Can Mandated Political Representation Increase Policy Influence for Disadvantaged minorities? Theory and Evidence from India

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Abstract

A basic premise of representative democracy is that all subject to policy should have a voice in the making of it. However, policies enacted by electorally accountable governments often fail to reflect the policy interests of disadvantaged minorities. This, in turn, has led many countries to enact electoral laws that seek to provide such groups political power through mandated political representation. This paper analyzes the policy impact of a mandate that alters legislator identity, but not the demographic composition of the electorate. I construct a model of political competition to examine how, given the legislative policy-making rule and an assumption of no policy commitment, introduction of such a mandate alters electoral and policy outcomes. Consistent with the model's predictions, state-level panel data from India shows that mandated political representation has affected electoral outcomes, and increased transfers to disadvantaged minorities.

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1 Introduction

Economists have identified important equity and efficiency reasons for targeting resources at historically disadvantaged groups. However, as these groups often constitute population minorities with little political influence, there is no guarantee that electorally accountable governments will enact such transfers. A possible policy solution is to enhance the political power of disadvantaged groups as a vehicle for promoting their policy interests. Such considerations have led a number of countries to put in place electoral laws that aim to provide such groups political power through mandated political representation. Real world examples include court-mandated gerrymandering in USA, constitutionally mandated political reservation in India, and the recent laws in Spain, Italy and Argentina, which mandate that parties must field a certain proportion of female candidates. Yet despite the widespread implementation of such mandates, economists have paid little attention to how such mandates alter policy outcomes.

This paper examines the political impact of a form of mandated political representation used in India. The institutional features of the Indian mandate make it possible to directly identify how mandate-induced changes in legislator identity affect electoral and policy outcomes, and to take some of the predictions of the model to data.

Underlying all experiments in mandated political representation are a number of fundamental premises regarding the scope and functioning of a representative democracy. First, that citizens' group identity is informative of their policy preferences. Second, that members of disadvantaged groups often fail to have a voice in the political process. Third, that increasing political representation for members of these groups enhances their voice in the policy process, while having no other untoward effects on their overall policy influence. And finally, that increased group voice in the policy process translates into improved policy outcomes for members of that group. However, none of these premises are self-evident. A key aim of this paper is to examine when these premises may hold. I propose a model of political competition that identifies how, given the policy-making rule in the legislature, and no policy commitment, electoral and policy outcomes are affected by such a mandate; furthermore, I use an Indian state-level panel data-set to provide corroborative evidence.

A number of recent papers show that as citizens' group identity is correlated with their socio-economic status, citizens with the same group identity share policy preferences (Husted and Kenny[17]; Lott and Kenny [23]; Edlund and Pande[12]). In so far as there are important equity and efficiency reasons for implementing policies favored by socio-economically disadvantaged population groups there is a prima facie rationale for why citizens belonging to such groups should have a voice in the policy process. Cross-country data suggests, however, that in reality these groups are systematically under-represented in the political process (Rule and Zimmerman[29]).

Mandated political representation for disadvantaged groups seeks to remedy this by directly enhancing the voice these groups enjoy in the policy-making

process. In general, such mandates either alter the composition of the electorate in favor of the disadvantaged group (e.g. gerrymandering), or instead provide these groups political voice by directly altering legislator identity (e.g. political reservation and mandated party requirements).

In practice, both types of mandates have increased the political representation afforded to disadvantaged groups. However, evidence on the policy impact of mandates which only affect electorate composition is mixed. For instance, during the 1980s a number of US courts required the creation of 'majority minority' electoral jurisdictions. The stated objective was to improve the political representation afforded to disadvantaged groups. While successful in raising the number of minority legislators, this practice, by diluting these groups' presence in surrounding jurisdictions, affected legislator identity in non-gerrymandered jurisdictions. Overall, it is unclear whether gerrymandering enhanced minorities' policy influence in the legislature (Cameron, Epstein and O'Halloran [8]). In this case the policy impact of mandated political representation hinged crucially on how the mandate altered the composition of the legislature.

In contrast, a mandate which only influences legislator identity leaves different voter groups electoral strength unaffected. A number of countries have introduced such mandates recently: In 1991 Argentina mandated a system of quotas in political party lists to guarantee a minimum of 30 percent participation by women (Jones[18]); similarly Italy has mandated a system wherein women must make up 50 per cent of the proportional representation ballot. In India a mandate for political reservation has existed since Independence. Prior to every state and national election a certain number of jurisdictions are declared reserved. Only members of specified population groups can stand for election in reserved jurisdictions.

However, whether mandates that only change legislator identity are sufficient to alter policy outcomes depends crucially on whether politicians can commit to policies, the role played by parties in selecting candidates and the form of legislative policy-making.

With policy commitment candidates can credibly commit to electorally profitable policies prior to the election. Therefore, as long as disadvantaged groups constitute a population minority electoral concerns will likely lead minority legislators to eschew their personally (and group) favored policies, and instead commit to majority-favored policies (Downs[10]). In such situations increased political representation for a group may not increase its voice in the policy process. However, such policy commitment on the part of politicians is often infeasible. In such situations it is likely that legislators' will voice their personal policy preferences in the legislature.(Alesina [1]; Besley and Coate[6]).

Yet, even without policy commitment, whether a legislator's voice influences policy outcomes remains sensitive to party politics and legislature procedures. If parties are ideologically differentiated on issues such as redistribution, then mandated political representation may differentially affect the policies associated with candidates belonging to alternative parties. In this case, voters may respond to the introduction of mandated political representation by altering the party they favor. Turning to legislative procedures, if policy-making in the

legislature obeys majority rule then legislators who constitute a minority may not affect policy outcomes. In particular, it becomes evident that it is significant whether legislators belonging to disadvantaged groups are members of the governing party or coalition.

Motivated by these observations I examine whether the Indian system of political reservation can enhance the political influence of disadvantaged groups. I construct a model of the political process, which embodies two key assumptions: first, no policy commitment; and second, all legislators wield policy influence. I use this model to examine how a mandate of political reservation alters electoral and policy outcomes. The model's relevance lies in the fact, mentioned above, that, unlike gerrymandering, political reservation leaves the composition of the electorate unaffected. Hence I can exploit data on political reservation in India to isolate empirically the policy effect of changes in legislator group identity due to political reservation. This, in turn, provides a reduced form test of a key premise underlying all experiments in mandated political representation– namely, that identity matters. Moreover, in so far as Indian political parties tend to be ideologically differentiated I can also test the role of party politics in mediating this relationship.

My empirical analysis exploits the institutional features of political reservation in India: the Indian constitution specifies that the extent of political reservation enjoyed by a group in a state should reflect it's population share. Therefore, cross-state and -time variation in such a group's population share is associated with variation in the political reservation it enjoys. However, the population-based readjustment of the extent of political reservation exhibits time lags as the Indian constitution mandated that changes in the extent of political reservation can only occur at point of election, and on the basis of the decennial census population estimates. Hence, political reservation adjusts to population changes with a lag. This, combined with the fact that mandate-induced changes in legislator identity are exogenous to the contemporaneous policy-making process in a state, makes it possible to isolate the policy influence of changes in legislator identity. I find that increased political reservation in India has increased the share of targeted transfers; moreover I find evidence that citizens voting decisions respond to the choice of such a mandate. Similar to the US experience with gerrymandering mandated political representation in India has worsened the electoral performance of the 'Left' party.

The structure of the paper is as follows: Section 2 describes the Indian institution of political reservation. Section 3 uses a simple model of policy-making to identify when such a mandate alters policy-making. Section 4 uses a Indian state-level panel data set (1960-92) to examine the policy impact of political reservation in India; and section 5 concludes.

2 The context: political reservation in India

India is amongst the most ethnically diverse countries in the world. Two important sources of this diversity are the Hindu caste system, and the presence of a

sizeable tribal population. The caste system assigns every Hindu to a caste at birth.[1] Every caste, in turn, occupies a largely determinate position in a hierarchical scale of ranks. A caste's rank defines its members social and economic status. The assignment of low castes to a menial occupational status, and prohibitions on asset ownership by them is a proximate cause of their present day economic and social disadvantage. While the relative isolation of the indigenous tribal population has meant it has remained outside the purview of the caste system, this isolation has come at the cost of economic progress.

Constitutional provisions The Indian constitution provides a uniform legal basis for identifying low-caste and tribal groups as scheduled castes (now on, **minority 1**), and scheduled tribes (now on, **minority 2**) respectively (see Table 1).[2] These two groups make up roughly 25 percent of the Indian population, of which **minority 1** accounts for two thirds (1991 census). The 1950 Indian constitution states that public policy should be used to improve **minority 1** and **minority 2** citizens well-being; and provides for two types of policy activism: first, group-targeting of **minority 1** and **minority 2** as a basis of policy-making; and second, mandated 'political reservation' in national and state level elections. Articles 330 and 332 of the constitution state that prior to every state and national election a certain number of jurisdictions be reserved (separately) for members of these two groups. Only citizens belonging to the specified group may stand for election from a jurisdiction reserved for that group. The entire electorate, however, participates in choosing among candidates so qualified.

Implementation The constitution provides two criteria for selection of reserved jurisdictions. First, population concentration of the group in a jurisdiction. Second, sufficient dispersal of reserved jurisdictions within the state.[3] The constitution also states that the extent of reservation enjoyed by a group should reflect its population share as defined in the decennial census, with the arrival of new census estimates forming the basis for population-based readjustments. This, combined with the fact that reservation changes can only occur at point of election, implies that changes in a group's population share and the extent of reservation it enjoys are not contemporaneous. Decisions regarding the latter are made by a national 'Delimitation' commission which is intended as a completely apolitical national body, consisting of members drawn from the judiciary and bureaucracy (for details, see data appendix).

[1] Hindus make up approximately 85 percent of the Indian population (1991 Census). The genesis of the caste system is usually traced to the Aryan invasion of India in 1500 B.C. Caste groupings are endogamous with hereditary membership.

[2] 779 of the most disadvantaged castes are identified as **minority 1** and roughly 250 tribes as **minority 2**.

[3] **minority 1** citizens form a population minority in almost every reserved jurisdiction; relative to unreserved jurisdictions, their population share in reserved jurisdictions is usually 5-6% higher. **minority 2** population is geographically more concentrated. They constitute a population majority in roughly half the jurisdictions reserved for them (Galanter [15]).

Impact In every Indian state **minority 1** and **minority 2** citizens constitute a population minority. In addition, members of these groups face severe social and economic disadvantages: poverty rates for these two groups are roughly one and a half times that of the general population (Table 2). Evidence suggests that political reservation defines the extent of minority presence in Indian national and state legislatures (Galanter[14]; Dushkin[11]): almost all minority legislators are elected from reserved jurisdictions.[4] However, quantitative evidence on how the mandate has affected electoral and policy outcomes is lacking, with political commentators divided on this issue. Some authors, such as Baxi [3], argue that minority legislators' need to appeal both to the upper caste constituents in reserved jurisdictions, and the primarily upper caste membership of party plenary committees implies that the policies they pursue don't reflect their personal policy preferences. In contrast, authors such as Dushkin[11], Joshi [19], and Galanter[15] claim that increased minority representation has altered policy-making as minority legislators act *en bloc* and concentrate effort on increasing transfers to their own group: more cabinet positions for themselves, more scholarships and reservations in higher educational institutions and, above all, more government jobs.[5]

Empirical strategy In the empirical analysis I shall proxy for **minority 1** and **minority 2** presence in the legislature by the percentage jurisdictions reserved for them. While minority population shares vary annually, adjustments in the proportion of jurisdictions reserved for the two groups occurs with a time lag. This allows me to distinguish between the policy effects wrought by changes in political reservation from those due to population movement. The differential movement of the two series arises for two reasons: first, the proportion of jurisdictions reserved for a group can only be adjusted at the point of election, and second, the constitution states that the basis for such readjustments can only be the arrival of new decennial census population estimates. Hence there is low correlation between contemporaneous changes in the population and reservation series. Table 3 illustrates this. In columns (1) and (2) I examine the raw correlation between **minority 1** and **minority 2** population share and the proportion of jurisdictions reserved respectively. The high positive correlation confirms that a group's population share forms the primary basis for the extent of reservation it enjoys. In columns (3) and (4) I include state and year dummies; both the point estimate of this correlation and the t-statistic fall significantly. This suggests that the time-lag in adjustment of the reservation series can be used to distinguish between population and reservation effects. In the

[4]For instance, in 1967 of the 2723 unreserved state legislature jurisdictions **minority 1** legislators occupied only 4 and **minority 2** legislators 8. Since then there has not been any dramatic changes in this trend (Mendelsohn and Vicziany[24]).

[5]Dushkin[11] quotes instances of such activism during the 1967-72 national parliamentary session. Congress party was defeated on the amendment,' the opinion of the House (that) safeguards provided in the Constitution for the scheduled castes and tribes are not being fully implemented' due to bloc voting by minority legislators. She also attributes liberalization of job reservation policy (July 1968, 1970), increased flexibility in targeted educational subsidies (1969), and a stiffening of the untouchability offences act (1970) to their influence.

empirical analysis I will also use a party-based measure of minority presence in the legislature. This measure is the proportion of reserved jurisdictions won by minority legislators of the 'Congress' and 'Left' party. Use of this measure will allow an examination of party effects. Moreover, relative to the total reservation in place the latter series exhibits greater variance and therefore provides a good robustness test.

3 Theory

I construct a simple model of political competition to examine the electoral and policy impact of a mandate of political reservation. The model builds on two key assumptions: first, no policy commitment, and second all legislators wield positive policy influence.

No policy commitment implies candidates can only commit to their personally preferred policies. There are multiple reasons for believing policy commitment is infeasible. First, as citizens elect representatives for relatively long periods of time it is unlikely that prior to elections politicians and voters will agree upon a full set of state contingent contracts. Second, even if they could institutions capable of enforcing campaign promises do not exist in most countries.[6] Although repeat elections may reduce this enforcement problem, Alesina [1] showed that in a wide variety of cases incomplete policy commitment characterizes the political equilibrium.[7]

Turning to the second assumption, an important reason why all legislators are likely to enjoy policy influence is that in parliamentary democracies such as India the head of the winning party must command the support of a majority. A different rationale is provided by universalistic models of legislative policy-making which argue that the expectation of repeated negotiations lead legislators to implement universalistic practices wherein all legislators enjoy policy influence (e.g. Dixit, Grossman and Gul[2]).

3.1 Economic environment

The economy is populated by N citizens who differ along two dimensions: income and caste. There are two income groups indexed by $k \in \{r, p\}$, where r denotes *rich* and p *poor* citizens. A group k citizen has income y^k, where $y^r > y^p$. In addition, a social norm assigns every citizen to a caste indexed $c \in \{H, L\}$, where H denotes *high*, and L *low*, caste. Caste, in itself, has no intrinsic economic significance. λ_c^k denotes the fraction of type (k, c) citizens, $\lambda^k (= \lambda_H^k + \lambda_L^k)$ the fraction of citizens with income k, and λ_c the fraction of caste c citizens. Given group k, $-k$ denotes the other income group. Identical notation holds for caste groups.

[6] Legal enforcement of campaign promises is non-existent in most countries e.g. US courts disallow restrictions on campaign speech as potential First Amendment violations.

[7] In particular, the possibility of full policy commitment is sensitive to candidates' discount rates, the degree of polarization of preferences and the relative popularity of parties.

Citizens are uniformly distributed across $\mathcal{N}$ jurisdictions such that λ_c^k is constant across jurisdictions. Low-caste citizens constitute a population minority in every jurisdiction, i.e. $\lambda_L < \min\{\lambda^p, \lambda^r\}$. In every jurisdiction citizens elect a legislator. Legislators select the parameters of an economy-wide redistributive policy in a centralized legislature. The choice of the linear income tax rate 't' determines tax funds available for redistribution. These funds can be redistributed via an anonymous non-targeted transfer T which redistributes from rich to poor citizens, and/or via a 'caste-targeted' transfer δ, where $\delta = 0$ for high caste citizens. The latter redistributes from high- to low-caste citizens. The Indian Constitution explicitly provides for such caste-targeted transfers. I assume the tax rate and transfer choices are 'feasible' in that:

$$\frac{t}{N} \sum_k \sum_c y_c^k = T + \lambda_L \delta$$

Citizens' policy preferences are determined by their utility function defined as:

$$u_H^k = (1-t)y^k + T$$

$$u_L^k = (1-t)y^k + T + \delta$$

This utility function implies that no redistribution maximizes rich high-caste citizens' utility, non-targeted redistribution poor high-caste citizens utility, and targeted redistribution poor low-caste citizens' utility. In contrast, rich low-caste citizens preferred policy varies with the demographic composition of the polity.

3.1.1 Parties

Elections are characterized by jurisdiction-level political competition between two parties, denoted as $J \in \{R, P\}$. I assume parties are ideologically differentiated. Moreover, this ideological differentiation derives from differences in party membership: party R members are rich, and party P members poor. Both parties, however, contain high and low-caste members.

In the absence of policy commitment a candidate's identity is informative of the policies she will pursue in the legislature. Therefore, a party only influences policy outcomes via candidate choice. We assume a party maximizes its members' average payoff in candidate selection, such that a party's objective function is:

$$W^R = (1-t)y^r + T + \xi_R \delta$$

$$W^P = (1-t)y^p + T + \xi_P \delta$$

ξ_J denotes the share of low-caste citizens in a party. Our assumption on party membership implies party R represents the interests of the rich, and party P those of the poor. We also assume:

Assumption 1

$$\xi_J < \lambda_L$$

That is, the proportion of low-caste members in party J is less than the group's population share. This, in turn, implies that the choice of targeted transfers lowers a party's payoff. This assumption has considerable empirical support, both within India and across countries (Rule and Zimmerman[**?**]).[8]

I assume parties only field party members as candidates. Therefore, party R always fields rich, and party P poor, candidates. It follows party J's choice variable is the proportion of jurisdictions in which it fields low-caste candidates, which I denote as π_J. Finally, let $\pi \equiv \{\pi_P; \pi_R\}$.

In line with the Indian experience I assume elections are characterized by plurality rule, i.e. the candidate with the highest vote share is elected, and the legislature is Parliamentary.

Identical jurisdictions, combined with no inter-jurisdictional dependence in voting, implies identical electoral outcomes across jurisdictions. Consequently legislators share a common party and income identity. However, as their caste identities may differ policy outcomes remain sensitive to the legislative bargaining procedure.

3.1.2 Legislature

Let δ_{Jc} and T_{Jc} denote a caste c party J legislator's preferred levels of targeted and non-targeted transfers. A high-caste legislator will favor no targeted, and a low-caste legislator no non-targeted, transfers. Therefore, while all party P legislators favor redistribution, high-caste legislators will favor non-targeted, and low-caste legislators targeted, redistribution. In contrast, depending on the demographic composition, either all party R legislators favor no redistribution, or only high-caste legislators will while low-caste legislators will want targeted redistribution. Hence, legislative policy conflict arises whenever both low- and high-caste legislators are present, and at least one group favors redistribution.

Let the legislative policy determination rule be:

$$T_J^* = (1 - \psi(\pi_J))T_{JH} \text{ and } \delta_J^* = \psi(\pi_J)\delta_{JL}$$

when party J is the majority party, and π_J the proportion of low-caste legislators in the party. $\psi(\pi_J) \in [0, \pi_J]$ defines low-caste legislators policy influence. We assume $\psi(0) = 0$. If $\frac{\partial \psi(\pi_J)}{\partial \pi_J} = 0$, increases in low-caste legislators group share leaves policy outcomes unaffected. This roughly corresponds to a 'minimum winning coalition' model of policy-making in which low-caste legislators remain outside the minimum winning coalition (Riker[28]). If, instead, $\frac{\partial \psi(\pi_J)}{\partial \pi_J} > 0$, then increases in low-caste legislators group size enhances their policy influence. One justification for a universalistic model is that the expectation of repeated interaction leads legislators to develop a norm of reciprocity wherein all legislators share policy benefits (Weingast[32]). Another is that in parliamentary democracies (such as India) the need for the head of the majority party to maintain the support of a majority provides all legislators, including back benchers,

[8] Candidate selection (also known as 'ticket allocation' in India) is usually done by the party plenary committee; it is well documented that high-caste citizens are over-represented in this committee

policy influence. For these reasons I assume $\frac{\partial \psi(\pi_J)}{\partial \pi_J} > 0$, and later discuss how changing this assumption affect the paper's results.

3.1.3 Voting

I model voting using a framework developed by Besley and Coate[7]. In every jurisdiction a fraction α of the voters are rational, and a fraction $(1-\alpha)$ noise voters. Rational voters cast their vote to maximize their utility. Sincere voting is rational since if a voter affects the electoral outcome she will try move policy towards her preferred outcome. I assume indifferent rational voters abstain.

In contrast, noise voters decisions are uncorrelated with candidate identity. In every jurisdiction a fraction β of the noise voters vote for party P, where β is a random variable with support $[0,1]$ and cumulative distribution function $G(\beta)$. The function is symmetric, such that $G(\beta) = 1 - G(1-\beta)$ for all β. That is, noise voters are unbiased. Introducing noise voters implies some citizens' voting behavior is determined by non-policy aspects of candidate identity e.g. charisma. Moreover, the existence of such voters, by making election outcomes probabilistic, ensures the voting game has an equilibrium.

The electoral outcome depends on rational voters' voting choices, and the draw of β. Let ε denote the difference between the number of voters who favor party P, and those who favor party R. The party P candidate wins if

$$\alpha\varepsilon + (1-\alpha)\beta > (1-\alpha)(1-\beta)$$

or,

$$\beta > \frac{1}{2} - \frac{a\varepsilon}{2(1-\alpha)}$$

In probability terms a party P candidate wins in every jurisdiction with probability $\phi(\varepsilon)$, where $\phi(\varepsilon) = 0$ if $\varepsilon \leq -\frac{1-\alpha}{\alpha}$; $\phi(\varepsilon) = 1$ if $\varepsilon \geq \frac{1-\alpha}{\alpha}$, and $\phi(\varepsilon) = 1 - G(\frac{1}{2} - \frac{a\varepsilon}{2(1-\alpha)})$ otherwise. I assume $|\lambda^p - \lambda^r| < \frac{1-\alpha}{\alpha}$. If citizens vote along income lines, then both parties win with a positive probability. I assume a party which only attracts a single demographic group's vote enjoys a positive probability of winning i.e. $\lambda_c^k - \lambda^{-k} - \lambda_{-c}^k > -\frac{1-\alpha}{\alpha}\$$.

To conclude, a political equilibrium is a pair of party entry decisions π that are mutual best responses. Every such equilibrium is associated with a probability distribution over policy outcomes, where for party J: (i) the probability that its candidate set's favored policy outcomes are implemented equals it's probability of electoral success, and (ii) the policy outcomes associated with it satisfy the legislative policy-making rule.

A mandate of political reservation restricts parties' feasible candidate set. As parties must field low-caste candidates in (at least) the proportion $\widehat{\pi}$ of jurisdictions that are reserved, party entry decisions must satisfy the further constraint: $\pi_J \geq \widehat{\pi}\ \forall J$.

3.2 Minority representation and policy outcomes

In this section I identify the conditions under which low-caste citizens fail to obtain political representation, and examine how a mandate of political reservation alters policy outcomes in such situations. It is useful to define $\widehat{\lambda}_L^p$, where:

$$\widehat{\lambda}_L^p = \frac{\lambda_H^r y^r + \lambda_H^p y^p}{y^r - y^p}$$

If $\lambda_L^p < \widehat{\lambda}_L^p$ then all low-caste citizens favor targeted redistribution. If, instead $\lambda_L^p > \widehat{\lambda}_L^p$, then rich and poor low-caste citizens policy preferences differ: poor low-caste citizens favor targeted, and rich low-caste citizens no, redistribution. The reason is that, relative to no-redistribution, the maximum feasible targeted transfers lower rich low-caste citizens income. For a given population mix of low- and high-caste citizens, increases in income inequality by lowering $\widehat{\lambda}_L^p$ make policy divergence between rich and poor low-caste citizens more likely. Conversely, for a given level of income inequality increases in low caste citizens group size makes policy divergence more likely.

Proposition 1 *Suppose $\lambda_L^p > \widehat{\lambda}_L^p$, and assumption 1 holds. Then party P fields only high-caste candidates while party R is indifferent between fielding high and low-caste candidates. Party P wins with probability $\phi(\lambda^p - \lambda^r)$. In equilibrium no targeted transfers occur.*

The proof of this, and of all following results, are in the appendix. When $\lambda_L^p > \widehat{\lambda}_L^p$ all party R members, irrespective of their caste, favor zero redistribution. Therefore, party R policies are invariant to the choice of π_R. This is not true of party P: poor low-caste citizens' favor targeted, and poor high-caste citizens non-targeted, redistribution. However, it is a dominant strategy for party P to only field high-caste citizens. The reason is that the presence of poor low-caste legislators is associated with the choice of targeted redistribution. However all citizens, other than poor low-caste citizens, favor zero targeted redistribution; moreover, poor low-caste citizens always vote for party P. Hence, fielding low-caste citizens can never enhance party P's probability of electoral success; and if π_P is too high may cost party P poor high-caste citizens vote. Therefore, with $\lambda_L^p > \widehat{\lambda}_L^p$ poor low-caste citizens never achieve political representation, and no targeted redistribution occurs.

To examine how a mandate of political reservation affects this equilibrium I first define a critical value of political reservation $\widetilde{\pi}$ where

$$\widetilde{\pi} \equiv \frac{\lambda^r (y^r - y^p)}{\lambda^p y^p + \lambda^r y^r}$$

Corollary to proposition 1 *Suppose assumption 1 holds, $\lambda_L^p > \widehat{\lambda}_L^p$ and π^* jurisdictions are declared reserved.*

(i) *If $\pi^* < \widetilde{\pi}$ then political reservation alters policy, but not electoral outcomes. Targeted transfers are implemented with probability $\phi(\lambda^p - \lambda^r)$.*

(ii) *If $\pi^* > \widetilde{\pi}$ then political reservation alters electoral and policy outcomes. Relative to no-reservation party P's probability of winning decreases to $\phi(\lambda_L^p - \lambda^r - \lambda_H^p)$, and the probability targeted transfers are implemented increases to $\phi(\lambda_L^p - \lambda^r - \lambda_H^p)$.*

Political reservation forces parties to field low-caste candidates. Since poor low-caste legislators favor targeted transfers this raises the probability that targeted transfers are implemented. The mandate may also affect electoral outcomes. Unlike party P, the mandate leaves the policies associated with party R unaffected. If political reservation, and therefore the extent of targeted redistribution associated with the election of party P candidates, is too high poor high-caste citizens will switch their vote to party R. Here, the mandate leads to poor citizens voting in line with their caste-, rather than class-, based interests. This, in turn, reduces both the probability that party P wins, and that non-targeted redistribution occurs. The mandate has the perverse effect of harming the electoral fortunes of the party whose membership base consists solely of poor citizens. While the mechanism at work differs, the finding that some of the proposed benefits of mandated political representation may be undone by strategic voting by citizens is in line with the theoretical and empirical literature on the electoral effects of court-mandated gerrymandering in the US during the 1980s (e.g. Cameron, Epstein and O'Halloran[8]) .

If instead $\lambda_L^p < \widehat{\lambda}_L^p$ then all low-caste citizens favor targeted redistribution. In contrast, rich and poor high-caste citizens policy preferences diverge: rich high-caste citizens favor zero, and poor high-caste citizens full non-targeted, redistribution. Clearly, if both parties only fielded high-caste candidates then citizens would vote along income lines: party P would win with probability $\phi(\lambda^p - \lambda^r)$, and party R with probability $1 - \phi(\lambda^p - \lambda^r)$.

Under assumption 1 both parties fielding high-caste candidates constitutes an equilibrium. In the appendix I show that this constitutes the unique equilibrium if the population share of noise voters is large enough to ensure that, irrespective of party choice of π_J, both parties always enjoy a positive probability of winning.

Proposition 2 *Suppose $\lambda_L^p < \widehat{\lambda}_L^p$ and assumption 1 holds. Then both parties only fielding high-caste candidates is an equilibrium. Party P wins with probability $\phi(\lambda^p - \lambda^r)$, and in equilibrium no targeted transfers occur.*

Low-caste candidates election leads to targeted redistribution. Under assumption 1 the choice of targeted transfers lower party payoff. Hence neither party fielding low-caste citizens constitutes an equilibrium.

Proposition 2 demonstrates that low-caste citizens' political representation is adversely affected whenever their population share exceeds their party membership share. This provides a straightforward rationale for the imposition by party elites of party entry and selection rules which are biased against members of disadvantaged groups. In a world with no policy commitment, it is by restricting minority party membership that citizens belonging to the majority (or elite) group can ensure that minority policy interests are not reflected in

the party candidate choice, and thereby policy outcomes. This finding is in line with a common claim in political science: namely, that elite control of parties affects the extent of mass involvement in politics. In such situations political reservation is a powerful tool by which disadvantaged minorities can gain policy influence.

Corollary to proposition 2: *Suppose $\lambda_L^p < \widehat{\lambda}_L^p$, assumption 1 holds and π^* jurisdictions are declared reserved. Then, if prior to political reservation parties only fielded high-caste citizens, political reservation will alter policy, but not electoral, outcomes. In equilibrium positive targeted transfers will be chosen.*

This corollary describes the policy effect of political reservation when in its absence no low-caste candidates are selected. The mandate by forcing parties to field low-caste candidates leads to the choice of targeted transfers.

To summarize, the model provides two reasons for why disadvantaged minorities may not obtain political representation: first, if poor low-caste citizens group size is relatively large and/or income inequality is relatively high then low-caste targeted transfers lower high-caste, and rich low-caste citizens' income. Hence all population groups, other than poor low-caste citizens, oppose targeted transfers. The majoritarian nature of representative democracy implies that as a result poor low-caste citizens do not gain representation. If instead low-caste citizens are a relatively small population group and/or income inequality is relatively low, then low-caste citizens political under-representation relates to the playing out of party politics. Low-caste citizens fail to attain political representation when, relative to their population share, they are under-represented in the major political parties. This finding suggests one rationale for the choice of party entry rules which are biased against members of disadvantaged groups. By controlling candidate selection within a party the elite can ensure the implementation of their preferred policies.

In situations of minority under-representation both the introduction of, and subsequent variations in the extent of, political reservation increases minority legislative presence. The assumed legislative policy-making rule implies that such increases in representation go hand in hand with increased minority policy influence. In particular, it raises the probability that targeted transfers are implemented. However, by changing the set of candidates the mandate alters party policies and potentially parties' electoral fortunes. This can lead to the perverse outcome wherein the mandate adversely affects the electoral fortunes of the relatively 'poor-friendly' party.

These results rest on the twin assumptions of no policy-commitment, and a universalistic legislative policy-making rule. My empirical analysis examines whether this proposed model of policy-making is consistent with the Indian experience with political reservation. I conclude this section by discussing some extensions.

3.2.1 Discussion

Policy-making rule The model assumes that all legislators enjoy policy influence i.e. $\frac{\partial \psi(\pi_J)}{\partial \pi_J} > 0$ for all $\psi(\pi_J)$. An alternative view is that minority groups enjoy policy influence only if their group size exceeds some minimum i.e. $\frac{\partial \psi(\pi_J)}{\partial \pi_J} > 0$ if and only if $\psi(\pi_J) > \psi(\pi_J^*) > 0$. One example would be a majoritarian rule: low-caste legislators exert policy influence only if they constitute a majority in the legislature. In this case the mandate's policy influence is sensitive to the extent of political reservation. In India political reservation has always applied to a minority of jurisdictions. As targeted transfers are only favored by low castes majoritarian rule would imply that, contrary to the model's predictions, policy outcomes should be invariant to changes in the extent of political reservation. This is a testable prediction that I take to the data.

Mandate choice I model the introduction of political reservation as an exogenous change in the set of political institutions. In reality, such changes are determined within the political process.[9] My model would suggest that such mandates are unlikely to be implemented in situations of minority underrepresentation. It is therefore relevant to note that in India political reservation was introduced by the group of nominated constitution-makers: the fact that Indian constituent assembly chairman was a low-caste was crucial to the choice of political reservation. To deal with the potential endogeneity of political reservation I limit attention to the post-1960 period in India. The electoral law of political reservation was in place throughout this period. Therefore, the empirical analysis exploits cross -state and -time variation, not in the choice of the electoral law, but in the *extent of reservation*. Introduction of, and variations in the extent of, political reservation have qualitatively identical effects in my model.

Inter-jurisdictional heterogeneity Existing political economy models (e.g. Persson and Tabellini[27]) suggest that introducing inter-jurisdictional heterogeneity concentrates political competition in some swing jurisdictions. That is, parties will field candidate set favored by a majority of citizens in the swing jurisdictions. In this case the demographic features of the swing jurisdictions drive political under-representation of disadvantaged minorities. Insofar as the demographic features of these jurisdictions match those identified in the model our central testable prediction remains robust: namely, in situations of minority under-representation the introduction of a mandate of political reservation will alter policy, and potentially electoral, outcomes.

Multiple minority groups The model has focused on an environment with a single minority group. In India mandated political representation exists for two groups, and the empirical analysis shall consider the policy impact of mandated

[9] For instance, both the French and Indian national Parliaments are currently debating mandates that seek to enhance female representation in politics.

political representation for both groups. Allowing for multiple minority groups in the model leads to qualitatively similar results, the main difference being that the voter coalition in favor of different policies is altered.

4 Did political reservation in India alter electoral and policy outcomes?

The proposed model of political competition suggests that a mandate of political reservation will affect policy, and potentially electoral, outcomes. However, these findings are sensitive to two assumptions: first, if the policy process is instead characterized by policy commitment, then electoral concerns will lead minority legislators to pursue majority-preferred policies; and second, if legislative policy-making is majoritarian then minority legislators may only enjoy limited policy influence.

To distinguish between these competing theories I use an Indian state-level panel data-set to examine how variations in the extent of political reservation have altered policy and electoral outcomes. I focus on the following predictions offered by the model:

1. **Policy outcomes:** Variations in the extent of political reservation alter policy outcomes. In particular, it increases transfers towards group(s) targeted by political reservation.

2 **Electoral outcomes:** Political reservation may worsen the electoral outcome for the (relatively) poor-friendly party.

3 **Demographics:** The relationship between changes in minority group size and policy outcomes is ambiguous. In particular, minority group size increases which leave it below a majority may, by making transfers to that group relatively more costly, reduce the group's policy influence.

The federal nature of the Indian constitution implies that Indian states enjoy sole jurisdiction on many issues relating to **minority 1** and **minority 2** well-being. This, combined with cross-state and -time variation in the extent of political reservation, makes a state-level empirical analysis appropriate.

The data-set covers the 16 major Indian states, and spans the period 1960-1992. These states account for over 95 percent of the Indian population. Table 4 describes some salient economic and demographic features of these states. While every state has **minority 1** citizens, **minority 2** citizens are absent in three states.

Table 5 provides descriptive statistics. I measure **minority 1** and **minority 2** political representation in a state by the proportion of jurisdictions reserved for the group. Since theory suggests **minority 1** and **minority 2** legislators party identity is relevant I also consider an alternative series where I distinguish by legislators party affiliation. I consider two party groupings: 'Congress' and the 'Left'. Congress has been a major political party in state-level elections

throughout this period, while the 'Left' is a grouping of the main Indian leftist parties.[10]

I distinguish between policy outcomes on the basis of the intended beneficiaries: a policy is 'targeted' if it restricts policy benefits to **minority 1** and/or **minority 2** citizens, and 'general' if it does not. All policy variables considered are determined at the state-level. I consider three 'general' state-level policy variables. First, to gain insight on whether changes in the extent of political reservation alter a state's budget constraint I examine how political reservation impacts on a state's total per capita expenditure. Second, to examine whether any increases in targeted transfers (due to political reservation) are at the expense of general expenditure I examine how political reservation alters the educational budget share. Education constitutes the largest general development expenditure category in most states. Finally, I consider an asset redistribution policy: state-level land reform. Since land reform has been an intensely political activity, it is relevant to examine how increased political representation for **minority 1** and **minority 2** has affected the likelihood of land reform. I measure land reform by a cumulative index of the land reform acts passed in a state. The index increases by increments of one unit every time a state passes a land reform act. This index was created and used in Besley and Burgess [4].

I consider three targeted policy variables. Two are public finance variables: the '**minority 1** welfare' and '**minority 2** welfare' budget shares. Expenditures in these categories include targeted welfare and housing programs for these groups. The third is the proportion of state government jobs reserved for **minority 1** and **minority 2**, which I denote as 'job quota'.

In the case of electoral outcomes I focus on how political reservation alters 'Congress' and 'Left party' legislator share.

For data availability reasons the asset redistribution and electoral outcome regressions span 1960-92, and public finance regressions 1974-92. Data on **minority 1** welfare expenditure is only available since 1980.

The remainder of this section proceeds as follows: First, I present results on how changes in the extent of mandated representation affect policy outcomes, and how these findings vary with legislators party identity. Second, I examine how political reservation has altered the electoral performance of the Congress and Left party groupings.

4.1 Policy outcomes

For policy outcome O_{st} in state s at time t I estimate linear regressions of the form:

$$O_{st} = \alpha_s + \beta_t + \gamma_1 R_{st} + \gamma_2 P_{st} + \gamma_3 T_{st} + \gamma_4 D_{st} + \varepsilon_{st} \quad (1)$$

[10]The Congress party grouping consists of: Indian National Congress, Indian Congress Socialist, Indian National Congress Urs and Indian National Congress Organization. The 'Left' party grouping consists of: (i)Hard Left parties: Communist party of India + Communist party of India Marxist; (ii)Soft Left parties: Praja Socialist Party and Socialist Party; and (iii) Janata Parties: Janata Party, Janata Dal Party and Lok Dal Party

where R_{st} is a vector whose two elements are the proportion of jurisdictions reserved for **minority 1** and **minority 2** respectively, and P_{st} a vector whose two elements are **minority 1** and **minority 2** population shares respectively. The former measures **minority 1** and **minority 2** legislators group size. P_{st} enters the estimation equation for two reasons: first, **minority 1** and **minority 2** citizens may exert independent policy influence, and second, as a group's population share defines the extent of political reservation it enjoys.

T_{st} is a vector of state-specific characteristics which include state income, population density and population age-distribution measures (proportion population aged 15-34, and proportion population over 35). Changes in the extent of reservation only occur at point of election. To ensure that policy variation attributed to changes in the extent of reservation does not simply proxy for the electoral cycle I include an electoral dummy variable D_{st}. α_s is a state dummy which controls for time invariant state-differences such as permanent differences in state economic structures, and β_t a year dummy which accounts for the impact of time-related macro shocks to the economy as a whole on policy outcomes. Examples include political (e.g. declaration of the nationwide 'emergency' in 1977) and climatic shocks (e.g. droughts).

The inclusion of state and year dummies implies that overtime state-specific variation in the extent of reservation identifies the impact of political reservation on policy and electoral outcomes. As discussed earlier, time-lags in the population based readjustment of reservation implies that these changes differ from the annual population changes.

Basic findings Table 6 reports the results from estimating equation (1). The dependent variables in columns (1)-(3) are general policies, and in columns (4)-(6) targeted policies. In the former case minority legislators have had limited to no policy influence. In contrast, legislator identity is a significant determinant of targeted policies. Moreover, **minority 1** and **minority 2** legislators policy influence differs. Job quotas responds positively to increases in **minority 1**, but not **minority 2**, legislators group size. In contrast, increases in the share of **minority 2**, but not **minority 1**, legislators raise the expenditure on welfare programs targeted at own group. It is relevant that, relative to **minority 2**, **minority 1** citizens have higher education levels and are not geographically concentrated. Hence their relative return from individual-specific policies such as job quotas is higher, and from geographically based policies such as housing schemes (covered by welfare policies) lower. Therefore, the findings are consistent with the idea that legislators exert policy influence in line with their personal preferences, and focus this policy influence on the subset of policies which yields them the highest benefit. The point estimates suggest that the policy impact of mandated political representation is non-trivial: one percentage point increase in the proportion of jurisdictions reserved for **minority 2** raises **minority 2**'s welfare expenditure share by 0.74 percentage points.

Turning to demographics, we find differing effects on general and targeted policies. In case of general policies increases in minority population shares

raise their policy influence. Specifically, increases in **minority 1** population share raises education spending and land reform, while increases in **minority 2** population share worsens these outcomes. Since, relative to the non-minority population, illiteracy and landlessness is high amongst **minority 1** the former finding likely reflects the high demand for education and land reform amongst **minority 1** citizens. In contrast, **minority 2** citizens enjoy tribal land rights. As these areas are usually exempt from land reform high **minority 2** population concentration will reduce the extent of land reform(Galanter[15]). In case of education the group's low levels of political participation a possible explanation for the negative relationship (Mendelsohn and Vicziany[24]).

In contrast, for targeted policies the findings reflect the theoretically ambiguous relationship between population shares and level of targeted transfers. In case of **minority 1**, increases in its population share impact **minority 2** welfare expenditure negatively, and job quotas positively. The latter finding is suggestive of inter-group conflict. The effect of increases in population share on job quotas is, however, weaker (both the point estimate and statistical significance) that the impact of equivalent changes in reservation. In case of **minority 2**, increases in **minority 2** population share lower own group welfare spending. This is in line with the idea that minority group size increases which leave it below a majority, by making targeted transfers more expensive, increase the (non-poor minority) opposition to it. It is however wholly possible that the low levels of **minority 2** political participation drive this result. The relatively low levels of **minority 2** political participation may also be a reason why the first order impact of mandated political representation is greater for this group.

Finally, richer states have higher state expenditure but lower levels of job quotas. Moreover, in line with the fact that prime-aged non-minority population group (population aged 15-34) is the most adversely affected by job quotas I find that increases in this group's population share lowers job quotas.

Robustness Table 7 provides a series of robustness checks. To address the concern that political reservation measures may simply proxy for non-linear population effects I include non-linear population terms in columns (1)-(3). The basic results remain robust to this change in specification. Since, relative to the non-minority population, **minority 1** and **minority 2** citizens have lower incomes we may worry that our reservation variables simply proxies for income inequality. Therefore, columns (4)-(6) of table 7 include the gini coefficient as a measure of state-level income inequality but find no significant changes in the results. Finally, changes in targeted transfers could be coming about not from changes in the extent of reservation but rather overall party fragmentation in the legislature. This also suggests that it is interesting to ask whether minority legislators influence is higher when they constitute a swing group, in the sense that the majority party would be a minority if it lost the support of the party's minority legislators. Therefore, columns (7)-(9) include a measure of political fragmentation in the state (Herfindahl index), and a swing dummy which equals one if minority legislators constitute a swing group. The main results are unaf-

fected, and I find evidence that increased political fragmentation raises targeted transfers. This suggests that minority legislators enjoy more policy influence in a fragmented legislature. In a similar vein **minority 2** welfare expenditure is reduced whenever **minority 1** legislators constitute a swing group.

Exogeneity and Identification As discussed in section 2 the Indian constitution mandates that the proportion of jurisdictions reserved for a minority group reflect its population share.

Moreover, the extent of reservation enjoyed by a group can only be readjusted upon the arrival of the new decennial census estimates. The consequent time lags in the population-based readjustment imply a population-reservation relationship of the form: $R_{st} = f(P_{st-n})$.

Therefore, it is state-specific changes in minority population which allows us to identify the impact of political reservation on policy outcomes. The main source for changing population share of minority groups has been differential fertility and mortality rates. Relative to the non-minority population these groups have both higher fertility and infant mortality rates.[11] Moreover, there is little evidence that inter-state migration has contributed to changing minority population shares. Inter-state linguistic and cultural differences has implied that inter-state migration rates are relatively low. In 1991 they constituted roughly 5 percent of an average state's total migration. Net inter-state migration rates, on average, account for less than 1 percent of an Indian state's population growth rate. Moreover, the bulk of this migration is driven by women shifting state at point of marriage. Finally, census data demonstrates that **minority 1** and **minority 2** migration rates don't differ from the non-minority population migration rates(Cashin and Sahay[9]; Sebastian[30]).

A second worry is that the measurement of population and/or population-based readjustment of the extent of reservation may be correlated with state-specific omitted variables that affect policy outcomes. However, since both the Census commission (which undertakes population counts), and the Delimitation commission (which declares the extent of reservation) are nationally constituted bodies any omitted variables which affect their functioning should be captured by the year effects.

4.2 Party politics and political reservation

My theoretical model was premised on the assumption that candidate selection occurs within political parties. Moreover, these parties select candidates whose personal policy preferences are most in line with party preferences. In this section, I therefore examine whether minority legislators belonging to different parties exhibit differential policy behavior, and second whether party electoral performance is sensitive to the extent of political representation in place.

[11] According to the India Demographic and Health survey (1998) the total fertility rates amongst **minority 1**, **minority 2** and non-minority populations were 3.15, 3.06 and 2.60.

Party identity I run regressions of the form defined by equation1, with the difference being that the elements of R_{st} are now the party-differentiated share (Congress and Left) of **minority 1** and **minority 2** legislators. Theory predicts that while increases in 'Left' party minority legislators share should increase targeted transfers the effect of increasing non-Left minority legislators share on targeted outcomes depends on the extent of income inequality, and minority groups population share. Columns (1)-(3) of table 8 show that, consistent with the idea that minority legislators focus their policy influence on targeted policies, there is no evidence of party-differential behavior amongst minority legislators for general policies. However, for targeted policies I find significant party effects in the case of **minority 1** policies. In particular, the positive relationship between **minority 1** legislator group size and targeted outcomes is driven by Left party legislators. Moreover, for every targeted policy I can reject the hypothesis that Congress and Left **minority 1** legislators have equal policy influence. For **minority 2** I instead find that increases in both Left and Congress minority legislator share raise **minority 2** welfare spending, but drive down job quotas. This group-differential effect is consistent with the theory if, relative to **minority 1**, wealth levels are lower amongst **minority 2** citizens. For in this case all **minority 2** citizens (irrespective of their party identity) would favor targeted redistribution. Data in Table 2 suggests that this may well be the case.

Electoral outcomes To examine how changes in the extent of reservation affect party performance I estimate for party J's legislator share L^J_{st} in state s at time t linear regressions of the form:

$$L^J_{st} = \alpha_s + \beta_t + \gamma_1 R_{st} + \gamma_2 P_{st} + \gamma_3 T_{st} + \gamma_4 D_{st} + \varepsilon_{st} \tag{2}$$

Table 9 reports the results. The regressions reported in columns (1) and (2) exclude the reservation variables, and show that increases in **minority 1** and **minority 2** population shares improve the electoral performance of the Left party, while worsening that of the Congress. This finding is in line with the hypothesis that citizens belonging to socially and economically disadvantaged groups favor the redistribution-friendly left parties. Moreover, it is consonant with our earlier finding that, relative to the Congress party, increases in the share of Left' party legislators is more likely to raise targeted transfers.

The regressions reported in columns (3) and (4) include information on political reservation. The impact of political reservation on electoral outcomes differs significantly from that of minority population shares. Increases in political reservation for either group improve the electoral outcomes for Congress, but not the Left. In so far as **minority 1** and **minority 2** citizens do not favor the Congress party (columns (1) and (2)) our findings are in line with the theoretical prediction that increases in reservation may, by altering the basis for citizen voting decisions, have the perverse effect of favoring the non-Left party performance. The reason is that poor citizens who oppose targeted policies may switch party allegiance towards the non-Left parties. A different, but

complimentary, argument first advanced in the context of gerrymandering in the US is that in a reserved jurisdiction minority issues may become more salient. This, in turn, is likely to encourage to polarization of votes such that minority interests are harmed (Key[21]). Our findings are consonant with the literature on court-mandated gerrymandering in the US which find that the creation of majority-minority districts by decreasing the black presence in neighboring districts actually increased the number of Republicans elected to the legislature (see, for example Hill[16], Overby and Cosgrove[25] and Cameron, Epstein and O'Halloran [8]).

5 Concluding remarks

This paper proposes a theoretical framework for analyzing the policy and electoral impact of mandated political representation, and tests its predictions using data from India. The proposed model is able to explain why political situations in which only the majority is represented are characterized by fewer transfers to minorities. Conversely, mandates which increase minority representation in the political process are likely to favor minority policy interests. However, strategic voting on the part of citizens may mute this policy impact. Data from India demonstrates that mandated political representation has provided disadvantaged groups in India policy influence. Moreover, I find evidence that mandated political representation has adversely affected the electoral fortunes of the 'poor friendly' party.

My empirical findings support the contention that political processes are characterized by limited policy commitment. With full policy commitment, the composition of the electorate, not legislators' identity, determines policy outcomes. In contrast, I find evidence that changes in legislator identity affect policy outcomes in situations where the composition of the electorate is fixed. This finding is in line with that of other papers which test for, and reject, the median voter model of policy-making. The median voter model remains the classic example of a full policy commitment model. It predicts that with one dimensional policy making policy outcomes are completely determined by the median voter's identity. However, papers such as Kalt and Zupan [20], and Levitt [22] reject this model's predictions, and instead find that legislators' own policy preferences (or ideologies) determine legislators' roll call voting behavior.

This paper's findings are also in line with the empirical literature on identity politics which finds that elected officials racial/gender identity affects policy outcomes. In the case of US local politics a number of papers find that increased Black presence in local government raises Black employment, and increase social welfare expenditure (e.g. Eisinger [13], Stein [31] and Welch and Karnig [33]). Besley and Case [5] examine the impact of female representation in the US on policy outcomes and find that increased female representation in US state legislatures has altered policy outcomes, while Edlund and Pande [12] find evidence of significant gender differences in policy preferences in the US.

Taken together, this body of evidence suggests that political representation

of disadvantaged groups is central to their having voice in the making of policy. Theory and evidence from India suggests that one way to ensure that members of disadvantaged groups have such a voice is via the use of mandates which impose a specific identity for some subset of legislators. In such cases increased representation for disadvantaged minorities goes hand in hand with increased transfers to these groups. However, an important caveat is that such mandates may have perverse effects on electoral outcomes. This paper also stops well short of drawing any normative conclusions regarding the implications of these findings for individual well-being. In particular, the extent to which enhanced group voice translates into improved welfare outcomes for members of these groups remains an open and important question for future research.

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6 Appendix

6.1 Mathematical Appendix

In all proofs citizens voting decisions refers to rational citizens voting decisions.
Proof of Proposition 1. If $\pi_P = 0$ then the election of party P is associated with $\{t = 1;\ \delta_P^* = 0$ and $T_P^* = \lambda^p y^p + \lambda^r y^r\}$. On the other hand, if $\lambda_L^p > \widehat{\lambda}_L^p$ then the election of party R is associated with $t(\pi_R) = 0\ \forall\ \pi_R \in [0,1]$, as party R members, irrespective of their caste, favor no redistribution. With $\pi_P = 0$ and $\pi_R \in [0,1]$ rational citizens vote along income lines, party P wins with probability $\phi(\lambda^p - \lambda^r)$, and non-targeted transfers are implemented with probability $\phi(\lambda^p - \lambda^r)$. I now show that party entry decisions $\{\pi_P = 0;\ \pi_R \in [0,1]\}$ constitute best responses.

For $\lambda_L^p > \widehat{\lambda}_L^p$, $t(\pi_R) = 0\ \forall \pi_R \in [0,1]$. Therefore, any $\pi_R \in [0,1]$ constitutes a best response for party R.

For party P, irrespective of the value of π_P, $t = 1$. Changes in π_P, however, alter the mix between targeted and non-targeted redistribution. In particular, if party P sets $\pi_P > 0$ then its election is associated with:

$$T_P^*(\pi_P) = (1 - \psi(\pi_P))\left(\lambda^p y^p + \lambda^r y^r\right); \delta_P^*(\pi_P) = \psi(\pi_P)\left(\frac{\lambda^p y^p + \lambda^r y^r}{\lambda_L}\right) \quad (3)$$

where, by assumption $\frac{\partial \psi(\pi_P)}{\partial \pi_P} > 0$. Let

$$\widetilde{\pi} \equiv \psi^{-1}\left(\frac{\lambda_r(y^r - y^p)}{\lambda_p y^p + \lambda_r y^r}\right)$$

For $\pi_P < \widetilde{\pi}$ citizens vote along income lines, and party P's probability of winning is unaffected. However, the election of party P leads to positive targeted transfers. Assumption 1 implies that, relative to $\pi_P = 0$, this reduces party P's payoff.

If instead $\pi_P > \widetilde{\pi}$ then rich citizens vote for party R, and poor low-caste citizens for party P. However, poor high-caste citizens switch to voting for party R.This is because a poor high-caste citizen's payoff when party P is the majority party is less than when party R is the majority party. That is,

$$(1 - \psi(\widetilde{\pi}))(\lambda_p y^p + \lambda_r y^r) < y^p\ \forall \pi_P > \widetilde{\pi} \quad (4)$$

Therefore, relative to $\pi_P = 0$, $\pi_P > \widetilde{\pi}$ strictly lowers party $P's$ probability of winning and payoff. Hence $\pi_P = 0$ is a dominant strategy for party P ■

Proof of Corollary to Proposition 1. Political reservation forces parties to field low-caste candidates in $\pi \geq \pi^*$ proportion of jurisdictions. For $\lambda_L^p > \widehat{\lambda}_L^p$ Party R is indifferent between all $\pi_R \in [\pi^*, 1]$ such that any $\pi_R \in [\pi^*, 1]$ constitutes a best response.

For $\pi_P > 0$ the election of party P is associated with the policies given by (3). As increases in π_P decrease party P's payoff (see proposition 1 proof) party P's best response is to set $\pi_P = \pi^*$. If $\pi^* < \widetilde{\pi}$ then citizens vote along income lines

and the electoral outcomes are unaffected. However, the probability distribution over policy outcomes is altered such that targeted transfers are implemented with probability $\phi(\lambda^p - \lambda^r)$.

If $\pi^* > \widetilde{\pi}$ poor high-caste citizens switch to voting for party R (see proof of proposition 1). Here political reservation alters parties' probability of electoral success. Party P wins with probability $\phi(\lambda_L^p - \lambda^r - \lambda_H^p)$, and party R with probability $1 - \phi(\lambda_L^p - \lambda^r - \lambda_H^p)$. In equilibrium positive targeted transfers are implemented with probability $\phi(\lambda_L^p - \lambda^r - \lambda_H^p)$ ■

Proof of Proposition 2. Let

$$\pi_R^* \equiv \psi^{-1}\left(\frac{\lambda_L \lambda^r (y^r - y^p)}{\lambda^r y^r + (\lambda^p - \lambda_L) y^p}\right)$$

conditional on party P fielding no low-caste candidates, Party R can by setting $\pi_R > \pi_R^*$ attract poor low-caste citizens votes away from party P and improve its electoral fortunes. Also, we define

Assumption 2 For any $\pi_R > \pi_R^*$

1. If $\pi_P \leq \pi_R$

$$(\phi(\lambda^p - \lambda^r))(\Delta(\pi_P)) > (\phi(\lambda^p - \lambda^r) - \phi(\lambda_H^p - \lambda^r - \lambda_L^p)) \ \ (\Delta(\pi_R))$$

2. For $\pi_P > \pi_R$

$$(\phi(\lambda^p + \lambda_L^r - \lambda_H^r))(\Delta(\pi_P)) > (\phi(\lambda^p + \lambda_L^r - \lambda_H^r) - \phi(\lambda_H^p - \lambda^r - \lambda_L^p))(\Delta(\pi_R))$$

where
$\Delta(\pi_P) \equiv \psi(\pi_P)\left(\frac{\lambda^p y^p + \lambda^r y^r}{\lambda_L}\right)(\lambda_L - \xi_P))$ and
$\Delta(\pi_R) \equiv (\lambda^r(y^r - y^p) - \psi(\pi_R)(\left(\frac{\lambda^p y^p + \lambda^r y^r}{\lambda_L}\right)\xi_P - y_P))$.

We first prove that when $\lambda_L^p < \widehat{\lambda}_L^p$ and assumptions 1 and 2 hold the game has a unique equilibrium in which no party fields low-caste candidates. In doing so, we show that under assumption 1 there exists an equilibrium in which neither party fields low-caste candidates.

To show that it is a dominant strategy for Party P to set $\pi_P = 0$ it is useful to distinguish between two cases depending on whether $\pi_R \geq 0$.

I. If $\pi_R = 0$ and party P sets $\pi_P = 0$ then $\delta_J = 0 \ \forall J$. Therefore, citizens vote along income lines, and party P wins with probability $\phi(\lambda^p - \lambda^r)$. If party P instead sets $\pi_P > 0$ then rich high-caste, and poor low-caste, citizens voting decisions are unaffected, while rich low-caste citizens switch to voting for party P if

$$(1 - \psi(\pi_P))\left(\lambda^p y^p + \lambda^r y^r\right) + \psi(\pi_P)\left(\frac{\lambda^p y^p + \lambda^r y^r}{\lambda_L}\right) > y^r \tag{5}$$

$$\psi(\pi_P) > \frac{\lambda^p \lambda_L (y^r - y^p)}{\lambda_H\left(\lambda^p y^p + \lambda^r y^r\right)} \tag{6}$$

while poor high-caste citizens continue voting for party P if

$$(1-\psi(\pi_P))\left(\lambda^p y^p+\lambda^r y^r\right)>y^p \tag{7}$$

Equations (5) and (7) may be simultaneously satisfied if

$$\lambda_H^r>\lambda_L^p \tag{8}$$

In this case party P can, by setting $\pi_P>0$, increase its probability of electoral success to $\phi(\lambda^p+\lambda_L^r-\lambda_H^r)$. Such a deviation maximizes party P's expected payoff if

$$\begin{aligned}&\{\phi(\lambda^p+\lambda_L^r-\lambda_H^r)\left(W^P(\delta_P^*(\pi_P);T_P^*(\pi_P)\right)+\\&(1-\phi(\lambda^p+\lambda_L^r-\lambda_H^r))\left(W^P(\delta_R^*(0);T_R^*(0)\right)\}\\&>\{\phi(\lambda^p-\lambda^r)\left(W^P(\delta_P^*(0);T_P^*(0)\right)+(1-\phi(\lambda^p-\lambda^r))\left(W^P(\delta_R^*(0);T_R^*(0)\right)\end{aligned} \tag{9}$$

where π_P must satisfy equation (6). Solving out the above equation gives

$$\begin{aligned}&\psi(\pi_P)(\phi(\lambda^p+\lambda_L^r-\lambda_H^r))\left(\frac{\lambda^p y^p+\lambda^r y^r}{\lambda_L}\right)(\xi_P-\lambda_L)>\\&(\phi(\lambda^p+\lambda_L^r-\lambda_H^r)-\phi(\lambda^p-\lambda^r))\left(\lambda^r(y^r-y^p)\right)\end{aligned}$$

However as $\xi_P<\lambda_L$ (by assumption 1) the left hand side is negative while the right hand side is positive. Hence the inequality of equation (9) can not hold. Therefore $\pi_P>0$ lowers party $P's$ final payoff.

II. If $\pi_R>0$ two possibilities exist. First, π_R is so low that given $\{\pi_R>0;$ $\pi_P=0\}$ citizens vote along income lines. In this case the logic of case I implies party P will not deviate to $\pi_P>0$. If, instead, π_R satisfies

$$\psi(\pi_R)\left(\frac{\lambda^r y^r+\lambda^p y^p}{\lambda_L}\right)+(1-\psi(\pi_R))y^p>\lambda^p y^p+\lambda^r y^r \tag{10}$$

$$\pi_R>\psi^{-1}\left(\frac{\lambda_L\lambda^r(y^r-y^p)}{\lambda^r y^r+(\lambda^p-\lambda_L)y^p}\right)$$

then, poor low-caste citizens will vote for party R while rich high-caste citizens will vote for party R as long as

$$(1-\psi(\pi_R))\,y^r>\lambda^p y^p+\lambda^r y^r \tag{11}$$

Equations (10) and (11) can be satisfied simultaneously if

$$\lambda_L^r<\lambda_H^p \tag{12}$$

In this case Party P's probability of winning when $\pi_P=0$ is $\phi(\lambda_H^p-\lambda^r-\lambda_L^p)$. To show that $\pi_P=0$ remains a best response for party P we need show that all possible deviations lower Party $P's$ payoff. Two such deviations exist. First, party P may set $\pi_P\in\,]0,\pi_R]$ such that it regains poor low-caste

citizens vote. However, as long as $\pi_P \leq \pi_R$, rich citizens will continue voting for party R.Therefore such a deviation will raise party $P's$probability of winning to $\phi(\lambda^p - \lambda^r)$. The deviation reduces party $P's$ payoff if

$$\{\phi(\lambda_H^p - \lambda^r - \lambda_L^p)W^P(T_P^*(0); \delta_P^*(0)) + (1 - \phi(\lambda_H^p - \lambda^r - \lambda_L^p))W^P(T_R^*(\pi_R); \delta_R^*(\pi_R))\}$$

$$> \phi(\lambda^p - \lambda^r)W^P(T_P^*(\pi_P); \delta_R^*(\pi_P)) + (1 - \phi(\lambda^p - \lambda^r))W^P(T_R^*(\pi_R); \delta_R^*(\pi_R))$$

Solving out the above equation gives

$$(\phi(\lambda^p - \lambda^r)\psi(\pi_P)\delta\,(\lambda_L - \xi_P)) >$$

$$\phi(\lambda^p - \lambda^r) - \phi(\lambda_H^p - \lambda^r - \lambda_L^p))(\lambda^r(y^r - y^p) - \psi(\pi_R)(\delta\xi_P - y_P))$$

where $\delta = \frac{\lambda^r y^r + \lambda^p y^p}{\lambda_L}$. Assumption 2 implies that this inequality holds.

The second deviation is $\pi_P > \pi_R$ such that party P attracts the vote of poor citizens and rich low-caste citizens. Such a deviation may not exist. However if it does then party P's probability of electoral success increases to $\phi(\lambda^p + \lambda_l^r - \lambda_h^r)$. Relative to $\pi_P = 0$ this deviation reduces party $P's$ payoff if

$$\{\phi(\lambda_H^p - \lambda^r - \lambda_L^p)W^P(T_P^*(0); \delta_P^*(0)) + (1 - \phi(\lambda_H^p - \lambda^r - \lambda_L^p))W^P(T_R^*(\pi_R); \delta_R^*(\pi_R))\}$$

$$> \phi(\lambda^p + \lambda_L^r - \lambda_H^r)W^P(T_P^*(\pi_P); \delta_R^*(\pi_P)) + (1 - (\lambda^p + \lambda_L^r - \lambda_H^r))W^P(T_R^*(\pi_R); \delta_R^*(\pi_R))$$

Solving out the above equation gives

$$\phi(\lambda^p + \lambda_L^r - \lambda_H^r)\psi(\pi_P)\delta\,(\lambda_L - \xi_P) >$$

$$(\phi(\lambda^p + \lambda_L^r - \lambda_H^r) - \phi(\lambda_H^p - \lambda^r - \lambda_L^p))\,((\lambda^r(y^r - y^p) - \psi(\pi_R)(\delta\xi_P - y_P))$$

Assumption 2 implies that this inequality holds. Hence $\pi_P = 0$ constitutes a dominant strategy for party P.

Party $R's$ best response to $\pi_P = 0$ is always $\pi_R = 0$. If equations (12) is satisfied then party R can increase its probability of electoral success by setting $\pi_R > 0$. However as long as assumption 1 holds such a deviation reduces party $R's$ payoff. Therefore, both parties set $\pi_J = 0$ ■

Proof of Corollary to Proposition 2. Political reservation forces parties to select $\pi_J \geq \pi^*$. If $\lambda_L^p < \widehat{\lambda}_L^p$ then $\pi_J = \pi^*$ constitute a pair of best responses. The logic of proposition 2 implies that with $\xi_P < \lambda_L$ a deviation to $\pi_J > \pi^*$reduces party J's payoff ■

6.2 Data appendix

Relevant provisions in the Indian constitution (1950)

minority 1 and minority 2 identification Article 341 and 342 of the Indian constitution define the mechanism for declaring communities as belonging to **minority 1** and **minority 2** respectively.[12] In keeping with this article Presidential orders were promulgated in 1950. Identification of caste groups as belonging to **minority 1** was based on the 1931 census criteria, and for **minority 2** was based on the 1950 tribal identification criteria (Table 1). The group identification criteria have remained unaltered with two exceptions: in 1956 the list were revised to remove anomalies; and in 1976 a Parliamentary bill eliminated intra-state area restrictions.

Constitutional provisions for political reservation Article 330 and *Article 332* provide for reservation of jurisdictions for **minority 1** and **minority 2** in the National and state legislatures respectively. Section 3 of *Article 332* states,'the number of seats reserved shall bear as nearly as may be, the same proportion to the total number of seats in the Assembly as the population of **minority 1** in the state or the **minority 2** in the state, as the case maybe, in respect of which seats are so reserved, bears to the total population in the state'.

Election administration and jurisdiction delimitation The Indian Constitution established a fully independent Election commission which has the power of superintendence, direction and control of elections. After Independence, the Parliament passed a law entrusting the work of delimitation of reserved jurisdictions to a three member commission called the Delimitation commission.[13] This commission consists of a retired Supreme Court judge, a sitting High Court Judge and the Chief Election commissioner (Galanter [15]). The Delimitation commission and Election commission are together responsible for division of a state into jurisdictions. The orders of the Delimitation commission and Election commission have the force of law and cannot be called into question in any court.

6.2.1 Data-set details

The data-set builds on a Indian state level panel data-set collated by Ozler, Datt and Ravallion[26] and Besley and Burgess[4]. The data-set covers the sixteen main Indian states. Until 1965 there were 15 states. In 1965 Haryana split from Punjab and is entered as a separate variable thereafter.

[12]The Article(s) state: 'the President after consultation with the Governor of the state by public notifications specifies the castes, races or tribes or parts of or groups within castes, races or tribes which for the purposes of this Constitution shall be deemed to be minority 1 (scheduled castes) or specify the tribes or tribal communities or parts of it as minority 2 (scheduled tribes) respectively in that state.'

[13]Delimitation commissions were constituted in 1953 (the same commission continued reallocation of seats in 1956) and after the census in 1961 and 1971. The election commission was entrusted with the duty of readjusting the proportion of seats reserved after the 1976 area delimitation act.

Public finance Source for non-targeted state expenditure data: Reserve Bank of India annual Report on Currency and Finance. Source for targeted state expenditure data: Annual Ministry of Welfare documents.

1. **State expenditure** is the state government's total expenditure during a budget year.
2. **Education expenditure** includes state expenditure on elementary, secondary, university and higher, technical and adult education.
3. **minority 1 welfare** is the state outlay on the 'special component plan', which include expenditure on programs for development of **minority 1**.
4. **minority 2 welfare** includes expenditure under the state plan on 'tribal sub plan', which include expenditure on programs for development of **minority 2**.

Asset redistribution variables

1. **Land reform index** is a cumulative measure of the total land reform legislations passed by a state. Source: Besley and Burgess[4].[14]
2. **Job quota** measures the average percentage of jobs reserved, where the average is taken over the four classes which state government jobs are divided into. [15] Source:Scheduled Caste and Scheduled Tribe Commissioner of India reports

Inequality and price data Source: Ozler, Datt and Ravallion [26] data-set.

1. **Gini coefficient**: based on consumption data from the 22 rounds of Indian National Sample consumption expenditure surveys.
2. The **price index** (which is used to deflate the state expenditure and federal grant series) takes October 1973-74 prices as the base.

Population Source: decennial censuses for 1951, 1961, 1971, 1981 and 1991 with linear interpolation for inter-censal years. The census provides information on non-minority, **minority 1** and **minority 2** populations separately. In 1976, change in the legal classification of **minority 1** and **minority 2** led to a population increase. For 1977-1981 we use 1971 census estimates recalculated using new population figures and the 1981 figure.
Political reservation Source: Election Commission of India documents.

[14] These reforms can be divided into tenancy reform, abolition of intermediaries, ceilings on land holdings and consolidation of land plots.

[15] Articles 16(4), 320(4) and 335 of the Constitution provide for job reservations for **minority 1** and **minority 2** in state government services.

Table 1: Legal identification of **minority 1** and **minority 2**

	Selection criteria for **minority 1**
1	Cannot be served by clean Brahmans;
2	Cannot be served by the barbers, water-carriers, tailors etc. who serve the caste Hindus
3	Pollutes a high-caste Hindu by contact or by proximity
4	Is one from whose hands a caste Hindu cannot take water
5	Is debarred from using public amenities, such as roads, ferries, wells or schools
7	Will not be treated as an equal by high-caste men of the same educational qualification in ordinary social intercourse
9	Is depressed on account of the occupation followed and, but for that, occupation would be subject to no social disability

	Selection criteria for **minority 2**
1	Tribal origin
2	Primitive ways of life and habitation in remote and less accessible areas
3	General backwardness in all respects

Note: The Indian constitution (article 341 and 342) states that designation of castes and tribes as **minority 1** and **minority 2** respectively will be undertaken by Presidential orders. The above criteria described in formed the basis for the 1950 Presidential orders.

Table 2: Economic characteristics of **minority 1** and **minority 2**: 1991 Census

Variable	Total population	Non-minority population	**minority 1**	**minority 2**
Population share	100	75.4	16.4	7.9
Urban population share	25.7	29.2	18.7	7.3
Literacy rate	52.2	57.8	37.4	29.6
Main workforce		32.8	36	42
Primary sector workers	67.5	62.1	77.1	90
Population below poverty line	36.9	31.15	53.1	58.4

Notes: (i) Source: 1991 census, except the poverty data which is from 1983-84 NSS figures. (ii) The primary sector in India includes those employed in the agricultural sector.

Table 3: Political reservation and population shares

	No state and year dummies		with state and year dummies	
	(1)	(2)	(3)	(4)
minority 1 population	0.83**	–	-0.106**	
	(0.029)		(0.051)	
minority 2 population	–	1.009**	–	0.83**
		(0.043)		(0.090)
Adj. R^2	0.88	0.97	0.96	0.98
N	519	519	519	519

Notes: OLS regressions, robust standard errors in parentheses. Time-span covered 1960-1992.

Table 4: State-level economic and demographic characteristics

	Population		Reservation		State	Welfare expenditure		Job
	min.1	**min.2**	**min.1**	**min.2**	income	**min.1**	**min.2**	quotas
Andhra Pradesh	14.2 (0.96)	4.76 (1.15)	13.6 (0.52)	4.3 (1.39)	1004 (260)	3.7 (0.43)	1.33 (0.33)	18.1 (1.56)
Assam	6.53 (0.36)	13.9 (3.07)	6.1 (0.9)	16.3 (4.93)	903 (196)	1.41 (0.74)	3.89 (0.47)	17.4 (1.29)
Bihar	14.2 (0.30)	7.80 (1.21)	13.9 (0.91)	9.16 (0.59)	633 (110)	3.97 (0.72)	8.86 (2.99)	36.9 (9.6)
Gujarat	6.96 (0.30)	14.0 (0.52)	6.9 (0.35)	13.65 (0.55)	1176 (272)	1.38 (0.54)	4.29 (1.87)	17.9 (3.2)
Haryana	19.1 (0.28)	0	18.7 (0.18)	0	1444 (357.4)	4.24 (1.62)	0	20.1 (0.89)
Jammu Kashmir	7.89 (0.59)	0	7.5 (0.98)	0	1021 (228)	1.96 (0.9)	0	4 (4.05)
Karnataka	14.2 (1.27)	2.32 (1.78)	13.9 (0.64)	0.78 (0.19)	1037 (216)	3.87 (1.29)	0.27 (0.16)	19.7 (3.07)
Kerala	9.08 (0.77)	1.15 (0.10)	8.76 (0.43)	1.05 (0.37)	864 (182)	2.35 (0.45)	0.36 (0.19)	10 (0.1)
Madhya Pradesh	13.6 (0.56)	21.5 (1.45)	13.7 (0.81)	21.06 (1.94)	843 (190)	3.48 (0.60)	8.55 (4.02)	31.0 (7.23)
Mahara-shtra	7.24 (1.68)	7.31 (1.62)	7.7 (2.9)	6.46 (1.02)	1288 (331)	1.35 (0.38)	2.26 (0.63)	18.1 (2.9)
Orissa	15.4 (0.51)	22.9 (0.57)	15.8 (1.34)	22.6 (1.31)	873 (186)	4.76 (2.17)	11.7 (4.8)	39.8 (1.25)
Punjab	29.1 (4.14)	0	23.1 (1.54)	0	1732 (384)	2.85 (1.16)	0	22.6 (2.72)
Rajas-than	16.5 (0.63)	12.0 (0.35)	16.17 (0.42)	11.51 (0.37)	785 (136)	4.22 (0.77)	3.45 (1.41)	23.8 (6.75)
Tamil Nadu	18.2 (0.45)	0.87 (0.16)	17.9 (0.03)	0.9 (0.32)	1015 (272)	4.65 (1.05)	0.24 (0.07)	16.6 (1.09)
Uttar Pradesh	20.9 (0.16)	0.73 (0.93)	21.0[33] (0.38)	0.12 (0.11)	874 (140)	4.6 (1.01)	0.03 (0.01)	32.5 (6.67)
West Bengal	19.4 (3.20)	5.70 (0.13)	19.3 (0.94)	5.8 (0.09)	1173 (191)	2.78 (0.48)	1.2 (0.37)	27.0 (7.59)
National average	14.5 (6.16)	7.29 (7.49)	14.01 (5.28)	7.30 (7.70)	1030 (346.12)	3.24 (1.57)	2.95 (4.07)	22.2 (10.3)

Table 5: Descriptive statistics

Variable		Mean (Standard deviation)	Units	Years available
Policy outcomes				
State expenditure per capita		197.88 (86.27)	Rs. per person	1974-92
of which:				
	Education	21.59 (3.958)	%	1974-92
	minority 1 welfare	3.243 (1.571)	%	1980-92
	minority 2 welfare	2.957 (4.078)	%	1974-92
Land reform index		2.909 (2.749)	absolute nos.	1960-92
Job quota		22.29 (10.33)	%	1960-92
Political reservation				
Jurisdictions reserved for:	**minority 1**	14.01 (5.285)	%	1960-92
	minority 2	7.325 (7.695)	%	1960-92
minority 1 reserved jurisdictions won by	Congress party	7.096 (4.538)	% (of total jurisdictions)	1960-92
	Left party	2.939 (4.162)	% (of total jurisdictions)	1960-92
minority 2 reserved jurisdictions won by	Congress party	4.104 (5.193)	% (of total jurisdictions)	1960-92
	Left party	0.937 (2.423)	% (of total jurisdictions)	1960-92
Other political variables				
Legislators belonging to:				
	Congress party	0.530 (0.242)	%	1960-92
	Left party	0.216 (0.214)	%	1960-92

Table 5: Descriptive statistics, continued

Variable	Mean (Standard deviation)	Units	Years available
Demographic variables			
minority 1 population	14.50 (6.164)	%	1960-92
minority 2 population	7.299 (7.494)	%	1960-92
Population density	243.0 (167.4)	%	1960-92
Population aged 15-34	32.14 (1.681)	%	1960-92
Population aged 35+	27.36 (1.845)	%	1960-92
Other economic variables			
State income per capita	1030.5 (346.12)	Rs. per capita	1960-92

Notes: Missing state-year data: (i)state expenditure: Jammu-Kashmir (1992)(ii)**minority 1** welfare share: all states except Andhra Pradesh and Assam (1984), Jammu-Kashmir (1980-81)(iii)**minority 2** welfare share: Andhra Pradesh (1986), Maharashtra and Tamil Nadu (1974) and Uttar Pradesh (1974,1975,1986)(iv)Political reservation: Jammu-Kashmir(1957-61), Punjab and Haryana (1957-65)(v)State income: Haryana, Punjab and Jammu-Kashmir (1992)(vi)Gini coefficient: Gujarat (1958), Jammu-Kashmir(1960,1992), Maharashtra (1958)(vii)State income: Haryana, Punjab and Jammu-Kashmir (1992)

Table 6: Minority representation and policy choices

	General policies			Targeted policies		
	State expenditure	Education share	Land reform	**minority 1** welfare share	**minority 2** welfare share	Job quotas
minority 1 reservation	2.567	-0.306	0.034	-0.715*	-0.260	**0.660****
	(3.186)	(0.250)	(0.042)	(0.445)	(0.270)	(0.162)
minority 2 reservation	-3.428*	-0.203	-0.008	-0.209	**0.742****	0.125
	(2.078)	(0.196)	(0.040)	(0.527)	(0.347)	(0.228)
	[1.77]	[0.09]	[0.76]	[0.40]	[6.30]	[3.77]
minority 1 population	2.929	1.188**	0.140**	0.103	-0.681**	0.438*
	(3.280)	(0.234)	(0.047)	(0.156)	(0.217)	(0.232)
minority 2 population	2.657	-0.637**	-0.101**	-0.740	-0.493*	-0.025
	(1.811)	(0.198)	(0.046)	(0.772)	(0.264)	(0.294)
	[0.00]	[28.98]	[9.16]	[1.07]	[0.24]	[1.14]
Population density	-0.148*	-0.003	0.001	0.014**	-0.008	0.023**
	(0.077)	(0.008)	(0.001)	(0.006)	(0.007)	(0.008)
Population aged 15-34	-0.084	0.366	-0.079	1.330**	-0.426	-1.834**
	(5.754)	(0.383)	(0.052)	(0.473)	(0.039)	(0.302)
Population aged 35+	8.491**	-1.330**	-0.089	-0.267*	0.106	0.947
	(3.571)	(0.256)	(0.059)	(0.169)	(0.166)	(0.403)
Log state income per capita	54.94**	-0.081	-0.114	-2.205*	3.569*	-4.490**
	(19.07)	(1.687)	(0.413)	(1.944)	(1.943)	(2.208)
Adj. R^2	0.92	0.82		0.61	0.83	0.89
N	260	260	436	156	255	448

Notes: OLS regressions, except for land reform regressions which are estimated using Poisson model. Robust standard errors in parentheses. The square brackets report the F-statistic for the equality of **minority 1** and **minority 2** effects. All regressions include an election dummy and state and year dummies. The land reform regression includes the four period lagged value of the land reform dummy as an explanatory variable. The public finance regressions, except **minority 1** expenditure regressions, span 1974-1992. The latter spans 1980-92. The land reform regression spans 1961-1992, and the job quota regressions 1960-1992.

Table 7: Minority representation and policy choices: robustness checks

	Non-linear population effects			Income inequality effects			Political fragmentation		
	min.1 welfare	**min. 2** welfare	job quotas	**min. 1** welfare	**min. 2** welfare	job quotas	**min. 1** welfare	**min. 2** welfare	job quotas
minority 1	-0.589	-0.261	**0.494****	-0.590	-0.278	**0.434****	-0.434	-0.392	**0.471****
reservation	(0.445)	(0.978)	(0.136)	(0.448)	(0.270)	(0.151)	(1.02)	(0.258)	(0.154)
minority 2	-0.455	**0.723****	-0.173	-0.458	**0.739****	-0.095	-1.203**	**0.621****	-0.025
reservation	(0.496)	(0.296)	(0.186)	(0.501)	(0.295)	(0.179)	(0.503)	(0.305)	(0.185)
minority 1	0.496*	-0.164	-0.285**	0.496*	-0.184	0.056	0.601*	-0.025	-0.071
population	(0.305)	(0.367)	(0.567)	(0.30)	(0.360)	(0.572)	(0.336)	(0.325)	(0.606)
minority 2	2.256	-0.760**	-0.126**	2.263	-0.823**	-1.00**	2.626	-0.678**	-0.988**
population	(2.031)	(0.311)	(0.369)	(2.070)	(0.320)	(0.391)	(1.954)	(0.313)	(0.397)
minority 1	-0.023	-0.016	-0.285	-0.023*	-0.015**	0.014	-0.032	-0.020	0.016
population squared	(0.012)	(0.009)	(0.567)	(0.012)	(0.009)	(0.014)	(0.132)	(0.008)	(0.015)
minority 2	-0.127	0.012	0.071**	-0.127	0.012	0.065**	-0.157*	0.011	0.063**
population squared	(0.087)	(0.019)	(0.014)	(0.088)	(0.019)	(0.014)	(0.087)	(0.018)	(0.014)
Gini				0.002	0.116**	-0.221**	-0.005	0.084	-0.220**
coefficient				(0.058)	(0.059)	(0.096)	(0.071)	(0.063)	(0.098)
Political herfindahl							3.295**	2.941**	-1.597
index							(1.094)	(1.037)	(1.176)
minority 1							0.218	-0.826**	0.564
swing index							(0.495)	(0.347)	(0.538)
minority 2							-0.615	-0.160	-0.423
swing index							(0.901)	(1.031)	(0.762)
Adj. R^2	0.62	0.83	0.88	0.62	0.83	0.89	0.65	0.84	0.88
N	156	255	448	156	255	448	156	255	448

Notes: OLS regressions, robust standard errors in parentheses. The regressions include an election dummy, and state and year dummies, and all additional controls included in Table 6 regressions. Land reform regression includes the four period lagged value of the land reform dummy as an explanatory variable. The public finance regressions, except **minority 1** expenditure regressions, span 1974-1992. The latter spans 1980-92. The land reform regression spans 1961-1992, and the job quota regressions 1960-1992.

Table 8: Minority representation and policy choices: party effects

	General policies			Targeted policies		
	State expenditure	Education share	Land reform	**minority 1** welfare share	**minority 2** welfare share	Job quotas
Congress won **minority 1** reserved seats	-2.846** (0.743)	0.042 (0.055)	-0.042 (0.015)	-0.181 (0.042)	-0.181 (0.414)	-0.119 (0.083)
Left won **minority 1** reserved seats	-2.925** (0.864)	0.090 (0.065)	0.013 (0.017)	0.086 (0.059)	-0.089* (0.050)	**0.188**** (0.075)
	[0.04]	[1.51]	[0.08]	[6.70]	[4.23]	[21.39]
Congress won **minority 2** reserved seats	1.963** (0.877)	-0.047 (0.065)	0.009 (0.016)	-0.094** (0.041)	**0.319**** (0.105)	-0.195** (0.079)
Left won **minority 2** reserved seats	2.338** (0.841)	-0.040 (0.067)	0.009 (0.018)	-0.078 (0.110)	**0.342**** (0.118)	-0.278** (0.087)
	[0.72]	[0.03]	[0.96]	[0.03]	[0.10]	[1.19]
minority 1 population	0.118 (3.143)	1.203** (0.231)	0.140** (0.048)	0.140 (0.152)	-0.707** (0.208)	0.069 (0.243)
minority 2 population	2.431 (1.919)	-0.700** (0.199)	-0.093** (0.039)	-0.576 (0.691)	-0.301 (0.266)	0.375* (0.193)
Adj. R^2	0.93	0.82		0.65	0.84	0.87
F-test						
N	260	260	444	156	255	492

Notes: OLS regressions, except for land reform regressions which are estimated using Poisson model. Robust standard errors in parentheses. The square-brackets report the F-statistic for the equality of party effects. All regressions include as additional covariates: (i) all controls included in Table 6 regressions; (ii) election dummy, (iii) state and year dummies. The land reform regression also includes the four period lagged value of the land reform dummy as an explanatory variable. The public finance regressions, except **minority 1** expenditure regressions, span 1974-1992. The latter spans 1980-92. The land reform regressions span 1961-1992, and the job quota regressions 1960-1992.

Table 9: Minority representation and electoral outcomes

	(1) Congress legislators (%)	(2) Left legislators (%)	(3) Congress legislators (%)	(4) Left legislators (%)
minority 1			**0.026****	0.002
reservation			(0.008)	(0.005)
minority 1	**-0.022****	**0.026****	**-0.022****	**0.025****
population	(0.010)	(0.008)	(0.010)	(0.008)
			[13.40]	[5.47]
minority 2			**0.201****	0.0001
reservation			(0.007)	(0.007)
minority 2	**-0.018****	**0.016****	**-0.032****	**0.015***
population	(0.007)	(0.007)	(0.009)	(0.009)
			[13.14]	[0.97]
Population	-0.001**	0.0007**	-0.001**	0.0007**
density	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Propn. population	-0.038**	0.0006	-0.046**	-0.081**
aged 15-34	(0.012)	(0.013)	(0.013)	(0.025)
Propn. population	0.094**	-0.082**	0.103**	-0.081**
aged 35+	(0.024)	(0.023)	(0.026)	(0.025)
Adj. R^2	0.52	0.57	0.59	0.51
N	442	442	442	442

Notes: OLS regressions with robust standard errors in parentheses. The square brackets report the F-statistic for the joint significance of the reservation and population variable for **minority 1** and **minority 2**. All regressions include state and year dummies.