> For convenience, we sometimes refer in this paper to “reserved councils” and “unreserved councils,” though it is the *presidencies* of the councils that are reserved or unreserved.

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; Palaniswamy et al. 2008), we show that village council presidents have substantial influence, relative both to other council members and to local bureaucrats, and that this is true in both reserved and unreserved councils. Thus, the impotence of council president cannot readily explain why distributive outcomes are invariant to 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.

We hypothesize instead that the need to construct broad inter-temporal political coalitions, in a context in which reservation rotates across village councils, undercuts distributive contrasts between village councils with and without caste-based quotas for the presidency. In particular, we argue that the character of party competition at the local level may explain the weak effects of caste-based reservation. We show that while caste-based quotas have no average effect on distribution, party affiliation is strongly related to benefit receipt: in particular, 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. We suggest that several factors—including the presence of indirect elections to the council presidency, the party-based structure of local campaign finance, the existence of multi-caste parties at the local level, and the career incentives of lower-level politicians—may bolster incentives to allocate benefits along party rather than caste lines. Our in-depth field research in Karnataka also supports the claim that cross-caste party linkages at the local level help to explain the null distributive effects of caste-based reservation. Finally, we also find some evidence for stronger distributive effects of quotas in those councils where the

proportion of Scheduled Castes is in the upper quartile of the distribution—which also underscores the point that the distributive effect of quotas is conditional on the ability to build broader political coalitions, whether along caste or party lines.

Our findings on the causal effects of party affiliation are only partially confirmatory, since the partisan identity of council presidents and citizens (unlike caste reservation) is not as good as randomly assigned. Moreover, it is important to emphasize that as in previous work on the effects of reservation in Indian village councils (e.g. Chattopadhyay and Duflo 2004), here we cannot estimate the effects of the *institution* of reservation—since we cannot observe a set of equilibrium outcomes given the presence of a rotating reservation scheme and a set of outcomes in its absence. Instead, we can only estimate the average distributive effects of reservation of the presidency, conditional on the existence of the institution of reservation and the system of rotation described below. Yet, given the previous strong claims about these average distributive effects of reservation, and particularly given the results we present below, it is clearly important to study the contrast between councils with and without quotas for marginalized castes and tribes—and it is crucial to understand why we may find such weak effects, in a setting in which the quotas are randomly or as-if randomly assigned. We return to this topic below, after describing our research design, presenting our main findings on the weak effects of reservation, and discarding several possible alternative explanations for our results.

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

Electoral quotas have often been used to advance the interests of both religious minorities (especially 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 councils are significant conduits for central and state government funds, and previous studies have found that the identity of the council president has a substantial impact on the allocation of government benefits.<sup>4</sup> In Karnataka, the election of the council president is indirect, as voters elect members of the council, and members then elect the president.<sup>5</sup>

There are both theoretical and empirical reasons to believe that reservation of council presidencies for lower-caste groups should shape distributive outcomes. Social discrimination against lower castes and tribes—including the so-called Scheduled Castes (SC) and Scheduled Tribes (ST)<sup>6</sup> for which presidencies are reserved—often remains profound in rural India, with lower-caste citizens forbidden from worshipping in upper-caste temples due to their continued association with ritually-impure professions, such as sanitation and butchery.<sup>7</sup> In this context, 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 as well as party strategy (Chandra 2004), and in which members of different caste groups may have different preferences over policy outcomes,

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<sup>4</sup> The literature on caste-based quotas is discussed below. See Chattopadhyay and Duflo (2004), Duflo (2005), Beaman et al. (2008), and Bhavnani (2009) on gender-based quotas.

<sup>5</sup> Village councils typically comprise several villages, which often serve as the constituencies from which council members are elected.

<sup>6</sup> State legislation contains riders (schedules) that extend employment and educational benefits or political reservation to particular castes and tribes—which are thus called Scheduled Castes and Scheduled Tribes.

<sup>7</sup> This is true of Dalits (formerly called Untouchables), who are included among the Scheduled Castes.

reservation of elected offices for particular castes might be expected to promote greater distribution to members of those castes.

Several previous studies do find evidence that caste-based reservation shapes distributive outcomes, in Karnataka as well as other Indian states. Besley, Pande, and Rao (2008), for instance, drawing on Besley et al. (2004), 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. Palaniswamy and Krishnan (2008) find that within councils, wards or villages in which members' seats are reserved receive greater distributions from an SC-targeted spending scheme.<sup>8</sup> Munshi and Rosenzweig (2008), using survey data from across India, find that reservation results in the election of more competent candidates, since voters in reserved constituencies do not have to trade off candidate quality against the desire to elect a member of their own group. At the state level, Pande (2003) finds that Scheduled Caste legislators distribute more SC-targeted schemes to their constituencies.

Yet, it is challenging to infer the causal effects of 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 appears to differ in every Indian state. In many states, caste-based quotas rotate across village councils in a given administrative sub-district (called a "block" or *taluk*) in a way that depends on the specific proportion of the population comprised by marginalized castes or tribes in that sub-

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<sup>8</sup> Palaniswamy and Krishnan focus primarily on the intra-panchayat allocation of spending, across the different villages (wards) that comprise a council constituency.

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. The cross-state surveys used in many previous studies such as those cited above lack sufficient within-sub-district sample sizes to allow reliable estimation in the presence of such fixed effects. Yet, even the inclusion of such fixed effects in a multivariate regression framework is 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. The complex process of reservation, and our strategy for leveraging this process to construct an RD design and thereby obtain unbiased, non-parametric estimates of the causal effect of reservation, is described in the next section.

### **III. Empirical Strategy: A Regression-Discontinuity Design**

In the state of Karnataka,<sup>9</sup> 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. (A sub-district is an administrative unit that contains, on average, about 35 village councils). There is also a procedure for rotation of reservation of particular seats on the council; this process is independent of the reservation of the council presidency. The system of reservation was put in place in Karnataka in 1994, the first year in which council elections were held following the passage of

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<sup>9</sup> Similar systems of rotation are used in other Indian states (see Chaugard 2009 on Rajasthan). However, the details differ, since the 73<sup>rd</sup> constitutional amendment left implementation of reservation to the states.

the 73<sup>rd</sup> amendment, and rotation of the presidency has occurred at the start of each subsequent term (that is, in 2000, 2002, 2005, 2007, and 2010).<sup>10</sup>

The procedure works as follows. First, the district bureaucrat uses census data on group proportions at the sub-district level to determine the total number of council presidencies that must be reserved for each category, within the sub-district. 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, in each electoral term. To assign reservation of the presidency to particular councils, the bureaucrat then sorts the councils in each sub-district, in descending order, by the number of council *members'* seats that are reserved in each council.<sup>11</sup> This number is in turn a proxy for the reserved category's population proportion *within* each village council constituency. For instance, if Scheduled Castes comprise 20 percent of the population of a given council constituency, then 20 percent of the members' seats in that council are reserved for Scheduled Castes.

The bureaucrat then works down this list, reserving the presidencies of the required proportion of councils at the top of the list in one election and rotating reservation to the block of councils next on the list in the subsequent election. In the example above, she would reserve the presidency of the top 25 percent of councils on the list for Scheduled Castes, beginning in 1994. In the next election (in the year 2000), she would continue working down the list in descending order, reserving the presidencies of the next 25 percent of councils on the list. One final detail is crucial for our empirical strategy: if the number of councils with a given number of members'

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<sup>10</sup> Council members have five-year terms, but beginning in 2000 the presidency was rotated every 30 months. The 2010 elections took place after implementation of our surveys in early 2009.

<sup>11</sup> The assignment of members' seats to reservation is independent of the reservation of the council presidency. The relevance here is that the number of members' seats reserved for a particular category fixes a council's position on the list used to determine presidency reservation.

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>12</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. For instance, after each election, the names of councils with and without reserved presidencies are presented to council members in sub-district assemblies, and a bureaucrat appointed by the District Commissioner explains the rules used to determine reservation. During our fieldwork, we were able to verify that at least some of these meetings have taken place. We were also able to obtain data on the history of reservation for all village councils in the state of Karnataka from the Karnataka State Election Commission, which allows us to verify the extent to which the reservation procedure has in fact been followed.

Table I 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 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

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<sup>12</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.

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.

[TABLE I ABOUT HERE]

The history of reservation depicted in Table I closely follows the expected diagonal pattern, in which the 1’s move from the top left of the table to the bottom right.<sup>13</sup> 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>14</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 could both have had their presidencies reserved for Scheduled Castes in 2007. Yet, the Sathanur was selected at random for reservation, while Shankighatta was not. This random assignment of reservation implies that, on average, no observable or unobservable variables distinguish these councils—save for the presence or absence of reservation of the presidency in 2007.

Our empirical strategy relies on the fact that for village councils with the same numbers of SC members’ seats—and thus similar proportions of SC residents in their constituencies—the rotation procedure ensures that quotas are randomly assigned, or as good as randomly assigned, at

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<sup>13</sup> Note that in the example in Table I, the cluster of ones does not return to the top rows of the table in 2007. In some other sub-districts, however, reservation cycled back up to the top of the list by 2007.

<sup>14</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).

the threshold of members' seats separating reserved and unreserved councils. For many of the councils in our study group, reservation was truly randomized at the relevant threshold, as for Sathanur and Shankighatta in Table I, and this provides our most important source of leverage for identifying causal effects. In other cases, we rely on the fact that at some sub-district-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 at the council level should not be associated with reservation, on average.<sup>15</sup>

The process of reservation described above for Scheduled Caste presidencies is also 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 council 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 subsequent electoral terms.<sup>16</sup> Note that 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

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<sup>15</sup> The idea is similar in spirit to regression-discontinuity designs used to study the effects of incumbency advantage, in which near-winners of close elections are compared to near-losers (Lee 2008).

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

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>17</sup> In Karnataka as elsewhere in India, one-third of council presidencies within each caste category (SC, ST, and so on) are also reserved for women.<sup>18</sup>

To select our study group of councils, we first purposively sampled six districts in Karnataka,<sup>19</sup> 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>20</sup> The 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 population proportions of Scheduled Castes and Scheduled Tribes. 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 the 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 proportion of the population that is SC (or ST), and using our data on reservation of the presidency, we could therefore find the lower population proportion bound

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<sup>17</sup> In one-third of councils in which the presidency is not reserved for Scheduled Castes or Scheduled Tribes, the presidency is reserved for Backward Classes; of these, 80 percent are reserved for BC-A castes and 20 percent for BC-B castes (which includes Vokkaligas and Lingayaths).

<sup>18</sup> Here, councils in each sub-district are listed in descending order by the proportion of women in the population, within each category of caste reservation; bureaucrats then work down these lists, just as for caste reservation. Thus, unlike some Indian states such as West Bengal (see Duflo et al. 2004), in Karnataka gender-based reservation is *not* randomly assigned (Nilekani 2010). To study the effect of reservation for women in Karnataka, a regression-discontinuity design may be required. However, the female population proportion does not vary as markedly across councils as does the proportion SC or ST, so the issues for causal inferences from naïve comparisons may not be as pronounced.

<sup>19</sup> The districts are Bangalore Rural, Chamarajanagar, Dakshin Kannada, Davanagere, Mandya, and Ramanagar. We worked in every sub-district in these districts, except in Mandya and Bangalore Rural.

<sup>20</sup> In some districts in Karnataka, the Lingayath sub-caste is dominant among the backward classes, while in others Vokkaliga are dominant; together, the two groups tend to dominate state politics (Shastri 2009).

between councils with reserved and unreserved presidencies.<sup>21</sup> Thus, in each sub-district, we selected treated and untreated councils located at the sub-district-specific threshold; these councils had very similar SC or ST population proportions but differed in reservation status.<sup>22</sup>

Using this RD design, we constructed a study population of 200 village councils—100 of which had their presidencies reserved for Scheduled Caste or Scheduled Tribe presidents (the treatment group) and 100 of which were unreserved or reserved for Backward Classes (the control group).<sup>23</sup> To assess the claim of as-if random assignment to reservation of the presidency, 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. Finally, as described below, we also replicated our regression-discontinuity design using statewide data on village councils (where, however, we could not implement detailed surveys); even with the greater statistical power afforded by this

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<sup>21</sup> The facts that bureaucrats use the numbers of members' seats reserved as a proxy for the population proportions of each reserved category and that each council has one member for each 400 residents might in principle place larger council constituencies 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. Moreover, 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>22</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>23</sup> In our analysis, we treat "unreserved" and "reserved for BC" as analytically equivalent, because Backward Classes tend to be dominant in Karnataka, and there are few forward castes in villages. We find similar effects as those reported below for Scheduled Caste or Scheduled Tribe reservation alone.

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.

[TABLE II ABOUT HERE]

An additional advantage of our RD procedure is that it produces a study group of constituencies in which proportion of the population from the Scheduled Castes or Scheduled Tribes varies widely. This is because of the fact that different lists are used in different 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), while in others, bureaucrats had cycled through the list of councils and gone back up to the top of the list by 2007. Thus, in some of the councils in our study group, Scheduled Castes or Scheduled Tribes constitute a near-majority of the population, while in others, they are a small minority. In fact, our RD study group ends up being quite representative of the state of Karnataka, as shown by comparing means of key covariates for the 200 councils in our study group and all 5,626 councils in the state (Table III); 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. Thus, the standard concern that units selected at the threshold of a regression-discontinuity design may not be representative of a broader population of interest (e.g. Deaton 2009) is mitigated by our design. Below, we also use the variation in population proportions to assess whether the numerical size of these groups shapes the effect of reservation.

[TABLE 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. Fieldwork was undertaken in January-February 2009, well over a year after the election of the village council president in September 2007. 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>24</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 (2009).<sup>25</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). In the end, we implemented original surveys of nearly 2,000 citizens, 188 secretaries, and 523 council members and presidents, giving us detailed data on the distribution of benefits to citizens, perceptions of council priorities, and council expenditure patterns. The survey instruments and other materials are available online.<sup>26</sup> Descriptive statistics for responses to many of our survey questions are presented in Tables IV and V.

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<sup>24</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. Thus, we use sampling weights to correct for the oversampling of SC citizens (and slight oversampling of ST citizens), where appropriate. The stratified random sampling was facilitated by the fact that SC and ST citizens typically live in segregated colonies in villages.

<sup>25</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>26</sup> See <http://www.thaddunning.com/research/all-research>.

[TABLES IV AND V HERE]

#### IV. 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 asked citizens whether they had received a benefit or job from the village council in the previous year. Comparisons of average answers to this question across reserved and unreserved councils estimates the causal effect of reservation on the distribution of benefits.

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>27</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]

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<sup>27</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 (since all respondents in the same village are assigned to a quota or to its absence). This clustering will only increase the true standard errors (albeit only very slightly), however; adjusting for the clustering would thus make us *less* likely to reject the null hypothesis, which we fail to do anyways.

Quotas for 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>28</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 evidence presented below and in Dunning (2009) suggesting that quotas have some effect on voter perceptions, if not on actual patterns of distribution.<sup>29</sup> In sum, while there is some evidence that reservation increases the propensity of members of the target groups to say that the council prioritizes them, reservation does not strongly boost perceptions that the council effectively serves SC and ST communities.<sup>30</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).

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<sup>28</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.

<sup>29</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>30</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).

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>31</sup> These null effects persist whether we consider responses from members, presidents or bureaucrats, and also when we restrict the sample to Scheduled Caste and Scheduled Tribe council members.<sup>32</sup> The one exception is that councils with reserved presidencies are deemed to serve SC and ST communities somewhat more effectively.<sup>33</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>34</sup>

[TABLE VII ABOUT HERE]

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>35</sup> There is also no effect of

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<sup>31</sup> On average, about 20 percent of respondents identified Scheduled Castes and Scheduled Tribes as receiving priority from the council.

<sup>32</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).

<sup>33</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>34</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>35</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.

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).

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>36</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 residual revenue category, “other taxes.” However, this finding is strongly affected by a few large values in the unreserved group and as such could conceivably reflect measurement error; moreover, when applying a standard Bonferroni correction to account for the multiple statistical comparisons we are making, this effect is insignificant.<sup>37</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

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<sup>36</sup> There are some missing data here, but the missingness is statistically unrelated to reservation status.

<sup>37</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.

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.<sup>38</sup> 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.<sup>39</sup> 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 from secretaries in our study group.<sup>40</sup>

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

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<sup>38</sup> For some of these schemes (e.g., Ashraya and Ambedkar), beneficiaries are supposed to be selected in open Gram Sabha meetings, yet our fieldwork suggests that council presidents can influence this process.

<sup>39</sup> In our surveys of council members and presidents, we asked whether project funds are distributed equally among the council members, allocated project-wise, or allocated in some other way; just 25 percent of respondents said that funds were concentrated project-wise, while 71 percent said they were shared among members and 4 percent said they were allocated in some other manner.

<sup>40</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, 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.

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. Yet, as we show below, the partisan 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 subtle 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. Yet, 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.<sup>41</sup> This larger RD sample contains 1,430 councils—715 with quotas for Scheduled Caste or Scheduled Tribe presidents and 715 without—using data from the 2005-2007 council reservation period.<sup>42</sup> Here, as before, balance tests fail to reject the null hypothesis of equality of means on pre-treatment covariates.<sup>43</sup> While we cannot measure the distribution of benefits or perceptions of caste politics in the same detailed

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<sup>41</sup> We obtained complete reservation data for only 5,287 of these councils. We also excluded around twenty “rural” council constituencies with exceedingly large populations (more than 4 standard deviations above the mean). Including these councils does not affect the null results reported below.

<sup>42</sup> 204 of the 715 presidencies in the treatment group are reserved for Scheduled Tribes, while 511 are reserved for Scheduled Castes.

<sup>43</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; we also assessed balance on proportions for each of these (e.g., the literacy rate). Results available on request.

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>44</sup> As we discuss below, constructing the larger statewide dataset has another advantage as well: it allows us to assess the bias in naïve (non-RD) estimates of the causal effect of reservation on distributive outcomes.

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 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

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<sup>44</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.

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, where as before “reserved” means that the council presidency was reserved for either SC or ST

presidents in 2005. 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. While these tests are somewhat more high-powered due to the inclusion of nearly all the councils in the state, such a striking contrast is highly unlikely merely to reflect greater precision in the estimation of treatment effects.<sup>45</sup> Instead, it illustrates the bias that can arise in simple comparisons between reserved and unreserved councils. Analysts who do not use an RD design and simply compare reserved and unreserved councils—as previous analysts of survey data have done—would be at risk of making multiple Type I errors, in which a true null hypothesis is rejected. This evidence thus suggests one reason that previous studies may have found positive distributive effects of caste-based quotas.

In sum, our data fairly resoundingly reject the notion that quotas for Scheduled Castes or Scheduled Tribes presidents have a strong average effect on council performance or on the distribution of benefits. Of course, this does not imply that reservation cannot have some small average effects.<sup>46</sup> As we discuss in more detail below, the evidence does suggest some effect of reservation on benefit receipt in the upper-quartiles of the SC and ST population distributions. Moreover, as in previous studies such as Chattopadhyay and Duflo (2004), our data do not allow us to estimate counterfactual outcomes in the absence of reservation *as a system*: it is at least possible that equilibrium policy outcomes are shaped, system-wide, by the presence of reservation. Indeed, we will suggest below that rotation of reservation may itself encourage the formation of multi-caste parties, which may help mitigate the distributive impact of quotas.

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<sup>45</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.

<sup>46</sup> When we ask SC/ST respondents if they know someone else who has received a job or benefit in the previous year, the estimated effect of reservation is somewhat stronger, but it is not significant.

Yet, given the important previous literature that has found sizeable contrasts between councils with and without quotas, our finding of such weak average effects is important. At least in Karnataka, reservation for Scheduled Caste and Scheduled Tribe presidents does not produce major contrasts between council constituencies with and without quotas, and it does not boost greater distribution of benefits to citizens from marginalized castes and tribes.

## V. What Explains Invariance?

Why, then, does the reservation of council presidencies for politicians from marginalized castes and tribes have little apparent effect on the distribution of benefits? One possibility is that caste simply does not matter socially or politically. This seems *a priori* very unlikely. While some scholars do point to the relatively weaker political role of caste in South India relative to North India, many studies of local and state politics in Karnataka stress the important role of caste (Manor 1989, Shastri 2009). In a context in which caste-based discrimination remains a powerful social reality and in which caste helps define marriage markets (Banerjee et al. 2009), it seems implausible that caste does not shape political or policy preferences.

In a companion paper to this article, Dunning (2009) presents experimental evidence showing that other things equal, voters do favor politicians from their own caste. Here, the same citizens we surveyed in our study group of 200 councils were shown identical videotaped political speeches, given by a single actor posing as a candidate for a local village council.<sup>47</sup> The caste surname of the candidate was then manipulated experimentally, i.e., research assistants presented the candidate to participants with a different surname in different treatment conditions. Since

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<sup>47</sup> Villagers do not necessarily know all candidates for local office, since several villages are typically included in a single village council; this increased the realism of the experimental stimulus.

surname indicates caste (a presumption of the experiment that was validated by manipulation checks), this design allowed manipulation of the caste relationship between participants and the candidate. Thus, in one treatment condition, the politician's surname made him a member of participants' own sub-caste (*jati*); in another, he was a member of a different sub-caste but the same larger caste category (e.g., Scheduled Caste); and in a third, the politician's surname made him a member of a different caste category altogether. Dunning (2009) finds that on average, voters prefer candidates from their own sub-caste; moreover, reservation makes the larger caste category on which quotas are based—such as Scheduled Caste or Scheduled Tribe—more salient to voters. Thus, the claim that caste is socially or politically unimportant appears to have little empirical basis.<sup>48</sup> Of course, this evidence makes our finding of no distributive effect of quotas even more interesting.

### ***Not Lack of Presidential Power***

Another hypothesis is that council presidents are insufficiently powerful. Anecdotal accounts sometimes point to the important role of secretaries, who as state bureaucrats supervise council accounts and who are typically better educated than council presidents (as we show below) and thus may conceivably dominate presidents.<sup>49</sup> It is also possible that other council members play predominant role, potentially mitigating the importance of quotas for the presidency. If council presidents lack the ability to promote their policy agenda, policies could well be invariant to the caste identity of the president. While the assertion that council presidents

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<sup>48</sup> The biggest effects of caste on political preferences occur in symbolic or affective dimensions, such as “likeability.” Dunning (2009) discusses this evidence in terms of the “politics of dignity.”

<sup>49</sup> Dr. SS Meenakshisundaram, IAS, former Joint Secretary in the Ministry of Rural Development, Government of India; Interview, Bangalore, January 17, 2009.

cannot shape distributive outcomes contradicts previous evidence (Besley et al. 2004, 2007; Palaniswamy and Krishnan 2008), it is worth considering seriously.

However, our evidence is also not consistent with this assertion. We asked council members and presidents how disagreements among council members are resolved: does the secretary decide, does the president decide, is there a majority vote of the members, or is the disagreement resolved through some other procedure? Among members (presidents), 71.6 (69.5) percent said a majority vote and 21.4 (22.5) percent said the president decides, while just 3.9 (3.3) percent said the secretary decides, and 3.2 (4.6) percent mentioned some other procedure). In other words, at least according the members and presidents, the secretary does not have a great deal of power to resolve disputes about expenditure priorities.<sup>50</sup> Importantly, the presence of a quota for the presidency does not affect answers to this question or to other questions tapping the secretary's degree of power or behavior towards presidents.<sup>51</sup>

Moreover, presidents are also perceived as having substantial power relative to other council members. When council members (presidents) were asked how much power presidents have to decide expenditures and to select particular beneficiaries, relative to council members, the average answers were 3.97 (4.26) for expenditures and 3.85 (4.13) for beneficiaries, on a 5-point ascending scale; these numbers correspond to answers of "somewhat more power" (or between "somewhat more power" and "a lot more power," in the case of respondents who are themselves council presidents). Furthermore, there is no significant difference in these responses across

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<sup>50</sup> We also asked members whether the secretary, the council president, or some other person was to blame for any lack of transparency in the allocation of council funds. Here, 54 percent blamed the presidents, while just 40 percent blamed the secretaries, suggesting again that the president has an important degree of power relative to secretaries.

<sup>51</sup> There is one exception: secretaries are significantly *more* likely (by 9 percentage points) to distribute Government Circulars or other government documents in reserved councils. Rather than exploit informational asymmetries to take advantage of lower-caste presidents, secretaries appear to make information more readily available in reserved councils.

reserved and unreserved councils. Secretaries do not appear to take disproportionate advantage of weak or marginalized Scheduled Caste or Scheduled Tribe presidents in reserved councils to advance their own interests and thereby offset other advantages to marginalized groups that may stem from electing lower-caste politicians in reserved constituencies. (Detailed results available on request). In sum, there is little evidence for the contention that our null findings are driven either by the lack of power of council presidents, in general, or the specific lack of power of lower-caste presidents in reserved constituencies.

### ***Not Upper-Caste Electoral Power***

The second reason reservation may have limited effects stems from the electoral power of dominant castes. Scheduled Castes and Scheduled Tribes are typically a minority of the electorate: on average, across council constituencies in the state of Karnataka, Scheduled Castes constitute 18.4 percent of citizens, while Scheduled Tribes comprise 8.1 percent, and in only a very small fraction of constituencies do Scheduled Castes and/or Scheduled Tribes constitute a majority or near-majority. The numerical superiority of upper-caste groups may plausibly allow them to elect pliant lower-caste presidents in reserved constituencies—that is, candidates who share their policy preferences more closely than would a lower-caste citizen selected at random.<sup>52</sup>

Yet our data are not consistent with this assertion, for two reasons. First, if this explanation is correct, the distributive effects of reservation should be stronger where marginalized castes and tribes form a larger proportion of the population. After all, given the

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<sup>52</sup> This observation dates from 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.

existence of multi-member districts in which multiple council members are typically elected from each ward (and in which one of these seats is often reserved for SC or ST candidates), Scheduled Castes and Scheduled Tribes who form a plurality of the population should in principle be able to elect representatives who would channel benefits to them.<sup>53</sup> However, the null results reported in Tables VI and VII persist when we restrict the sample to the upper quartiles of the Scheduled Caste (that is, 21.6 to 49.4 percent) and Scheduled Tribe (that is, 11.5-51.7 percent) population proportions.<sup>54</sup> Similarly, the null effects of reservation on actual fiscal outcomes (reported in Tables VIII and IX) also persist in these upper quartiles. Across our restricted (N=200) sample and our statewide RD sample, we found only one significant effect of quotas across seventeen statistical tests (and this “significant” effect does not survive a Bonferroni correction for multiple statistical comparisons).

Second, if it were true that the electoral or social 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 in the next section, 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 marginalized caste voters coordinate on others. Moreover, council members appear divided not by caste, but by political party. Our survey evidence suggests that most candidates for village councils, from each of the three major political parties, draw support from both dominant and marginalized castes. Parties in Karnataka are multi-caste parties at the local level: party and caste membership cross-cut each other, in that

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<sup>53</sup> For elections to state assemblies and the national parliament, India uses a single-member, first-past-the-post system. Local elections such as those in Karnataka appear unique in that multiple members can be elected from single constituencies.

<sup>54</sup> Recall that there is substantial heterogeneity across our study group in the SC and ST population proportions, because the relevant RD population threshold differs across sub-districts.

members of the same caste often support different parties, and members of the same party come from both dominant and marginalized castes.

### ***Party, Not Caste: The Internal Organization of Multi-Caste Parties***

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 begin by showing that party membership, unlike caste-based quotas, drives benefit receipt: sharing the party affiliation of the council president is strongly and significantly related to the probability of receiving a job or benefit from the village council. We then show that political parties play an important role in local electoral competition—a perhaps counterintuitive claim for some scholars of South Asia, since parties are typically banned in village council elections—which, for a number of reasons, heightens incentives for council presidents to allocate benefits along partisan lines. Finally, we argue that the pronounced role of multi-caste political parties plausibly undercuts the distributive effects of caste-based quotas, by encouraging benefits to flow to citizens from both dominant and marginalized castes, regardless of the presence or absence of quotas.

We first test the claim that benefits are 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>55</sup> The first is equal to one if the respondent shares the political party of the village council president and zero otherwise; the

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<sup>55</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.

second is equal to one if the respondent feels closest to the party of the council president and zero otherwise.<sup>56</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 level).<sup>57</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>58</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

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<sup>56</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.

<sup>57</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>58</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.

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. We provide further evidence for this interpretation below.

Yet, why are benefits allocated along party lines at the local level? As elsewhere in India, 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>59</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 (Table V). Since 87.7 percent can identify the caste of the council president, these data suggest that political party may be roughly as salient as caste, as far as voter knowledge goes. 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 behavior. For example, 78.8 percent of party members, and 71.8 percent of Scheduled Caste and Scheduled Tribe citizens who are party members, voted for a candidate from their party in the most recent elections. We asked members and presidents to list the party affiliations of all other members of their councils; the great majority were able to do so without difficulty, underscoring the salience of party identification among council members.

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<sup>59</sup> The Karnataka Panchayat Raj (Conduct of Election) Rules—1993, Rule 20.

Consistent with this evidence, our qualitative field research made clear that parties play a preponderant role in local elections. First, 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 is presumably far more than even an entrepreneurial council member could make in bribes and kickbacks during a five-year term.<sup>60</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>61</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

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<sup>60</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>61</sup> Here, too, 100,000 Rupees (or 1 lakh Rupees, in the Indian parlance) is said to do the trick. Interviews, Malavalli Taluk, Mandya District, Karnataka, March 2010.

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 above that members of the president’s party are disproportionately rewarded with benefits to turn out to vote on election day.<sup>62</sup> 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 their co-partisans.

These incentives to allocate benefits along partisan lines may undercut the distributive effects of quotas because, at the local level in Karnataka, all three major parties are to a greater or lesser extent multi-caste parties. Our survey evidence shows that members of the same caste, even in the same village, frequently support different parties. In each village, we interviewed up to (but no more than) four Scheduled Caste respondents; 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>63</sup> Moreover, Scheduled Caste and Scheduled Tribe members of 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. In interviews, party leaders

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<sup>62</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. See Dixit and Londregan (1996), Cox (2007), Nichter (2008), and Dunning and Stokes (2009).

<sup>63</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 Janata Dal (Secular), 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.

also stressed the multi-caste character of their parties. For example, at meetings with one of us (Dunning) in Malavalli sub-district, interviewees from the BJP 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>64</sup>

These linkages between upper- and lower-caste council members, within multi-caste party organizations, may blunt the distributive impact of quotas by creating incentives for intra-party (but inter-caste) bargaining solutions. 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 key insight of their dynamic model is that each group alters policy much less dramatically when in power than it would in a one-shot interaction (or than it would if the probability of remaining in office were determined endogenously).

This idea may be profitably 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. Our data suggest that the majority or plurality party appears to select the president in the vast majority of cases—whether the presidency is reserved for Scheduled Castes or not. Indeed, 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. Our data also suggest that reservation often exogenously shifts the caste identity—but not the

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<sup>64</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.

party identity—of the council president. Following the logic of Dixit, Grossman, and Gul, it is therefore plausible that each party converges to distributive equilibria that are relatively invariant to the presence or absence of reservation of the presidency in any particular electoral term.

One final piece of evidence appears consistent with a broader political logic focused on the need to sustain broader inter-temporal coalitions in the context of the rotation of quotas. Note that while such a logic may generate multi-caste local parties and promote within-party, inter-caste bargaining in many settings, incentives to allocate benefits along party lines *rather* than caste lines may be weaker when marginalized castes and tribes constitute a greater proportion of the population. This is presumably because in such settings, those castes and tribes can themselves constitute the bases of viable political coalitions. Table XI compares the effects of reservation and party affiliation in the top quartile and bottom three quartiles of the SC, ST, and SC/ST population proportions, respectively.<sup>65</sup> Here, the top SC quartile is comprised of council constituencies in which SC citizens are between 22 and 49 percent of the population; the top ST quartile includes constituencies in which ST citizens are between 12 and 52 percent of the population; and the top quartile of the combined SC/ST population proportion runs from 36 to 83 percent. The outcome variable in Table XI is job or benefit receipt by SC and ST citizens.

[TABLE XI ABOUT HERE]

As the table suggests, there is some evidence of heterogeneity in the impact of both quotas and party affiliation at the local level. First, notice that quotas for SC and ST here have a statistically-significant impact on benefit receipt by SC and ST citizens, in the top quartile of the SC distribution; the size of the estimate, at around 14 percentage points, is large. On the other

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<sup>65</sup> We thank David Blakelee and Pavithra Suryanarayan for their analysis of our data, which suggested this point.

hand, there is no evidence of an impact in the top ST or combined SC/ST quartiles; and the effect of reservation remains insignificant (with often negative point estimates) in the bottom three quartiles of all three distributions.<sup>66</sup> Turning next to the impact of party affiliation (that is, belonging to the party of the council president), we again see significant and positive effects—but only in the bottom three quartiles of the population proportions. As before, there is not a strong relationship between feeling closest to the president’s party and receiving a benefit, and this holds up in both the top quartile and the bottom three quartiles. In sum, there is at least some evidence here of a tradeoff between distribution along caste and party lines. Most of the time, building political coalitions along caste lines may be infeasible, and the factors described above may lead to incentives to allocate benefits along party lines. Yet, when marginalized castes and tribes are numerous enough to provide the basis for a viable sustained political coalition, the allocation of political power to that coalition in the form of a council presidency may generate greater benefits for members of the coalition. Future research should probe these possibilities more extensively.

In sum, our evidence suggests that the ability to form broader political coalitions interacts with and shapes the distributive impact of caste-based quotas at the local level. In particular, the logic of party organization appears to play an important role in shaping distributive politics. Of course, the organization of multi-caste parties is not the only possible explanation for the null average findings presented in this paper, and future research should probe other alternatives further. Moreover, as discussed above, our evidence does not allow us to evaluate the effects of the *system* of quotas. It could conceivably be the case that rotation of reservation itself creates

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<sup>66</sup> We also looked at the effect of SC reservation on benefit by receipt by SC citizens and ST reservation on benefit receipt by ST citizens, using contrasts in treatment status defined at the relevant thresholds (SC or ST). We found no evidence for an effect of SC reservation in the top quartile of the SC distribution, though we did find a large and significant effect of ST reservation in the top quartile of the ST distribution. In sum, the evidence for an effect in the top quartile of the distribution is quite mixed; future research should explore this possibility further.

incentives for the formation of multi-caste parties, which we have argued help undercut the effects of quotas: since parties can only put up SC or ST candidates for reserved seats, even upper-caste parties such as the BJP have incentives to transform themselves into multi-caste organizations at the local level.<sup>67</sup> The possibility of such effects stemming from rotation itself could imply that a permanent shift to a system in which all presidencies are reserved might indeed prompt a shift in patterns of distribution, though we have found no evidence to suggest this is the case.<sup>68</sup>

What our data—which provide some of the first systematic evidence on the interaction of quotas, caste, and party politics at the local level—do clearly establish is 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. Our evidence that quotas have, at best, only weak distributive effects, in a context in which quotas are as good as randomly assigned, presents a striking contrast with the recent well-known body of research on this topic.

## **Conclusion**

An important literature suggests that quotas for disadvantaged groups should promote the adoption of policies favored by these groups (Duflo 2005). Yet, previous empirical research on

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<sup>67</sup> In this sense, our finding about the importance of multi-caste political parties relates to the research of other scholars at the state and national levels (e.g., Thachil 2009 and Thachil and Herring 2008), who study the efforts of the upper-caste BJP to attract votes from lower castes.

<sup>68</sup> For example, we found no evidence that a history of past reservation affects outcomes. We split the study group of 200 councils into two sub-samples: those 74 treatment-control pairs in which the control council's presidency had been reserved at some point since 1994, and those 126 treatment-control pairs in which the control council's presidency had never been reserved or had not been reserved for SC or ST since 1994—that is, at least 15 years before our survey. We find almost no difference in estimated treatment effects, using the outcome variables reported in Tables VI, VII, and VIII.

caste-based reservation has not sufficiently accounted for the potential for unobserved heterogeneity across constituencies with and without quotas. Our findings cast doubt on the generality of the hypothesis that quotas promote greater distribution to marginalized castes. Using a research design in which the fiscal effects of political reservation are unlikely to be confounded by omitted variables, we find at most weak effects of quotas on distributive or policy outcomes. In the state of Karnataka, reservation of village council presidencies does not appear to have strong distributive or policy effects. While it is difficult to evaluate all potential explanations for our main findings, we do show that several common explanations given for the ineffectiveness of quotas are not consistent with our data. Instead, the character of party competition 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 historically marginalized groups—like other formal institutional innovations, such as the extension of the franchise—appear to be conditional on local or contextual factors. Our argument that the presence of multi-caste political parties blunts the distributive impact of quotas suggests that the effect of quotas might vary in other Indian states. For instance, we might 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 states, such as the presence of direct elections to council presidencies in states such as West Bengal and Rajasthan—which might tend to limit the influence of parties over candidate selection—could also explain the contrast between our results and previous studies (Chattopadhyay and Duflo 2004; Duflo and Topalova 2004). Since many Indian states use similar principles (though different specific rules) to rotate reservation of the

presidency across councils, future studies should exploit randomized or RD research designs such as ours to assess the effects of quotas in different states (see Chauchard 2010). Exploration of what kinds of complementary conditions shape the effects of formal institutional change thus provides an important agenda for future research, in India and other settings.

Viewed from a broader perspective, 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. Yet, in the context of the continued 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 I. 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 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 Causal Effect of Quotas <b>(A-B)</b>	p-value
<b>Rural Development and Panchayati Raj data:</b>				
Number of Gram Panchayat Meetings Held <sup>+</sup>	4.39 (0.07)	4.28 (0.06)	0.11 (0.09)	0.24
Number of Gram Sabha Meetings Held <sup>+</sup>	1.80 (0.08)	1.75 (0.07)	0.05 (0.11)	0.66
Total Expenditure on Drinking Water Infrastructure (in Rupees) <sup>+</sup>	76,903.18 (3,057.68)	81,278.22 (3,005.40)	-4,375.0 (4287.2)	0.31
Individual Latrines Built <sup>+</sup>	65.51 (5.82)	66.27 (5.94)	-0.77 (8.315)	0.93
Community Latrines Built <sup>+</sup>	1.11 (0.21)	1.16 (0.18)	-0.05 (0.28)	0.87
<b>Gram Swaraj project data:</b>				
Total taxes collected (in Rupees) <sup>†</sup>	227,194.0 (18,799.28)	253,589.9 (26,298.2)	-26,395.9 (32,341.4)	0.42
Property taxes collected (in Rupees) <sup>†</sup>	143,320.4 (16,360.4)	172,157.6 (23,257.9)	-28,837.2 (28,449.3)	0.31
Fees collected (in Rupees) <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 (in Rupees) <sup>†</sup>	168,742.5 (8,157.4)	175,703.2 (8,278.368)	-6,960.7 (11,622.8)	0.55
Expenditures on IAY scheme (in Rupees) <sup>†</sup>	171,198.5 (8987.8)	182,993.4 (9,421.8)	-11,794.9 (13,022.5)	0.37
Expenditures on Ambedkar Housing Scheme (in Rupees) <sup>†</sup>	5,946.8 (5,507.0)	3,039.6 (2,873.7)	2,907.1 (6,219.9)	0.64

The table estimates the causal effect of quotas on fiscal outcomes, using data from the statewide RD sample. N for Gram Swaraj data=1420 (437 for Ambedkar Scheme); N for RDPR data=1388.

<sup>+</sup> data from April to September 2006. <sup>†</sup> data from April 2006 to March 2007, excludes license fees.

Standard errors in parentheses. \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**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 (A)	Group 2: No (B)	Difference of Percentages (A-B)	p-value
<b>All Councils</b>				
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

**Table XI. The Effects of Reservation and Party Affiliation on Benefit Receipt,  
By Quartiles of SC/ST Population Proportions**

	SC	SC	SC	ST	ST	ST	SC/ST	SC/ST	SC/ST
<b>Top Quartile:</b>									
Council Presidency Reserved for SC/ST	14.12* (6.61)	--	--	1.86 (6.71)	--	--	3.54 (6.71)	--	--
Respondent is Member of Council President's Party	--	-5.40 (10.53)	--	--	8.83 (10.41)	--	--	3.01 (10.09)	
Respondent Feels Closest to Party of Council President	--	--	-8.71 (9.25)	--	--	1.39 (9.45)	--	--	9.20 (9.20)
<b>Bottom 3 Quartiles:</b>									
Council Presidency is Reserved for SC/ST	-4.04 (3.82)	--	--	0.08 (3.82)	--	--	-0.26 (3.84)	--	--
Member of Council President's Party	--	14.72** (5.87)	--	--	10.32+ (5.93)	--	--	12.50**	--
Feels Closest to Party of Council President	--	--	9.09+ (5.34)	--	--	5.67 (5.31)	--	--	9.75+ (5.37)

Cells show the difference in the percentage of respondents in each category who received a job or benefit from the village council in the previous year, disaggregated for constituencies in the top quartile and bottom three quartiles of the SC, ST, and SC/ST population proportions. Standard errors are in parentheses. + p<0.1, \* p<0.5, \*\* p<.01