Do Quotas Promote Ethnic Solidarity?

Field and Natural Experimental Evidence from India

Thad Dunning

Department of Political Science

Yale University

This version: September 15, 2010

Abstract: Previous research on ethnic politics suggests two contrasting effects of ethnic quotas: a "competition" effect—in which various groups whose members are all eligible for quotas compete for benefits—and a "solidarity" effect, in which hostility between various groups eligible for quotas diminishes, perhaps due to in-group dynamics familiar from social psychology. Yet, evaluating the effects of quotas is typically challenging, because electoral institutions are not typically assigned at random. Using an unusual combination of natural and field experiments in the Indian state of Karnataka, this paper investigates the causal impact of quotas for candidates from marginalized castes and tribes on voters' political attitudes and preferences. While there is some evidence for both competition and solidarity effects, the solidarity effect here appears to be stronger.

Scholars of ethnic politics suggest that electoral institutions, political leadership, and the sanctioning of particular ethnic categories by the state may all shape political attitudes and behaviors, as well as the salience of broad forms of ethnic identification (Bates 1983; Laitin 1986; Chandra 2005; Posner 2004, 2005). An abundance of observational evidence seems to support this basic proposition. In the United States, the creation of a census category for Hispanics is seen to have created an important basis for political mobilization (Rodríguez 2000). The recent election of Bolivia's first indigenous president, Evo Morales, coincides with a large increase in the percentage of Bolivians who identify as indigenous in public opinion surveys (LAPOP 2008: xxx-xxiii; Madrid 2008: 485, 490). The election of black mayors in white-majority cities in the United States is viewed as reducing prejudice on the part of whites towards African Americans (Hajnal 2001, 2006).

Yet, previous research on electoral institutions and ethnic politics leaves important substantive questions unaddressed, because it sometimes treats the ethnic groups it studies as undifferentiated categories. In fact, ethnic categories are often nested within a hierarchical structure (Laitin 1986, Chandra 2005, Posner 2005). For example, Hispanics in the United States may be Dominicans, Ecuadorians, Argentines, and so on. In India, the focus of this paper, caste categories such as Scheduled Caste and Scheduled Tribe combine individual castes and tribes as constituent components. While electoral institutions may empower particular ethnic "groups" such as Hispanics or Scheduled Castes, how they affect political relationships among and between the sub-groups that comprise those broader categories is not often addressed. For example, how do electoral quotas for politicians from a broad ethnic category shape the preferences of voters for candidates from their own sub-groups, relative to candidates from a different sub-group but the same broad category?

The broader literature on ethnic politics provides two contrasting predictions here. On the one hand, if voters and political actors seek to build minimum-winning coalitions in order to extract benefits from the state, the restriction of the set of eligible candidates to members of the larger category should intensify competition between members of different sub-groups who are eligible for quotas (Posner 2004, 2005; Chandra 2004). On the other hand, a range of social-psychological theories, reviewed in detail below, suggest that by making the larger category more salient, quotas could also reduce in-group differentiation and produce greater solidarity between members of different sub-groups within the same larger category.

Evaluating such causal claims is typically challenging due to the existence of selection effects. In brief, voters who elect politicians from particular ethnic groups may be unlike those who do not, in ways that matter for political attitudes and behavior; the creation of quotas or the sanctioning of particular ethnic categories by the state also does not typically occur at random. For example, the creation of census categories for Hispanics reflects active campaigning by pressure groups who seek to shape the way that the state conceptualizes and measures ethnic categories (Nobles 2000). The growth of indigenous identity in Bolivia is the fruit of successful but only relatively recent mobilization along ethnic rather than class lines (Yashar 2005), which may have led to secular changes in the proportion of Bolivians who identify as indigenous and also to the election of the country's first indigenous president. Finally, the election of African-American mayors by white communities may reflect different underlying dispositions (or differential changes in those dispositions) in communities that do and do not elect black mayors. Thus, the extent to which changes in ethnic political behaviors and attitudes reflect confounding processes, rather than innovations in electoral rules or state sanctioning of ethnic categories, remains an open question.

This paper studies the impact of quotas for village council presidents from marginalized castes and tribes in the Indian state of Karnataka. There, quotas rotate systematically across councils on the basis of lists of council constituencies ranked in descending order by a proxy for the population proportion of marginalized castes and tribes. Since only very minor differences distinguish councils on either side of certain population thresholds—save the presence or absence of the quotas—I can reliably infer the causal impact of quotas. Moreover, quotas are sometimes assigned through an actual randomized procedure (the drawing of lots) in the neighborhood of these thresholds, which further bolsters the internal validity of my regression-discontinuity (RD) design. After using this design to select 160 council constituencies,[1] I recruited respondents of various castes (via a stratified random sample) and showed them videotaped speeches given by actors posing as candidates for a local village council.[2] All subjects in a given district saw a speech by the same candidate/actor, but the candidate's surname—which provides information about his caste—was varied at random. Subjects were thereby assigned at random to view a candidate from their own caste; from a different caste but the same larger caste category; and from a different caste category altogether. The study design thus allows me to investigate how exposure to a quota shapes preferences for candidates of various castes, in a setting in which the assignment of quotas is as good as random.

My empirical results provide some support for the existence of competition effects. For example, post-treatment questions that tap subjects' expectations over their receipt of benefits suggest that reservation increases the attractiveness of candidates from subjects' own caste, relative to those from the same larger category but a different caste—just as the minimum-

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[1] An additional 40 villages were selected for an initial, smaller experiment, as described below.
[2] In each selected village, there was also a survey of the council president, two other council members, and the executive secretary (a local bureaucrat); these data are analyzed in Dunning and Nilekani (2010).

winning coalition argument would predict. However, solidarity effects appear stronger here: in general, quotas diminish distinctions between the sub-groups that comprise the larger category on which quotas are based. Overall, quotas make members of the Scheduled Castes (SC) as likely to support an SC candidate from a different caste as one from their own caste. These findings suggest that competition and solidarity effects can exist simultaneously; I discuss below reasons why the solidarity effect may dominate in this particular context.

Beyond its substantive implications, this research also makes an important methodological contribution. Experiments are often conducted in different institutional settings, and differences in estimated effects are compared across these divergent contexts. Yet because pre-existing, non-random differences across contexts raise the usual challenges to valid causal inference. In this study, by contrast, the causal effect of electoral institutions and political leadership on ethnic preferences can be more reliably estimated, because the institutional variation in which the experiments are embedded is itself as good as randomly assigned. To my knowledge, this is one of the first studies to combine natural and field experiments to probe the effects of electoral institutions on individual attitudes and behaviors.[3]

How Do Electoral Quotas Shape Ethnic Preferences?

A substantial body of research has assessed the consequences of electoral quotas for Scheduled Castes (SCs), Scheduled Tribes (STs), and other groups such as women in India. "Scheduled" refers to an official list of caste names that is attached (as a schedule) to legislation passed by the Indian states; inclusion of particular castes on the list of those eligible for reservation entails employment and educational as well as electoral benefits. Electoral quotas for

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[3] Beaman et al. (2008) and Chauchard (2010) combine natural experiments with innovative surveys designed to tap discriminatory attitudes.

a caste category such as SC or ST—or "reservation," as the quota policy is called in India—imply that all citizens in a given constituency may vote, but the elected officeholder must come from the caste category for which the office is reserved (Parikh 1997).

With the extension of the principle of reservation to local village councils, known as *gram panchayats*, after the passage of the 73rd constitutional amendment in 1993, much scholarly attention has focused on whether and how reservation tilts policy in favor of reserved groups, such as Scheduled Castes and Scheduled Tribes.[4] Council members and the president have responsibility for deciding local development projects and allocating benefits from many central and state-government welfare programs. While central and state governments mandate that some funds be used for particular purposes, in practice much local spending through the panchayats has a discretionary and exclusionary character. For example, a section of road might be improved, or a water-pump installed, near a temple used by residents from one or another caste; individual benefits can also be targeted to particular castes.[5] Since previous research suggests that the council president has strong agenda-setting powers, reservation of the council presidency might well affect the political attitudes and preferences of local voters along caste lines.

However, quotas for Scheduled Castes or Scheduled Tribes imply a heterogeneous set of potential political candidates—because these broad categories are themselves comprised of many eligible castes or tribes. In fact, much of the anthropological and political science literature on ethnic politics in India, particularly at the local level, focuses not on larger categories such as Scheduled Caste or Scheduled Tribe but on the individual castes—known as *jati*—that comprise

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[4] See *inter alia* Besley, Pande and Rao (2004, 2007a), Chattopadhyay and Duflo (2004), Dunning and Nilekani (2010), and Palaniswamy and Krishnan (2008).
[5] Dr. SS Meenakshisundaram, Interview, Bangalore, January 17, 2009.

them (Manor 1989; Charsley and Karanth 1998; Weiner 2001). Quotas empower members of larger ethnic categories but leave open the question of the distribution of power across individual castes. For example, the law often mandates that a portion of funds be spent on projects for Scheduled Castes or Scheduled Tribes, without specifying which *particular* caste or tribe shall benefit. This also raises the question of how reservation affects the nature of caste voting. In particular, how does reservation for a caste category shape preferences for candidates from this broad category, relative to candidates from the individual castes that comprise it?

As noted above, the literature in ethnic politics seems to make at two contrasting predictions. First, much recent literature in comparative politics and other fields asserts that voters seek to acquire resources, often from the state, and that building a coalition with fellow group members to put someone from their own group in a position of power is the best way to do so (Bates 1983, Chandra 2004, Posner 2005). Given this presumption, political entrepreneurs should seek to build minimum-winning coalitions, that is, coalitions which require them to share the minimum amount of resources with other groups, subject to the constraint that the coalition be large enough to allow their group to gain political power. Posner (2005) makes precisely this argument in his discussion of tribal and linguistic politics in Zambia: during a period of one-party control at the national level but multiparty competition at the local level, voters voted along tribal rather than linguistic lines, since they all (locally) shared the same linguistic ethnicity.

This minimum-winning-coalition argument clearly predicts a *competition effect* of quotas in Indian village councils. When the presidencies of local village councils are reserved for members of Scheduled Castes or Scheduled Tribes, electoral competition takes place between members of the same larger caste category—but different individual castes. Just as political competition took place between tribes in Zambia when political competition was forced down to

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the local level, restriction of the set of candidates to a larger category such as Scheduled Caste should intensify competition between the individual castes that comprise that grouping.

Yet, other empirical and theoretical work suggests that the effects of quotas could go in a second, opposite direction. The creation of a census category for Hispanics in the United States and the allocation of public benefits or educational quotas for Hispanics—rather than reinforcing competition between Hispanic sub-groups—is seen to have created a single, unifying identity around which people of disparate national origins could mobilize politically (Rodríguez 2000). The election of Evo Morales in Bolivia does not appear to have engendered greater competition between Aymaras and Quechuas, the two main sub-groups that comprise the larger "indigenous" category in the Bolivian highlands. Thus, rather than undercutting political allegiances based on the larger shared identity, conditioning political competition on a politically-salient super-ordinate category sometimes seems to engender greater solidarity between the members of a larger social category's component groups.

There could well be political economy reasons that quotas produce greater cooperation across sub-groups—if, for instance, members of different sub-groups anticipate forming a political or electoral coalition over time.[6] Yet, this observation also appears consistent with the well-known social-psychological literature on minimal groups, which shows that making a single category salient—whatever that category may be—reduces differentiation in evaluations of in-group members (Tajfel 1981; Tajfel & Turner 1979; Crisp and Hewstone 2007). As Horowitz (2000: 145) puts it, "what produces group feeling and discrimination is simple division into categories." However, this familiar observation from social psychology has not been amply

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[6] As I discuss below, this is not very plausible in village councils in India, where Scheduled Castes and Scheduled Tribes together typically comprise a minority of the village electorate.

tested outside of the lab, because the "categories" that might produce "group feeling" are not easy to manipulate at random in a natural setting.

This second strand of research on ethnic politics suggests a *solidarity effect*, in which quotas produce less differentiation between sub-groups from the same larger category and drive members of these sub-groups to support each other. While the competition and solidarity effects suggest opposite impacts of quotas, it is also important to emphasize that they are not necessarily incompatible. For example, it may well be that on some dimensions of political conflict—for instance, those involving the distribution of benefits—the competition effect is more important; on other dimensions—such as those involving symbolic or psychic benefits—the solidarity effect may be more weighty. Part of the point of developing the tests presented below is precisely to assess the conditions under which one or the other effect becomes more important.

The Indian state of Karnataka provides a valuable case in which to test these competing theories, because of the caste structure in the state. First, a predominant political role tends to be played by two dominant castes, the Vokkaligas and the Lingayaths (Manor 1989). These castes are formally "backward" (that is, less marginalized than Scheduled Castes but more disadvantaged than forward castes such as Brahmins). Yet, the relative scarcity of forward castes makes Vokkaligas and Lingayaths the dominant political groups in the state (Shastri 2009). In Karnataka, Weiner's (2001: 221) general observation that "some of the most acute conflicts take place not between Dalits [former Untouchables included among the Scheduled Castes] and…forward castes, but between Dalits and…intermediate castes" is particularly apt.

Second, in Karnataka's villages, the Scheduled Caste category also tends to be comprised of two main castes, the Holayas and the Madigas (also known as Adi-Karnataka and Adi-

Dravida, respectively). As Charsley and Karanth (1998: 38) put it, "Karnataka is the state with the longest list of Scheduled Castes and a frequent conviction that there are only two which are really Untouchable." There is some history of competition and even antagonism between the Holaya and Madiga castes. For example, each group tends to have distinct heroes (the SC leader Dr. Ambedkar is especially celebrated by Holayas). Residential segregation occurs in many villages, with Holayas and Madigas living in separate colonies.[7]

Yet despite this possible competition between the Holaya and Madiga castes, both groups are empowered by quotas—not as Holayas and Madigas per se, but rather as members of the Scheduled Castes. Thus, just as Vokkaligas and Lingayaths may compete for political power at the village or state level but also share interests as the dominant castes in the state, Holayas and Madigas may compete as castes, but they also share interests or identities as members of the Scheduled Castes. How quotas shape whether caste identities or larger caste categories exert a more important influence on political preferences is thus an important open question.

Research Design: Combining Natural and Field Experiments

We can make unbiased inferences about the causal effect of reservation by exploiting the system of rotation through which reservation is assigned. In Karnataka, council presidencies are reserved for Scheduled Castes and Scheduled Tribes through a procedure governed by state electoral regulations and implemented by district-level bureaucrats, for each sub-district under their jurisdiction. (A sub-district is an administrative unit that contains, on average, about 35 village councils). There is also a procedure for rotation of reservation of particular seats on the council; this process is independent of the reservation of the council presidency. The system of

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[7] See e.g. Charsley and Karanth (1998). Two Holaya research assistants I accompanied to villages in Karnataka's Davanagere district recounted the improprieties of Madigas, who (I was told) are drunks.

reservation was put in place in Karnataka in 1994, and rotation of the presidency has occurred at the start of each subsequent term (that is, in 2000, 2002, 2005, and 2007).[8] Many but not all of the council presidencies reserved for SC in 2007 were reserved for the first time that year.

The procedure works as follows. First, the district bureaucrat uses census data on group proportions at the sub-district level to determine the total number of council presidencies that must be reserved for each category, within the sub-district. For example, if 25 percent of the citizens in a given sub-district are from the Scheduled Castes, then 25 percent of the councils in that sub-district must have their presidencies reserved for members of the Scheduled Castes, in each electoral term. To assign reservation of the presidency to particular councils, the bureaucrat sorts the councils in each sub-district, in descending order, by the number of council *members'* seats that are reserved in each council. This number is in turn a proxy for the reserved category's population proportion *within* each village council constituency.[9] The bureaucrat then works down this list, reserving the presidencies of the required proportion of councils at the top of the list in one election and rotating reservation to the block of councils next on the list in the subsequent election. In this example, she would reserve the presidency of the top 25 percent of councils on the list for Scheduled Castes, beginning in 1994. Then, in the next election (in the year 2000), she would continue working down the list in descending order, reserving the presidencies of the next 25 percent of councils on the list.

One final detail is crucial for my empirical strategy: if the number of councils with a given number of members' seats exceeds the number of councils that must be selected for

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[8] Council members have five-year terms, but beginning in 2000 the presidency was rotated every 30 months. The 2010 elections took place after implementation of my surveys in early 2009.
[9] For instance, if Scheduled Castes comprise 20 percent of the population of a given council constituency, then 20 percent of the members' seats in that council are reserved for Scheduled Castes.

reservation from that group, the bureaucrat selects the councils to be reserved by drawing lots.[10]

For example, if in 1994, seven council presidencies were to be reserved in a given sub-district, and if at the top of the sorted list there were four councils with five SC members and then eight councils with four SC members, all four councils with five SC members would have their presidencies reserved. Then, three councils would be selected at random from the eight councils with four SC members. This randomization ensures that in expectation, there are no differences between reserved and unreserved councils, at the threshold of four SC members' seats.

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

Table I shows an example of the reservation process, using data on the history of Scheduled Caste reservation in the sub-district of Magadi (district of Bangalore Rural). The first column of the table lists all the village councils in this sub-district, sorted in descending order by the number of seats reserved for Scheduled Caste (SC) members. The next two columns show the total number of members' seats in each council and the number of SC members' seats. The final five columns indicate whether the presidency of the council was reserved for Scheduled Castes in 1994, 2000, 2002, 2005, and 2007, respectively, with a "1" indicating presence of

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

reservation and a blank cell indicating its absence.[11] The reservation history depicted in Table I closely follows the expected diagonal pattern, in which the 1's move from the top left of the table to the bottom right. 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).[12] Thus, at the bottom of the list of 1's in the final column of Table I, the village councils of Sathanur and Shankighatta both have two SC members' seats—and thus could both have had their presidencies selected at random for a quota in 2007. Yet, Sathanur was selected, while Shankighatta was not. This randomization implies that, in expectation, no observable or unobservable variables distinguish these councils—save the presence or absence of a quota.

[TABLE I ABOUT HERE]

To select my study group of councils, I first purposively sampled six districts in Karnataka,[13] which I chose to maximize variation on factors that could affect the political role of caste, such as the identity of particular dominant castes. The representativeness of these districts and other external validity issues are discussed below. Then, working in nearly every sub-district in these six districts,[14] I mimicked the reservation process as closely as possible. At the time I constructed my study design, in December 2008, I lacked data on SC members' seats and the history of reservation, but I had data on presidency reservation in 2007 and the 2001 census data

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[11] For ease of presentation, 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.
[12] For 2005 and 2007, the number of SC members' seats in each council is based on data from the 2001 census. This may account for minor discrepancies for earlier years, when reservation was based on the 1991 census (e.g., Hanchikuppe may have had 3 SC seats instead of 4 in 2000).
[13] The districts are Bangalore Rural, Chamarajanagar, Mangalore, Davanagere, Mandya, and Ramanagar.
[14] I did not work in a few sub-districts in Mandya and Bangalore Rural. Recall that randomization occurs *within* sub-districts, so sub-district selection is an issue of external, not internal, validity.

on group proportions, on which the number of SC members' seats are based. By sorting councils in each sub-district in descending order by proportion of the population that is Scheduled Caste (or Scheduled Tribe), and using my data on reservation of the presidency, I could find the lower population proportion bound between councils with reserved and unreserved presidencies.[15] Thus, in each sub-district, I selected for inclusion in my study group those councils located on either side of the sub-district-specific threshold; these councils had very similar SC or ST population proportions but differed in reservation status.

I thereby constructed a study group of 200 village councils, located in various sub-districts across six districts—100 of which had their presidencies reserved for Scheduled Caste or Scheduled Tribe presidents (the treatment group) and 100 of which did not (the control group).[16] The idea is similar in spirit to regression-discontinuity designs in which near-winners of close elections are compared to near-losers (Lee 2008)—with the exception that here there is often true randomization to treatment and control.[17] To assess the claim of random assignment to reservation of the presidency, Table II presents a balance check, comparing reserved and

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[15] The facts that bureaucrats sort by the number of SC members' seats and that each council has one member for each 400 residents might in principle place larger council constituencies at the top of the list (interviews, Karnataka State Election Commission, January 2009). My procedure should not lead to bias, however, since population should be independent of Scheduled Caste and Scheduled Tribe population proportions in the neighborhood of my regression-discontinuity thresholds. There is a weak correlation between village size and the proportion Scheduled Caste or Scheduled Tribe in Karnataka (r=0.009), and reserved and unreserved councils in my study group are statistically balanced with respect to population.

[16] There is an independent process that assigns some of the remaining council presidencies to Backward Classes. I treat "unreserved" and "reserved for BC" as analytically equivalent, because Backward Classes tend to be dominant in Karnataka, and there are few forward castes in villages.

[17] The process of reservation described above for Scheduled Caste presidencies is also repeated for Scheduled Tribes, using exactly the same procedure based on ST members' seats. In councils eligible for both SC and ST reservation, presidencies are reserved first for Scheduled Castes and then for Scheduled Tribes across subsequent electoral terms (Order of the SEC No. 54 EGP 99, February 16, 2000; interviews, Karnataka State Election Commission). In most sub-districts, however, the number of presidencies that must be reserved for STs is relatively small (typically just one or two councils), so reservation for ST presidencies has only a small impact on assignment of SC reservation.

unreserved councils on measured pre-treatment covariates drawn from the 2001 census. As the table shows, reserved and unreserved villages are statistically indistinguishable with respect to village size, literacy rate, the number of workers, and many other pre-treatment variables—just as they should be after randomization.[18]

[TABLE II ABOUT HERE]

An additional advantage of my RD procedure is that it produces a study group of constituencies in which the proportion of the population from the Scheduled Castes or Scheduled Tribes varies widely. This is because different sub-districts have different numbers of councils and different SC (or ST) population proportions; thus, the threshold proportions at which I selected councils varied across districts. In some of the councils in my study group, Scheduled Castes or Scheduled Tribes constitute a near-majority of the population, while in others, they are a small minority. In fact, my RD study group ends up being quite representative of the state of Karnataka, as shown by comparing means of key covariates for the 200 councils in my study group and all 5,626 councils in the state (Table III); while the constituencies in my study group are on average a bit smaller, and while differences-of-means tests show other statistically-significant differences on other variables, the differences are substantively fairly small.

[TABLE III ABOUT HERE]

In the field experiment, implemented in each of the 200 council constituencies in the study group in January-February 2009, videotaped political speeches were shown to

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[18] Dunning and Nilekani (2010) replicated my regression-discontinuity design using statewide data on village councils (where, however, we could not implement the field experiment described below). Even with the greater statistical power afforded by this much larger group of 1,430 councils, we failed to reject the null hypothesis of equal means for most variables, which further validates the design used here.

experimental subjects. Subjects were told that the speechmaker was considering running for a local village council and that he would like to be the council president.[19] I then asked subjects to evaluate the quality of the speech and the attractiveness of the candidate along various dimensions. I presented speeches with two distinct scripts, and I used one actor in the southern and central parts of the state and a different actor in the western part of the state (due to differences in accents in spoken Kannada). However, speeches viewed by the subjects were otherwise identical, and all subjects in a given district saw the same candidate.[20] The translated text of the speech and other aspects of the experimental protocol are posted online.[21]

The experimental manipulation consisted of what subjects were told about the politician's surname. Because surname conveys information about the caste (*jati*) to which the politician belongs, and because belonging to a particular caste implies membership in a larger caste category, varying the politician's last name generated the three treatment conditions depicted in Table 4. In the first, subjects and politicians belong to the same caste and caste category; in the second, they belong to the same caste but to different caste categories; and in the third, the subject and politician belong to different castes and different caste categories. Experimental subjects were assigned at random with equal probability to these three treatment conditions.

[TABLE 4 HERE]

To expose each subject to the appropriate stimulus—that is, to a politician's surname that corresponds to the relevant cell of Table 4, for a given subject's caste—I reviewed the secondary

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[19] Most council constituencies consist of several villages, making it conceivable that a resident in one village does not personally know all candidates for the village council.
[20] Subjects were assigned at random to a more "programmatic" speech or a more "clientelistic" speech. There were no discernible effects of speech content, and here I pool across the two treatments.
[21] The URL is http://research.thaddunning.com.

literature (e.g., Charsley and Karanth 1998) and conducted expert interviews. I then catalogued

surnames associated with each of the treatment conditions, for the castes I expected to encounter

in my selected villages, and tested these in a smaller, initial experiment (N=312 subjects in 40

villages). In many cases, I simply used the surname that gives the caste its name. Thus, a

Scheduled Caste respondent from the Holaya caste, when assigned to the same caste, same

category condition, would view a speech by a politician named Holaya; when assigned to the

different caste, same category condition, a politician named Madiga; and when assigned to the

different caste and category condition, a politician named Gowda or Lingayath.[22]

After obtaining information on a subject's caste from a screening questionnaire that

included various other questions, and after using a list of pseudo-random integers to assign

subjects to one of the three treatment conditions, field investigators selected the appropriate

politician surname from Table 5—the rows of which correspond to the subjects' castes and caste

categories, and the columns of which give the politicians' surnames associated with each one of

the treatment conditions, for the corresponding subject caste and caste category.[23] The

investigators stated the politician's selected surname prior to showing the videotaped speech and

repeated it in every post-speech question asked about the politician.[24]

[TABLE 5 HERE]

The experimental subjects were recruited via a stratified random sample. In the

headquarter villages of each of the 160 councils, 10 respondents were selected at random: four

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[22] Gowda is the most common Vokkaliga surname and is often used as the caste name itself.

[23] In cells with multiple entries, the politician's surname was selected at random.

[24] I expected field investigators to encounter a preponderance of Nayaka tribes among the Scheduled Tribes. I therefore opted to use SC surnames (Madiga and Holaya) for STs (Nayakas) exposed to the "different caste same category" condition. Results reported below are largely robust to excluding all subjects except for SCs, Lingayaths and Vokkaligas (the two dominant backward castes).

Scheduled Caste residents (two from the Holaya caste and two from the Madiga caste), one

Scheduled Tribe resident, and five from the general and backward caste populations. The

experimental study group thus consists of a probability sample of the residents of local villages,

with a substantial oversample of Scheduled Castes—who comprise less than 18 percent of the

population of rural councils in Karnataka but nearly 40 percent of the sample—as well as a very

slight oversample of Scheduled Tribes.[25] Stratifying the population for sampling purposes was

relatively straightforward, due to residential segregation along caste lines in Karnatakan villages.

In recruiting a Holaya respondent, for example, field investigators were told to go to the Holaya

colony in the village, pick a house near the corner of the corresponding lane or street, attempt to

recruit one respondent, and then skip two houses before recruiting another.[26] Because, by design,

I oversampled Scheduled Caste and Scheduled Tribe citizens, in some of the analyses below I

use sampling weights to recover parameter estimates that are valid for the population of citizens

in the study group.[27] Table 6 gives the caste distribution of the sample.

[TABLE 6 HERE]

Analysis and Results

After viewing the videotaped speech, subjects were asked the extent to which the

politician's speech made them want to vote for the candidate, on a scale of 1 to 7, along with a

series of questions about the candidate's likeability, credibility, intelligence, and so on. We also

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[25] The sample is limited to the castes in Table 5, who comprise the vast majority of the population.
[26] The interviews were conducted by around forty field investigators, mostly M.A. students at Bangalore University, working in teams of two usually including at least one senior investigator. I accompanied investigators to some villages in Chamarajanagar and Davanagere districts.
[27] The study population for the field experiment is 1,444 citizens, which does not reach 1,600 participants due to coding error and to the presence of villages in which fewer than 10 subjects were recruited. Missing data are statistically unrelated to reservation status and treatment assignment in the experiment.

asked a series of questions about whether the politician would keep his promises if elected, whether he cares about people like the respondent, and whether the respondent would receive more benefits from the government or would have a better chance of receiving a government job if the politician were elected. Descriptive statistics on responses to all post-treatment questions, averaged across the three treatment conditions, are presented in Table 7.

[TABLE 7 ABOUT HERE]

Before investigating the causal effect of quotas, it is useful first to answer a prior question: how do caste relationships shape evaluations of politicians, on average? Figure 1 shows that respondents assigned to view a speech by a politician from their own caste rate their likelihood of voting for the candidate at 4.46—significantly higher than either politicians from a different caste but the same caste category (4.24) or politicians from a different caste category altogether (4.26). Strikingly, subjects' evaluations of candidates who come from a different caste but from the same caste category are statistically indistinguishable from their evaluations of candidates who come from a different caste category altogether.[28] At a little less than one-quarter of one standard deviation, these estimated effects are not huge, but they are in the neighborhood of the estimated effects of co-ethnicity in similar experiments in which the same question has been asked (Dunning and Harrison 2010).[29] Thus, in the experimental population as a whole, and averaging across the presence or absence of a quota for the council presidency, the results suggest the primacy of caste rather than caste category in shaping voters' preferences over candidates.

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[28] I also found similar results for the question asking for overall evaluations of the quality of the speech.
[29] Thus, the effect of the same-caste treatment is 0.22 points, relative to the second treatment (with a standard error of 0.10), and 0.20 points relative to the third treatment (with a standard error of 0.09).

I find similar results for Scheduled Caste respondents alone, with the exception that point estimates suggest that on average, SC respondents actually prefer candidates from a different caste category (that is, candidates from the dominant backward castes) to SC candidates from a different caste; however, the difference between the second and third conditions is again not statistically significant. Among dominant backward castes, caste preferences are even stronger: candidates from the same caste and caste category are strongly and significantly preferred both to backward caste candidates from a different caste (4.46 versus 4.07, significant at the 0.05 level) and SC candidates (4.46 versus 4.05, significant at the 0.001 level). In sum, the evidence seems to suggest the primacy of caste at the expense of broader caste categories.

Yet, these results may mask important variation, because they average across councils with and without quotas for Scheduled Caste council presidents. How, then, do quotas shape the effect of caste relationships on voters' evaluations of candidates?

A first question is simply whether quotas have a causal effect on subjects' evaluations of candidates, for each of the three experimental treatments. Table 8, which reports the extent to which the politician's speech made respondents want to vote for the candidate (as in Figure 1) but now compares across constituencies with and without quotas, suggests that they do.[30] Strikingly, not only do quotas increase evaluations of candidates from subjects' own castes—by

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[30] The difference in experimental treatment effects across councils with and without quotas estimates the causal effect of quotas on the effect of caste relationships. Note that I do not compare councils with lower-caste presidents and those without; the latter is a comparison subject to selection bias, since council constituencies that choose to elect lower-caste leaders may be unlike those that do not, in ways that matter for the outcomes I analyze. Comparison of councils with reserved and unreserved presidencies is the "intention-to-treat" analysis and provides an unbiased estimator for the causal effect of reservation, provided that reservation is as good as randomly assigned.

0.44 points, with a standard error of 0.14—but they also increase subjects' evaluations of candidates from a *different* caste, but the same caste category, by about the same amount—an estimated 0.46 points, with a standard error of 0.13.[31] This evidence suggests that quotas have a causal effect on candidate evaluations and, on its face, appears more consistent with solidarity than competition effects. After all, if quotas only engendered greater competition between sub-groups eligible for benefits, we would not expect them to boost evaluations of candidates from other castes but the same larger caste category.

[TABLE 9 ABOUT HERE]

For purposes of understanding the effects of quotas for Scheduled Castes on intra-category solidarity, however, it may be most illuminating to assess the impact on the preferences of Scheduled Caste subjects alone. Figure 2 shows average evaluations for SC subjects assigned to the three treatment conditions, in constituencies with and without quotas for SC presidents.[32] Several findings are important to note. First, quotas appear to boost the evaluations of candidates from SC subjects' own castes; however, perhaps because the sample includes only SC subjects and stratifying by reservation status also reduces the sample size, the difference in own-caste evaluations across reserved and unreserved constituencies is not significant.

Second and more strikingly, quotas much more substantially boost evaluations of Scheduled Caste candidates *from a different caste.* Notice that in constituencies without quotas, Scheduled Caste subjects actually appear to prefer dominant-caste politicians to SC politicians

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[31] While quotas also seem to produce some increase in evaluations of candidates from a different caste category—a finding I discuss further below—the effect is smaller (0.23 points) and less significant.
[32] Recall that we selected councils at the RD thresholds for both SC reservation and ST reservation. Here, since we are focused on the effects of SC quotas, we only include former set of councils.

who do not share their caste.[33] Yet, quotas sharply boost evaluations of SC politicians from a

different caste, by 0.56 points—a difference of nearly one-third of one standard deviation that is

highly significant. Quotas thus reverse the relationship between evaluations of dominant castes

and SC candidates from different castes—boosting evaluations of SC candidates from different

SC castes even more than they increase evaluations of SC candidates from subjects' own caste.

In sum, this evidence from SC subjects alone is also consistent with the existence of solidarity

effects.

What about dominant castes, who presumably stand to lose from quotas for Scheduled

Caste presidents? The evidence suggests that quotas do intensify the support of dominant-caste

subjects for candidates from subjects' own castes, raising average evaluations of own-caste

candidates by 0.64 points (p< 0.05).[34] Crucially, however, this is also accompanied by a greater

solidarity *among* different dominant backward castes: quotas elevate dominant-caste subjects'

evaluations of dominant-caste candidates from a different caste by 0.51 points (p<0.05). The

point estimates do not suggest exact parity of evaluations of candidates from subjects' own

castes and candidates from a different caste but the same caste category, as they do for

Scheduled Caste subjects, but these evaluations are statistically indistinguishable.

Thus, the key points persist in this analysis of dominant castes: quotas seem to make the

larger caste category—on which the quotas are based—the key axis of political preference-

formation, and they appear to reduce differentiation in voters' minds between candidates from

different castes within their broad caste category. We so far have not uncovered any evidence

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[33] Without quotas, SC subjects rate SC candidates from different castes at 4.04 points, while they rate
dominant-caste candidates at 4.43 points. The difference of 0.39 points is significant at the 0.1 level.
[34] The analysis includes subjects from two dominant backward castes (Vokkaliga and Lingayath). For a
Vokkaliga subject, a same-caste-same category candidate is Vokkaliga; a different-caste-same-category
candidate is Lingayath; and a different-category candidate is Holaya or Madiga. See Table 5.

that quotas heighten hostility or competition between sub-groups eligible for the quotas. Our initial foray into the effects of quotas therefore suggests, first, that quotas have a causal impact on caste-based political preferences; and second, that the data are most consistent with the existence of solidarity rather than competition effects.[35]

Yet, it may be that both competition and solidarity effects are at work, through different mechanisms. For instance, it might well be that quotas engender competition between sub-groups over benefits—just as the competition-effects argument suggests they should—while nonetheless generating symbolic benefits for all members of the empowered group, regardless of caste, and thereby also generating political-preference formation along caste category lines.

The experimental results help shed some light on factors that lead to co-caste preferences. In addition to the questions regarding overall candidate and speech evaluations, subjects were asked to evaluate candidates along a range of dimensions (see Table 7). I combine these questions into several indices, all normalized to run from 0 to 1. Questions tapping the candidate's likeability, competence, intelligence, and impressiveness are included in *affection*, a variable measuring affective evaluations. Evaluations of the candidate's trustworthiness, motivations, capacity to face the challenges of office, likelihood of doing a good job if elected, and willingness to fight for his ideals and defend others are combined in *credibility*, a variable that taps subjects' expectations about the politician's post-election behavior. The variable *monitoring* combines separate questions about whether the subject would know if the candidate

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[35] I also conducted the following "placebo test." Reservation for Scheduled *Tribes* should not have an effect on how Scheduled Caste respondents evaluate candidates from their own caste and caste category (Holaya or Madiga, respectively), versus candidates from other castes. Comparing mean responses to treatment among Scheduled Caste respondents, across treatment and control constituencies at the RD threshold for ST reservation, I find no significant effects of reservation. This placebo test thus confirms the validity of my empirical approach and supports the claim for a causal effect of SC reservation.

broke his campaign promises, and whether the subject could hold him accountable; *preferences* taps whether the candidate is perceived to care about people like the subject, and also care about the same things as the subject; and *benefits* measures the likelihood that the subject would gain access to government welfare benefits or jobs if the candidate were elected (see Table 7).

The first three rows of Table 9 report average values of these variables by treatment assignment category; the final three rows conduct difference-of-means tests to estimate the causal effect of treatment assignment. Several different kinds of variables seem to explain why politicians from one's own caste are preferred to politicians from a different category altogether (penultimate row of the table): the differences-of-means are significantly different for the *affection*, *credibility*, *monitoring*, *preferences*, and *benefits*, with only answers to the *monitoring* questions statistically indistinguishable from zero.[36] The effects are reported here on the normalized 0-1 scale; they range in size from one-sixth to one-fourth of a standard deviation.

Yet, among the summary indices, only the *benefits* variable statistically distinguishes evaluations of politicians from subjects' own caste from politicians of a different caste—but the same caste category. Recall that on average, subjects do significantly prefer the first kind of politician to the second (Figure 1). A plausible inference is therefore that expectations over benefit receipt are doing a lot of the work in driving apart evaluations of politicians, within the broader caste category—just as the competition-effects argument would predict.

[TABLE 9 HERE]

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[36] The limited effect of caste on *monitoring* is interesting, since a number of theoretical and empirical accounts emphasize the superior ability of co-ethnics to monitor one another (e.g., Fearon and Laitin 1996; Habyarimana et al. 2008).

A final way to look at the data is to ask, how does the effect of quotas condition the treatment effects of caste, as measured through the experiment? This way of analyzing the data provides some of our lowest-powered tests, because we will be stratifying the data by reservation status and by treatment condition, and then conducting difference-in-difference analyses. The analysis in Table 10 nonetheless suggests several interesting findings. First, it is useful to note that reservation universally heightens the influence of caste relationships on candidate preferences. The effects of caste relationships, as estimated in the field experiment, tend to be most statistically significant in reserved panchayats (compare columns 1 and 2 of Table 10). In other words, the sub-group analysis demonstrates that the aggregate findings discussed above are driven mostly by the greater salience of caste in constituencies with quotas.

[TABLE 10 ABOUT HERE]

Second, however, note that in general quotas tend to produce stronger contrasts between treatments 1 and 3 (the same-caste-same-category and different-caste-different-category conditions)—but not between 1 and 2 (the same-caste-same-category and different-caste-different-category conditions). There is one exception: quotas produce an expectation that subjects will receive greater benefits from politicians from their own caste than from politicians from a different caste, even if that politician comes from their own caste category. Thus, while we do find some evidence for competition effects when we look at questions that tap expectations over the receipt of benefits, the evidence is most consistent with a solidarity effect.

Conclusion: Solidarity Effects in Comparative Perspective

Recent research on ethnic politics makes competing predictions about the ways in which quotas for disadvantaged groups should affect political relations between and among members of

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those groups. Selection effects make such causal claims difficult to evaluate empirically, however. By embedding a field experiment that measures caste-based preferences inside a natural experiment in which quotas are assigned as-if at random, I am able to identify the effect of reservation on the political salience of various caste and caste categories.

My evidence shows that quotas do have a causal effect, and it usefully suggests that competition and solidarity effects are not mutually exclusive: they may both exist, working through different dimensions. Yet, solidarity effects seem to dominant in this context, which raises the question of why this might be. While I cannot answer this question conclusively here, several possibilities are worth mentioning. The first is that the effect of quotas on the actual distribution of benefits here may be substantially weaker than many analysts of Indian village councils have thought. Indeed, Dunning and Nilekani (2010), using data on actual fiscal outcomes and individual benefit receipt in the same 160 councils studied here, find quite weak distributive effects of reservation. This may explain why competition for benefits, which can drive a wedge between members of the same larger category, is a less important force overall.

A second, related observation is that this is a setting in which the affective and symbolic dimensions of empowerment could be especially important. My experimental findings corroborate the observations of a number of experts about the "politics of dignity" in Indian villages (Kohli 2001: 16; Varshney 2003; Weiner 2001: 219-20). Weiner (2001: 219-20), for instance, asserts that "at the local level, Dalit [former Untouchable] activists…are concerned less with getting benefits from the state and changing public policies than they are in promoting the mobilization of scheduled castes against upper-caste domination…The cry for 'social justice' is as much a demand for respect and equal treatment in ordinary everyday relationships as it is a demand for economic benefits." As Kohli (2001: 16) puts it, "the politics of caste is often the

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politics of dignity; goals sought are less broad-based education or health, but more respect, equality of treatment, and symbolic gains" (see also Varshney 2003).

Yet, these observations do not gainsay the importance of understanding solidarity effects, either more generally or in this specific context. It is not necessarily the case that demands for symbolic benefits should produce solidarity effects—in which various sub-groups subject to a shared history of discrimination embrace each other in the wake of political empowerment (as suggested by Figure 2). Indeed, much recent literature on ethnic politics would suggest a very different effect of quotas than the ones found here. The fact that quotas can engender greater in-group solidarity has been more frequently overlooked.

One reason, perhaps, that the possibility of solidarity effects has not been given sufficient attention in comparative politics is that the literature from social psychology and other fields has not been brought sufficiently out of the lab and into the field. The research design presented in this paper provides a way to overcome this limitation. At a minimum, this design could be replicated across the Indian states, which use similar systems of rotation at the local level, though with different details (see Chauchard 2010 on Rajasthan). At a maximum, finding opportunities to combine natural and field experiments more generally could help identify the causal effects of institutions such as quotas on the salience of ethnic political attitudes and behaviors.

References

Bates, Robert. 1983. "Modernization, Ethnic Competition and the Rationality of Politics in
Contemporary Africa." In Donald Rothchild and Victor Olorunsola, *State Versus
Ethnic Claims: African Policy Dilemmas*, Boulder, CO: Westview Press.

Beaman, Lori, Raghabendra Chattopadhyay, Esther Duflo, Rohini Pande, and Petia
Topalova. 2008. "Powerful Women: Does Exposure Reduce Prejudice?"
Weatherhead Center for International Affairs, Harvard University.

Besley Timothy, Rohini Pande, Lupin Rahman, and Vijayendra Rao. 2004. "The politics of
public good provision: Evidence from Indian local governments." *Journal of the
European Economic Association.* 2 (2–3): 416–426.

Bhartiya, Santosh. 2008. *Power to the Powerless: Dalit and Minority Empowerment.* New
Delhi: Rajkamal Prakashan Pvt. Ltd.

Charsley, Simon R., and G.K. Karanth. 1998. "Dalits and State Action: The 'SCs'." In Simon
R. Charsley and G.K. Karanth, eds., *Challenging Untouchability: Dalit Initiative and
Experience from Karnataka*. New Delhi: Sage Publications India.

Chandra, Kanchan. 2004. *Why Ethnic Parties Succeed: Patronage and Ethnic Head Counts
in India.* New York: Cambridge University Press (Cambridge Studies in Comparative
Politics).

Chauchard, Simon. 2010. "Can the Experience of Political Power by a Member of a
Stigmatized Group Change the Nature of Day-to-day Interpersonal Relations?
Evidence from Rural India." Manuscript, Department of Politics, NYU.

Chattopadhyay, Raghabendra, and Esther Duflo. 2004. "Women as Policy Makers: Evidence
from a Randomized Policy Experiment in India." *Econometrica* 72 (5): 1409-1443.

Chhibber, Pradeep K. 1999. *Democracy without associations: transformation of the party system and social cleavages in India.* Ann Arbor: University of Michigan Press.

Crisp, Richard J. and Miles Hewstone. 2007. "Multiple Social Categorization." *Advances in Experimental Social Psychology* 39: 163-254.

Dunning, Thad and Lauren Harrison. 2010. "Cross-Cutting Cleavages and Ethnic Voting: An Experimental Study of Cousinage in Mali." *American Political Science Review* 104 (1): 1-19.

Fearon, James, Macartan Humphreys, and Jeremy Weinstein. 2009. "Democratic Institutions and Collective Action Capacity: Results from a Field Experiment in Post-Conflict Liberia." Paper presented at the EGAP workshop, April 25, 2009, Yale University.

Fearon, James D. and David D. Laitin. 1996. "Explaining Interethnic Cooperation." *The American Political Science Review.* 90 (4): 715-735.

Habyarimana, James, Macartan Humphreys, Daniel Posner, and Jeremy Weinstein. 2007. "Why does Ethnic Diversity Undermine Public Goods Provision?" *American Political Science Review* 101 (4): 709-725.

Horowitz, Donald L. 2000. *Ethnic Groups in Conflict.* Berkeley: University of California Press, 2nd Edition.

Kohli, Atul. 1990. *Democracy and Discontent: India's Growing Crisis of Governability.* New York: Cambridge University Press.

Green, Donald and Rachel Seher. 2003. "What Role Does Prejudice Play In Ethnic Conflict?" *Annual Review of Political Science* 6: 509-531.

Habyarimana, James, Macartan Humphreys, Daniel N. Posner, and Jeremy M. Weinstein. 2009. *Coethnicity: Diversity and the Dilemmas of Collective Action.* Russell Sage.

Hajnal, Zoltan. 2001. "White Residents, Black Incumbents, and a Declining Racial Divide." *American Political Science Review* 95 (3): 603-617.

Hajnal, Zoltan. 2006. *Changing White Attitudes Toward Black Political Leadership*. New

Jaffrelot, Christophe. 2003. *India's Silent Revolution: The Rise of the Lower Castes in North India*. London: Hurst & Company.

Laitin, David. 1986. *Hegemony and Culture: Politics and Religious Change among the Yoruba*. Chicago: The University of Chicago Press.

LAPOP. 2008. "Political Culture of Democracy in Bolivia, 2008: Impact of Governance." Latin American Public Opinion Project, Vanderbilt University.

Madrid, Raúl L. 2008. "The Rise of Ethnopopulism in Latin America." *World Politics* 60 (3): 475-508.

Manor, James. 1989. "Karnataka: Caste, Class, Dominance and Politics in a Cohesive Society." In F. Frankel and M.S.A. Rao, eds., *Dominance and State Power in Modern India: Decline of a Social Order*, vol. 1. Delhi: Oxford University Press.

Nobles, Melissa. 2000. *Shades of Citizenship: Race and the Census in Modern Politics*. Stanford: Stanford University Press.

Parikh, Sunita. 1997. *The Politics of Preference: Democratic Institutions and Affirmative Action in the United States and India*. Ann Arbor: The University of Michigan Press.

Posner, Daniel N. 2004. "The Political Salience of Cultural Difference: Why Chewas and Tumbukas Are Allies in Zambia and Adversaries in Malawi." *American Political Science Review* 98 (4): 529-545.

Posner, Daniel N. 2005. *Institutions and Ethnic Politics in Africa*. Cambridge: Cambridge University Press, PEID Series.

Rodríguez, Clara E. 2000. *Changing Race: Latinos, The Census, and the History of Ethnicity in the United States.* New York, NY: NYU Press.

Shastri, Sandeep. 2009. "Legislators in Karnataka: Well-entrenched Dominant Castes." In Christophe Jaffrelot and Sanjay Kumar, eds., *Rise of the Plebeians? The Changing Face of Indian Legislative Assemblies*. New Delhi: Routledge.

Tajfel, Henri. 1981. *Human Groups and Social Categories*. Cambridge: Cambridge University Press.

Tajfel, Henri, and John C. Turner. 1979. "The Social Identity Theory of Inter-Group Behavior." In S. Worchel and L. W. Austin (eds.), *Psychology of Intergroup Relations*. Chicago: Nelson-Hall.

Varshney, Ashutosh. 2003. "Nationalism, Ethnic Conflict, and Rationality." *Perspectives on Politics* 1 (1):85-99.

Weiner, Myron. 2001. "The Struggle for Equality: Caste in Indian Politics." In Atul Kohli, ed., *The Success of India's Democracy*. New Delhi: Cambridge University Press, First South Asian Edition, Reprinted (2008): 193-225.

Yashar, Deborah. 2005. *Contesting Citizenship in Latin America: The Rise of Indigenous Movements and the Postliberal Challenge*. Cambridge: Cambridge University Press.

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

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

The column shows the history of reservation of the presidency of village councils for Scheduled Castes, in Magadi sub-district (*taluk*) in Bangalore Rural District. In the final five columns, a "1" indicates that the council presidency is reserved for Scheduled Caste. See text for further explanation.

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

	Quota for SC/ST President (A)	No Quota for SC/ST President (B)	Difference of Means (A) - (B)	p-value
Mean number of literates	3076.63	3315.61	-238.98	0.14
(Standard error)	(111.46)	(114.5)	(159.79)	
Mean number of workers	2860.12	3017.59	-157.47	0.26
(Standard error)	(103.03)	(92.41)	(138.40)	
Mean number of marginal workers	644.77	631.59	13.19	0.83
(Standard error)	(41.84)	(43.28)	(60.22)	
Mean population	5675.62	6055.30	-379.68	0.17
(Standard error)	(205.94)	(180.60)	(273.74)	
Mean male population	2869.12	3064.41	-195.29	0.17
(Standard error)	(105.75)	(92.96)	(140.72)	
Mean population aged 0-6	698.54	755.61	-57.1	0.13
(Standard error)	(27.52)	(25.39)	(37.43)	
Mean SC population	1119.21	1114.16	5.05	0.96
(Standard error)	(91.91)	(67.84)	(114.23)	
Mean ST population	505.52	444.85	60.67	0.40
(Standard error)	(56.70)	(43.86)	(71.69)	
N	100	100	200	

The table compares mean values of pre-treatment covariates, for study group councils assigned to SC or ST quotas in 2007 and those not assigned to quotas; the final column suggests we cannot reject the null hypothesis of equal means. The unit of analysis is the village council. Data are from the 2001 census. P-values in the final column give the probability of observing a t-statistic as large in absolute value as the observed value, if Group 1 and Group 2 have equal means. Other tests indicate balance on the number of households, total female population, male population aged 0-6, female population aged 0-6, and illiteracy rates (available on request).

Table III. Representativeness of the RD Study Group

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

The table compares mean values of pre-treatment covariates in the regression-discontinuity (RD) study group and in all village councils in the state of Karnataka. Census data have been merged to create values at the village council (*gram panchayat*) level. Data are from the 2001 census. The final column shows statistically significant but substantively small differences between the RD sample and the state population of panchayats.

Table 4. Experimental Design: Treatment Conditions

	Subject and politician are from same caste category	Subject and politician from different caste categories
Subject and politician are from same caste	N=458	⬛
Subject and politician are from different castes	N=470	N=516

The table shows the number of subjects assigned at random to each of three treatment conditions. All subjects in a given district saw a speech by the same politician (actor), but the surname of the actor was manipulated to influence perceptions of caste.

Table 5: Politician Surnames Used in Each Treatment Condition

Subject's caste (*jati*)	Subject's caste category	Condition 1: Subject and politician are from same caste and caste category	Condition 2: Subject and politician are from different caste, same caste category	Condition 3: Subject and politician are from different caste and caste category
Madiga	SC	Madiga	Holaya	Gowda Lingayath
Holaya	SC	Holaya	Madiga	Gowda Lingayath
Lambani	SC	Lamani	Madiga Holaya	Gowda Lingayath
Nayaka or other tribe	ST	Nayaka	Madiga Holaya	Gowda Lingayath
Lingayath	BC	Lingayath	Gowda	Madiga Holaya
Vokkaliga	BC	Gowda	Lingayath	Madiga Holaya
Kumbara	BC	Kumbara	Gowda Lingayath	Deshpande
Bunt	BC	Bunt	Gowda Lingayath	Madiga Holaya
Brahmin	Forward	Deshpande	Gowda Lingayath	Madiga Holaya

The final three columns of the table show the politician surname associated with each treatment condition, for subjects from the caste and caste category listed in the first two columns. SC = Scheduled Caste. ST = Scheduled Tribe. BC = Backward Caste. Forward caste respondents (Brahmins) are grouped with the dominant Backward Castes for treatment assignment purposes. Where more than one surname is listed, it was chosen at random.

Table 6: Distribution of Experimental Study Group By Caste and Caste Category

Caste category	Caste	N	Percent
Scheduled Caste	Holaya	331	22.9
	Madiga	228	15.8
	Lambani	23	1.6
Scheduled Tribe	Nayaka	133	9.2
Dominant Backward Castes	Lingayath	267	18.5
	Vokkaliga	246	17.0
	Bunt	42	2.9
Other Backward Castes	Kumbara	77	5.3
Forward Caste	Brahmin	97	6.7
Total	--	1,444	100.0

The table shows the distribution of the experimental study group, by caste category and caste (*jati*). In the final column, percentages add to 99.9 due to rounding.


Table 7. Descriptive Statistics, Post-Treatment Questions

Variable Name	Survey Question/Definition	Range	Mean (S.D.)
Quality of Speech	"Please look at this ladder, which has 7 steps. Suppose the first step of the ladder means 'very bad,' and the 7th step means 'very good.' On what step would you place the quality of the speech of (*name of politician*) that you just heard?"	1-7 (ascending scale)	4.73 (1.35)
Vote Preference	"Now, suppose the first step of the ladder means 'no, not at all' and the 7th step means 'yes, completely.' Where would you put your answer to the following question: Does the speech of (*name of politician*) make you want to vote for this candidate?"	1-7 (ascending scale)	4.34 (1.42)
Likeable	"In your opinion, is the politician in the video, (*name of politician*), very unlikeable, unlikeable, neither likeable nor unlikeable, likeable, or very likeable?"	1-5 (ascending scale)	2.99 (1.16)
Intelligent	"In your opinion, is the politician in the video, (*name of politician*), not at all intelligent, a little intelligent, intelligent, quite intelligent, or very intelligent?"	1-5 (ascending scale)	2.76 (0.91)
Competent	"In your opinion, is the politician in the video, (*name of politician*), not at all competent, a little competent, competent, quite competent, or very competent?"	1-5 (ascending scale)	2.68 (0.97)
Trustworthy	"In your opinion, is the politician in the video, (*name of politician*), not at all trustworthy, a little trustworthy, trustworthy, quite trustworthy, or very trustworthy?"	1-5 (ascending scale)	2.75 (0.98)
	THE FOLLOWING INSTRUCTIONS PRECEDED THE REST OF THE QUESTIONS: "Please look again at the ladder with seven steps. Suppose that the first step means 'I do not agree at all' and the 7th step means 'I agree completely.' Where on the ladder would you place your degree of agreement with the following statements?		
Impressed	"You were impressed by the candidate, (*name of politician*)"	1-7 (ascending scale)	4.39 (1.43)
Ideas	"You agree with the political ideas of (*name of politician*)"	1-7 (ascending	4.63 (1.50)

		scale)	
Motives	"The candidate, (*name of the politician*), has good motives for running for office."	1-7 (ascending scale)	4.83 (1.44)
Challenges	"The candidate, (*name of the politician*), will be capable of facing the challenges of office."	1-7 (ascending scale)	4.66 (1.40)
Good Job	"If he were elected, (*name of the politician*) would do a good job in office."	1-7 (ascending scale)	4.17 (1.47)
Fight Ideals	"If he were elected, (*name of the politician*) would defend others and fight for his ideals."	1-7 (ascending scale)	4.25 (1.51)
Broken Promises	"If he were elected, (*name of the politician*) would keep his promises."	1-7 (ascending scale)	4.33 (1.53)
Broken Promises Knowledge	"If (*name of the politician*) broke his promises, people like you would know about it."	1-7 (ascending scale)	4.76 (1.59)
Hold Accountable	If (*name of the politician*) broke his promises, people like you could hold him accountable."	1-7 (ascending scale)	4.64 (1.73)
Cares People Like Me	"The candidate, (*name of the politician*), cares about people like you."	1-7 (ascending scale)	4.28 (1.61)
Cares Same Things	"The candidate, (*name of the politician*), cares about the same sorts of things as you do."	1-7 (ascending scale)	4.40 (1.5)
Welfare Schemes	"If (*name of the politician*) were elected, people like you would receive more benefits from the welfare schemes of the government."	1-7 (ascending scale)	4.39 (1.53)
Government Job	"If (*name of the politician*) were elected, people like me would have a better chance of getting a job with the government."	1-7 (ascending scale)	4.20 (1.67)
Affection	Linear scale combining **Likeable**, **Intelligent**, **Competent**, and **Impressed**	0-1	0.49 (0.16)
Credibility	Linear scale combining **Trustworthy, Good Motives, Face Challenges, Good Job,** and **Fight Ideals**	0-1	0.56 (0.18)
Monitoring	Linear scale combining **Broken Promises Would Know** and **Hold Accountable**	0-1	0.62 (0.24)
Preferences	Linear scale combining **Cares People Like Me** and **Cares Same Things**	0-1	0.56 (0.23)
Benefits	Linear scale combining **Welfare Schemes** and **Government Job**	0-1	0.55 (0.24)

The final column of the table reports average values, across all three treatment conditions.

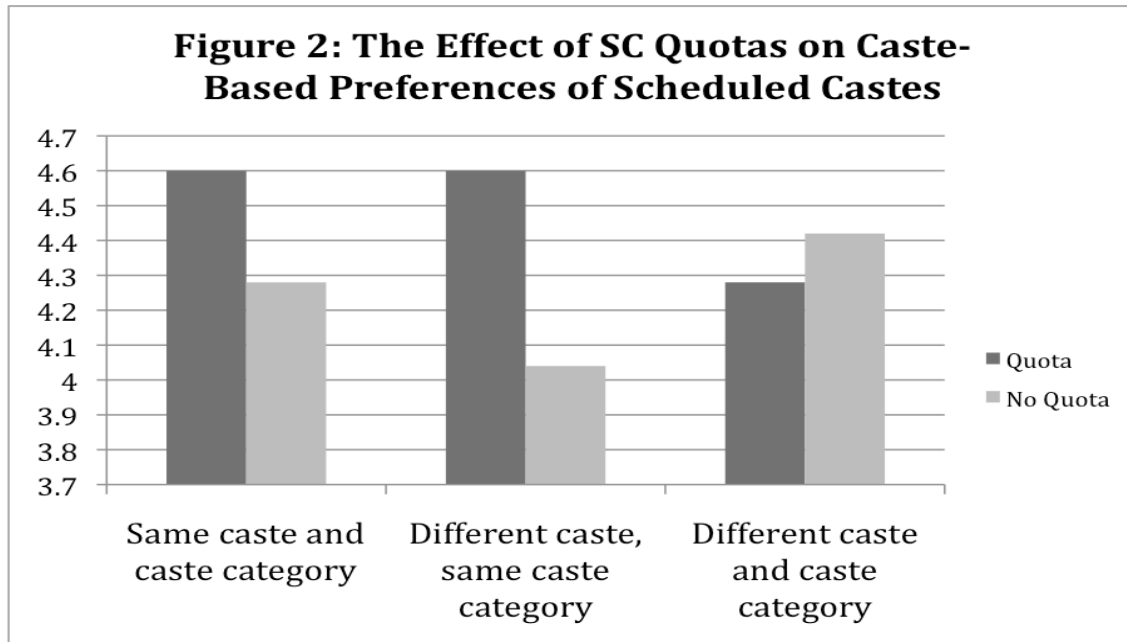## Figure 1: Average Candidate Evaluations, By Treatment Assignment
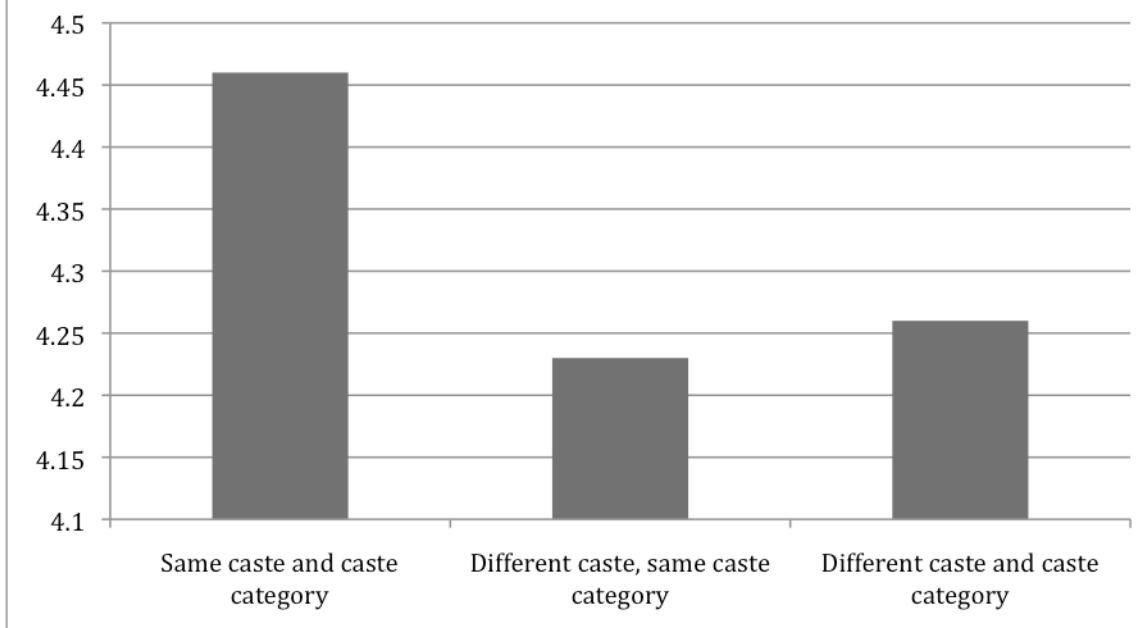
The figure shows average responses, by treatment assignment category, to the question, "[On a scale of 1 to 7] does the speech of (*name of politician*) make you want to vote for this candidate?" Here, *name of politician* is chosen from Table 5 to correspond to the assigned treatment condition, as a function of the subject's caste. Average responses in the first condition (subject and politician have the same caste and caste category) are significantly higher than in the second and third conditions (p<0.05), which are statistically indistinguishable from each other.

Table 8: Effects of Reservation on Evaluations of Candidates, by Treatment Condition

	Quota (A)	No quota (B)	Difference of Means (A-B)	p-value (two-sided)
Subject and politician from same caste and same caste category (1)	4.68 (0.10)	4.24 (0.09)	**0.44** **(0.14)**	**0.002****
Subject and politician from different caste but same caste category (2)	4.48 (0.10)	4.02 (0.09)	**0.46** **(0.13)**	**0.000*****
Subject and politician from different caste and caste categories (3)	4.38 (0.09)	4.13 (0.09)	**0.25** **(0.12)**	**0.043***

The cells in the first two columns report mean evaluations of candidates by subjects assigned to each of the three treatment conditions, in constituencies with and without quotas. "Quota" means "presidency reserved for SC or ST." "No quota" means "General category or reserved for BC." The third column shows the difference of means, and the fourth column gives the p-value. Standard errors are in parentheses. * p<0.05 ** p<0.01 *** p<0.001

Figure 2: The Effect of SC Quotas on Caste-Based Preferences of Scheduled Castes

The figure shows average responses by treatment assignment, among Scheduled Castes subjects, to the question, "[On a scale of 1 to 7] does the speech of (*name of politician*) make you want to vote for this candidate?" Answers are compared across constituencies of councils with and without quotas for Scheduled Caste presidents.

Table 9. What Explains the Effects of Caste?

	Affection	*Credibility*	*Monitoring*	*Preferences*	*Benefits*
Subject and politician from same caste and same caste category **(1)**	0.51 (0.01)	0.58 (0.01)	0.63 (0.01)	0.57 (0.01)	0.58 (0.01)
Subject and politician from different caste but same caste category **(2)**	0.49 (0.01)	0.56 (0.01)	0.61 (0.01)	0.55 (0.01)	0.54 (0.01)
Subject and politician from different caste and caste categories **(3)**	0.48 (0.01)	0.54 (0.01)	0.61 (0.01)	0.53 (0.01)	0.52 (0.01)
Difference of Means (1-2)	0.01 (1.04)	0.02 (1.73)	0.02 (1.11)	0.02 (1.42)	**0.06 (3.64)**
Difference of Means (1-3)	**0.03 (2.79)**	**0.04 (3.84)**	0.02 (1.00)	**0.04 (2.89)**	**0.04 (2.33)**
Difference of Means (2-3)	0.02 (1.76)	**0.02 (2.06)**	-0.00 (-0.15)	0.02 (1.52)	0.02 (1.20)

The first three rows of the table presents mean values on five summary indices, by treatment assignment category. The second three rows present the difference of means for each of the three treatment conditions with respect to each other. See Table 7 for variable definitions. Standard errors are in parentheses in the first three rows of the table; in the final three rows, t-statistics are in parentheses. Boldface type indicates that the estimated effect is significant at standard levels (p<0.05).

Table 10: The Effect of Quotas on the Experimental Effects of Caste
(1: Same caste and category; 2: Different caste, same category;
3: Different caste and category)

	Estimated effect, Constituencies With Quotas **(A)** (t-statistic)	Estimated effect, Constituencies Without Quotas **(B)** (t-statistic)	The effect of reservation **(A-B)** (t-statistic)
Vote preference (1-2)	0.20 (1.45)	0.23 (1.77)	-0.02 (-0.11)
Vote preference (1-3)	**0.31** **(2.30)**	0.12 (0.91)	0.19 (1.03)
Vote preference (2-3)	0.10 (0.77)	-0.11 (-0.88)	0.21 (1.18)
Affection (1-2)	0.03 (1.50)	-0.00 (-0.06)	0.03 (1.15)
Affection (1-3)	**0.06** **(4.07)**	-0.00 (-0.06)	**0.06** **(2.93)**
Affection (2-3)	**0.04** **(2.48)**	-0.00 (-0.00)	**0.04** **(1.79)**
Credibility (1-2)	0.03 (1.82)	0.01 (0.62)	0.02 (0.88)
Credibility (1-3)	**0.06** **(3.63)**	**0.03** **(1.93)**	0.029 (1.28)
Credibility (2-3)	0.03 (1.76)	0.02 (1.30)	0.01 (0.05)
Monitoring (1-2)	0.02 (1.13)	0.01 (0.46)	0.01 (0.43)
Monitoring (1-3)	0.03 (1.30)	0.01 (0.25)	0.02 (0.70)
Monitoring (2-3)	0.00 (0.14)	-0.01 (-0.23)	0.01 (0.27)
Preferences (1-2)	0.01 (1.12)	0.02 (0.85)	0.01 (0.23)
Preferences (1-3)	**0.07** **(3.28)**	0.02 (0.72)	**0.06** **(1.94)**
Preferences (2-3)	**0.05** **(2.29)**	-0.00 (-0.18)	**0.05** **(1.79)**
Benefits (1-2)	**0.07** **(2.17)**	0.02 (1.11)	**0.05** **(1.79)**
Benefits (1-3)	**0.08** **(3.72)**	0.03 (1.49)	0.05 (1.63)
Benefits (2-3)	0.01 (0.32)	0.03 (1.48)	0.02 (0.81)

Cells in the first two columns of the table show treatment effects estimated in the experiment, for the summary variables normalized to run from 0 to 1. These are differences of means for two of the three treatment conditions (1-2, 1-3, or 2-3). The final column shows the difference of means across councils with and without quotas, and thus estimates the causal effect of reservation on the estimated effects of experimental treatments. Boldface type indicates p<0.1.