

Assumptions and Arithmetic of Caste-Based Reservations

There is reason to be cautious in the use of affirmative action policies to achieve equality in access to higher education. There appears to be considerable heterogeneity within the broad social groupings that are currently used and differences in the extent to which groups that were traditionally disadvantaged have managed to extract benefits from the state. Affirmative action policies that target broad social groups are not going to act as powerful tools of social justice – too many of the disadvantaged will be excluded in favour of the more privileged.

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The group-based reservation policies that are currently being proposed for other backward classes (OBCs) in higher education have their rationale in three basic premises. The first is that the groups concerned are socially disadvantaged relative to other unreserved groups in the population. Second, that disadvantage is most effectively addressed by directing benefits towards groups rather than directly to disadvantaged individuals and households. Lastly, that among available group-based affirmative action policies, reservations are the right choice.

It is instructive to examine the validity of these assumptions in the Indian context, using theoretical arguments and the limited empirical evidence available on group outcomes and public policy. Throughout the discussion that follows, I will stay clear of the tangled debate on the acceptability of differential treatment to the socially disadvantaged and focus instead on the relative efficiency of alternative policies that can be used for such transfers.

How great is the OBC disadvantage relative to unreserved groups in the population? This question has remained controversial because there are no contemporaneous census data that can be used to link caste to social outcomes. The last detailed caste enumeration was undertaken by the colonial administration in 1941. These data were only partially tabulated due to the world war and the political unrest of the last few years of British rule. Most social historians therefore resort to the more complete data from 1931. The 1931 data provide a detailed district-level enumeration

of caste that could potentially be used to link the numbers in groups or 'jatis' that are now classified as OBCs to educational outcomes from the time. For rural districts which have had relatively slow changes in social composition, historical caste shares could also be analysed together with social and economic indicators that are available at the district level for later years. We could, for example, examine whether districts with large shares of groups that are now classified as OBCs had systematically different rates of literacy and educational attainment than areas with concentrations of other categories. These historical data are currently unexploited and their study could provide valuable insight into the historical, and perhaps the contemporary, position of groups that are now classified as the backward classes.

There are some recent surveys that contain data on both caste and household demographics and allow some comparisons of OBCs with other groups. The 55th round of the National Sample Survey (NSS) administered in 1999–2000 collected self-reported caste data on OBCs and the post-election surveys that are regularly conducted by the Centre for Study of Developing Societies (CSDS) include data on jatis that can be aggregated to arrive at averages for the OBCs and other categories. Satish Deshpande of Delhi University finds, based on the NSS data, that OBCs as a group lie somewhere between the scheduled castes and scheduled tribes and the unreserved Hindu castes in terms of average years of schooling. The CSDS post-election survey of 2004 suggests a similar ranking. Very little is known about the relative

position of the OBCs when compared with the religious minorities because survey data using representative samples does not yield large enough numbers for each of the minority groups to make meaningful statistical comparisons.

Simple Model

Turning to the second question, if we assume that average social and economic outcomes for OBCs are lower than those for upper caste Hindus, how effective are group-based policies in addressing these inequalities? This depends critically on the extent of heterogeneity among the OBCs and the existence of other disadvantaged groups that are not covered by reservations. The importance of these factors can be illustrated with a simple model and some stylised examples. Suppose that there are two equal sized groups, A and B ("advanced" and "backward" if you like) who would like to enter institutions of higher education and a test is used to ration available seats. Test performance depends on a variety of other household characteristics which we call "social advantage". This term is meant to capture economic resources, parental education, social status and networks, all of which influence the schools attended by these students and learning that takes place within and outside these schools.

As a benchmark case, suppose that only those in group B are socially disadvantaged, that the scores for groups A and B are clustered around their medians t_A and t_B respectively ($t_A > t_B$), and that the extent of social disadvantage is well captured by the difference $t_A - t_B$. If half of all applicants are admitted and the qualifying scores for both groups are the same, group B will be under-represented. Any affirmative action policy that leaves the score distribution unchanged but seeks to restore the balance in the shares of the two groups admitted must necessarily drive a wedge between their qualifying scores. In this case, using t_A and t_B as the qualifying scores for the two groups ensures half of each group gets admitted. Controlling for social disadvantage in this case leads to equal representation of both groups because disadvantage fully accounts for the differences in their medians. Stated more generally, for any population shares of the two groups, group B will be under-represented in the absence of affirmative action policies if the test score distribution for group A first-order stochastically dominates that

for B. Setting group-specific qualifying thresholds will lead to equal representation if differences in the distributions of scores across groups arise only because of social disadvantage. It is also worth noting that a variety of affirmative action policies could be used to achieve identical results: Instead of giving group B students a point advantage of $t_A - t_B$, quotas for the two groups based on their population shares could be used. Any case for one type of policy over the other can only arise when one or more of the assumptions of this special case do not hold. We will come back to this.

In the above example, affirmative action policies are very effective in bringing about equal opportunity since disadvantage and group B membership are perfectly correlated and all those within group B are equally disadvantaged. If there are sub-groups within groups A and B with varying degrees of disadvantage, group-based policies become a much blunter instrument for equalising access to higher education. As long as these policies do not separately address each sub-group, the relatively privileged within group B would benefit disproportionately. This is the basis of the “cream-skimming” argument that is often made in the media. Also, for a given level of disadvantage, admission would be more likely for group B individuals than for those in group A and, with enough social heterogeneity within each group, there would be a set of aspirants from group A who would be admitted without affirmative action, but are now left out.

Another stylised example can help clarify the mechanism at work here. Suppose, in this case, that the test scores for groups A and B are uniformly distributed on [50, 80] and [20, 50] respectively and that differences in scores reflect only the relative social advantage of the test-takers. As in the benchmark case, the two groups are equal sized and there are half as many seats as aspirants. In the absence of affirmative action, the qualifying score will be set at 50, all group A students will be admitted and no group B students will be admitted. Suppose now that group B students are set a lower qualifying threshold, based on the mean difference in social disadvantage between the two groups. With qualifying thresholds of 35 and 65 for the two groups, half of each group is admitted. Once again, quotas requiring equal representation of the two groups and lowering the qualification threshold for group B

yield identical results. Now if instead group A scores are distributed on [40, 80] and group B on [20, 60], equal representation can be had by giving group B a 20-point advantage (set $t_A = 60$ and $t_B = 40$). The group of applicants with scores between 40 and 60 are now admitted if they belong to group B but not if they are from group A. This is the sense in which affirmative action policies can be interpreted as discriminating against disadvantaged individuals in unreserved groups. Several recent court orders against affirmative action in specific US universities have adopted this line of argument.

Critical Factor of Heterogeneity

Can we still make a case for group-based affirmative action policies in cases when groups are internally heterogeneous in the manner described above? The answer to this question depends on whether the errors of targeting that accompany these policies are greater than those that would result from any attempt to directly measure the disadvantage of applicants. For high enough levels of social heterogeneity in the reserved and unreserved groups, it is unlikely that affirmative action policies are effective in bringing about equal opportunity. The nature of the most appropriate policies to achieve social justice in the Indian context therefore depend critically on how much social heterogeneity there is among the groups that receive or seek to receive benefits through reservations.

While we do not have systematic data on the relative disadvantage of sub-groups within the SCs, STs, OBCs and general categories, there is some research on caste and political representation and anthropological studies on social relations within rural communities that can throw some light on the heterogeneity issue. Christophe Jaffrelot (2003) considers the representation of jatis and religious minorities in politics and finds considerable heterogeneity within the OBCs in both membership in major political parties and in seats in parliament. There is substantial evidence [Deliege 1999 and Mendelson and Vicziany 2000] of differentiation within SC communities. Some of this shows that the populations of “dalit Hindu” castes which received the benefits of reservations are comparable to those who converted to Christianity and were not therefore covered by the reservations of the post-independence period. In joint work with

Abhijit Banerjee I have looked at access to primary and high schools as well as other public amenities in rural India during the two decades between 1971 and 1991 [Banerjee and Somanathan, forthcoming]. We mapped census data on the location of public goods and population shares of different communities to parliamentary constituencies and found that constituencies with SC and ST concentrations had lower access to primary and high schools in 1971 relative to other areas, with the STs especially disadvantaged. By 1991, SC access to primary schools was very similar to that for other groups and there was also considerable convergence for the STs. For high schools and other public goods, we found that SCs did far better than STs, reflecting perhaps their much more successful political mobilisation. We also find that Muslims and Christians benefited relatively little from the growing availability of public goods during this period. Based on this literature, there is reason to be cautious in the use of affirmative action policies to achieve equality in access to higher education. There appears to be considerable heterogeneity within the broad social groupings that are currently used and differences in the extent to which groups that were traditionally disadvantaged have managed to extract benefits from the state.

Let us turn finally to the choice between alternative affirmative action policies. In the examples considered above we saw an equivalence between quotas based on population shares and lower test score thresholds for the disadvantaged group. The assumption, however, was that the test score distribution was independent of the type of policy chosen. In practice, quotas will influence incentives differently from score thresholds since the set of students admitted will depend only on their relative rankings and not their scores. Quotas are therefore consistent with both large and small differences between the scores of the reserved and unreserved groups. Those writing on the potential effects of quotas as a tool for affirmative action in the US have often emphasised their disincentive effects on minority effort. It is also possible, however, that those at the margin in both reserved and unreserved groups will work harder under quotas as they compete with each other for admission. Given the scarcity of seats relative to applicants to elite institutions of higher education in India, these tournament-like effects are quite plausible.

Based on the three premises for effective reservation policies that this article began with, is there a case for OBC reservations in higher education? The limited available evidence on average outcomes of OBCs relative to other groups suggests some disadvantage relative to unreserved Hindus, but these differences are small in comparison to those of the SCs and STs. The large number of groups in a complex social hierarchy implies a great deal of heterogeneity among the broad categories such as the OBCs. This, together with the fact that some communities have, through effective political mobilisation, been able to corner a disproportionate share of state resources suggests that affirmative action policies that target broad social groups are not going to act as powerful tools of social justice – too many of the disadvantaged will be excluded in favour of the more privileged. Lastly, alternative affirmative action policies might have different effects on the effort levels of reserved and

unreserved groups and these differences are likely to have implications for the extent to which students who enter through reservations successfully complete their higher degrees. [\[2\]](#)

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