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The Effectiveness of Jobs Reservation: Caste, Religion, and Economic Status in India

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The Effectiveness Jobs Reservation:
Caste, Religion, and Economic Status in India[*]

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Abstract

This paper investigates the effect of jobs reservation on improving the economic opportunities to persons belonging to India's Scheduled Castes (SC) and Scheduled Tribes (ST). Using employment data from the 55th NSS round we estimate the probabilities of different social groups in India being in one of three categories of economic status: own account workers; regular salaried or wage workers; casual wage labourers. We use these probabilities to decompose the difference between group X and forward caste Hindus in the proportions of their members in regular salaried or wage employment. This decomposition allows us to attribute a proportion of this difference to "attribute" differences" between group X and forward caste Hindus, the remainder being due to "coefficient" differences. We measure the effects of positive discrimination in boosting the proportions of ST/SC persons in regular salaried employment and the discriminatory bias against Muslims who do not benefit from such policies. We conclude that the boost provided by jobs reservation policies was around 5 percentage points. We also conclude that an alternative, and more effective, way of raising the proportion of men, from the SC/ST groups, in regular salaried or wage employment would be to improve their employment-related attributes.

1. Introduction

In response to the burden of social stigma and economic backwardness borne by persons belonging to some of India's castes, the Constitution of India allows for special provisions for members of these castes. Articles 341 and 342 include a list of castes and tribes entitled to such provisions and all those groups included in this list – and subsequent modifications to this list – are referred to as, respectively, "Scheduled Castes" (SC) and "Scheduled Tribes" (ST)[1].

These special provisions have taken two main forms. The first is action against adverse discrimination towards persons from the SC and the ST. The second is compensatory discrimination in favour of persons from the SC and the ST. Compensatory discrimination has taken the form of guaranteeing seats in national and state legislatures and in village *panchayats*, places in educational institutions, and the reservation of a certain proportion of government jobs for the SC and the ST.

In the mind of the Indian public it is jobs reservation that is seen as the most important of the public concessions towards the SC and the ST and it is the one which arouses the strongest of passions.[2] On the one hand, there is the demand to extend reservation to persons who are not from the SC or the ST but who, nevertheless, belong to economic and socially backward groups - the 'other backward classes'

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[1] Reservation for SC were designed to assist groups who had known centuries of suppression; reservation for ST were designed to assist groups who were traditionally isolated from the modern world and from mainstream society. For the history and evolution of caste-based preferential policies in India see Osborne (2001).

[2] In arriving at this judgement about who should be eligible for reservation, the criterion has been a person's caste rather than his/her income or wealth. Consequently, groups belonging to what Article 115 of the Indian Constitution calls "socially and educationally backward classes" have benefited from reservation even though, in practice, many persons belonging to these classes could not be regarded as "socially and educationally backward"; at the same time, many persons belonging to non-backward classes could legitimately be regarded as "socially and educationally backward". Compounding this anomaly is that many of the benefits of reservation have been captured by well-off groups from the depressed classes (for example, *chamars*) while poorer groups (for example, *bhangis*) have failed to

(OBC)[3]. On the other hand, there is the demand from the SC and the ST to extend reservation to private sector jobs[4].

Sowell (2003) has remarked that "as the country with the longest history of preferences and quotas for the purpose of advancing poor and disadvantaged groups, India's experience is particularly relevant to the actual consequences of such programs, as distinguished from their hopes and consequences" (p. 48). Against this observation, and the fact that the India's 50 year old experiment with affirmative action has been emulated in other countries (Malaysia, Nigeria, Sri Lanka), the purpose of this paper is to investigate, using data from the 55th round (1999-2000) of the National Sample Survey (Government of India, 2000), the extent to which jobs reservation for the SC and the ST have benefited persons from these groups in the sense of affording them a greater share of regular salaried and wage employment than they might have had otherwise.[5]

The NSS employment and unemployment data give the distribution of its respondents - who are distinguished by various characteristics, including their caste, religion, and educational standard - between different categories of economic status. Of these categories, the three which are the most important are: *self-employed*; *regular salaried or wage employees;* and *casual wage labourers*. Using these data,

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benefit. Unfortunately, we are unable to address this issue in this study since the data do not allow a breakdown of the SC by sub-caste.
[3] Article 340 of the Indian Constitution empowers the government to create such classes and in 1955, following the report of the "Kalelkar" Commission, 2,339 groups were designated as belonging to the OBC. The 1980 report of the "Mandal" Commission recommended that, in addition to the 23 percent of government jobs reserved for the SC and ST, a *further* 27 percent be reserved for the OBC.   In 1990, the V.P. Singh announced plans to implement this recommendation triggering a wave of "anti-Mandal" rioting in India. In 1992, India's Supreme Court, in *Sawhney v The Union of India*, upheld jobs reservation for the OBC but ruled that: (i) reservation was not to extend to more than 50 percent of the population and (ii) that groups within the OBC category who were manifestly not disadvantaged (the "creamy layer") were to be excluded from reservation.
[4] See Bhambri (2005); Thorat (2005).

we focused on prime-age (25-45 years of age) males and estimated, using the methods of multinomial logit, the probabilities of men being in these categories of employment, after controlling for their caste/religion[6] and their employment-related attributes.[7]

These probabilities were then used to decompose the difference between "group X" and forward caste Hindus in the proportions of their members in regular salaried or wage employment.[8] This decomposition allowed us to assign a proportion of this (overall) difference to "attribute differences" between the group X and forward caste Hindus – i.e. the outcome difference when the *different* attributes of group X and forward caste Hindus were evaluated using a *common* coefficient vector[9] ; the rest of the overall difference was then due to "coefficient differences" i.e. the outcome difference in when the attributes of group X were evaluated, first using the coefficient vector of group X and, then, using the coefficient vector of forward caste Hindus.[10] The proportionate contributions of the attributes and the coefficients differences, to the overall difference, are termed, respectively, the *attributes contribution* and the *coefficients contribution*.

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[5] The NSS is an annual survey of households in India with a large survey, covering issues of employment etc., conducted every five years.

[6] The caste/religion groups considered are: ST (Christian); ST (non-Christian); SC; OBC (Muslim); OBC (non-Muslim); forward caste Hindus (non-OBC/SC/ST Hindus); Muslims (non-OBC/SC/ST); Christian (non-OBC/SC/ST); Sikhs (non-OBC/SC/ST).

[7] The choice of prime-age males was influenced by the fact that very large proportion of these men were likely to be active in the labour market in the sense of being either employed or seeking employment.

[8] forward caste Hindus were Hindus who were not included in the OBC/SC/ST categories. However, since the designation of groups in the OBC category is a state responsibility a particular (caste) group may be included in the OBC category in one state (i.e. be excluded from forward caste Hindus) but be excluded from the OBC category in another state (i.e. be included in forward caste Hindus).

[9] Which could be the coefficient vector of either group X or forward caste Hindus.

[10] Alternatively, the attributes of forward caste Hindus could be evaluated, first using the coefficient vector of group X and, then, using the coefficient vector of forward caste Hindus.

The proportion of the (overall) difference, in the proportions of their members in regular salaried and wage employment, between forward caste Hindus and persons in group X which is due to "coefficient differences" (the coefficients contribution) may be interpreted as a measure of "discrimination" against such persons.

If this difference is *positive* – the proportion of persons in regular salaried and wage employment is *higher* when the attributes of group X are evaluated using its own coefficients than the coefficients of forward caste Hindus – then discrimination works *in favour* of group X; on the other hand, if this difference is *negative* – the proportion of persons in regular salaried and wage employment is *smaller* when the attributes of group X are evaluated using its own coefficients than the coefficients of forward caste Hindus – then discrimination works *against* group X. Given that employers might be expected to have a preference for employing forward caste Hindus, compared to persons from the SC or the ST,[11] jobs reservation policies in favour of applicants from the SC and ST might be expected to blunt discrimination against SC/ST applicants and, possibly, even reverse it.

This study attempts to evaluate the amount by which jobs reservation has benefited persons from the SC and ST in giving them a higher share of regular salaried and wage employment than they might have had in the absence of jobs reservation. It is impossible to evaluate this directly since jobs reservation is an all-India policy and we cannot distinguish between parts of the country where the policy operated and parts where it did not. However, we can answer this question indirectly by considering a group whose members, though as deprived and poorly qualified as

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[11] This preference might be engendered by a distaste for persons from such groups (bigotry: Becker, 1971) or by a belief that employees from such groups were inferior workers (statistical discrimination: Phelps, 1972).

those from the SC and the ST, do not benefit from jobs reservation. This group consists of Muslims from the OBC.

A recent committee set up by the Prime Minister of India to look at employment among Muslims found that, despite constituting 14.7 percent of India's population, Muslims comprised only a fraction of India's workforce; furthermore, in terms of educational achievement, Muslims were also falling behind persons from the SC and the ST.[12] Consequently, it seemed reasonable to regard Muslims from the OBC as representing what the employment position of persons from the SC and ST *might have been* if they had not had the shelter of jobs reservation.

2. Some Methodological Qualifications

This method of measuring discrimination against, or for, group X, described above, needs to be qualified in, at least, three respects. First, note that discrimination is computed *conditional upon a given set of attributes*. If these attributes are added to, or subtracted from, then the degree of discrimination would also change. For example, if better data on educational qualifications became available, then the degree of discrimination computed from the new data would be different from the original estimate. So, there is no unique degree of discrimination.

Second, even if one could establish a definitive vector of relevant attributes, an unique degree of discrimination might still not be established. This is because the attributes contribution could be computed using either the coefficients of group X or the coefficients of forward caste Hindus *and the two methods may not yield the same result*. There is nothing in the methodology to suggest that one computation is to be preferred over the other. Consequently, the coefficients difference – computed as the

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[12] *The Guardian*, 5 April 2006, http://www.guardian.co.uk/india/story/0,,1747079,00.html.

difference between the overall difference and the contribution of attributes difference - would be different depending upon how the attributes contribution was computed.[13] So, for this reason also, there is no unique degree of discrimination.

Third, the methodology assumes a one-way relation between attributes and employment outcomes. For example, exogenously given high (low) educational qualifications are likely to lead to good (bad) employment outcomes. This assumed exogeneity of qualifications might be justified at a point in time but, with a broader time frame, it is plausible that past good/bad employment outcomes in the past contribute to present high/low educational qualifications. In other words, there is a two-way relation between qualifications and employment outcomes: qualifications influence employment outcomes but employment outcomes also influence qualifications.

To put it differently, the degree of discrimination as measured by our methodology measures discrimination at a point in time, conditional on a given set of attributes. But the poor attributes of the members of a group may be the result of past discrimination against such persons: the fact that members of a group were denied good jobs in the past was a barrier to their acquiring good educational qualifications and this resulted in their inability to secure good jobs today. Consequently, it needs to be emphasised that the degree of discrimination measured in this study will necessarily understate the "true" (i.e. historical), but unknown, degree of discrimination.

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[13] An equivalent way of expressing is that the coefficient difference may be computed either by evaluating the attributes of group X or by evaluating the attributes of forward caste Hindus using the two different coefficient vectors.

3. Economic Status, Education and Community

Table 1 shows, on the basis of data for the 55th round of the NSS, the distribution of 77,535 men, between the ages of 25 and 45 years ("prime-age" males), and living in the 16 major states of India and the Union Territory of Delhi, by their educational standard, between the following categories of economic status[14]:

1. Own account workers (self-employed)

2. Unpaid family workers

3. Regular salaried or wage workers

4. Casual wage labourers

5. Employers

6. Seeking and/or available for work

Of these six categories, the first four were the main categories of economic status for prime-age men: 29,787 of the 77,535 men (38 percent) were own account workers; 17,314 men (22 percent of the total) were regular salaried or wage workers; 19,296 men (25 percent of the total) were casual labourers; and 8,476 men (11 percent of the total) were unpaid family workers.

Being a casual labourer or an own account worker was largely the preserve of poorly educated men while regular salaried or wage workers were largely drawn from the ranks of the better educated: of the 19,296 prime-age men who were casual wage labourers, 92 percent had an education standard less than secondary school and 49 percent were illiterate; of the 29,787 men who were own account workers, 69 percent

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[14] Excluded from this analysis were 2,359 prime-age males who were: attending educational institutions (655 men); attending domestic duties, and/or producing goods and services for household use (for example, serving, tailoring, weaving), and/or engaged in free collection of goods - for example, vegetables, roots, firewood, cattle feed (310 men); rentiers, pensioners, and remittance recipients (175

had an education standard less than secondary school and 25 percent were illiterate; on the other hand, of the 17,314 prime-age men who were regular salaried or wage workers, 61 percent were educated to secondary (or above) and 27 percent were graduates (or above).

This study implicitly assumes that becoming a regular salaried or wage worker was the most desirable outcome for prime-aged men and, compared to that, self employment or casual wage labour were inferior outcomes. One can cite many justifications for this assumption. First, as referred to already, the Prime Minister of India has set up a high-powered committee to look at minority employment and, in particular, to examine why Muslims comprise only a fraction of India's workforce. Second, this assumption is also consistent with evidence from the field: for example, Jeffery and Jeffery (1997) in their study of Muslims in Bijnor argued that many Muslims regarded their relative economic weakness as stemming from their being excluded from jobs due to discriminatory practices in hiring. The belief that their sons would not get jobs then led Muslim parents to devalue the importance of education as an instrument of upward economic mobility.[15]

A striking feature of Table 1 is how few men were seeking, and/or available for, work: only 1,639 men (2 per cent of the total) were unemployed in the conventional meaning of the term. Moreover, job search appeared to be the prerogative of better educated men: of the 1,639 "unemployed" men, 76 percent were educated to secondary level or above and 40 percent were graduates or postgraduates.

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men); unable to work owing to a disability (448 men); beggars and prostitutes (42 men); and "others" (729 men).

[15] However, there may be cases where self employment is the preferred outcome over the available choices. We are unable to take account of such preferences because all we observe is the outcome and not the reasons for the outcome.

Table 2 shows the distribution of prime-age men across the categories of economic status by religion and caste. Since nearly one in ten persons from the OBC were Muslim, they are identified, in this study, separately from the non-Muslims (mostly Hindu, but some Sikhs) of the OBC. Table 2 clearly shows that OBC prime-age males were different from those belonging to the SC in two important respects. First, both Muslim and non-Muslim OBC men were *more* likely to be in self employment (45 and 41 percent respectively) than men from the SC (28 percent). Second, both Muslim and non-Muslim OBC men were *less* likely to work as casual labourers (27 and 25 percent respectively) than men from the SC (47 percent).

Prime-age males from the OBC also differed from their forward caste Hindu[16] counterparts in two important respects. First, forward caste Hindu men were more likely to be in regular salaried or wage employment (32 percent) than OBC men (19 percent of non-Muslim, and 15 percent of Muslim, OBC men). Second, forward caste Hindu men were even less likely to work as casual labourers (10 percent) than men from the OBC.

Consequently, if one was to establish a hierarchy of communities, in terms of the "desirability" of the economic status of their prime-age men, then the SC and the non-Christian ST, a large proportion of whose men were casual labourers, would lie at the bottom; forward caste Hindus, with one third of their men in regular salaried or wage employment, and only one tenth of their men working as casual labourers, would be at the top; and sandwiched between them would be the OBC (non-Muslim and Muslim) and (non-OBC) Muslims.

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[16] Hindus who did not belong to the SC/ST or to the OBC.

Lastly, Table 3 shows the education standards of prime-age men from the different communities. Non-Christian men from the ST, along with men from the SC, had the lowest level of educational achievement: 52 percent of the former and 43 percent of the latter were illiterate. They were followed by Christian men from the ST (35 percent of whom were illiterate) and Muslims (35 percent of Muslims from the OBC, and 33 percent of non-OBC Muslims, were illiterate). The best educated men were forward caste Hindus and (non-ST) Christians: only 10 percent of Hindu, and only 6 percent of Christian, prime-age men were illiterate while 24 percent of Hindu, and 18 percent of Christian, prime-age men were graduates.

4. A Multinomial Logit Model of Economic Status Outcomes

The multinomial logit model has been used to analyse occupational outcomes by *inter alia*: Schmidt and Strauss (1975); Borooah (2001); and Borooah and Mangan (2002). The basic question that such a model seeks to answer is: what is the probability that a person with a particular set of characteristics, will be found in a specific category of economic status (hereafter, simply 'status')? These answers obtained by estimating the multinomial logit equation where the dependent variable Y_i took the values, 1, 2, or 3, depending upon whether person i was self employed (own-account worker); a regular salaried or wage worker; a casual wage labourer.[17] In

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[17] With *J* mutually exclusive and collectively exhaustive outcomes, indexed *1...J*, the multinomial logit model is defined by a pair of equations. The first, defines *the log odds ratio* of a person i being in status *j>1*, relative to being in the 'base' status *j=1*, as a linear function of $\mathbf{X_i} = \{X_{ik}, \ k = 1...K\}$, the vector of values of *K* explanatory variables ($X_{i1} = 1$) for the person:

$\log\left(\dfrac{\Pr(Y_i = j)}{\Pr(Y_i = 1)}\right) = \sum_{k=1}^{K}\beta_{jk}X_{ik} = \mathbf{X_i\beta_j}$ where: Y_i is an integer variable which takes the value *j* if, and only if, outcome *j* occurs for person *i*, and $\mathbf{\beta_j}$ is the vector of coefficients associated with outcome *j*, β_{j1} being the coefficient associated with the intercept term. The second equation defines the probability of outcome *j* (*j=1...J*) occurring for individual *i* as: $\Pr(Y_i = j) = \exp(Z_{ij})/[1 + \sum_{r=1}^{J} Z_{ir}] = F(\mathbf{X_i\beta_j})$

essence, with self employment ($Y_i =1$) as the base category, the model consisted of two equations ($Y_i =2$, $Y_i =3$) each of which took the following form:

$$\log\left[\frac{\Pr(Y_i = j)}{\Pr(Y_i = 1)}\right] = f\text{(landholding, social group, education, state, sector)} + \text{error}$$

Table 4 shows the results of estimating a multinomial logit model for 66,397 prime-age men who were in *non-family employment*, that is in one of the following (mutually exclusive) categories of economic status: own account workers; regular salaried or wage employment; casual wage labourers. Excluded from the analysis were: 1,023 prime-age men who were employers, 8,476 prime-age men who were unpaid family workers, and 1,639 men who were searching and/or available for work. The coefficient estimates shown in Table 4 are to be interpreted as the *change* in the

log risk-ratios, $\log\left[\dfrac{\Pr(Y_i = j)}{\Pr(Y_i = 1)}\right]$, consequent upon a unit change in the value of the associated variable

A positive coefficient implies that the ratio increases and a negative coefficient implies that it decreases[18]. Because the community and the education standard categories (see Table 4 for a full listing), in addition to being mutually exhaustive, were also collectively exhaustive, one of the communities, and one of the education standards, had to be omitted from the equation in order to avoid multicollinearity in the presence of the intercept term: forward caste Hindus and "illiteracy" were the two omitted or residual categories. The variables relating to the included communities and

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[18] However, the direction of change in the probability of an outcome, consequent upon a unit change in X_{ik}, cannot be inferred from the sign of β_{jk}. The reason is that, in a multinomial model, a change in the value of a variable for a person changes the probability of *every* outcome for him/her. Since these changes are constrained to sum to zero, whether the probability of a particular outcome goes up or down depends on what happens to the probabilities of the other outcomes.

education standards were binary variables, taking the value 1 if a man belonged to that community, or had that standard of education, and zero if he did not.

As observed earlier, the signs of the coefficient estimates associated with a variable - which, consequent upon a unit change in the value of the variable, reflect the directions of change in the risk-ratios - do not predict the directions of change in the probabilities of the outcomes. The changes in the probabilities of the outcomes, following a change in the value of a variable, are the *marginal probabilities* associated with that variable.[19] These marginal probabilities are shown in the right hand panel of Table 4.

The effects of changing the value of a dummy variable - as are all the variables in Table 7 - are analysed by comparing the probabilities when the dummy variable takes the value of the 'reference' group with the probabilities that result from the dummy variable taking the value relevant to another group, the values of all the other variables being held constant at their mean values.

4.1 Scheduled Castes and Other Backward Classes

For example, the marginal probabilities against the SC group in Table 4 are obtained as *the difference* between the probabilities (of the three outcomes) if everyone belonged to the SC and the probabilities if everyone was a forward caste Hindu, the values of the other variables (size of land owner, age, education standard) held at their mean values. The results suggest that the probability of being self employed would *fall* by 0.08 points[20] and the probability of being a casual wage labourer would *rise* by 0.10 points.

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[19] Defined as $\dfrac{\partial \Pr(Y_i = j)}{\partial X_{ik}}$

[20] Remembering that the probabilities lie between 0 and 1.

The pattern of marginal probabilities for the (non-Muslim) OBC was similar to that of the SC: relative to forward caste Hindus, the probability of being in self employment *fell*, and the probability of being a casual wage labourer *rose*, for both groups. However, compared to the SC group, the marginal probabilities for the (non-Muslim) OBC show that the fall in the probability of self employment, and the rise in the probability being casual wage labourers, was much smaller but the fall in the probability of being in regular salaried or wage employment was greater.

4.2 Muslims

In contrast to the SC (and the non-Muslim OBC), the pattern of marginal probabilities for Muslims, whether from the OBC or not, was similar: relative to forward caste Hindus, the probabilities of being in self employment and of being casual wage labourers *rose*, and the probability of being in regular salaried or wage employment *fell*, for both groups. The marginal probabilities for (non Other Backward Caste) Muslims[21], suggest that the probability of being self employed would *rise* by 0.032 points and the probability of being in regular salaried or wage employment would *fall* by 0.053 points. The rise in the probability of self employment was much higher for Other Backward Caste Muslims, compared to non OBC Muslims (0.064 against 0.032), but the fall in the probability of being in regular salaried or wage employment more precipitous (0.073 against 0.053), for the former, compared to the latter, group.

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[21] The difference between the probabilities (of the three outcomes) if everyone was a (non-OBC) Muslim and the probabilities if everyone was a forward caste Hindu, the values of the other variables (size of land owner, age, education standard) held at their mean values.

4.3 Christians and Scheduled Tribes

The pattern of marginal probabilities associated with non-Christian persons from the ST were very similar to that for Scheduled Caste persons: relative to forward caste Hindus, the probabilities of being in self employment *fell* by 0.162 points non-Christian persons from the ST (compared to a fall of 0.194 points for persons from the SC), and the probabilities of being in casual wage labourer *rose* by 0.184 points (compared to a rise of 0.201 points for persons from the SC); by contrast, the fall in the probability of being in self-employment (0.078 points) and the rise in the probability of being in casual, wage labour (0.104 points) was much more muted for Christian persons from the ST.

By contrast, non-tribal Christians had a greater propensity for salaried employment than forward caste Hindus: relative to forward caste Hindus, the probabilities of non-tribal Christians being in salaried employment rose by 0.053 points the probability of being self employed fell by 0.066 points.

4.4 Education Standards

The marginal probabilities associated with the education standards show that, relative to illiteracy, rising education standards lowered the probabilities of being self employed or a casual wage labourer and increased the probability of being in regular salaried or wage employment. Compared to illiterate prime-age men, this culminated in graduate prime-age males having probabilities of being: in regular salaried or wage employment, 0.5 points higher; casual wage labourers, 0.272 points lower; self employed, 0.229 points lower.

Improvements in the standard of education led to progressively greater increases in the probability of being in regular salaried or wage employment. Self

employment could be regarded as the next most desirable outcome and being a casual wage labourer as the least desirable. Improvements in the standard of education led to a fall in the probabilities of being self employed and being a casual wage labourer but, with improvements in the education standard, the fall in the probability of being a casual wage labourer was considerably greater than the fall in the probability of being self employed.

5. The Decomposition of Probabilities: Salaried and Wage Employment

The Oaxaca (1973) and Blinder (1973) method of decomposing group differences in means into an "explained" and a "residual" component has been extended to explaining group differences in probabilities, derived from models of discrete choice with *binary* outcomes, by Gomulka and Stern (1990); Blackaby et. al. (1997,1998,1999); and by Nielsen (1998). This methodology can be extended, as shown in Borooah (2005), to models of discrete choice with *multiple* (i.e. more than two) outcomes.

The Decomposition of Probabilities: Salaried and Wage Employment

As observed earlier, regular salaried or wage employment could be regarded as the most desirable of the three categories of economic status analysed, the other two being self employment and casual wage labourer. Table 5 and 6 show the decomposition of the difference between "community *X*" and forward caste Hindus in the proportions of their members in regular salaried or wage employment. We illustrate the discussion by considering Muslims and the SC.

Muslims and Scheduled Castes

The column headed 'sample average' in Tables 5 and 6 shows that 19.4 percent of prime-age males from the SC, compared to 38.7 percent of forward caste Hindu men, were in regular salaried or wage employment - a difference of 19.3 points. The same column shows that 22.3 percent of non OBC Muslims, and 17.6 percent of Muslims from the OBC, were in salaried or wage employment. So, compared to forward caste Hindus, both the SC and Muslims suffered from an (salaried) "employment deficit". Among Muslims, those from the OBC were in greater deficit than non-OBC Muslims.

The next column of Table 5 shows that *if forward caste Hindu attributes had been evaluated at SC coefficients* ('group *s* treated a group *r*'), 40.7 percent of forward caste Hindu men would have been in regular salaried or wage employment - 2 points *above* the observed Hindu proportion of 38.7 percent. On the other hand, *if Hindu attributes had been evaluated at (non OBC) Muslim coefficients,* 33.3 percent of forward caste Hindu men would have been in regular salaried or wage employment – 5.4 points *below* the observed Hindu proportion of 38.7 percent. Lastly, *if Hindu attributes had been evaluated at (OBC) Muslim coefficients,* 30.9 percent of forward caste Hindu men would have been in regular salaried or wage employment – 7.8 points *below* the observed Hindu proportion of 38.7 percent.

Since forward caste Hindus would have had a higher probability of salaried employment if they had been treated as SC, and a lower probability if they had been treated as Muslims, SC coefficients were *more* favourable, and Muslim coefficients were *less* favourable, to securing regular salaried or wage employment, compared to the coefficients for forward caste Hindus. Given that employers might be expected to

have a preference for employing forward caste Hindus, compared to Muslims and persons from the SC, jobs reservation policies in favour of applicants from the SC were strong enough to reverse employer bias against this group, at least as far as prime-age men were concerned. However, since such policies did not extend to Muslims they did not receive protection from any employer bias against them.

Table 6 (community X treated as Hindus) shows that if Muslims had been treated as Hindus, their probability of being in salaried employment would have risen from 22.3 percent to 26.9 percent for Muslims not from the OBC, and from 17.6 percent to 23.5.0 percent for Muslims from the OBC. In other words, this implies a coefficients bias against both groups of Muslims and confirms the anti-Muslim coefficients bias suggested by the results of Table 5. However, if prime-age men from the SC had been treated as Hindus, their probability of being in salaried employment would have risen from 19.4 percent to 20.5 percent (Table 6) implying a slight coefficients bias against the SC in contrast to the slight pro-SC coefficients bias suggested by Table 5.

Employment Deficit and Surplus Groups

Table 5 and 6 shows that the following seven groups were in "employment deficit" vis-à-vis forward caste Hindus meaning that the proportion of prime-age males from these groups who were in regular salaried or wage employment was less than the corresponding proportion of forward caste Hindus:

1. ST (Christian)

2. ST (non-Christian)

3. SC

4. OBC (non-Muslim)

5. OBC (Muslim)

6. Muslims (not from the OBC)

7. Sikhs

Of these groups, the first three benefited from jobs reservation policies while the latter four did not. This is reflected in the fact that only a very small proportion of the employment deficit for the first three could be explained by coefficient bias. For example, as Tables 5 and 7 ("Hindus treated as belonging to community X") show, of the total employment gap of 0.217 points between Christian ST and forward caste Hindus, only 6 percent (0.013 points out of 0.217) could be attributed to coefficients bias the remainder (94 percent) being due to the relatively inferior attributes of Christian men from the ST. Tables 5 and 7 ("Hindus treated as community X") shows that, for the SC and the non-Christian ST, jobs reservation was sufficient to overcome any discriminatory bias against these groups so as to give them a coefficients advantage vis-à-vis forward caste Hindus; Tables 6 and 8 ("community X treated as Hindus") show that, for the SC and the non-Christian ST, jobs reservation meant that only a small proportion (around 5 percent) of the employment deficit, relative to forward caste Hindus, could be ascribed to coefficient disadvantage.

Notwithstanding this advantage, the proportion of non-Christian prime-age men from the ST, and prime-age men from the SC, in regular salaried or wage employment (respectively, 14.0 and 19.4 percent) was much lower than the 38.7 percent of forward caste Hindu men so employed. This entire difference, as Tables 7 and 8 show, could be ascribed to the relative lack of employment-friendly attributes (mostly, lower educational achievements) among men from the SC and (non-Christian) from the ST. Table 3 pointed to the gulf in education standards between these two groups

on the one hand and forward caste Hindus on the other.[22] Given this gulf, current

demands in India for extending, for example, jobs reservation for the SC and the ST to

the private sector are misplaced: further improvements in coefficients bias towards

these groups will do little to improve their effectiveness as employees; on the other

hand, strengthening their, currently weak, employment-friendly attributes will.

Tables 7 and 8 show that of the groups which were in employment deficit, and

which did not benefit from jobs reservation policies, non-Muslim OBC had the

smallest deficit (16.1 points), followed by Muslims not from the OBC (16.4 points),

followed by Muslims from the OBC (21.1 points). Tables 7 and 8 also allow one to

deduce for these groups how much of their employment deficit was due to coefficients

bias against them and how much was due to the fact that their attributes were less

employment-friendly than those of forward caste Hindus.

Table 7 ("Hindus treated as community X") shows that only 11 percent of the

employment deficit of non-Muslim prime-age men from the OBC (1.8 points out of

16.1) could be blamed on coefficient bias, attribute disadvantage accounting for the

remaining 89 percent; Table 8 ("community X treated as Hindus") computes these

proportions as 12 and 88 percent, respectively.   However, from Table 7, 33 percent of

the employment deficit of Muslims not from the OBC (Table 5: 5.4 points out of

16.4), and 37 percent of the employment deficit of Muslims from the OBC (Table 5:

7.8 points out of 21.1), could be blamed on coefficients bias[23]; Table 8 computes these

proportions as 28 percent for both groups.   So, in the light of the Mandal

Commission's Report to extend reservation to members of the OBC, and subsequent

debate surrounding it, our analysis shows that the extension of jobs reservation to all

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[22] See Borooah and Iyer (2005) for a discussion of school enrolments in India by community.

persons from the OBC (90 percent of whom are not Muslims) is misplaced: it is all Muslims, whether from the OBC or not, rather than non-Muslims belonging to the OBC that need protection from adverse coefficients bias.

The one group which was in employment surplus, vis-à-vis forward caste Hindus, was (non-Tribal) Christians.[24] Tables 7 and 8 show that of the difference of 5.3 points between the employment rates of Christian and forward caste Hindu men, almost all could be attributed to the coefficient bias (entirely unaided by any jobs reservation) towards Christian men.

6. The Effectiveness of Jobs Reservation for the Scheduled Castes and Scheduled Tribes

The purpose of reserving a certain proportion of jobs for members of a particular group is to enable a greater proportion of its members to be in employment than would have been possible without such reservation. In the absence of reservation, the reluctance of employers to hire persons from certain groups - whether through "taste based" or "statistical" discrimination - would mean that *ceteris paribus* job seekers from disfavoured groups would be relatively less successful in finding jobs. For example, Tables 7 and 8 show that, relative to forward caste Hindus, Muslim men faced quite severe coefficients bias: purely on account of their religion, the probability of Muslim men being in regular salaried or wage employment was lower than that of forward caste Hindus.

But even without coefficient bias, low levels of education and poor qualifications within a community would mean that only a small proportion of its members would

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[23] The remainder, of course, being due to attributes disadvantage.
[24] That is, the proportion of prime-age males from these groups who were in regular salaried employment was greater than the corresponding proportion of forward caste Hindus.

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succeed in securing salaried employment. For example, Table 6 shows that if the attributes of prime-age Muslim men from the OBC were evaluated using forward caste Hindu coefficients (i.e. one abstracted from coefficients bias) only 23.5 percent of Muslims, compared to 38.7 percent forward caste Hindus, would be in regular salaried or wage employment.

Jobs reservation cannot alter the employment-related attributes of the SC and the ST but, *given those attributes*, it can raise the proportion of persons from these groups who secure regular salaried or wage employment, i.e. it can shift coefficient bias in favour of these groups. In order to see how effective jobs reservation was in raising the proportions of prime-age men from the SC and the ST in regular salaried or wage employment we consider what these proportions *would have been* if the attributes of these men had been evaluated *using the coefficients of employment-deficit groups who did not benefit from jobs reservation*: Muslims from the OBC; Muslims not from the OBC; and non-Muslims from the OBC.

If prime-age men from the SC had been treated as Muslims from the OBC, the proportion of men from the SC in regular salaried or wage employment would have fallen from the observed 19.4 percent to 15.2 percent. Under the same scenario (i.e. treating as Muslims from the OBC), the proportion of non-Christian men from the ST in regular salaried or wage employment would have fallen from the observed 14.0 percent to 11.1 percent, and the proportion of Christian men from the ST in regular salaried or wage employment would have fallen from the observed 17.1 percent to 13.6 percent. So, as far as prime-age men from the SC and non-Christian men from the ST were concerned, jobs reservation raised their proportions in regular salaried or wage employment *by at most 4 percentage points.*

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Conversely, if groups who are currently not offered jobs reservation for their members were to be brought under the jobs reservation umbrella then it is likely that their proportions in regular salaried and wage employment would rise: our calculations show that if Muslims from the OBC were to be offered jobs reservation then their proportion in regular salaried and wage employment would rise from 17.6 percent to about 21 percent. For non-OBC Muslims, the rise would be from 22.3 percent to about 25 percent. So, again, the benefit of jobs reservation to Muslims would be around 3-4 percent.

An alternative way of raising the proportion of prime-age men from the SC and from the ST in regular salaried or wage employment would have been to improve their employment-related attributes, *but without reserving jobs for them*. Our calculations suggest that:

1. If prime-age men from the SC had had the education standards of non-Muslim men from the OBC (shown in Table 3), their proportion in regular salaried or wage employment would have been 24.4 percent instead of the observed 19.4 percent: a rise of 5 points which could be ascribed to the rise in the education standard of men from the SC to the standard of non-Muslims from the OBC.

2. If prime-age men from the SC had had the education standards of non-OBC Muslims (shown in Table 3), their proportion in regular salaried or wage employment would have been 21.7 percent instead of the observed 19.4 percent. This rise of 2 points could be ascribed to the rise in the

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education standard of men from the SC to the standard of non-OBC Muslims.

3. If prime-age men from the SC had had the education standards of Muslim men from the OBC (shown in Table 3), their proportion in regular salaried or wage employment would have been 20.7 percent instead of the observed 19.4 percent – a rise of just one point.

7. Conclusions

The goal of jobs reservation in India has been to bring about an improvement in the welfare of those who are, and have been for a long time, economically and socially depressed. This paper attempt to quantify the effects of reserving jobs in India for persons from the SC and ST. Our conclusion is that jobs reservation succeeded in raising the representation of persons from the SC and ST, in regular salaried and wage employment, by about 5 percentage points. This figure was arrived at by comparing their current representation in such jobs with what it would have been *had they been treated as OBC Muslims*. Of course, it could be argued that, in the absence of jobs reservation, the representation of persons from the SC and the ST in regular salaried and wage employment might have been even lower than that of OBC Muslims and that, therefore, the estimated gain of 5 points underestimates the true gain from jobs reservation policies. We concede this point and regard jobs reservation as having delivered a gain of *at least* 5 points, in regular salaried and wage employment, to persons from the SC and ST in the share of regular salaried and wage employment.

Our second conclusion is that the extension of jobs reservation policies to persons from the OBC is misconceived. As argued earlier, only 11 percent of the employment deficit which non-Muslim OBC males faced, relative to forward caste Hindus, could be ascribed to coefficient bias ("discrimination"); one the other hand, between 33-37 percent of the employment deficit faced by Muslims could be ascribed to discrimination. So, if the object of jobs reservation is to correct for discriminatory bias in the jobs market, and if reservation is to be extended beyond the SC and ST, then Muslims have a more compelling case than persons from the non-Muslim OBC.

Our last conclusion is that jobs reservation policies placed little emphasis on improving the job-related attributes of persons from the SC and ST. Given the gulf in educational standards between forward caste Hindus and persons from the SC and ST, to which we have drawn attention, another prong of policy could, indeed should, focus on improving the educational standards of SC and ST persons. This needs to be more than reserving places in Management, Engineering, and Medical schools for persons. Such reservation, in the context of the general backwardness of the SC and ST communities, is little more than a cosmetic exercise, confined to urban areas, and assisting members of these groups who are least in need of help.

The root of the problem lies in the many dysfunctional primary and secondary schools, in the villages and towns of India, characterised by an absence of learning materials, teachers, and, sometimes, even classrooms. It is in these schools that learning is stifled for the millions of children. Compounding the problem of dysfunctional schools is the poverty of parents, many of whom are from the SC and the ST, who cannot afford to keep children on at school; indeed, given the poor

quality of schooling that their children receive, they see no reason for making sacrifices for their children's education.

Admittedly, tackling the problem at its roots will only yield results after a long delay. Nor does the emphasis on effective learning at school carry the glamour associated with being a putative graduate of the Indian Institute of Technology, the Indian Institute of Management, or the All-India Medical Institute. But, before the vast mass of educationally and economically deprived children in India can meaningfully enter the portals of Universities and Institutes of Higher Education they need to go to good schools.

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Table 1: Economic Status and Educational Standards of Men between 25 and 45 years of age (1999-00)

	Illiterate	Literate, but below primary	Primary or Middle	Secondary	Graduate	Total
SE	7,385	3,535	9,570	6,478	2,819	29,787
	24.79	11.87	32.13	21.75	9.46	100.00
	37.05	41.52	42.73	37.66	29.70	38.42
EMP	78	64	322	352	207	1,023
	7.62	6.26	31.48	34.41	20.23	100.00
	0.39	0.75	1.44	2.05	2.18	1.32
UFW	1,507	727	2,776	2,514	952	8,476
	17.78	8.58	32.75	29.66	11.23	100.00
	7.56	8.54	12.40	14.61	10.03	10.93
RSWW	1,417	1,095	4,248	5,843	4,711	17,314
	8.18	6.32	24.54	33.75	27.21	100.00
	7.11	12.86	18.97	33.97	49.63	22.33
CWW	9,505	3,040	5,188	1,421	142	19,296
	49.26	15.75	26.89	7.36	0.74	100.00
	47.68	35.71	23.17	8.26	1.50	24.89
SKW	41	52	290	595	661	1,639
	2.50	3.17	17.69	36.30	40.33	100.00
	0.21	0.61	1.29	3.46	6.96	2.11
Total	19,933	8,513	22,394	17,203	9,492	77,535
	25.71	10.98	28.88	22.19	12.24	100.00
	100.00	100.00	100.00	100.00	100.00	

Notes to Table 1:
SE=self-employed; EMP=employer; RSWW=regular salaried or wage worker; CWW=casual wage worker; SKW=seeking work.
First figure in column is total in caste/religion category; second figure is row percentage; third figure is column percentage.
Source: NSS 55th Round

Table 2: Economic Status and Caste/Religion of Men between 25 and 45 years of age (1999-00)

	SE	EMP	UPFW	RSWW	CWL	SKW	Total
ST(non-Christian)	1,982	18	522	713	2,401	51	5,687
	34.85	0.32	9.18	12.54	42.22	0.90	100.00
	6.65	1.76	6.16	4.12	12.44	3.11	7.33
ST(Christian)	149	1	34	50	95	6	335
	44.48	0.30	10.15	14.93	28.36	1.79	100.00
	0.50	0.10	0.40	0.29	0.49	0.37	0.43
SC	3,477	42	628	2,267	5,919	212	12,545
	27.72	0.33	5.01	18.07	47.18	1.69	100.00
	11.67	4.11	7.41	13.09	30.67	12.93	16.18
OBC(non-Muslim)	9,904	308	3,012	4,656	6,073	386	24,339
	40.69	1.27	12.38	19.13	24.95	1.59	100.00
	33.25	30.11	35.54	26.89	31.47	23.55	31.39
OBC(Muslim)	1,222	60	245	416	728	46	2,717
	44.98	2.21	9.02	15.31	26.79	1.69	100.00
	4.10	5.87	2.89	2.40	3.77	2.81	3.50
Hindu (non-ST/SC/OBC)	9,350	451	3,157	7,430	2,410	754	23,552
	39.70	1.91	13.40	31.55	10.23	3.20	100.00
	31.39	44.09	37.25	42.91	12.49	46.00	30.38
Muslim (non-ST/SC/OBC)	2,927	77	484	1,254	1,450	134	6,326
	46.27	1.22	7.65	19.82	22.92	2.12	100.00
	9.83	7.53	5.71	7.24	7.51	8.18	8.16
Christian (non-ST/SC/OBC)	200	46	37	296	176	35	790
	25.32	5.82	4.68	37.47	22.28	4.43	100.00
	0.67	4.50	0.44	1.71	0.91	2.14	1.02
Sikh (non-ST/SC/OBC)	576	20	357	232	44	15	1,244
	46.30	1.61	28.70	18.65	3.54	1.21	100.00
	1.93	1.96	4.21	1.34	0.23	0.92	1.60
Total	29,787	1,023	8,476	17,314	19,296	1,639	77,535
	38.42	1.32	10.93	22.33	24.89	2.11	100.00
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Notes to Table 2:
SE=self-employed; EMP=employer; RSWW=regular salaried or wage worker; CWW=casual wage worker; SKW=seeking work.
First figure in column is total in caste/religion category; second figure is row percentage; third figure is column percentage.
Source: NSS 55th Round

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Table 3: Education Standard and Caste/Religion of Men between 25 and 45 years of age (1999-00)

	Illiterate	Literate, but below primary	Primary or Middle	Secondary	Graduate	Total
ST(non-Christian)	2,630	705	1,066	508	187	5,096
	51.61	13.83	20.92	9.97	3.67	100.00
	14.37	9.19	5.61	3.70	2.44	7.68
ST(Christian)	103	40	87	46	18	294
	35.03	13.61	29.59	15.65	6.12	100.00
	0.56	0.52	0.46	0.33	0.23	0.44
SC	5,007	1,627	3,113	1,401	515	11,663
	42.93	13.95	26.69	12.01	4.42	100.00
	27.35	21.21	16.38	10.20	6.71	17.57
OBC(non-Muslim)	5,764	2,550	6,601	4,106	1,612	20,633
	27.94	12.36	31.99	19.90	7.81	100.00
	31.49	33.25	34.73	29.88	21.01	31.08
OBC(Muslim)	818	338	778	337	95	2,366
	34.57	14.29	32.88	14.24	4.02	100.00
	4.47	4.41	4.09	2.45	1.24	3.56
Hindu (non-ST/SC/OBC)	1,926	1,434	5,253	5,978	4,599	19,190
	10.04	7.47	27.37	31.15	23.97	100.00
	10.52	18.70	27.64	43.50	59.95	28.90
Muslim (non-ST/SC/OBC)	1,845	876	1,638	866	406	5,631
	32.77	15.56	29.09	15.38	7.21	100.00
	10.08	11.42	8.62	6.30	5.29	8.48
Christian (non-ST/SC/OBC)	42	31	251	225	123	672
	6.25	4.61	37.35	33.48	18.30	100.00
	0.23	0.40	1.32	1.64	1.60	1.01
Sikh (non-ST/SC/OBC)	172	69	219	275	117	852
	20.19	8.10	25.70	32.28	13.73	100.00
	0.94	0.90	1.15	2.00	1.53	1.28
Total	18,307	7,670	19,006	13,742	7,672	66,397
	27.57	11.55	28.62	20.70	11.55	100.00
	100.00	100.00	100.00	100.00	100.00	100.00

Notes to Table 3
First figure in column is total in caste/religion category; second figure is row percentage; third figure is column percentage.
Source: NSS 55th Round

Table 4: Multinomial Logit Estimates from the Economic Status Equations

	Coefficients		Marginal Probabilities		
	Salaried/ Wage Employee	Casual Wage Labourer	Own- Account Worker	Salaried/ Wage Employee	Casual Wage Labourer
Land-ownership (default: no land)					
Land owner: < 0.22 hectares	-0.663***	0.037	**.0795816** .414959	**-.1175316** .414959	**.03795** .414959
	(24.70)	(1.21)			
Land owner: 0.22-1.13 hectares	-1.389***	-1.040***	**.2719407** .187102	**-.1685166** .187102	**-.1034241** .187102
	(34.28)	(27.60)			
Land Land owner: > 1.13 hectares	-1.786***	-2.733***	**.4140371** .149706	**-.1790548** .149706	**-.2349823** .149706
	(42.41)	(53.30)			
Age (default: 25-30 years)					
Age: 30-35 years	-0.106***	-0.420***	**.0606146** .246758	.0001679 .246758	**-.0607826** .246758
	(3.59)	(14.63)			
Age: 36-40 years	-0.064**	-0.657***	**.0782168** .23968	.0174179 .23968	**-.0956346** .23968
	(2.16)	(22.27)			
Age: 41-45 years	0.059*	-0.773***	**.0689083** .19778	**.0444713** .19778	**-.1133797** .19778
	(1.91)	(24.12)			
Caste/Religion (default: forward caste Hindu)					
Scheduled Tribe (Christian)	0.032	0.558***	**-.0782456** .004428	-.0266047 .004428	**.1048502** .004428
	(0.18)	(3.67)			
Scheduled Tribe (non-Christian)	0.240***	0.997***	**-.1623687** .07675	-.0221732 .07675	**.1845419** .07675
	(4.43)	(21.80)			
Scheduled Caste	0.378***	1.150***	**-.1947364** .175656	-.0058437 .175656	**.2005802** .175656
	(10.38)	(31.55)			
OBC (non-muslim)	-0.039	0.353***	**-.037822** .310752	-.0250212 .310752	**.0628432** .310752
	(1.35)	(10.50)			
OBC (muslim)	-0.472***	-0.072	**.0643618** .035634	**-.07252** .035634	.0081582 .035634
	(7.11)	(1.18)			
Muslim (not from OBC)	-0.309***	0.039	**.03246** .084808	**-.0535366** .084808	**.0210766** .084808
	(7.29)	(0.88)			
Christian (not from ST)	0.331***	0.188	**-.066322** .010121	**.0532096** .010121	.0131124 .010121
	(3.13)	(1.54)			
Sikh (Muslim (not from Scheduled or OBC)	-0.237**	-0.582***	**.0921356** .012832	-.0188713 .012832	**-.073264** .012832
	(2.38)	(3.34)			
Education (default: illiterate)					

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Literate, below primary level chooling	0.325***	-0.429***	-.0056342 .115517	.0837835 .115517	-.0781493 .115517
	(6.83)	(12.79)			
Primary or Middle level schooling	0.594***	-0.852***	-.0042796 .286248	.1553775 .286248	-.1510979 .286248
	(16.06)	(30.55)			
Secondary or higher secondary level schooling	1.263***	-1.603***	-.0975748 .206967	.334675 .206967	-.2371002 .206967
	(33.44)	(42.09)			
Graduate	1.872***	-2.844***	-.2286226 .115547	.5002508 .115547	-.2716283 .115547
	(44.27)	(31.35)			

State (default: Tamil Nadu)					
Andhra Pradesh	-0.335***	-0.402***	.0882061 .082534	-.0404441 .082534	-.047762 .082534
	(6.08)	(7.24)			
Assam	-0.000	-0.866***	.0788976 .048602	.0334961 .048602	-.1123937 .048602
	(0.00)	(13.14)			
Bihar	-1.025***	-0.633***	.1890193 .090817	-.1285824 .090817	-.0604369 .090817
	(17.14)	(11.96)			
Gujarat	-0.321***	-0.007	.0396594 .052126	-.0530456 .052126	.0133862 .052126
	(5.24)	(0.11)			
Haryana	-0.384***	-1.067***	.1508621 .020091	-.0313588 .020091	-.1195033 .020091
	(4.68)	(10.82)			
Himachal Pradesh	0.120	-0.378***	.0208385 .020438	.0400447 .020438	-.0608832 .020438
	(1.50)	(4.01)			
Karnataka	-0.229***	0.091	.016414 .051011	-.0431166 .051011	.0267026 .051011
	(3.66)	(1.45)			
Kerala	-0.083	0.851***	-.1133187 .039053	-.0633782 .039053	.1766969 .039053
	(1.15)	(12.53)			
Madhya Pradesh	-0.465***	-0.118**	.0701054 .081901	-.070636 .081901	.0005306 .081901
	(8.15)	(2.10)			
Maharashtra	0.153***	0.044	-.0254925 .086284	.0260668 .086284	-.0005742 .086284
	(2.88)	(0.75)			
Orissa	-0.257***	-0.287***	.0656652 .04321	-.0318415 .04321	-.0338237 .04321
	(3.63)	(4.42)			
Punjab	-0.144**	-0.956***	.1079706 .03949	.0084701 .03949	-.1164407 .03949
	(2.09)	(12.42)			
Rajasthan	-0.365***	-1.005***	.1451541 .051297	-.0286173 .051297	-.1165367 .051297
	(5.87)	(14.66)			
Uttar Pradesh	-0.801***	-1.215***	.2217999 .124991	-.0887599 .124991	-.13304 .124991
	(15.66)	(23.05)			

West Bengal	-0.662***	-0.635***	**.151791** .081465	**-.0825483** .081465	**-.0692427** .081465
	(11.66)	(11.08)			
Delhi	-0.154*	-1.390***	**.1322383** .013736	.0147418 .013736	**-.1469801** .013736
	(1.80)	(8.98)			
Sector (default: rural)					
Urban	0.492***	-1.080***	**.0611228** 0.3779	**.1420136** 0.3779	**-.2031364** 0.3779
	(17.70)	(38.88)			
Constant	-1.062***	2.581***			
	(13.49)	(33.79)			
Observations	66,397	66,397			
Pseudo-R^2	0.2505	0.2505			

Absolute value of z statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Significant marginal probabilities in **bold**
In each marginal probability cell: the figure in the first row is the
marginal probability, ∂prob/∂x; the figure in the second row is the
mean value of x, the relevant variable.

Table 5: The Decomposition of Inter-Community Differences in the Proportion of Prime-Age Men in Regular Salaried and Wage Employment: Hindus treated as Community X

	Sample Average $\bar{P}^r - \bar{P}^s$	Group s treated as group r	
		$P(\mathbf{X}^s,\hat{\boldsymbol{\beta}}^r)$ $-P(\mathbf{X}^s,\hat{\boldsymbol{\beta}}^s)$	$P(\mathbf{X}^r,\hat{\boldsymbol{\beta}}^r)$ $-P(\mathbf{X}^s,\hat{\boldsymbol{\beta}}^r)$
r=Scheduled Tribe (Christian) s='forward caste' Hindus	0.170 - 0.387 = -0.217	0.374 - 0.387 = -0.013	0.170 - 0.374 = -0.204
r= Scheduled Tribe (non-Christian) s='forward caste' Hindus	0.140 - 0.387 = -0.247	0.391 - 0.387 = 0.004	0.140 - 0.391 = -0.251
r= SC s='forward caste' Hindus	0.194 - 0.387 = -0.193	0.407 - 0.387 = 0.02	0.194 - 0.407 = -0.213
r= OBC (Muslim) s='forward caste' Hindus	0.176 - 0.387 = -0.211	0.309 - 0.387 = -0.078	0.176 - 0.309 = -0.133
r= OBC (non-Muslim) s='forward caste' Hindus	0.226 - 0.387 = -0.161	0.369 - 0.387 = -0.018	0.226 - 0.369 = -0.143
r= Muslims s='forward caste' Hindus	0.223 - 0.387 = -0.164	0.333 - 0.387 = -0.054	0.223 - 0.333 = -0.11
r= Christians s='forward caste' Hindus	0.440 - 0.387 = 0.053	0.440 - 0.387 = 0.053	0.440 - 0.440 = -0.0
r= Sikhs s='forward caste' Hindus	0.272 - 0.387 = -0.115	0.359 - 0.387 = -0.028	0.272 - 0.359 = -0.087

Table 6: The Decomposition of Inter-Community Differences in the Proportion of Prime-Age Men in Regular Salaried and Wage Employment: Community X treated as Hindus

	Sample Average $\bar{P}^r - \bar{P}^s$	Group s treated as group r	
		$\bar{P}(\mathbf{X}^r,\hat{\boldsymbol{\beta}}^r)$ $-\bar{P}(\mathbf{X}^r,\hat{\boldsymbol{\beta}}^s)$	$P(\mathbf{X}^r,\hat{\boldsymbol{\beta}}^s)$ $-P(\mathbf{X}^s,\hat{\boldsymbol{\beta}}^s)$
r=Scheduled Tribe (Christian) s='forward caste' Hindus	0.170 - 0.387 = -0.217	0.170 - 0.184 = -0.014	0.184 - 0.387 = -0.203
r= Scheduled Tribe (non-Christian) s='forward caste' Hindus	0.140 - 0.387 = -0.247	0.140 - 0.153 = -0.013	0.153- 0.387 = -0.234
r= SC s='forward caste' Hindus	0.194 - 0.387 = -0.193	0.194 - 0.205 = -0.011	0.205 - 0.387 = -0.182
r= OBC (Muslim) s='forward caste' Hindus	0.176 - 0.387 = -0.211	0.176 - 0.235 = -0.059	0.235 - 0.387 = -0.152
r= OBC (non-Muslim) s='forward caste' Hindus	0.226 - 0.387 = -0.161	0.226 - 0.245 = -0.019	0.245 - 0.387 = -0.142
r= Muslims s='forward caste' Hindus	0.223 - 0.387 = -0.164	0.223 - 0.269 = -0.046	0.269 - 0.387 = -0.118
r= Christians s='forward caste' Hindus	0.440 - 0.387 = 0.053	0.440 - 0.392 = 0.048	0.392 - 0.387 = -0.005
r= Sikhs s='forward caste' Hindus	0.272 - 0.387 = -0.115	0.272 - 0.302 =- 0.03	0.302 - 0.387 = -0.03

Table 7: Coefficient and Attribute Contributions to Differences Between Hindus and Others in Their Respective Proportions in Regular Salaried and Wage Employment

Community X↓	*Hindu attributes evaluated using X's coefficients*		
	Observed Difference	**% Due to Coefficient Differences**	**% Difference Due to Attribute Differences**
Scheduled Tribe (Christian)	-0.217	6	94
Scheduled Tribe (non-Christian)	-0.247	-2	102
SC	-0.193	-10	110
OBC (Muslim)	-0.211	37	63
OBC (non-Muslim)	-0.161	12	88
Muslims	-0.164	33	67
Christians	0.053	100	0
Sikhs	-0.115	24	76

Table 8: Coefficient and Attribute Contributions to Differences Between Hindus and Others in Their Respective Proportions in Regular Salaried and Wage Employment

Community X↓	*Community X attributes evaluated using Hindu coefficients*		
	Observed Difference	**% Due to Coefficient Differences**	**% Difference Due to Attribute Differences**
Scheduled Tribe (Christian)	-0.217	6	94
Scheduled Tribe (non-Christian)	-0.247	5	95
SC	-0.193	6	94
OBC (Muslim)	-0.211	28	72
OBC (non-Muslim)	-0.161	11	89
Muslims	-0.164	28	72
Christians	0.053	91	9
Sikhs	-0.115	26	74

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