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Ethnic Quotas and Political Mobilization: Caste, Parties, and Distribution in Indian Village Councils

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Ethnic quotas are often expected to induce distribution of material benefits to members of disadvantaged groups. Yet, the presence of an ethnic quota does not imply that political mobilization takes place along ethnic lines: Cross-cutting affiliations within multi-ethnic party organizations may lessen the tendency of politicians to target benefits to particular ethnic groups. In this article, we evaluate the impact of quotas for the presidencies of village councils in India, a subject of considerable recent research. Drawing on fine-grained information from surveys of voters, council members, presidents, and bureaucrats and using a natural experiment to isolate the effects of quotas in the states of Karnataka, Rajasthan, and Bihar, we find weak distributive effects of quotas for marginalized castes and tribes, but suggestive evidence of the importance of partisanship. We then use survey experiments to compare the influence of party and caste on voting preferences and expectations of benefit receipt. Our results suggest that especially when politicians have dynamic political incentives to allocate benefits along party lines, cross-cutting partisan ties can blunt the distributive impact of ethnic quotas.

Caste-based quotas in India, like ethnic quotas in other parts of the world, have been seen as an important tool for redressing persistent distributive inequalities (Parikh 1997; Wilkinson 2003). In a setting in which social and economic discrimination against lower castes and tribes often remains profound—with lower caste citizens forbidden from worshiping in upper caste temples in many parts of rural India and caste-associated inequalities apparent in both education and labor markets—the provision of formal political power to minority groups may shift policy outcomes in their favor (Duflo 2005). Moreover, especially when politicians have substantial discretion to choose beneficiaries of welfare schemes, as in a "patronage democracy" (Chandra 2004), quotas may induce the targeting of material benefits to members of minority groups. This theoretical expectation is consistent with both "primordialist" accounts of ethnic politics—in which ethnic leaders naturally advocate for the shared identities and interests of their group members—and some constructivist and psychological theories, in which the sanctioning of particular ethnic categories by the state makes in-group and out-group distinctions based on those categories politically salient (Bates 1983; Chandra 2005; Laitin 1986; Posner 2004; 2005; Tajfel and Turner 1979). In the Indian context, where members of different caste, tribal, or gender groups may value distinct policy outcomes, it is natural to think that politicians brought to office by quotas have both the preferences and electoral incentives to target benefits to their group members. Chattopadhyay and Duflo (2004), for example, develop theoretical models in which quotas induce marginalized citizens to run for office and increase the targeting of benefits to members of their groups; these authors also present evidence that quotas for women presidents of village councils lead to the adoption of policies favored by women voters, while other scholars have suggested similar effects of quotas for marginalized castes and tribes.[1]

Yet, the presence of ethnic quotas does not imply that distributive targeting takes place along ethnic lines, for at least two reasons. First—although recent research on the effects of quotas in India has largely ignored the role of parties and partisanship in shaping distributive outcomes—local politicians, nonelected party workers, and others who make distributive decisions in patronage democracies often depend on party leaders, for instance, for campaign finance. Distributive strategies may therefore reflect party leaders' goals more than a party-organization-free model of agency by ethnic leaders would suggest, with important consequences for the effects of quotas. Despite the large literature on the role of parties at the local level in India (e.g., Brass 1965; 1984), and substantial previous research on the relationship of local brokers to

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[1] The substantial body of recent research in economics and political science on the effects of quotas for village-council presidents in India is discussed in the section, "Distributive and Policy Effects of Quotas."

party leaders, scholars have not systematically examined how patterns of partisan mobilization may moderate the impact of ethnic quotas. Nor have they explicitly compared the impacts of voters' partisan affiliations and ethnic ties to politicians in shaping distributive targeting.

Second—and relatedly—cross-cutting relationships between party and caste may mitigate the impact of quotas on ethnic distribution. When distribution follows a partisan logic, yet party and ethnicity are not coterminous, targeted benefits may flow to both marginalized and dominant groups within an incumbent party organization, regardless of the ethnic identity of local politicians. The quota-induced election of a politician from a marginalized caste or tribe may therefore not produce strong shifts in distributive targeting along ethnic lines.[2] Against the expectations of both primordialist and constructivist theories, quotas may thus fail to shape distributive politics along the ethnic lines privileged by the quotas. The larger point is that, just as social cleavages are not automatically translated into the party system (Chhibber 1999), ethnic quotas do not necessarily entail ethnic mobilization or targeting. Cross-cutting partisan ties may limit the effects of leaders' ethnic identities on the distribution of benefits, just as cross-cutting cleavages may undercut the political salience of ethnicity more generally (Selway 2011, Dunning and Harrison 2010).

In this article, we present new evidence on the effects of quotas in the Indian states of Karnataka, Rajasthan, and Bihar, focusing on the reservation of village council presidencies for Scheduled Castes (SCs) and Scheduled Tribes (STs).[3] The effects of such quotas are typically difficult to infer because the presence of quotas is likely to be associated with unobserved confounders. In most Indian states, quotas for council presidencies are not assigned at random, but instead depend in a systematic way on the proportion of the local population comprised of marginalized castes or tribes—and the proportion of marginalized castes or tribes is highly correlated with income and literacy rates, as well as with other, more unobservable variables that might affect policy outcomes. In our research, we therefore used a natural experiment based on a variant of the regression-discontinuity (RD) design to select village councils for inclusion in our study group, thereby creating two sets of councils that plausibly differ only in the presence or absence of quotas mandating presidents from marginalized castes or tribes. We then surveyed a probability sample of citizens as well as council members, presidents, and local bureaucrats in the selected council constituencies and also gathered extensive data on council expenditures. Our original surveys generated fine-grained information on distributive outcomes and council priorities as well as the most detailed data of which we are aware on party affiliation in formally nonpartisan local village councils. We complemented our formal surveys with fieldwork in several villages, which motivated our interpretation of our findings and generated additional tests of our hypotheses. Finally, we also conducted survey experiments in two states (Rajasthan and Bihar), which provide some of the first systematic evidence on the relative influence of voters' party affiliations and caste ties on the distribution of targeted benefits.

We reach several key conclusions. First, we find that caste- and tribe-based quotas for village council presidents—who have substantial discretion over the allocation of distributive benefits from housing, employment, and welfare schemes at the local level—have quite weak policy and distributive effects. For example, we find that reservation of the presidency for politicians from a marginalized caste or tribe does not discernibly elevate the probability that members of those groups will receive benefits or jobs from the village council. Although quotas do shape perceptions of council priorities and the perceived influence of SCs and STs, they do not influence the reported participation of SC or ST citizens in specific targeted welfare programs. Nor do they affect the probability that SC and ST citizens' preferred priority for council spending is perceived as the actual priority. Among council members and presidents, quotas affect neither the perceived effectiveness of the council in delivering benefits to marginalized groups, nor the power of the council president, nor of marginalized castes and tribes generally. Finally, reservation of council presidencies for politicians from marginalized groups has no discernible effects on council spending on programs targeted toward those groups. To elevate our confidence that these mostly null findings are not plausibly an artifact of low statistical power, we replicated our design on a larger RD study group selected from throughout the state of Karnataka (where, however, we lack detailed proprietary survey data) and confirmed our initial results from Karnataka on new out-of-sample data from Bihar and Rajasthan. These results contrast with findings from an important previous literature on the effects of quotas in India, as discussed in the next section.

What accounts for the weak distributive effects of mandated representation? We argue that the character of political mobilization—in particular, partisan targeting by multi-caste party organizations at the local level—helps explain why quotas do not induce greater caste- and tribe-based targeting. Our survey data and fieldwork show that party affiliation is highly salient both for voters in council elections and for council members, despite the fact that party symbols may not be used on ballots for village-council elections or by candidates campaigning for positions on those councils. Our research also suggests the predominant role that parties play in financing candidates for local elections. In exchange for resources with which to run their campaigns, local politicians—including council presidents—serve as "brokers" who mobilize the vote for party higher-ups in elections for various tiers of government.

[2] Following Chandra and Wilkinson (2008, 517), who define ethnic groups as those "in which descent-based attributes are necessary for membership," we sometimes refer to castes and tribes as ethnic groups and to caste- and tribe-based quotas as ethnic quotas.

[3] Scheduled Castes (SCs)—a group that includes Dalits (formerly Untouchables)—and Scheduled Tribes (STs) are designated on "schedules" denoting eligibility for employment, educational, or political benefits.

Crucially, we find that these politicians mobilize local support by distributing targeted benefits to voters along party—more than caste—lines. For example, belonging to the political party of the council president is a strong and significant predictor of receiving benefits from the village council, such as employment under a prominent job program. To explore this suggestive finding, we implemented a survey experiment in Rajasthan and Bihar in which we varied at random the party and caste of a hypothetical candidate for village council president. We find that sharing the party of the candidate sharply elevates respondents' expectations of receiving a job or benefit from the council, as well as their reported likelihood of voting for the candidate. Moreover, the effects of party ties between respondents and candidates are consistently stronger than the effects of shared membership in caste categories. Finally, the largest effects of co-partisanship on expectations of benefit receipt arise when the respondent and candidate come from different castes—suggesting that intra-party ties that cross-cut ethnic categories may be especially important in shaping distribution.

Our argument should not be interpreted to imply that caste-based quotas have no effects on any outcomes. For example, quotas may influence citizen attitudes and behaviors (Beaman et al. 2008, Chauchard 2010) as well as political preferences and perceptions (Dunning 2009), and they may offer marginalized citizens important symbolic benefits. It is also important to emphasize that, as in previous work on the effects of gender-based reservation in Indian village councils (e.g., Chattopadhyay and Duflo 2004), we cannot readily estimate the effects of the *institution* of reservation—because we cannot observe a set of outcomes in the presence of the rotating reservation scheme we describe later and a set of outcomes in its absence. Because of the structure of our data, we must remain agnostic about these distributive effects of the institution as a whole: it is indeed possible that, given the institution of rotation of reservation, equilibrium outcomes across all councils differ from what they would be in the absence this institution. Our main goal here is to assess the marginal impact of the presence of a quota on targeted distribution and to compare this impact to the expectations of primordialist and constructivist theories of ethnic politics. Yet, we are also skeptical that such broader institutional effects can fully explain the weak marginal effects of quotas on the targeting of benefits that we estimate. We return to discussion of this issue after describing our design and presenting our main findings.

DISTRIBUTIVE AND POLICY EFFECTS OF QUOTAS

Electoral quotas have often been used to advance the interests of both religious minorities (during the colonial period) and lower caste citizens in India. In elections to the national parliament as well as to state assemblies, some seats are reserved for particular castes or tribes, in the sense that, although 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 73rd amendment to the Indian constitution in 1993, as were separate quotas for women. Village councils are bodies with constituencies that comprise several villages; in Karnataka, election of the council president is indirect (voters elect members, who select presidents), whereas in Rajasthan and Bihar, presidents are directly elected.

Although quotas enhance descriptive representation (Pitkin 1967, Bhavnani 2009), they may or may not boost the welfare of marginalized castes and tribes (Parikh 1997). Deep inequities persist along caste and tribal lines in rural India. In 1991, just before the introduction of the quota policy, only 28% and 23% of SC and ST households, respectively, had access to electricity, compared to nearly 50% among non-SC/ST households; the incidence of rural poverty was around 10 percentage points greater for SCs (and 15 for STs); and in 1981, the gap between the general and SC literacy rate was 15 percentage points (20 for STs; Singh 2009, tables 1, 7, and 9).[4] Widespread inequalities also persist along gender lines. Given such inequities, it is perhaps not surprising that boosting the welfare of marginalized groups was among the rationales for including quotas in the 73rd amendment. As one Member of Parliament put it in the context of gender-based quotas, "radio and TV sets have been given to village [councils] but nobody thought of providing drinking water, since no one was thinking from a woman's perspective.... If drinking water and health centres...had been provided, we would not have asked for...reservation for women."[5]

Yet, are quotas for council presidencies an effective means of channeling benefits to marginalized groups? For the identity of the council president to affect distribution, the president must have both *capacity* and *discretion*. According to previous research, council presidents do exert an important influence over the selection of beneficiaries of government welfare schemes (e.g., Besley et al. 2004; 2008; Chattopadhyay and Duflo 2004; Palaniswamy and Krishnan 2008), and our evidence is consistent with this claim. Village councils are significant conduits for central and state government funds, and many of the benefits allocated by councils—such as housing, employment, and receipt of individual welfare benefits—are targeted goods. One recently prominent employment program, the MGNREGA scheme, has issued about 50 million job cards and in 2011–12 channeled a reported $7.5 billion dollars (376 billion Rupees) to fund work on 7.4 million projects, such as the building of tanks and water wells

[4] According to Chauchard (2010), a nationwide study in 2006 found that SCs remain barred from entry to temples in more than 50% of the surveyed villages, denied access to water facilities in more than 45% of the villages, and denied seating among other villagers in 30% of the villages.

[5] The quote is from independent MP Saroj Kashikar (Kumar 2002, 26, cited in Nugent 2011, 58).

and the improvement of local roads.[6] These projects are chosen and supervised by village councils and especially presidents at the local level. We present evidence later that even schemes with eligibility or enrollment criteria—such as MGNREGA, which guarantees 100 days of paid employment at minimum wage to any citizen who wants to work on these projects—can involve substantial targeting of benefits (see Corbridge et al. 2005, 132). Citizens also depend on council presidents for intermediation with the state and help with access to a broad range of benefits. In our surveys in Bihar and Rajasthan, we asked citizens who had received a benefit from village councils which person had most helped them obtain it. More than 60% of recipients said that the council president had been most helpful, in contrast to just 6% who said another council member had done so.[7] In Bihar, we asked to whom a hypothetical citizen would most likely turn for help getting access to a government benefit or service; choosing from among a range of officials and non-state actors, 73% of respondents said the citizen would be most likely to ask the council president for assistance.[8] We also inquired about which official or actor in fact has the most power actually to provide access to the desired service, among the same range of officials; 43% identified the president.[9] Finally, when we asked presidents themselves what is the single most frequent request from citizens, a large majority indicated help with "access to a government welfare scheme" or a service such as a ration card. In sum, the council president serves as an intermediary who helps citizens gain access not only to welfare payments but also to a broad range of targeted state services.

The targeting of benefits can also work through the selection of locations and employees of public works projects. Even such apparent local public goods as wells and water tanks can take on a rival and exclusionary character—because they may be built near an upper caste temple or instead near an SC residential colony. During our fieldwork, we in fact found examples of wells and water tanks completed with MGNREGA funds that were located on or near the property of the council president. Furthermore, given caste politics and other aspects of village relations, different projects can be more or less attractive as employment opportunities for different kinds of citizens. Here, as with other forms of distribution, the president can exert substantial influence in targeting benefits. In our Rajasthan and Bihar surveys, we asked council members who actually decides what local public goods projects the council will undertake under MGNREGA, which are often formally supposed to be chosen by participants in open village—*Gram Sabha*—meetings; more than 40% of members said the president decides (as opposed to 13% who said the local bureaucrat/secretary, 20% who said a majority vote of members, and 21% who said *Gram Sabhas*). In addition, 42% said that the president chooses the supervisor (mate) for the projects. In sum, our evidence supports the claim that presidents can exercise substantial capacity and discretion in targeting benefits and deciding projects.

Yet, do presidents have preferences or incentives to target benefits to members of their own castes or tribes, and do quotas bring to power SC and ST presidents who act on these preferences? In a setting in which ethnic distribution is said to motivate voting behavior (Chandra 2004) and in which members of different castes or tribes may value distinct policy outcomes, politicians may well have the preferences and electoral incentives to target benefits to their group members; thus, quotas should alter policy in favor of marginalized groups. Chattopadhyay and Duflo (2004) reach this conclusion in their theoretical analysis of the impact of gender-based quotas. In their citizen-candidate model, women trade off the (significant) cost of running for office against the benefit of implementing their desired policies if elected. The authors find equilibria in which women only run once a quota system is established, yet the quota policy unambiguously improves the welfare of the median female voter. Straightforward adaptations of the model produce similar results for caste- and tribe-based quotas.

However, although these analyses clarify why the policy preferences of politicians can matter, static citizen-candidate models may be faulted on several fronts. First, they ignore other dimensions of identity, such as partisanship, that can also influence the preferences of politicians. As we document later, partisan affiliation can also shape the ease of candidate entry: Local politicians often depend on party leaders at higher levels of government for campaign finance, and the objective functions of those higher level politicians may differ. Next—and importantly in our context—such models neglect the character of political competition under the shadow of rotating quotas. Even if candidates are policy oriented (rather than simply office seeking), dynamic considerations can moderate the marginal impact of quotas. Finally, because party and caste are not necessarily coterminous—especially at the local level—the partisan distribution of benefits may imply that benefits flow to both marginalized and dominant groups within an incumbent party organization, with important consequences for the impact of quotas. Although we defer further discussion to the section "What Explains Invariance?," the theoretical case for the distributive effects of quotas is not clear-cut.

Whether quotas affect the targeting of benefits to marginalized groups is thus an empirical question. Several previous studies do find evidence that caste-based quotas shape distributive outcomes in several Indian

[6] See the 2011–12 national report of the Mahatma Gandhi National Rural Employment Guarantee (MGNREGA) scheme, available at http://nrega.nic.in/netnrega/home.aspx.

[7] In Rajasthan, 76% identified the president. The other response options were another local politician, state politician (MLA), local fixer, family member, religious leader, NGO representative, and other.

[8] The other response options included: council member, MLA, department minister, Chief Minister, MP, council secretary, department bureaucrat, Block Development Officer, District Collector, middleman, fixer (*naya neta*), NGO representative, caste association representative, traditional panchayat representative, village association representative, neighborhood association representative, family member, and other.

[9] This portion of our Bihar survey was designed and implemented with Jennifer Bussell (UT-Austin).

states. For example, Besley, Pande, and Rao (2008) analyze data from a village- and household-level survey conducted in Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu in 2002 and 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 SCs or STs (see also Besley et al. 2004). Chattopadhyay and Duflo (2004) concentrate on the impact of reservation for women (see also Beaman et al. 2008), yet find some effects of SC/ST reservation on the allocation of spending across villages, though not on the composition of that funding; Bardhan et al. (2005, 2010), however, find that SC/ST reservation in West Bengal improves the flow of credit to SC/ST citizens, although it appears to worsen employment opportunities (and they find no impact of female reservation on public goods provision; see also Ban and Rao 2008). Palaniswamy and Krishnan (2008) find that, notwithstanding reservation, benefits flow within councils to the villages of dominant castes. At the state level, Pande (2003) finds that SC legislators distribute more to their constituencies (though see Jensenius 2012, who finds weak effects of quotas at the state level). In sum, a prominent previous literature has found evidence for quotas' distributive impact, although there are also hints of weaker or conditional effects.

Nonetheless, such findings have not always been subjected to systematic replication across diverse contexts, using comparable empirical strategies and measurement instruments. Moreover, evaluating the causal effects of caste- and tribe-based quotas poses substantial challenges, which some previous research on this topic has not fully recognized. Assignment to quotas depends on a complex process that differs in each Indian state. In many states, caste-based quotas rotate across village councils in each administrative subdistrict in a way that depends on the specific proportion of the population comprised by marginalized castes or tribes in that subdistrict, as well as in each council constituency. This implies that at a minimum, regressions of outcome variables on indicator variables for reservation status must include subdistrict- as well as state-fixed effects, as in Besley et al. (2004) and Besley, Pande, and Rao (2008). Yet, even this strategy may be insufficient for validly estimating the effects of reservation, because in a given election year, reservation is only plausibly as-if randomly assigned at *particular* population thresholds *within* a given subdistrict.[10] The optimal strategy for estimating the effect of quotas should thus be derived directly from the actual assignment procedure. In the next subsection, we describe both the complex process of reservation and our strategy for leveraging it to obtain simple, valid estimators of the causal effects of reservation.

Empirical Strategy: A Variant of the Regression-discontinuity Design

In Karnataka, Rajasthan, and Bihar, as in other Indian states, council presidencies are reserved for SCs and STs through a procedure governed by state electoral regulations and implemented by district-level bureaucrats for each subdistrict under their jurisdiction.[11] First, bureaucrats use census data on group populations or population proportions to determine the total number of council presidencies that must be allocated quotas in any electoral term. For example, if 25% of the citizens in a given subdistrict are from the Scheduled Castes, then 25% of the *councils* in that subdistrict must have their presidencies reserved for SCs.

The following procedure is then used to allocate quotas to particular councils, across different electoral terms. First, the bureaucrat lists the council constituencies in each subdistrict in descending order, typically by the size of the SC population as measured in the previous census. In the first council elections after the passage of the 73rd amendment in 1993, the relevant bureaucrats then reserve the presidencies of the required proportion of councils appearing at the top of the list. Thus, in this example, the presidencies of the top 25% of councils on the list would be reserved for SCs in the inaugural elections (say, in 1995). The bureaucrats then work down this list in the next elections (say, in 2000), rotating reservation of the presidencies to the next 25% of councils on the list. This rotation continues until the bottom of the list has been reached and all councils have been assigned SC quotas for the presidency in some election since 1993. The assignment of quotas then rotates back up to the top of the list.[12]

Close variants of this procedure are used across different Indian states. In Karnataka, for instance, bureaucrats rank village councils in descending order by the number of council members' seats reserved for SCs or STs (which is in turn a proxy for the SC or ST population proportion). At the time we constructed our initial study design in Karnataka, in December 2008, we lacked data on SC members' seats but had data on quotas for council presidencies in 2007 and census data on group proportions on which the number of SC members' seats is based. By sorting councils in each subdistrict 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 between

[10] Quotas for women are sometimes assigned by lotteries (although some states use a rotating procedure based on female population; see Nilekani 2010). Thus, our methodological critique does not apply with the same force to studies of gender-based quotas. Note that gender-based quotas are assigned independently *within* each caste or tribe category (e.g., a fraction of presidencies reserved for SC must also be reserved at random for women, where the fraction varies by state). Thus, reservation for women should not, in principle, confound the effect of reservation for SCs or STs in our analysis; however, see note 27.

[11] A subdistrict (block, *taluk*) is an administrative unit that contains, on average, about 35 village councils.

[12] In Karnataka, rotation of council presidency reservations occurred in 1994, 2000, 2002, 2005, 2007, and 2010; council members have five-year terms, but beginning in 2000 the presidency was rotated internally among council members every 30 months. In Rajasthan and Bihar, presidents have had longer terms: in Rajasthan, elections occurred in 1995, 2000, 2005, and 2010, whereas Bihar held post-73rd amendment elections only in 2006 and 2010.

councils with reserved and unreserved presidencies.[13] In Rajasthan and Bihar, we also used data on SC and ST proportions, which allowed us to mimic directly the procedure used by bureaucrats.

Our empirical strategy took advantage of the fact that, in any given electoral term, village councils at the bottom of the set that receive a quota (say, the councils with the lowest SC population proportions, among the first 25% on the ranked list) are on average plausibly indistinguishable from councils at the top of the next 25%—save for the presence or absence of a quota. We thus constructed our study group by selecting pairs of councils at the bottom and the top of these respective sets, in each of our selected subdistricts. This idea is similar to standard regression-discontinuity designs, in which a pretreatment covariate such as an exam score is used to sort students into treatment and control groups (Thistlewaite and Campbell 1960), with the difference here being that the relevant threshold value of the assignment covariate (the SC population proportion) is specific to each subdistrict and varies across elections, due to the rotation of quotas.[14] Because our study group consists of pairs of councils assigned to treatment or control groups within each subdistrict, the formal properties of the design are also akin to block-randomized experiments with matched pairs (Imai, King, and Nall 2009).

In Karnataka, one final detail is helpful for our strategy: If the number of councils at the threshold number of members' seats exceeds the number of council presidencies that must be reserved for SCs (or STs) in a given subdistrict, the bureaucrat allocates quotas among these councils by drawing lots.[15] Such true randomization of quotas ensures that in expectation, there are no differences between reserved and unreserved councils near the key threshold. For about one-half of our study group of councils in Karnataka, quotas were apparently assigned through such true randomization.[16] In Rajasthan and Bihar, as for the other portion of the Karnataka study group, we relied instead on the fact that at the key subdistrict-specific thresholds—at which the SC population proportions are virtually indistinguishable but the assignment of quotas differs—the assignment of reservation is plausibly *as-if* random (Dunning 2008; 2012; Sekhon 2009). Whether this design really produces as good-as-random assignment is an important topic we discuss in the next subsection.

Various institutional safeguards help protect the integrity of the process of assigning quotas. After each election, a bureaucrat appointed by the District Commissioner explains the reservation rules to council members in subdistrict assemblies; we were able to verify that at least some of these meetings did take place. Most importantly, we obtained data on the history of reservation in Karnataka, Rajasthan, and Bihar from the respective State Election Commissions, which allowed us to verify the extent to which the procedure was followed.

Table 1 shows an example of the reservation process, using data on the history of SC reservation in the subdistrict of Magadi (district of Bangalore Rural) in the state of Karnataka. Recall that in Karnataka, bureaucrats use the number of members' seats reserved for SC (rather than SC population proportions) to sort village councils in descending order. Thus, the first column of Table 1 lists all the village councils in the subdistrict, sorted in descending order by the number of seats reserved for SC members; the next two columns show the total number of members' seats in each council and the number of SC members' seats. The final five columns indicate whether the presidency of the council was reserved for SCs in 1994, 2000, 2002, 2005, and 2007, respectively, with a "1" indicating presence of reservation and a blank cell indicating its absence. (In Karnataka, the identity of the reserved group and thus the presidency rotated every thirty months after 2000; in Rajasthan and Bihar, it rotates every five years, whenever there is a new village council election). 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. (In fact, however, councils with the same number of SC members' seats located at the key cutoff value were allocated quotas for the presidency at random in Karnataka).

The history of reservation depicted in Table 1 closely follows the expected diagonal pattern, in which the 1's move from the top left of the table to the bottom right. Where village councils that share the same number of SC seats differ in reservation status, in any electoral term, it is because some of those councils have been selected at random, through the drawing of lots, for reservation of the presidency (with one exception).[17] For example, at the bottom of the list of 1's in the final column of Table 1, the village councils of Sathanur and Shankighatta both have two SC members' seats—and thus both could have had their presidencies reserved for SCs in 2007. Yet, Sathanur was selected at

[13] The use of this proxy for our Karnataka subsample should not lead to bias, because population should be independent of SC and ST population proportions in the neighborhood of the regression-discontinuity thresholds. Moreover, there is only a weak correlation between village population and the proportion SC or ST in Karnataka ($r = 0.009$). Reserved and unreserved councils in our study group are balanced with respect to population and other pretreatment covariates (see Table 2).

[14] However, the threshold is fixed for each subdistrict in each election, because it depends mechanically on the overall SC population proportion and number of councils in the subdistrict.

[15] Interviews, Karnataka State Election Commission; Order of the State Election Commission, No. SEC 54 EGP 99, February 16, 2000, Annexure dated February 23, 2000.

[16] We cannot fully verify that a true lottery was used—we were not in the room when lots were drawn—yet we show later and in the Online Appendix that realized assignments are consistent with randomization.

[17] For 2005 and 2007, the number of SC members' seats in each council was 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 three SC seats instead of four in 2000).

TABLE 1. History of Scheduled Caste Reservation (Magadi Subdistrict, 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.

random for a quota mandating an SC president, whereas Shankighatta was not.

A similar procedure is used in Rajasthan and Bihar, with the difference that SC population totals are used to rank councils in descending order.[18] This results in quite fine-grained differences in the assignment variable (SC population) between councils assigned quotas and those not assigned quotas, at the cutoff value in any electoral term.[19] The process used to assign quotas for SC presidencies is also repeated for STs, using exactly the same procedure: Councils are sorted in descending order by the ST population or the number of members' seats reserved for STs, and the presidencies of the required number of councils are selected for reservation. If a single presidency should in principle be reserved for both the SC and ST categories in any electoral term, due to placement on the respective lists, the presidency is reserved first for one group and then the other in a subsequent electoral term.[20] In most subdistricts, however, the number of presidencies reserved for STs is relatively small (typically just one or two councils), because STs comprise only a small proportion of subdistrict 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.[21]

It is useful to highlight two features of this process: different lists are used in different subdistricts, and the

[18] Interviews, Department of Panchayati Raj and Rural Development, Jaipur, Rajasthan (May 2, 2011) and State Election Commission, Patna, Bihar (October 10, 2011).

[19] The population difference between the bottom-ranked council with a quota and the top-ranked council without a quota tended to be larger in Bihar than Rajasthan. A few subdistricts in Bihar were excluded prior to data collection, using our bandwidth selection rule mentioned later.

[20] In Karnataka, Rajashtan, and Bihar, the SC list is used first (Order of the Karnataka State Election Commission No. 54 EGP 99, February 16, 2000; interviews, PRRD Department, Rajasthan, May 2011, and State Election Commissions of Karnataka, January–February 2009, and Bihar, October 2011).

[21] There is sometimes reservation for Other Backward Classes (OBCs) as well. This tends to be a mechanism for rotating office among dominant backward castes (Shastri 2009), especially in Karnataka. In our analysis, we treat "unreserved" and "reserved for OBC" as analytically equivalent.

threshold value of the assignment covariate at which councils are assigned to quotas varies across subdistricts. Thus, in some subdistricts, such as Magadi in Table 1, bureaucrats had only worked down to the middle or bottom of the descending list of councils by the election prior to our surveys. In others, such as Karnataka's Chamarajanagar subdistrict (Online Appendix Table A1), bureaucrats had cycled through the list and gone back up to the top.[22] In consequence, there is substantial variance in our study group in the SC and ST population proportions—which may mitigate in some ways the standard concern that units at the RD threshold are not representative of an interesting population (Deaton 2009). In fact, while the RD study group is clearly not a representative sample of village councils in our three states, the sample means of our selected councils in Rajasthan and Karnataka are statistically indistinguishable from population averages in those states on many key census variables (Online Appendix Tables A7–A8).[23]

Selection of States, Districts, Councils, and Respondents

Our initial research took place in Karnataka, a state with a long history of village council governance and one in which substantial expenditure powers have been devolved to local councils. In some ways, this state represents a best-case setting for finding distributive effects of quotas, because councils have especially substantial resources to distribute. Yet, the nature of caste politics in Karnataka and southern India as a whole (for instance, its arguably less politically salient character than in parts of northern India, see Jaffrelot 2003) could also plausibly moderate the distributive effect of quotas. This suggested the value of replication of our Karnataka study in settings with different caste politics and party systems. To probe the external validity of our initial findings and also to extend and test further our initial results, we thus extended our research to Rajasthan and Bihar—two states with different histories of council governance in which caste politics arguably plays a stronger local role.

In Rajasthan and Bihar, we selected several districts at random; in Karnataka, we purposively sampled six districts to maximize variation on factors such as the identity of particular dominant castes (see Dunning 2009).[24] We then selected pairs of village councils from the subdistricts located in those districts, mimicking the reservation process described earlier as closely as possible. Thus, we used 2001 census data to sort the council constituencies in descending order of SC (or ST) population proportions (in Karnataka) and population totals (in Bihar and Rajasthan) and used our reservation data to select pairs of councils with very similar SC or ST populations but different reservation status at each subdistrict-specific threshold.[25] This procedure generated a study group of 512 councils (200 in Karnataka, 148 in Rajasthan, and 164 in Bihar).[26]

To assess the claim of random or as-if random assignment to quotas, Table 2 presents a balance check, comparing reserved and unreserved councils on measured pretreatment covariates such as literacy and employment data drawn from the 2001 census. As the table shows, when pooling across the three states (and thus maximizing statistical power), constituencies with reserved and unreserved council presidencies are statistically indistinguishable on these covariates—just as they would be in expectation after true randomization. The nominal p-values in the final column of Table 2 assume independent tests; yet global tests that allow for dependence of the covariates also fail to reject the null hypothesis of balance. For example, the F-statistic for a regression of treatment assignment on these covariates is also insignificant (p-value 0.64). In the Online Appendix (Tables A2–A6), we show that balance holds on additional pretreatment covariates both individually within each state and for a larger study group drawn from throughout the state of Karnataka (this study group is discussed later).[27] In Karnataka, balance also holds both for the subsample with quotas assigned at random (through the drawing of lots) and those assigned only as-if at random at an RD threshold.[28]

[22] The latter case characterizes about one quarter of our sample. These councils differ in two ways from others in our study group: they have higher proportions of SC or ST citizens, and they have experienced prior reservation of the presidency at some point in the past. In our analyses reported later, we do not find significant differences in the effects of quotas for this group.

[23] Thus, our data are largely consistent with a random sample of councils from the respective states. We have as yet only compiled census data for our selected districts in Bihar. Our study group in Rajasthan has fewer STs on average than the population—perhaps reflecting rotation of quotas down the ST list by 2010.

[24] The selected districts are: Karnataka—Bangalore Rural, Chamarajanagar, Davanagere, Mandya, Mangalore, and Ramanagar; Rajasthan—Ajmer, Alwar, Barmer, Bilwara, Chittaurgarh, Churu, Dausa, Jodhpur, Kota, and Udaipur; and Bihar—Araria, Bhojpur, Bhagalpur, Gaya, Jamui, Katihar, Khagaria, Munger, Muzaffarpur, Nalanda, Pashchim Champaran, Saran, Siwan, and Vaishali.

[25] For SC reservation, we required the difference in the population proportions for each selected pair of councils to be less than 1%, whereas for STs, we adopted a more permissive bandwidth of 1.5%. At the time we constructed the study design in Karnataka, in December 2008, we lacked data on SC members' seats as well as the entire history of reservation, but we had data on presidency reservation in 2007 and census data on group proportions, on which the number of SC members' seats is based.

[26] Surveys could not be completed in one council in an area of Bihar affected by insurgent (Naxal) violence.

[27] In the Bihar sample, however, we found imbalance on the gender of the council president. In principle, assignment to caste quotas should be independent of the assignment of gender, which interviewees told us is randomized within each caste category group after caste quotas have been assigned (field interview, State Election Commission, November 10, 2012, conducted by research assistants at MORSEL). This imbalance may be due to sampling error, but it also may stem from adjustments made by officials after the assignment of caste quotas. This imbalance is a potential source of concern for the results from Bihar; it also suggests that whether designs such as ours provide plausible natural experiments may vary by Indian state, a feature that future researchers using such designs should bear in mind. All results reported in this article are robust to the exclusion of Bihar from the study group.

[28] The p-values in Table 2 are calculated using normal approximations (the study group is large, so the sampling distributions of the differences of means are close to normal), but we obtain identical results when we bootstrap the permutation distribution of the test statistics under the strict null of no unit effects.

TABLE 2. Balance Tests on Pretreatment Covariates

	Quota for SC/ST President (A)	No Quota for SC/ST President (B)	Difference of Means (A) – (B)	*p*-value
Mean number of illiterates	3671.2	3928.8	−257.6	0.21
	(134.4)	(153.3)	(203.8)	
Mean number of marginal workers	717.1	729.6	−12.5	0.78
	(29.1)	(33.6)	(44.6)	
Number of households	1305.2	1404.2	−99.0	0.09
	(38.4)	(44.3)	(58.7)	
Mean agricultural laborers	557.5	571.6	−14.1	0.79
	(37.8)	(38.8)	(54.1)	
Mean cultivators	875.7	933.7	−57.9	0.23
	(30.9)	(37.4)	(48.5)	
Mean female nonworkers	2193.2	2391.4	−198.1	0.12
	(82.3)	(94.3)	(125.2)	
Mean SC population	1232.8	1248.4	−15.6	0.83
	(54.1)	(49.1)	(73.1)	
Mean ST population	401.8	365.9	35.9	0.44
	(35.3)	(30.8)	(46.8)	

Notes: The unit of analysis is the village council constituency. Data are from the 2001 census. Standard errors are in parentheses. The *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 (A) and Group (B) are drawn from the same distribution. Additional tests are presented in the Online Appendix (Tables A2–A6). N = 512 village council constituencies.

As discussed above, there are sometimes deviations from the prescribed assignment procedure, as noted in Table 1, and this occurs to greater or lesser degrees across different subdistricts; however, balance on pretreatment covariates holds across different subsets of the data defined by the degree to which the assignment procedure was perfectly or imperfectly implemented. Moreover, the rotation of quotas may itself undermine the utility of lobbying officials to deviate from assignment procedure, since political actors understand that quotas will be assigned in some future election if not the current one (though they cannot readily predict when reservation will occur, inter alia because they lack the data we used to construct reservation histories).[29] In sum, while we cannot be certain that assignment to quotas is as good as random—which is an Achilles' Heel of many natural experiments (Dunning 2008, 2012)—here our data on the history of reservation, our qualitative fieldwork on the assignment procedure, and our balance tests on pre-treatment covariates suggest the plausibility of this claim and give us confidence that our treatment and control groups provide valid counterfactual groups.

To gather data on distributive and fiscal outcomes, our survey team interviewed citizens, two council members, the president, and local bureaucrats (secretaries) in each selected council constituency. In Karnataka, the sampling design called for a random sample of 10 citizens in the headquarter village of each of the 200 councils. In Rajasthan and Bihar, we selected two villages at random within each council constituency and interviewed eight citizens in each. We used an interval sampling method to select households and then attempted to interview the adult with the nearest upcoming birthday. This procedure generated a sample of 6,977 citizens across the three states.[30] We asked citizens a range of questions about benefit receipt and perceptions of council priorities; we also used survey experiments in Rajasthan and Bihar to compare how caste and party affiliations shape voting preferences and expectations of benefit receipt, as well as to test observational findings from our initial work in Karnataka. Descriptive statistics are presented in the Online Appendix (Tables A9–A10). We conducted fieldwork in Karnataka in January–February 2009, in Rajasthan in August–September 2011, and in Bihar from January–March 2012. In each case, the surveys took place more than a year after the previous election had installed a new council president.

WEAK DISTRIBUTIVE EFFECTS OF RESERVATION

The simplest and most transparent way to analyze our data is at the level of treatment assignment: that is, the village council constituency. Thus, we aggregate individual survey responses to their constituency averages. Our estimators of average causal effects are then

[29] Clearly, dynamic considerations can shape strategic behavior on the part of political actors, in ways that we discuss explicitly later, and indeed this plays a role in our explanation for the null effects we estimate. However, for purposes of estimating the marginal effect of the presence of an electoral quota in any given term, the rotation of quotas helps to bolster the *a priori* case that quotas are assigned as-if at random in our study group.

[30] The sampling design for our surveys is discussed further in our Online Appendix.

TABLE 3. Estimated Causal Effects of Quotas: Survey Evidence

	SC and ST Citizens			Council Members and Presidents		
	Quota for SC/ST President (A)	No Quota for SC/ST President (B)	**Estimated Effect of Quotas (A-B)**	Quota for SC/ST President (C)	No Quota for SC/ST President (D)	**Estimated Effect of Quotas (C-D)**
Received a job or benefit from council in previous year—%	26.2 (2.61)	24.6 (2.51)	**1.57 (3.62)**	–	–	–
Received a job through the MGNREGA scheme—%	24.0 (2.64)	20.6 (2.55)	**3.39 (3.67)**	–	–	–
Received a benefit from any government scheme—%	65.9 (4.32)	62.6 (4.55)	**3.28 (6.27)**	–	–	–
Council serves SCs and STs effectively—average on scale	3.37 (0.16)	3.44 (0.18)	**−0.07 (0.24)**	4.42 (0.12)	4.42 (0.10)	**0.00 (0.16)**
SCs or STs have the most influence over council—%	32.0 (3.71)	24.9 (2.91)	**7.11 (4.72)**	23.4 (2.07)	18.3 (1.89)	**5.11+ (2.80)**
SCs or STs receive priority from council funds—%	67.3 (4.01)	54.8 (3.60)	**12.4* (5.40)**	53.4 (2.67)	52.3 (2.56)	**1.12 (3.72)**
Respondent's priority perceived as council's priority (SC/ST only)—%	23.3 (3.04)	28.7 (3.56)	**−5.35 (4.68)**	51.9 (4.13)	45.4 (5.68)	**6.45 (7.02)**

Notes: The unit of analysis is the village council constituency (N = 512 councils). Standard errors are in parentheses. Bolded columns give estimated causal effects, that is, the differences of the means presented in the two columns to the bolded columns' left. Survey data from SC and ST citizens and from council members and presidents are aggregated to their council constituency means. Some questions were not asked in every state. The effectiveness scale ranges from 1–5 in Karnataka and 1–7 in Rajasthan and Bihar. See the Online Appendix (Tables A11–A14) for results using other analytic procedures.
* $p < 0.05$, + $p < 0.10$.

simple differences of means: The mean of the council-constituency averages in the no quota (control) group is subtracted from the mean of the council-constituency averages in the quota (treatment) group. An advantage of this procedure is that it takes account of the clustered assignment of all citizens living in a particular village to the same treatment status (quota or no quota)—which may increase the variance of treatment effect estimators, relative to individual-level assignment—in a simple, design-based way (Angrist and Pischke 2008, 167; also Dunning 2012). We then conduct significance tests for differences of means using standard *t*-tests, as well as *p*-values based on permutation tests. Because the SC/ST proportion varies somewhat across our clusters, we weight the cluster means by the proportion of SC/ST residents in each constituency, which allows us to obtain estimates that are valid for the average causal effect of reservation on benefits received by all SC/ST citizens in the study group.[31] Although this procedure is the best method for analyzing our data, we obtain qualitatively similar results using a wide variety of alternative analytic techniques.[32]

So, do caste-based quotas for the council presidency stimulate the distribution of greater benefits to SC or ST citizens? We first asked citizens whether they had received a job or benefit from the village council in the previous year. This question is intentionally broad, allowing the respondent to interpret "benefit" in a number of different ways. In Rajasthan and Bihar, we also asked about receipt of benefits from specific government schemes, such as the MGNREGA job scheme discussed earlier. In the first column of Table 3, we present estimated causal effects, pooling across respondents in the three states.[33]

As the first three columns of Table 3 indicate, quotas for SC or ST presidents do not discernibly increase the probability that SC or ST citizens receive jobs or benefits from the village council (first row of the table) or from specific programs such as the MGNREGA job scheme (second row) or indeed that they receive a benefit from any government scheme (third row).[34] Quotas also have no significant effect on whether SC or ST respondents say (1) that the council serves their

[31] Analysis by cluster means may induce some ratio-estimator bias when the clusters are unequal sizes (because we divide by the sample size in the treatment and control groups and the size of each group is a random variable). This is similar to the small-sample bias of the standard instrumental-variables estimator. However, our estimators are consistent in the number of clusters, and here we have a large number of clusters.

[32] In the Online Appendix (Tables A12–A14), we report analyses based on (1) differences of unweighted cluster means; (2) regressions using individual-level data, with standard errors clustered at the council constituency level; and (3) simple differences of means that ignore the clustered nature of treatment assignment. The last technique is the least conservative and is most likely to reject null hypotheses of no effect, yet we find null effects even using this naïve technique.

[33] Results disaggregated by state are presented in the Online Appendix (Table A11).

[34] We asked detailed questions about receipt of benefits from MGNREGA and several other government schemes only in Rajasthan and Bihar; hence, analysis for these variables includes only those two states.

group effectively (fourth row) or (2) that their group has the most power or influence over the council (fifth row), though they do have a large estimated effect on the propensity of respondents to say (3) that SCs or STs receive priority for spending of council funds (sixth row).[35] The point estimates for (2) and (3), at around 7% and 12%, respectively, are greater than for the other variables, and the latter estimate is statistically significant; this evidence is consistent with previous evidence that quotas have some effect on voter perceptions, if not on actual distribution (Chauchard 2010; Dunning 2009).[36] However, quotas also do not boost SC/ST respondents' perceptions that their priorities for council spending are the same as the council's actual priorities.[37] Indeed, the point estimate of about -5% suggests that, if anything, quotas for SC/ST presidents make it less likely that the priority of SC/ST respondents is the perceived priority of the council (seventh row of Table 3). We also asked a wide variety of questions about the perceived power of the president, political participation, and other variables for which a quota might be relevant; here, too, we did not find any marked effects of quotas. We pool across reservation for SC and ST presidents in this analysis, but results are substantively identical when we analyze SC and ST reservation separately.[38]

Turning to our interviews of council members, presidents, and secretaries, we find even weaker policy effects of reservation (last three columns of Table 3). Here, we find no impact of quotas on whether SCs or STs receive priority from the council in allocating benefits (sixth row), on whether SC/ST members' priorities are perceived as the council's actual priority (seventh row), or on whether the council effectively serves the needs of SCs and STs (fourth row). These null effects persist whether we consider responses from members and presidents separately or together and also when we restrict the sample to only SC and ST council members. The one exception is that SCs and STs are deemed to have more influence over councils with quotas (fifth row though the estimate is significant only at $p < 0.1$). Yet, this finding is driven by the answers of presidents (the difference for members alone is not significant), which are conceivably self-serving. Nor does reservation of the presidency for lower castes and tribes appear to affect various measures of the internal functioning of village councils.[39]

What about actual council spending patterns? We obtained data on expenditures from council secretaries (in some cases, from annual reports provided to us; in other cases, through detailed interviews with secretaries).[40] In Table 4, we compare average expenditures on several schemes: the Ashraya Rural Housing Programme, which aids the construction of dwellings for SCs and STs as well as other poor citizens; the Indira Awaas Yojana (IAY), which provides income support and shelter based on a poverty standard; the Ambedkar Scheme, which builds houses for SC and ST citizens; and the MGNREGA program, which is an important source of employment for poor SCs and STs. Although the degree of targeting to SC and ST households varies across these programs, SCs and STs are disproportionately likely to benefit from such targeted poverty alleviation programs (Duflo 2005). Moreover, in our surveys council members suggested they had considerable discretion to shift expenditures between categories; thus, quotas might well affect the level of expenditures by councils on such SC- and ST-targeted schemes.

Yet, for none of these schemes do we find an effect of quotas (first column of Table 4).[41] Nor do we find effects for an aggregate index combining several SC and ST targeted schemes. Indeed, we only find nominally significant effects for one of the other 25 schemes for which we collected expenditure data, even without adjusting for the multiple statistical comparisons.[42]

At least three concerns about our evidence might arise at this point. First, despite the wide range of outcome indicators we gathered through our detailed surveys, perhaps it is the case that these measures are simply insufficiently nuanced to capture subtler effects of quotas on distributive outcomes. For example, it might be that SC and ST council presidents help group members obtain income or caste certificates or access other bureaucratic services, yet these benefits are not captured by our survey questions. Relatedly,

[35] 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.

[36] Interestingly, averaging across reserved and unreserved councils, 31.9% of respondents from these groups say that SC or ST groups have the most influence.

[37] We asked respondents two closed-ended questions about (1) what should be the council's most important priority and (2) what actually is the council's most important priority, asking them to choose between seven options; we then coded agreement between answers to these two questions. Questionnaires are available with replication materials at the APSR site and at http://www.thaddunning.com/data/india/replication.

[38] We also find no effect of quotas on the probability of benefit receipt by all citizens, rather than just SC/ST respondents. These results also hold when analyzing each state separately (Online Appendix Table A11).

[39] For example, reservation does not discernibly affect (1) the reported number of *Gram Panchayat* meetings held in the previous six months; (2) whether members of the village council report working well together; (3) whether the primary source of disagreement among members is the choice of beneficiaries of council spending; (4) the transparency of funds availability to members or presidents; or (5) whether open council, local constituency, or social audit meetings are held or how effective they are deemed to be.

[40] There are some data missing here, but missingness is statistically unrelated to reservation status.

[41] For the IAY and MGNREGA schemes, we excluded a few councils with very large measured expenditures that seemed due to coding error; including these outliers makes no difference to the results.

[42] We collected data on spending on central government schemes (the 11/12th 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, MGNREGA, Total Sanitation, Swajaladara, Watershed Development, Continuing Education, SGSY, PMGY, Jal Nirmal, Jala Rakshane, Bharath Nirman, and drinking water maintenance).

TABLE 4. Estimated Causal Effects of Quotas: Fiscal Outcomes (Differences of Means, Reserved Minus Unreserved Councils)

Outcome Variable	Own Study Group (N = 512 councils)	Karnataka Statewide Study Group (N = 1,420 councils)
Ashraya Scheme expenditures	−89,892.7	−6,960.8
	(−86,063.7)	(11,622.2)
IAY Scheme expenditures	−15,095.7	−11,794.9
	(87,357.1)	(13,021.2)
Ambedkar Housing Scheme expenditures	−31,681.4	2,907.1
	(28,580.8)	(6,211.7)
MGNREGA Scheme expenditures	39,305.7	94,566.0
	(212,448.3)	(76,177.0)
Drinking water infrastructure spending	–	−4,375.0
		(4287.4)
Individual latrines built	–	−0.77
		(8.32)
Community latrines built	–	−0.05
		(0.28)

Notes: Cells present the difference in average Rupee expenditures (first five rows) or latrines built (final two rows), across councils with and without SC/ST quotas for the council presidency. A negative sign indicates that spending was larger or construction of latrines greater in the councils without SC/ST quotas for the presidency. Here, "Own Study Group" are councils in Karnataka, Rajasthan, and Bihar in which we gathered our own data; spending data for the Karnataka Statewide Study Group come from the World Bank's Gram Swaraj project for April to September 2006, whereas infrastructure data come from the Rural Development and Panchayati Raj Department for April 2006 to March 2007. Data are missing for some councils, but missingness is statistically unrelated to assignment of a quota. Here, "–" indicates that data were not collected for this variable/study group. Standard errors for the differences in means are in parentheses. None of the differences in means is statistically significant at conventional levels.

our most fine-grained outcome data come from survey self-reports, not from data on actual individual targeting of credit or employment benefits, as in Bardhan, Mookherjee, and Torrado (2010); measurement error could be pronounced, which would make our estimators less precise. However, as we show later, the partisan relation between citizens and presidents *does* strongly predict several of our most important indicators—including having received a job and benefit from the council. Combined with our further survey-experimental results discussed later, this substantially allays the concern that our measures are simply too coarse or too noisy to capture distributive effects.

Second, perhaps categories such as SC and ST are not the relevant social unit of analysis: Preferences for co-ethnics may operate at the level of the specific castes (*jatis*) or tribes that comprise the SC and ST categories. Although this is quite plausible, it is worth noting several points. First, quotas are based on the broader categories: This is simply a feature of the institution we are studying. Because part of quotas' rationale is to boost the interests of the groups for whom office is reserved, distributive effects defined at this broader level are interesting and relevant. Second, if *jati* does have a strong effect on distribution, we would still expect quotas to lead to more overall benefits for SCs on average—because each SC president elected through a quota would distribute greater benefits to his or her *jati*—so long as the president does not also simultaneously discriminate against citizens from other SC castes, *relative* to the non-SC population.[43] Finally, using our data, we can also assess whether the presence of a president from a particular SC *jati* is in fact associated with distribution of greater benefits to that *jati*. We should bear in mind here that only the caste category of the president is plausibly assigned as-if at random; the president's specific caste is chosen endogenously, through political competition. Nonetheless, it is instructive that sharing the *jati* of the council president is not consistently associated with greater benefit receipt (Online Appendix, Table A16).[44] Thus, it does not appear that the aggregate level at which quotas are defined is simply masking the effects of distribution along *jati* lines. We return to the effects of *jati* later with our survey experiment.

A final concern is that these null findings may be an artifact of our relatively small sample size. Although we gathered data from more than 500 councils and nearly 7,000 citizens in three states, it is nonetheless conceivable that we could fail to reject small treatment effects with relatively high probability, in part because treatment assignment is clustered at the council level. To address this concern, we replicated our

[43] Dunning (2009) in fact found that attitudes between competing SC *jatis* were made somewhat more positive by the presence of a quota for SCs; that is, solidarity effects tended to trump competition effects.

[44] We estimate some significant associations in Rajasthan but not Bihar; our data on the *jati* of the council president are less reliable in Karnataka due to some coding errors.

regression-discontinuity design for a larger group of councils, drawn from all 5,626 councils across the state of Karnataka. Limiting our study group to pairs of councils on either side of the subdistrict-specific thresholds for reservation, we have 1,430 councils—715 with quotas for SC or ST presidents and 715 without. The drawback of this larger study group is that we cannot measure the distribution of benefits or perceptions of caste politics in the same detailed manner as with our proprietary surveys. However, the larger size of the study group elevates our statistical power.[45] Here, data on fiscal outcomes from the 2005–7 council reservation period come from the Department of Rural Development and Panchayati Raj and from the World Bank's Gram Swaraj project, which audited secretaries' fiscal reports.[46] As before, balance tests fall to reject the null hypothesis of equality of means on pretreatment covariates.[47]

Even with this larger study group, we find no discernible effects of quotas on distributive allocations or council performance (see Table 4). Reservation does not affect expenditures on SC- and ST-targeted schemes, such as the Ashraya, IAY, and Ambedkar schemes (top of the right portion of Table 4). We also hypothesized that quotas might boost construction of drinking water infrastructure or latrines, because the programs under which these are financed are supposed to give preference to SC or ST households but allow substantial discretion. Yet, we found no effects on these variables (bottom portion of Table 4). We also tested the effects of reservation on hundreds of outcome indicators not reported in Table 4 and found just 5 nominally "significant" test statistics in 286 tests, only 3 of which survived a standard correction for multiple statistical comparisons.[48]

Our statewide data allow us to explore an additional topic—what is the value-added of our research 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 subset of all councils using our RD-like design but instead make the "naïve" comparison of distributive outcomes across councils with reserved and unreserved presidencies. Using this approach, we find 93 nominally significant differences on the 286 outcome variables—compared to the 5 statistically significant differences we found using the RD design.

This finding suggests that one explanation for the differences between our results and some previous research may be methodological: Our design strips out bias due to unobserved confounders associated with the presence of a quota.[49] Ultimately, of course, it is difficult to know what drives differences between our results and some previous research. We do think that our work illustrates the value of replication across diverse contexts.[50] After finding weak effects of quotas in Karnataka—and suggestive evidence of the role of partisanship, to which we turn next—we replicated our study in Rajasthan and Bihar, using a similar survey instrument and natural-experimental design. That we found similar results gives us further confidence in our findings. If quotas had consistently strong effects on caste- and tribe-based targeting of benefits, our research design should have detected them.

WHAT EXPLAINS INVARIANCE? TARGETING BY MULTI-CASTE PARTIES

Why, then, does the reservation of council presidencies have little distributive effect? In a longer working paper, we explored and rejected several potential explanations. Drawing on experimental evidence presented in Dunning (2009), we discard the (implausible) notion that caste is simply irrelevant in rural India. Also, as discussed in the section, "Distributive and Policy Effects of Quotas," council presidents have substantial influence over the distribution of benefits, so their impotence cannot readily explain our findings.

Our research suggests instead that the nature of multi-caste parties at the local level helps explain this puzzle. The previous literature on the effects of local quotas in India has largely ignored the role of parties, perhaps because of the formally nonpartisan nature of council elections. However, our detailed data on the partisanship of council voters and members—which to our knowledge are the most systematic such data available—illuminate the important role of partisan mobilization and allow us to test several hypotheses about how partisanship shapes the effects of quotas. We next describe the role of parties in village councils and develop our argument before testing several

[45] 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.

[46] Some of these data are available for the entire state, and some are only available for the 39 subdistricts in which the Gram Swaraj project is working.

[47] A possibility here is to use equivalence tests based on the null hypothesis of *differences* across the groups, rather than the standard null hypothesis of no difference (Hartman and Hidalgo 2011). Such an approach is useful because it puts the onus on the researcher to affirmatively demonstrate balance, rather than simply failing to reject it; yet such tests demand specification of an "equivalence range" for which the two groups will be considered as drawn from the same distribution, which introduces some further discretion. Given our fairly large sample size and consequent statistical power, here we prefer the conventional approach.

[48] We use a false-discovery-rate correction, which adapts a Bonferroni-type procedure to the case of dependent tests (Benjamini and Hochberg 1995). All of our Karnataka results hold for the sample of council pairs with the same number of members' seats at the threshold (and thus assignment to quotas through true lotteries).

[49] Another possibility is publication bias: Non-null findings make their way into print at a higher rate than null findings, which heightens the possibility that published results are statistical flukes (Gerber and Malhotra 2008).

[50] In other analyses, we find mixed results on the effects of quotas for women presidents. Quotas significantly increase the propensity of women respondents to say that the council serves women effectively, and we also estimate a significant effect on women's receipt of benefits from the MGNREGA scheme. In contrast, quotas do not influence women's overall receipt of benefits from the council or other government schemes nor whether women perceive their priority to be the council's actual priority. Our study group includes the district (Udaipur) studied by Chattopadhyay and Duflo (2004), so sample composition does not seem to drive the differences with their results (see Online Appendix Table A15).

implications of our ideas using our survey and survey-experimental data.

Partisan Targeting in Multi-caste Organizations

Although candidates for local councils in most Indian states are banned from using party symbols in their campaigns, and ballots do not show party affiliations, partisanship nonetheless plays a key role in village councils. Pooling across states, about 72% of our survey respondents can identify the party of the council president, with percentages of around 90% in Karnataka and Rajasthan (Online Appendix, Table A9).[51] Indeed, our data suggest that knowledge of the president's party is nearly as widespread as knowledge of the president's caste. On our questionnaires, most council members were also able to list the party affiliations of other members without difficulty. Party affiliation appears strongly related to electoral behavior: More than 80% of party members said they voted for their party's candidate in the most recent elections.

Why is party affiliation so salient? One reason is that parties play a crucial role in financing the increasingly high cost of council elections. In interviews in Karnataka, candidates as well as party officials at the district and subdistrict levels independently estimated the per-candidate cost of local campaigns at about $2,500 (100,000 Rupees)—a shockingly large sum that is presumably far more than even an entrepreneurial council member could make in bribes and kickbacks during a five-year term. In our surveys in Bihar, presidents estimated total campaign spending from all sources at 202,291 Rupees (whereas council members estimated 34,159 Rupees). The distribution of targeted benefits plays an important role in electoral mobilization (see Breeding 2008): Presidents estimated that for an average campaign for their office in a typical election, they spent a total of 120,254 Rupees alone on money and gifts for citizens (for members, 16,659 Rupees). Our formal surveys and qualitative interviews suggested that party leaders help fill the financing gap. In Bihar, 64% of surveyed presidents and members said their party had helped fund their campaigns for village council (though only 7% said parties had provided broader "support"). Parties also contribute to horse-trading at the council level, for instance, by supplying the funds necessary to buy members' votes.[52] Finally, parties play an important role in structuring career advancement for politicians (say, in seeking seats on district or subdistrict councils), and party leaders at higher levels, such as state legislators, are often in contact with village council members and are sometimes present at council meetings (Wilkinson 2006).[53]

In return for the largess 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 subdistrict level described the way in which a single broker in each village—often a council member or the president—took responsibility for coordinating party mobilization efforts around election time. In our Bihar survey, council presidents reported spending an average of 3.4 hours per week doing work for their political party (compared to 1.2 hours for council members; the difference is significant at the 0.01 level). Moreover, 30% of presidents (and 24% of members, 42% of presidents who are party members, and 39% of council members who are party members) said they provide support during elections to other politicians from their parties. That council members and presidents are rewarded for mobilizing the vote at election time may in turn create strong incentives to allocate benefits to co-partisans. Stokes, Dunning, Nazareno, and Brusco (2013) provide one rationale for why local brokers seeking to build large networks might tend to invest in party loyalists: Party sympathizers are relatively cheap to mobilize, and party leaders cannot readily distinguish between the targeting of sympathizers and swing or indifferent voters.[54] Whatever the reason why party sympathizers are targeted, however, the main point is that here local brokers may distribute resources along partisan lines. We test this hypothesis later.

The reason that partisan distribution may then mitigate the distributive effects of quotas is twofold. First, our research suggests that parties are often to a greater or lesser extent comprised of multiple castes and caste groups at the local level. Many candidates for village councils draw support from both dominant and marginalized castes; correspondingly, voters of the same caste, even in the same village, frequently support different parties. In Karnataka, where our within-village sample of SC citizens is largest, we interviewed up to four SC citizens in each village (out of 10 sampled respondents); in 63% 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. Moreover, in village councils in which more than one SC or ST council member answered our party affiliation question, we found that they were affiliated with the same party only 56% of the time.

Party leaders also stressed the multi-caste character of their local organizations in our field interviews—even those from traditionally upper caste parties such as the BJP, whose leadership in Karnataka's Malavalli subdistrict went to pains to point out the presence of

[51] Here we take citizens' claim to know the party and the caste of the council president at face value, but our data on the partisan composition of councils suggest that knowledge of party affiliations is quite accurate.

[52] Interviews, Malavalli Taluk, Mandya District, Karnataka, March 2010.

[53] Thus, the observation of Mitra (1998, 115) that "most parties also bear a substantial share of their candidates' poll-related expenses, for few politicians can afford to pledge the large amounts needed to successfully contest an election" is replicated at the village council level (see also Yadav 2011).

[54] Scholars have debated the conditions under which parties target "core" or loyal voters, as opposed to swing voters (Cox 2007; Dixit and Londregan 1996; Nichter 2008; Stokes et al., 2013).

local SC party leaders.[55] In Bihar, about 50% of SC or ST party members among surveyed council members were allied with the Janata Dal (United), whereas the rest were split among other parties, especially the Rasthriya Janata Dal and the BJP; similar percentages held for SC/ST citizens as well. In Rajasthan, SC and ST members tilted more heavily toward the Congress party, but still about one-quarter of SCs and STs in our sample were members of or felt closest to the BJP.[56] Such party splits within caste groups and within villages may reflect the alignment of "factions" within villages with different parties.[57] Yet, the crucial point is that those alignments cut across caste lines. Of course, as we discuss later, the extent to which parties are locally multi-caste may vary across contexts, with possible implications for the mitigating effect of partisanship on quotas. Here, the key point is that if parties are locally multi-caste—and local party organizations have incentives to target voters along partisan lines—then benefits may be distributed within parties to multiple castes.

A second, related point concerns the dynamic incentives engendered by the rotation of quotas, which may itself also heighten the tendency of party affiliations to trump caste ties in shaping distribution. In each electoral term, the caste or tribe identity of the president varies exogenously, due to the quota policy. Consistent with standard theories of dynamic bargaining, regular exogenous alternations in power may moderate how much policy changes whenever the identity of the group in power shifts. For example, Dixit, Grossman, and Gul (2000), building on Alesina (1988), 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 less dramatically when in power than it would in a one-shot interaction. Such dynamics might reduce variation in caste- or tribe-based targeting across electoral terms in which quotas are present or absent—because the randomized application of reservation corresponds well to the exogenous process described in Dixit, Grossman, and Gul's (2000) model.[58]

Yet, the key point here is that multi-caste parties are the actors within which such dynamic bargains can be struck. The identity of the *party* in power is not assigned exogenously by the quota policy but instead depends in part on distributive targeting. Parties therefore have stronger incentives to use resources endogenously to achieve and maintain power, and they may do this by distributing some resources to both upper and lower caste affiliates. Thus, when council leadership rotates exogenously among co-partisans from different castes—due to the quota policy—we may observe endogenous intra-party, cross-caste targeting. In sum, models such as Dixit, Grossman, and Gul (2000) may nicely characterize the process of intra-party bargaining between dominant and marginalized castes *within* the council's governing party; exogenous alternation of council leadership may create incentives for intertemporal smoothing of targeting, but such dynamics occur *within* multi-caste parties.[59] Note that here, too, the cross-cutting nature of party and caste ties at the local level is again central: If party and caste or tribe were isomorphic, the presence of a caste- or tribe-based quota might lead to bigger shifts in the targeting of benefits, because the quota would then also engender a shift in the party of the council president as well as in his or her ethnic identity.

In sum, distribution may take place along partisan rather than caste lines, with important implications for the impact of quotas. That is, linkages between upper and lower caste council members within multi-caste party organizations may create incentives for allocating benefits to both upper and lower caste party members, regardless of the presence or absence of quotas. If these hypotheses are correct, we should expect the party of the council president to influence the distribution of benefits, as presidents use their discretion to target co-partisans. Moreover, if multi-caste parties shape distribution in the context of dynamic incentives created by rotating quotas, we may also expect linkages across castes, within parties, to be especially important in shaping benefit receipt. We turn in the next two subsections to testing these observable implications of the theory.

Testing the Impact of Partisanship

First, does the distribution of council benefits in fact follow a partisan logic? Our surveys asked citizens and council presidents to which political party they belong; a follow-up question asked citizens (including those

[55] Parties in Karnataka are identified with particular castes at the state level (Shastri 2009), but our evidence suggests their decidedly multi-caste character at the local level. This may have been true prior to the quota policy too, but we cannot readily test this, because comparable data do not exist for the pre-reform period.

[56] See Thachil (2011) for an explanation of the BJP's successes (and failures) in wooing ST and SC voters.

[57] Indeed, as pointed out by a reviewer, the same Hindi word, *dal*, is used for both "parties" and "factions." On the role of within-party factions in post-independence India, see Brass (1965).

[58] The reservation status of the council presidency in future terms is not tightly predictable when the presidency is currently unreserved—candidates don't do not themselves have access to forms like Table 1—although our fieldwork suggests that *local* politicians have some sense of the probability of reservation in the next term—(e.g., based on whether the presidency has ever been reserved for a particular category and, if so, when).

[59] Note that this model does not resolve the question of which caste group will receive the most benefits along an efficient allocation path, because this depends on the groups' respective bargaining strengths: It simply says that targeting will not change much whenever the identity of the group in power shifts exogenously. However, if parties are often controlled at higher levels by upper castes, the bargaining strength of marginalized castes may be weak. Thus, our argument may provide a variant on the concern of early critics of quota policies in India, such as the SC leader Dr. B. R. Ambedkar, that reserving posts for politicians from minority groups—although still permitting majority groups to vote in the election—would lead to the cooptation of minority representatives, because "politicians in these constituencies still had to appeal to more conservative upper and middle caste voters to get elected" (Wilkinson 2003). However, the key point here is that SC and ST *local* politicians may sometimes need to appeal to upper and middle caste party leaders.

TABLE 5. Party Affiliation and Benefit Receipt (Difference of Percentages, Members of President's Party Minus Nonmembers)

	Member of President's Party	Not Member of President's Party	Difference of Percentages
Received job or benefit from council (all respondents)—%	21.69	16.64	5.05***
	(1.01)	(0.46)	(1.10)
Received job or benefit from council (SC/ST respondents)—%	30.38	26.31	4.07+
	(2.09)	(0.95)	(2.30)
Received job through the MGNREGA scheme—%	23.06	17.97	5.09***
	(1.04)	(0.62)	(1.21)
Received benefit from any government scheme—%	63.17	59.99	3.18*
	(1.24)	(0.83)	(1.49)
Respondent's priority perceived as council's actual priority—%	25.86	23.42	2.43+
	(1.21)	(0.77)	(1.43)
Received job or benefit from council (by feeling close to party)—%	18.16	17.38	0.79
	(0.82)	(0.49)	(0.96)

Notes: The table presents the percentage point difference in benefit receipt by co-partisanship with the village council president. Standard errors are in parentheses. Members of the council president's party are citizens who identify the party of the president, in response to the questions, "Are you a member of any political party? If so, which one?" The party of the council president is coded from survey responses of presidents and council members (see text). Respondents were also asked the party to which they feel closest (final row). The cells present weighted averages, where the weights are the share of respondents in each state. N = 1,966 citizens in Karnataka, 2,370 citizens in Rajasthan, and 2,641 citizens in Bihar. Questions about the MGNREGA scheme and all government schemes were asked only in Rajasthan and Bihar.
+ $p < 0.1$, * $p < 0.05$, *** $p < 0.001$.

who professed no party membership) to which party they feel closest.[60] We use these responses to code two indicator variables.[61] The first equals one if the respondent is a member of the party of the council president and is zero otherwise; the second equals one if the respondent feels closest to the party of the president and is zero otherwise. Because the probability of belonging to the council president's party varies across states—as does the average level of benefits received—we weight within-state estimates by the shares of respondents from each state.[62]

We find that citizens who are members of the party of the council president are significantly more likely than others to have received a job or benefit from the council in the previous year (Table 5, first row). Indeed, the estimated effect represents an increase of 30% in the probability of benefit receipt over those who do not share the president's party. This also holds for SC and ST citizens alone (second row), though the effect is estimated more imprecisely. The relationship is pronounced for the MGNREGA job scheme (third row)—in which, as discussed earlier, the president appears to play a particularly active role—but co-partisanship is also statistically related to the probability of receiving a benefit from any government scheme. In other analyses, we 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 party or candidate before an election, in return for turning out to vote (p-value < 0.001). The effects of party appear somewhat stronger in Karnataka and Rajasthan than in Bihar: For example, co-partisanship is associated with a 12 percentage point increase in the probability of receiving benefits in Karnataka, whereas it is associated with a significant 9 percentage point increase in the probability of employment through the MGNREGA scheme in Rajasthan (Online Appendix Tables A17).[63] We discuss such heterogeneity in more detail later.

Of course, the association between co-partisanship and benefit receipt does not conclusively indicate a causal effect of party affiliation: Party membership is not randomly assigned, and the effect of co-partisanship could be confounded by several variables, such as the partisan composition of the council or individual attributes associated with both co-partisanship and benefit receipt. Some concerns about reverse causality may be somewhat allayed by our finding that merely feeling closest to the party of the council president is *not* statistically related to benefit receipt (final row of Table 5): Integration into party networks through membership may thus be most important in

[60] Party affiliation is not tied to voter registration in India; the question leaves it up to respondents how to define "party membership." See notes to Table 5 for the wording of the survey question.

[61] We asked presidents and members to name their own party affiliation and the affiliation of every other council member. To avoid dropping a few constituencies where the president was not interviewed, we used the modal president's party as identified by all respondents. Results are similar if we use presidents' self-reports.

[62] Here we have a situation akin to blocked assignment, in which the probability of treatment (co-partisanship) varies by block (i.e., state). Our estimate of the overall average causal effect should therefore weight each block-level estimate by block size (Green and Gerber 2012, chapter 3). Online Appendix Table A11 presents our results separately by state. Note that this issue did not arise in our analysis of quotas, because the probability of receiving a quota is the same (i.e., one-half) for every council in our study group.

[63] Also, co-partisanship is associated with a significant 5 percentage point difference in the probability that the respondent's priority is perceived as the council's priority in Rajasthan; the difference is insignificant in Bihar.

causing citizens to be rewarded by the party in power with material benefits. Nonetheless, citizens who receive benefits may affiliate with the party of the person who gave them the benefit, rather than the other way around. Moreover, we have greater power to detect party effects than for those of quotas because of the structure of our data: Co-partisanship is an individual-level variable that varies within villages, whereas assignment of quotas is clustered at the village council level. Thus, our observational analysis might not provide a fair basis for comparing the effects of party affiliation to those of caste- and tribe-based quotas.

Party versus Caste: A Survey Experiment

To overcome these limitations, we conducted a survey experiment in Bihar and Rajasthan in which we experimentally manipulated the party and caste of a hypothetical candidate for village council president. This design obviates several important concerns about confounding and reverse causality, while also generating tests with equivalent power for party and caste effects. The survey experiment also allows us to test several implications of our argument about cross-cutting affiliations and partisan targeting within multi-caste parties.

We first read citizens a short statement by a hypothetical candidate for president of a local village council:

> Now, I will to read you a statement that was made by a candidate named **[caste name]** who ran for election to the position of president of a village council here in [Rajasthan/Bihar]. I am interested in your opinions about this statement and about this candidate. **[Caste name]** is a 36-year old **[caste category]** and is affiliated with **[party]**. **[Caste name]** said the following in his speech:
>
> "I am here today to ask for your support in my candidacy for president ... OMITTED TEXT[64] ... If you elect me as your president, I will fight for goals we all believe in. I will work with the members of our village council, the **[party]**, and other local and state politicians to ensure that every constituency develops economically. Please help me by providing me with your vote."

Our goal was to stimulate identification of the candidate with a specific caste *(jati)* and caste category, as well as a political party. Thus, in Rajasthan, we experimentally varied [caste name] to read either "Rajesh Singh" or "Rajesh Dhobi"—names associated with the Rajput (forward) and Dhobi (SC) castes, respectively; in Bihar, [caste name] was either "Rajesh Yadav" or "Rajesh Chamar"—again common names associated with a locally dominant caste and an SC caste.[65] Finally, we varied [party] to indicate one of the two major parties currently vying for power in each respective state—in Rajasthan, the Bharatiya Janata Party (BJP) or Congress, and in Bihar the Rashtriya Janata Dal (RJD) or Janata Dal (United). Thus, each respondent was exposed to a hypothetical candidate from a dominant or a subordinate caste from one of the two major parties in the state.

After being read the candidate's speech, voters were asked how much they agreed with a series of statements, on a scale of 1 to 7. We focus here on three:

1. "You would vote for a candidate such as [**caste name**] for president of the village council."
2. "If [**caste name**] were elected, people like you would receive more jobs from the village council."
3. "If [**caste name**] were elected, people like you would receive more benefits from welfare schemes through the village council."

The first question is intended to tap vote intention, whereas the second and third tap expectations of benefit receipt—where the phrase "people like you" is left intentionally vague to allow respondents to think of either their party or caste identities (or both or neither) in responding. We combined the second and third questions to create a "jobs/benefits" scale running from 2 to 14. Although the caste name is repeated in each question, party ties were stimulated only by the candidate's initial statement—which might conceivably weaken party effects in this experiment. Note that membership in or closeness to a specific party is a fixed attribute of each respondent, as is his or her caste, but the caste and party of the candidate are manipulated at random. Thus, finding that the partisan relationship between respondents and candidates influences respondents' evaluations or expectations of benefit receipt cannot plausibly be due to omitted variables or reverse causality.

One way to analyze these data is to assess how co-partisan and co-caste relationships shape evaluations of the candidates. Thus, respondents who share the party of the candidate can be compared to respondents who do not, and respondents who share the caste of the candidate can be compared to those who do not. This approach allows us to compare directly the effects of partisan ties to the effects of caste ties in shaping voting preferences and expectations of benefit receipt.[66] Here, we can understand "sharing" the candidate's party in broader or narrower ways: We can require that the respondent identify him- or herself as a member of some

[64] OMITTED TEXT reads: "As a native of [Rajasthan/Bihar], I know that we face many challenges: unemployment; a shortage of paved roads and bridges; a lack of available water; and of course, poverty and frustration. Our children are supposed to receive mid-day meals at school but how many do so? We cannot get the public services we need, because our bureaucrats ask for bribes. When we want to obtain a ration card or some other service, we must ask bureaucrats to help us. If we need a water tank or want to pave the roads in our locality, we must appeal to the right authorities. To access government schemes, we must rely on our politicians, including those right here in our village council as well as those in the block and district councils. We need to have a president who can meet these challenges."

[65] Here, [caste category] was varied to reflect the candidate's broad category (e.g., "member of the Scheduled Castes" for Dhobi or Chamar candidates). We used "Dhobi" in Rajasthan because there "Chamar" may have some pejorative connotations and also because of the prevalence of the Dhobi (washer) *jati* in Rajasthan.

[66] We measured respondents' caste as part of a battery of initial survey questions. Though we asked party questions at the end of the survey, reported affiliation is statistically balanced across versions of the survey, so there is no evidence that it is influenced by the experimental treatment administered much earlier in the survey.

party—as recorded by responses to the questions, "Are you a member of any political party? If so, which one?" Or, we can code the party to which the respondent feels closest, a broader criterion. In the case of caste, we can slice the data three ways, ordered by increasing narrowness in the understanding of the concept:

(1) **Broad Caste Group:** here, we include all respondents and consider an SC or ST respondent to share the group of the SC candidate, whereas forward-caste and Other Backward Classes (OBC) respondents share that of the dominant-caste candidate.
(2) **Narrow Caste Group:** here, we consider SC respondents to share the caste group of the SC candidate, whereas forward castes share the group of the Rajput candidate (in Rajasthan) and OBC respondents share the group of the Yadav candidate (in Bihar) (and other respondents are omitted).
(3) **Caste (*jati*):** here we include only respondents from the Dhobi and Rajput castes (in Rajasthan) and the Chamar and Yadav castes (in Bihar); we consider respondents to share the caste identity of the candidate only if they are from the same caste (Dhobi, Rajput, Chamar, or Yadav, respectively).

Obviously, we have the most data and thus statistical power with option (1), but this likely introduces heterogeneity and measurement error in the caste variable. Option (2) corresponds most closely to the legal category of caste used to allocate quotas, which is desirable. Finally, (3) taps the narrowest notion of shared caste (*jati*), and so caste might plausibly be expected to boost evaluations of candidates the most here. Note that whatever definition of shared caste and party membership we use, we estimate causal effects using about the same number of respondents per treatment condition—so we have approximately equal statistical power for detecting either co-partisan and co-caste effects.

Tables 6A and 6B show estimated effects of party and caste ties on vote intentions—the first question—using the three ways of defining shared caste; for co-partisanship, 6A uses shared party membership, whereas 6B uses closeness to the party of the candidate. The bottom row of each table gives the estimates of party effects—the difference in average candidate evaluations, across those exposed to a co-partisan and those exposed to a candidate from a different party—whereas the final column gives the caste effects: the difference in average evaluations of those exposed to candidates who share their caste and those who do not. Several findings are notable.

First, co-partisanship sharply boosts respondents' reported likelihood of voting for the candidate. The average estimate along the bottom row of Table 6A—which measures the effects of exposure to a candidate who is a co-partisan, among party members—is 0.49, an effect size of one-quarter of one standard deviation; most of the individual estimates are significant. Effects are somewhat weaker when we measure the party to which respondents feel closest, with an average effect of 0.33 points (last row of Table 6B), but we still find significant party effects.

Second, the impact of party consistently appears to trump the effects of caste in shaping voting intentions. As expected, caste effects are stronger as we narrow the definition of caste, although we lose statistical power because the analysis only includes respondents who can be assigned to a candidate from their own *jati*. Yet, the point estimates from the party treatments are always as large as, and sometimes substantially larger than, the point estimates from the caste treatments. We do not think these results indicate that caste is irrelevant for shaping voting behavior, but they do suggest the relative importance of party in shaping preferences over candidates for village council president.[67]

How do respondents assess the likelihood that people like them would receive jobs and benefits if the candidate were elected? Here, too, party effects are typically at least as strong as caste effects (Tables 7A and 7B). Interestingly, however, sharing the party of the candidate does not appear to add much when the candidate already shares the respondent's caste, or vice versa. In contrast, co-partisanship sharply boosts such expectations when the candidate and respondent are from different castes (fourth, fifth, and sixth columns of 7A and 7B)—a finding consistent with the claim that distribution is shaped by intra-party bargains between dominant and marginalized castes.

In sum, our observational and survey-experimental results do suggest that party affiliations shape vote intentions and benefit receipt as much or more than caste ties. Moreover, party ties that cross-cut caste may be especially important in shaping distribution. Together with our observation that local party organizations are often comprised of multiple castes, these results imply that cross-cutting relationships between party and caste or tribe help explain why caste- and tribe-based quotas do not have more impact. Our findings suggest that benefits are distributed along partisan—not so much caste—lines, which has important implications for quotas' distributive effects.

CONCLUSION

An important literature suggests that quotas for disadvantaged groups should promote the adoption of policies favored by those groups. Yet, our findings cast doubt on the generality of this hypothesis. Using a research design in which the effects of quotas are unlikely to be confounded by omitted variables, we find at most weak effects of quotas on the targeting of material benefits. These findings contrast with the expectations of both primordialist and constructivist schools of thought: The former would expect ethnic leaders naturally to promote the shared interests of their ethnic brethren, while the latter would expect the state's sanction of a composite ethnic category like

[67] The results in Tables 6 and 7 are broadly similar when we restrict the analysis to SC and ST respondents only, though for some categories the study group is small, with consequent loss of statistical power.

TABLE 6A. Survey Experiment—Party Membership, Caste, and Vote Intentions

	Respondent Shares Candidate's...			Respondent From Different...			
	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	**Caste Effects (Differences of Means)**
Respondent member of candidate's party	**(A1)** 5.27 (0.09)	**(A2)** 5.15 (0.14)	**(A3)** 5.36 (0.24)	**(A4)** 5.23 (0.10)	**(A5)** 5.13 (0.14)	**(A6)** 5.21 (0.23)	**(A1-A4)**: 0.03 (0.13) **(A2-A5)**: 0.02 (0.10) **(A3-A6)**: 0.15 (0.33)
Respondent member of different party	**(B1)** 4.81 (0.10)	**(B2)** 4.71 (0.16)	**(B3)** 5.06 (0.26)	**(B4)** 4.76 (0.10)	**(B5)** 4.63 (0.14)	**(B6)** 4.43 (0.26)	**(B1-B4)**: 0.05 (0.14) **(B2-B5)**: 0.09 (0.21) **(B3-B6)**: 0.63 + (0.37)
Party Effects (Differences of Means)	**(A1-B1)** 0.46*** (0.14)	**(A2-B2)** 0.44** (0.21)	**(A3-B3)** 0.30 (0.35)	**(A4-B4)** 0.47*** (0.14)	**(A5-B5)** 0.51** (0.19)	**(A6-B6)** 0.78* (0.34)	

TABLE 6B. Survey Experiment—Party Closeness, Caste, and Vote Intentions

	Respondent Shares Candidate's...			Respondent From Different...			
	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	**Caste Effects (Differences of Means)**
Respondent closest to candidate's party	**(C1)** 5.20 (0.06)	**(C2)** 5.12 (0.09)	**(C3)** 5.25 (0.16)	**(C4)** 4.93 (0.07)	**(C5)** 4.86 (0.09)	**(C6)** 4.79 (0.15)	**(C1-C4)**: 0.28**(0.09) **(C2-C5)**: 0.26* (0.12) **(C3-C6)**: 0.46* (0.21)
Respondent closest to different party	**(D1)** 4.72 (0.07)	**(D2)** 4.67 (0.09)	**(D3)** 4.82 (0.17)	**(D4)** 4.77 (0.07)	**(D5)** 4.70 (0.09)	**((D6)** 4.51 (0.16)	**(D1-D4)**: −0.05 (0.10) **(D2-D5)**: −0.03 (0.13) **(D3-D6)**: 0.31 (0.23)
Party Effects (Differences of Means)	**(C1-D1)** 0.48** (0.10)	**(C2-D2)** 0.45*** (0.13)	**(C3-D3)** 0.44+ (0.23)	**(C4-D4)** 0.16+ (0.10)	**(C5-D5)** 0.16 (0.13)	**(C6-D6)** 0.28 (0.22)	

Notes to Tables 6A and 6B: The cells record average answers, by treatment condition, to the question, "On a scale of 1 to 7, how much do you agree with the following statement: You would vote for a candidate such as [candidate's caste name] for village council president." Differences of means estimate the causal effect of varying the candidate's party and caste. Standard errors are in parentheses.
* $p < 0.001$ ** < 0.01 * $p < 0.05$* + $p < 0.1$. $N = 5{,}011$ (2,370 citizens in Rajasthan and 2,641 citizens in Bihar; for some treatment conditions, as noted in the text, the N is smaller).

TABLE 7A. Survey Experiment—Party Membership, Caste, and Benefit Receipt

	Respondent Shares Candidate's...			Respondent From Different...			
	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	**Caste Effects (Differences of Means)**
Respondent member of candidate's party	**(A1)** 7.63 (0.16)	**(A2)** 7.23 (0.25)	**(A3)** 7.51 (0.46)	**(A4)** 7.82 (0.17)	**(A5)** 7.36 (0.24)	**(A6)** 7.22 (0.41)	**(A1-A4)**: 0.18 (0.24) **(A2-A5)**: −0.13 (0.35) **(A3-A6)**: 0.29 (0.61)
Respondent member of different party	**(B1)** 7.51 (0.17)	**(B2)** 7.33 (0.26)	**(B3)** 8.34 (0.45)	**(B4)** 7.11 (0.17)	**(B5)** 6.59 (0.23)	**(B6)** 6.35 (0.44)	**(B1-B4)**: 0.41+ (0.24) **(B2-B5)**: 0.75** (0.35) **(B3-B6)**: 2.00** (0.63)
Party Effects (Differences of Means)	**(A1-B1)** 0.12 (0.24)	**(A2-B2)** -0.11 (0.36)	**(A3-B3)** -0.83 (0.64)	**(A4-B4)** 0.71** (0.24)	**(A5-B5)** 0.77** (0.33)	**(A6-B6)** 0.87 (0.60)	

TABLE 7B. Survey Experiment—Party Closeness, Caste, and Benefit Receipt

	Respondent Shares Candidate's...			Respondent From Different...			
	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	Broad Caste Group	Narrow Caste Group	Caste (*jati*)	**Caste Effects (Differences of Means)**
Respondent closest to candidate's party	**(C1)** 7.46 (0.12)	**(C2)** 7.04 (0.15)	**(C3)** 7.52 (0.31)	**(C4)** 7.08 (0.12)	**(C5)** 6.64 (0.16)	**(C6)** 6.51 (0.26)	**(C1-C4)**: 0.38* (0.17) **(C2-C5)**: 0.40+ (0.22) **(C3-C6)**: 1.01*** (0.21)
Respondent closest to different party	**(D1)** 7.02 (0.12)	**(D2)** 6.72 (0.15)	**(D3)** 7.34 (0.27)	**(D4)** 6.66 (0.11)	**(D5)** 6.20 (0.15)	**(D6)** 5.82 (0.26)	**(D1-D4)**: 0.36* (0.16) **(D2-D5)**: 0.52* (0.21) **(D3-D6)**:1.52*** (0.24)
Party Effects (Differences of Means)	**(C1-D1)** 0.44** (0.17)	**(C2-D2)** 0.32 (0.21)	**(C3-D3)** 0.18 (0.41)	**(C4-D4)** 0.42* (0.17)	**(C5-D5)** 0.44* (0.21)	**(C6-D6)** 0.70+ (0.37)	

Notes to Tables 7A and 7B: The cells record average responses, by treatment condition, to questions tapping expectations of benefit receipt if the hypothetical candidate were elected. The dependent variable is a 2–14 scale created by summing degree of agreement, on a 1–7 scale, with the following statement: (1) "If [candidate's caste name] were elected, people like you would receive more benefits from welfare schemes through the village council;" [and] (2) "If [candidate's caste name] were elected, people like you would receive more jobs from the village council." The differences of means in the final columns and final rows of each portion of the table estimate the causal effect of experimentally varying the candidate's party and caste. Standard errors are in parentheses. * $p < 0.001$ **$p < 0.01$ * $p < 0.05$* + $p < 0.1$. $N = 5{,}011$ (2,370 citizens in Rajasthan and 2,641 citizens in Bihar; for some treatment conditions, as noted in the text, the N is smaller).

Scheduled Caste or Scheduled Tribe to lead to political mobilization and distribution along those ethnic lines.

The character of multi-caste party organizations at the local level, together with the dynamic incentives created by the rotation of quotas, may explain why distribution appears relatively invariant to the presence of electoral quotas. Partisanship and party organization have been largely ignored by the previous literature on quotas for marginalized groups in Indian village councils. Yet, our compilation of detailed data on party affiliation in councils—to our knowledge, the most systematic such effort—reveals the deep tentacles that parties extend into local elections. Our research suggests that party ties across levels of government induce partisan targeting by politicians and thereby mitigate the distributive effects of ethnic quotas. Because the dynamics we describe depend on linkages between upper and lower caste citizens within party organizations, they also underscore the ways in which cross-cutting cleavages can undermine the distributive effects of mandate representation. Thus, our findings contribute to research on the conditions under which ethnicity provides—or fails to provide—the basis for political mobilization.

Our findings do not imply that quotas have no effects, as discussed in the introduction. It is at least possible that equilibrium outcomes across all councils are different, given the *institution* of rotating quotas, than they would be in its absence. Indeed, our discussion of the dynamic incentives created by rotating quotas is consistent with the existence of some such general equilibrium effects, in which all parties to adopt distributive policies that are more favorable to lower castes—whether or not a quota is in place in any electoral term.[68] Nonetheless, we are skeptical that this interpretation can fully explain the weak effects of quotas that we estimate here. It is worth noting that quotas do not appear to have solved the problem of caste- and tribe-based inequality in rural India. Between 1993–94, when the quota policy was introduced, and 2004–5, the estimated gap in the incidence of rural poverty between SCs and the general population shrank only slightly (from a difference of 10.1 to 8.5 percentage points), whereas for STs it actually widened (from 14.6 to 19 percentage points). Similarly, the gap between the general and SC literacy rate declined from a difference of 14.8 percentage points in 1981 to 9.3 in 2001, whereas for STs, the respective figures were 19.8 and 16.1 (Census of India; Singh 2009, tables 1 and 9). Such pre- and post-comparisons obviously provide a weak basis for causal inference, since they cannot readily pin down the counterfactual path that distributive outcomes *would have* followed in the absence of the institution of quotas; yet the fact that income and literacy gaps have not narrowed substantially in the wake of the 73rd amendment does suggest that quotas have not solved distributional problems through general equilibrium mechanisms.

What our findings do suggest is the primacy of the political—for instance, of patterns of party organization and of dynamic incentives engendered by political competition—in shaping the distributive effects of

[68] However, using a difference-in-differences design, Jensenius (2012) finds no impact of reservation of state assembly seats on SC/ST welfare. As the reservation status of state assembly constituencies was left unchanged from 1974–2008, this suggests that rotation of quotas is not necessary to engender null effects.

quotas. The fact that *jati* (caste) ties do bear some relationship to benefit receipt, as suggested by our survey experiment, only underscores the importance of understanding broader patterns of political mobilization; as Chhibber (1999) has suggested, such groups may be too small to provide the basis for electoral coalitions, and this may be true even in the context of the council elections we study here. A further corollary to our argument is that the effects of quotas may be *conditional* on the nature of partisan mobilization, as well as on the degree to which party ties cross-cut caste groupings. Indeed, our argument implies that the effects of quotas could be stronger if caste and party were more tightly correlated: Then, a quota would imply a switch not just of the caste but also of the party of the president. Future research should attempt to test more directly for such conditional effects. Yet, our research underscores the importance of understanding how institutions designed to promote descriptive or substantive representation interact with patterns of political mobilization—in particular, the extent of cross-cuttingness between ethnicity and party affiliation. While such political and partisan factors have not been a focus of the recent literature on quotas in India, our findings suggest their enduring relevance for distributive outcomes.

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