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# Discrimination and Jobs Reservation in India

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July 2019

Online at <https://mpra.ub.uni-muenchen.de/101671/>  
MPRA Paper No. 101671, posted 15 Jul 2020 09:21 UTC

## Chapter 3 Discrimination and Jobs Reservation in India

### 3.1. Introduction

In response to the burden of social stigma and economic backwardness borne by persons belonging to India's 'untouchable castes', the Constitution of India allows for special provisions for their members. These are mainly in the form of reserved seats in the national parliament, state legislatures, municipality boards and village councils (*panchayats*); the reservation of jobs in government or in publicly-funded or publicly-assisted organisations (hereafter, simply, 'public sector'); and reserved places in public higher educational institutions. Articles 341 and 342 include a list of castes entitled to such benefits and all those groups included in this list – and subsequent modifications to this list – are referred to as, respectively, 'Scheduled Castes'. The term 'Scheduled Castes' (hereafter, SC) is, for all practical purposes, synonymous with the former 'untouchable' castes and that is how they are referred to in this book. These collectively comprise about 180 million persons. It is important to emphasise that the Constitution restricted SC status to *Hindu* groups in 'unclean' occupations: their non-Hindu equivalents were not accorded this status and, therefore, could not benefit from reservation policies.<sup>1</sup>

Articles 341 and 342 also include a list of *tribes* entitled to similar benefits and all those groups included in this list – and subsequent modifications to this list – are referred to as the 'Scheduled Tribes' (hereafter, ST).<sup>2</sup> There are about 85 million Indians classified as belonging to the ST. Of these, *Adivasis* (meaning original inhabitants) refer to the 70 million who live in central India, in a relatively contiguous hill and forest belt extending across the states of Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, Chhattisgarh, Jharkhand, Andhra Pradesh, Orissa, Bihar, and West Bengal (Guha, 2007). The remaining 15 million or so live in the hills of North-East India. Consequently, the ST comprise two distinct groups: the economically deprived and socially isolated *Adivasis* from central India and the well-educated tribes (the *Khasis*, *Jantias*, *Garos*, *Lushais*, *Mizos*

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<sup>1</sup> For example, converts to Islam from Hindu "unclean occupations": *halalkhors*, *helas*, *lalbegis*, *dhobis*, *hajjams*, *chiks*, *faqirs*. However, subsequent extensions were made to this list for *Mazhabi Sikhs* (in 1956) and *neo-Buddhists* (in 1990).

<sup>2</sup> Article 342 of the Indian Constitution empowers the President, after consultation with the Governor, to specify the tribes or tribal communities in a state which will be accorded Scheduled Tribes status.

etc.) from the North-Eastern states of India. As a broad generalisation, the former fare very badly, and the latter do reasonably well, both in economic and social terms. The intention behind reservation for the SC was to assist groups who had known centuries of suppression while, for the ST, it was to assist groups who were traditionally isolated from the modern world and from mainstream society.<sup>3</sup>

Following the Mandal Commission Report<sup>4</sup> of 1980, adopted by the Government of India, reservation in jobs and education was extended to persons from the Other Backward Classes (OBC).<sup>5</sup> The 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 thus 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 benefits.

Since reservation confers real and tangible benefits to its beneficiaries, many groups, quite naturally, see the label of ‘backwardness’ as one worth acquiring: in consequence, India has witnessed several agitations involving groups who seek ‘downward mobility’. The *Patels* of Gujarat, the *Marathas* of Maharashtra, and the *Jats* of Haryana all seek to downgrade from their current ‘forward class’ status to join the OBC while the *Gujjars* of Rajasthan want to downgrade from OBC to ST. In the north-eastern state of Assam, six communities – *Ahom*, *Koch-Rajbangshi*, *Moran*, *Matak*, *Chutiya*, and the ‘Tea Tribes’ – seek to downgrade from their current OBC status and join the ranks of the ST;

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<sup>3</sup> For the history and evolution of caste-based preferential policies in India see Osborne (2001).

<sup>4</sup> This Commission was established in 1979 by the Janata Party government under Prime Minister Morarji Desai with a mandate to “identify the socially or educationally backward.”

<sup>5</sup> 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.

however, their demands are being opposed by the existing ST in Assam because they fear that the benefits of reservation will be spread more thinly .<sup>6</sup>

In the mind of the Indian public it is jobs reservation that is seen as the most important of the public concessions towards persons belonging to the ‘reserved categories’ - the SC, ST, and the OBC - and it is the one which arouses the strongest of passions.<sup>7</sup> The first cause for passion is the demand to extend reservation to groups who are not current beneficiaries of reservation - but who, nevertheless, find it convenient to view themselves as economically and socially backward - by including them as part of the OBC.<sup>8</sup> The second source of disquiet there is the demand from those enjoying reservation benefits in the public sector to extend such jobs reservation to the private sector.<sup>9</sup>

This chapter focuses on the reservation for jobs in government and the public sector which is a corollary of the government’s (constitutionally-mandated) duty to favour persons from the ‘reserved’ categories (ST, SC, and OBC), at the expense of persons from the ‘non-reserved’ or ‘general’ categories, in public sector jobs.<sup>10</sup> This duty is formalised by the requirement that a certain proportion of public sector jobs have to be filled by persons from reserved categories.

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 unit record data from the latest available round (68<sup>th</sup> round: July 2011-June 2012), and an earlier round (55<sup>th</sup> round: July 1999-June2000) pertaining to a

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<sup>6</sup> See Kashyap (2016).

<sup>7</sup> 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 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.

<sup>8</sup> For example, as noted earlier, *Patels*, *Jats*, and *Marathas*.

<sup>9</sup> See Bhambri (2005); Thorat (2005).

<sup>10</sup> That is, in government or in publicly-funded or publicly-assisted organisations.

decade earlier, of the National Sample Survey (NSS) of Employment and Unemployment - the extent to which jobs reservation for the ‘reserved categories’ have benefited persons from these groups by offering them a greater share of regular salaried and wage employment than they might have obtained in its absence.<sup>11</sup> The salient features of the NSS were described in some detail in the previous chapter

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 from the 68<sup>th</sup> and 55<sup>th</sup> rounds, this chapter focuses on males between the ages of 21 and 60 years of age (hereafter, simply, ‘males’) and estimates, using the methods of multinomial logit, the probabilities of men being in these categories of employment, after controlling for their caste/religion and their employment-related attributes.

### 3.2 A Multinomial Logit Model of Employment Outcomes

Suppose that there are  $J$  mutually exclusive possible occupational outcomes, indexed  $j=1\dots J$ , for each individual  $i$ , indexed  $i=1\dots N$ , in a sample of persons. Suppose that  $Y_i$  is a variable taking integer values such that outcome  $j$  occurs for individual  $i$  if and only if  $Y_i = j$ . If outcome  $J$  is taken as the base outcome, the *multinomial logit* (ML) represents, for each individual ( $i=1\dots N$ ), the logarithm of the odds ratio of outcome  $j$  ( $j=1\dots J$ ) to the base outcome,  $J$  as a linear function of  $K$  determining variables (indexed,  $k=1\dots K$ ) with  $X_{ik}$  representing the value of variable  $k$  for individual  $i$ :

$$\log\left(\frac{p_{ij}}{p_{iJ}}\right) = \sum_{k=1}^K \beta_{jk} X_{ik} = Z_{ij}, \quad j=1\dots J-1 \quad (3.1)$$

where:  $p_{ij} = \Pr(Y_i = j)$ ,  $\sum_{j=1}^J p_{ij} = 1$  and the  $\beta_{jk}$  are the coefficients associated with  $j^{\text{th}}$  outcome for the  $k^{\text{th}}$  determining variable, with by definition,  $\beta_{Jk} = 0$  ( $k=1\dots K$ ). The assumption is that these coefficients do not vary across the individuals in the sample.

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<sup>11</sup> As discussed in some detail in the previous chapter, the NSS is an annual survey of households in India with a large survey, covering issues of employment etc., conducted every five years.

In addition to the social group of males – Scheduled Tribe (ST), Scheduled Caste (SC), non-Muslim OBC (OBC-NM), Muslims, and Forward Castes (FC) - discussed in some detail in the previous chapter, it was hypothesised that their probabilities of being in particular type of employment would *inter alia* depend upon:

1. Their highest educational level. Five levels of education were distinguished: (i) illiterate; (ii) below primary; (iii) up to middle school (above primary but below secondary); (iv) secondary and higher secondary; (v) graduate and above.
2. The standard of living of the person's household. Data on monthly *household per capita consumption expenditure* (HPCE) of households was used to define quintiles of HPCE, with Q5 representing the highest quintile and Q1 representing the lowest. Each household was placed in a quintile on the basis of its HPCE.
3. The age of the person. This was defined in terms of four age-bands: 21-30 years, 31-40, 41-50, and 51-60.
4. The amount of land owned by the person's household. Data on the amount of land owned by households was used to define quintiles of land ownership, with Q5 representing the highest quintile and Q1 representing the lowest. Each household was placed in a quintile on the basis of the amount of land that it owned,.
5. The states in which the persons resided were used as fixed effect controls for the equation.

There were 36 states in the 68<sup>th</sup> round and 33 states in the 55<sup>th</sup> round.

Consequently, in the context of the multinomial form of equation (3.2), the estimated equation was:

$$\log\left(\frac{\Pr(Y_i = j)}{\Pr(Y_i = J)}\right) = \log\left(\frac{p_{ij}}{p_{iJ}}\right) = \beta_{jk} \times \text{SOCGROUP}_i + \alpha_{jk} \times \text{EDUCATION}_i + \gamma_{jk} \times \text{HPCE}_i + \delta_{jk} \times \text{AGE BAND}_i + \theta_{jk} \times \text{LAND OWNED}_i + \text{State Controls} \quad (3.2)$$

In the equation (3.2), **SOCGROUP** is a vector whose components are the five social groups (ST, SC, OBC-NM, Muslim, and FC) with associated coefficient vector  $\beta_{jk}$ ;

**EDUCATION** is a vector whose components are the five education levels with associated coefficient vector  $\alpha_{jk}$ ; **HPCE** is a vector whose components are the five quintiles of monthly household per capita consumption expenditure with associated coefficient vector  $\gamma_{jk}$ ; **AGE BAND** is a vector whose components are the four age-bands with associated coefficient vector  $\delta_{jk}$ ; and **LAND OWNED** is a vector whose components are the five quintiles of the amount of land owned by households with associated coefficient vector  $\theta_{jk}$ . The occupations associated with equation (3.2) are: (i) *regular salaried and wage employees (RSWE)*; (ii) *casual wage employees (CWE)*; and (iii) *own account workers (OAW)* with the last occupation representing the baseline occupation  $J$ .

In terms of presenting results in a meaningful way, the multinomial logit estimates shown in equation (3.1) do not, however, have a natural interpretation. The interpretation of the coefficients  $\beta_{jk}$  in equation (3.1) is that a positive/negative coefficient implies that the odds ratio  $\left(\frac{p_{ij}}{p_{iJ}}\right)$  for outcome  $j$ , relative to the base outcome,  $J$ , rises/falls with an increase in the value of the  $k^{th}$  variable for all the individuals (indexed,  $i$ ) in the sample.. However, the sign of the coefficients  $\beta_{jk}$  are uninformative about the direction of travel of the underlying probabilities,  $p_{ij}$ , which are the real items of interest:  $\beta_{jk} > 0$  implies that  $\left(\frac{p_{ij}}{p_{iJ}}\right)$  rises with an increase in the value of the  $k^{th}$  variable but, if the odds ratio for some other outcome, (say,  $r$ ) rises even faster, then the *rise* in the odds ratio implied by  $\beta_{jk} > 0$  may be accompanied by a *fall* in the value of  $p_{ij}$ .

In order to obtain the underlying probabilities  $p_{ij}$  the estimated coefficients need to be employed in solving the equation (derived from equation (3.1)):

$$\Pr(Y_i = j) = p_{ij} = \frac{\exp(Z_{ij})}{[1 + \sum_{s=1}^J Z_{is}]} = \frac{\exp\left(\sum_{k=1}^K \beta_{jk} X_{ik}\right)}{1 + \exp\left(\sum_{s=1}^J \sum_{k=1}^K \beta_{sk} X_{ik}\right)} \quad (3.3)$$

Consequently, as suggested by Long and Freese (2014), the results from estimating equation (3.1) are presented in Tables 3.2, 3.3, and 3.4 in the form of the *predicted probabilities* from the

estimated logit coefficients of the equation using equation (3.3). These probabilities were computed using the method of “recycled proportions”, as described in Long and Freese (2014, ch. 4) and in the Stata manual; since this method underpins the results presented in this chapter it is useful, at the very outset, to describe it in some detail.<sup>12</sup>

### 3.3 The Method of Recycled Proportions

The variable  $y_i$  in equation (3.2) is defined over households distinguished by different characteristics – by social group, education, region etc. Suppose that one of these characteristics is social group and households are identified, *inter alia*, by whether they are ST, SC, OBC-NM, Muslim, or FC. The object is to identify the probabilities, of being in a particular occupational category, which can be *entirely* ascribed to belonging to a social group and, further, to test whether these differ significantly between the groups. The method of “recycled predictions” enables one to do so.

Suppose that the first variable relates to social group so that  $X_{i1}=5$  if person  $i$  is FC,  $X_{i1}=4$  if he is Muslim;  $X_{i1}=3$  if he is OBC-NM,  $X_{i1}=2$  if he is SC, and  $X_{i1}=1$  if he is ST. Now, using the multinomial logit estimates from equation (3.1), equation (3.3) predicts each male’s probability of being in a particular category, say RSWE, denoted  $\hat{p}_i (i=1\dots N)$  where the mean of the  $\hat{p}_i$ , defined over *all* the  $N$  men in the estimation sample, will be the same as the proportion of men in the (estimation) sample that are RSWE. Similarly, the mean of the  $\hat{p}_i$  defined over the FC (or, Muslim, or OBC-NM, or SC, or ST) men will be the same as the (estimation) sample proportion of men in these groups that are RSWE. In other words, the estimated ML equation passes through the sample means.<sup>13</sup>

However, the difference between the five sample means – FC ( $\hat{p}^{FC}$ ), Muslims ( $\hat{p}^M$ ), OBC-NM ( $\hat{p}^{OBC}$ ), SC ( $\hat{p}^{SC}$ ) and ST ( $\hat{p}^{ST}$ ) – does not reflect differences between men in the five groups, in their probabilities of being RSWE, *which can ascribed entirely to differences in social group*. This is because the men in the estimation sample differ not just in terms of their social group but also with respect to other variables like income, education etc. Computing the mean probabilities over each

<sup>12</sup> <https://www.stata.com/manuals13/rmlogitpostestimation.pdf> (accessed on 23 September 2017).

<sup>13</sup> It is important to draw a distinction between the *estimation* sample and the *total* sample; because the equation can only be estimated for non-missing values on *all* the variables, the estimation sample will, typically, be smaller than the total sample.



subgroup will not neutralise these differences and, hence, differences between

$\hat{p}^{FC}$ ,  $\hat{p}^M$ ,  $\hat{p}^{OBC}$ ,  $\hat{p}^{SC}$ , and  $\hat{p}^{ST}$  cannot be attributed *solely* – though, of course, some part may be – to differences in social group.

The method of “recycled proportions” *isolates* the effect of the different social groups on the probabilities of men being RSWE. In order to compute these probabilities certain hypothetical scenarios need to be constructed. First, “pretend” that *all* the men, in the *entire* sample of  $N$  men are FC. Holding the values of the other variables constant (either to their observed sample values, as in this chapter, or to their mean values over the estimation sample), compute the average probability (of men being RSWE) under this assumption and denote it  $\tilde{p}^{FC}$ . Next, “pretend” that *all* the men, in the *entire* sample of  $N$  households are Muslim and, again holding the values of the other variables constant, compute the average probability (of men being RSWE) under this assumption and denote it  $\tilde{p}^M$ . Continue these hypothetical experiments for the other social groups and denote these as  $\tilde{p}^{ST}$ ,  $\tilde{p}^{SC}$ ,  $\tilde{p}^M$ , and  $\tilde{p}^{OBC-NM}$  for, respectively, men from the ST, SC, and the OBC-NM. The probabilities computed from these hypothetical scenarios are, hereafter, referred to as the *synthetic probabilities* (SP) of men from the different social groups of being RSWE.

Since the values of the non-social group variables (education, HPCE, land ownership, age, state of residence) are unchanged between these hypothetical scenarios, the only difference between them is that, in the “FC scenario”, the FC coefficient in equation (3.2) is “switched on” (with the coefficients for the other social groups “switched off”) - while, say, in the “SC scenario” the SC coefficient is “switched on” (with the coefficients for the other social groups “switched off”) - for *all* the men in the estimation sample.<sup>14</sup> Consequently, the difference between  $\tilde{p}^{FC}$  and  $\tilde{p}^{SC}$  is *entirely* due to differences in caste between men from the FC and the SC because all other differences between them have been neutralised. In essence, therefore, in evaluating the effect of two characteristics  $X$  and  $Y$  on the likelihood of a particular outcome, the method of “recycled proportions” compares two probabilities: first, under an “all have the characteristic  $X$ ” scenario and, then, under an “all have the characteristic  $Y$ ” scenario, *with the values of the other variables unchanged between the scenarios*.

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<sup>14</sup> STATA’s margin command performs these calculations.

The difference between the two synthetic probabilities is then entirely due to the differences in the attribute represented by  $X$  and  $Y$  (in this case, differences in caste between men from the FC and the SC).

### 3.3 Estimation Results

The results from estimating equation (3.2) are shown in Tables 3.2, 3.3, and 3.4 for, respectively, RSWE, CWE, and OAW. The columns headed ‘synthetic probability’ show the synthetic probabilities (SP) – the concept underlying these probabilities was discussed earlier - associated with the various categories of variables. So, in social group category, Table 3.1 shows that the synthetic probability of men, aged 21-60, being RSWE was 15.7% for the ST, 16.8% for SC men, and 19.2% for FC men. Similarly, Table 3.2 shows that the synthetic probability of men, aged 21-60, being CWE was 41% for the ST, 44.5% for SC men, 34.7% for OBC-NM men but only 29.4% for Muslim, and 29% for FC, men. Lastly, Table 3.3 shows that the synthetic probability of men, aged 21-60, being OAW was only 38.7% for the SC but it was 56.2% for Muslim men, 49.9% for men from the OBC-NM, and 51.8% for FC men.

<Tables 3.1, 3.2, and 3.3>

The columns in Tables 3.1, 3.2, and 3.3 headed ‘marginal probability’ represent, for the social group category, the *differences* between the synthetic probability of the individuals in the first four social groups and those in the reference group, denoted by [R], FC. Table 3.1 shows that, for RSWE, the marginal probability for persons from the SC, was -2.4 points (=16.8-19.2) points in the 68<sup>th</sup> round and -1.5 points (=21.8-23.3) in the 55<sup>th</sup> round. Similarly, Table 3.3 shows that, for OAW, the marginal probability for Muslims, was 4.4 points (=56.2-51.8) points in the 68<sup>th</sup> round and 4 points (=52.3-48.4) in the 55<sup>th</sup> round. Dividing these marginal probabilities by their standard errors yielded the t-values. These showed whether these marginal probabilities were significantly different from zero in the sense that the likelihood of observing these values, under the null hypothesis of no difference was less than 5% (superscript \*\* in Tables 3.1-3.3) or 10% (superscript \* in Table 3.1-3.3).

#### ***Social Groups***

In terms of the social groups, an important finding of Table 3.1 was that the synthetic probability of being a RSWE was highest for men from the FC (19.2% in the 68<sup>th</sup> round and 23.3% in

the 55<sup>th</sup> round) and lowest for Muslim men (14.4% in the 68<sup>th</sup> round and 19.8% in the 55<sup>th</sup> round). The synthetic probability of being a RSWE was significantly lower for men from all the groups than for men from the FC or, in other words, the marginal probabilities for all the social groups were significantly different from zero in both the 68<sup>th</sup> and 55<sup>th</sup> rounds.<sup>15</sup>

In neither round was there a significant difference between ST and SC men in their synthetic probability of being RSWE. In both rounds, however, the synthetic probability of being RSWE was significantly lower for Muslim men (who were not protected by public sector job reservation policies) than for SC and ST men (who were protected by public sector job reservation). On a similar note, both rounds showed that the synthetic probability of being RSWE was significantly higher for SC and ST males (who were *fully* covered by public sector job reservation) than for their OBC counterparts (whose coverage, under the Mandal committee recommendations, was patchier).

Table 3.2 shows that the synthetic probability of being CWE was highest for SC men (44.5% and 44.3% in the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively) and lowest for FC and Muslim men (29% and 29.4%, respectively, for the 68<sup>th</sup> round and 28.3% and 27.9% respectively, for the 55<sup>th</sup> round). There was no significant difference between FC and Muslim men in their synthetic probabilities of being CWE. The synthetic probability of being CWE was, for both the 68<sup>th</sup> and 55<sup>th</sup> rounds, significantly higher for SC men than for OBC-NM and ST men.

Table 3.3 shows that, in both rounds, the synthetic probability of being OAW was highest for Muslim men (56.2% and 52.3% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively) and, for both rounds, these probabilities were significantly higher than for men from the other groups. The lowest synthetic probability of being OAW was lowest for SC men (38.7% and 33.9% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively) and, for both rounds, these probabilities were significantly lower than for men from the other groups.

### ***Education***

In a manner analogous to the synthetic probabilities for the social groups, one can also construct synthetic probabilities for the categories of education by considering, in succession, scenarios in which *all* the persons in the estimation sample were assigned to a particular educational

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<sup>15</sup> Except for the ST in the 55<sup>th</sup> round.

category. Not surprisingly, the highest synthetic probability of being RSWE was for graduate men (Table 3.1: 63.1% and 52.8% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively) and the lowest was for men who were illiterate (Table 3.2: 7.4% and 9.1% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively). At the other end of the scale, the lowest synthetic probability of being CWE was for graduate men (Table 3.2 2.6% and 7.8% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively) and the highest was for men who were illiterate (Table 3.2: 47.5% and 47.4% for the 68<sup>th</sup> and 55<sup>th</sup> rounds, respectively). The synthetic probability of being OAW was highest for those with middle or secondary school education (Table 3.3: 51.6% for middle school and 51.8% for secondary education in the 68<sup>th</sup> round and 49.2% for middle school and 45.7% for secondary education in the 55<sup>th</sup> round).

An important question with respect to education is whether the effect of a man's level of education, on his synthetic probability of being in a particular occupational type, was affected by the social group to which he belonged? In other words, would education deliver more for certain groups than it did for others? In practical terms, the interdependency between education and social group can be modelled through *interaction effects*. These effects are used to examine whether the effect of a specific variable (say, education) on the outcome probability varied according to values of another variable (say, social group).

In order to appreciate the difference between an 'interacted' and a 'non-interacted' equation consider the following equations for a variable  $Y$  which is explained by two explanatory variables  $X$  (say, education) and  $Z$  (say, social group), for observations indexed  $i=1...N$ , without and with interaction between  $X$  and  $Z$ .

$$\begin{aligned} Y_i &= \alpha + \beta X_i + \gamma Z_i \\ Y_i &= \alpha + \beta X_i + \gamma Z_i + \phi(X_i \times Z_i) \end{aligned} \tag{3.4}$$

In the first equation - without the interaction term  $X_i \times Z_i$  - the marginal change in  $Y_i$ , given a small change in the value of the variable  $X_i$ , is  $\beta$ : the marginal effect of education,  $\partial Y_i / \partial X_i$ , is independent of the value of the social group variable,  $Z_i$ . In the second equation - with the interaction term  $X_i \times Z_i$  - the marginal change in  $Y_i$ , given a small change in the value of the variable  $X_i$ , is  $\beta + \phi Z_i$ : the marginal effect of education,  $\partial Y_i / \partial X_i$ , will also depend on the value of the social group

variable,  $Z_i$ . If interaction effects are significant then an equation which neglects them would be under-specified.

The estimated equations, whose results are shown in Tables 3.1-Tables 3.3, had embedded in them an interaction between education and social group enabling one to compute, for any education level, separate synthetic probabilities (of belonging to an occupation type) for the social groups. An important result to emerge from this analysis is that, with respect to being RSWE, Muslims had the *lowest* synthetic probability for specific levels of education. For example, for men with secondary and higher secondary education in the 68<sup>th</sup> round, the synthetic probability of being RSWE was 22% for Muslims which was significantly lower than the 28% for FC men and 26% for SC men. Nor were things better for Muslims a decade earlier: for men with secondary and higher secondary education in the 55<sup>th</sup> round, the synthetic probability of being RSWE was 30% for Muslims which was significantly lower than the 37% for FC men and 36% for SC men.

#### ***Household Consumption and Landholding Effects***

The synthetic probabilities for monthly household per capita consumption expenditure (HPCE) showed that the predicted likelihood of men being RSWE and OAW increased steadily with the HPCE quintile in which their households were placed: Table 3.1 shows that, for the 68<sup>th</sup> round, the synthetic probability of being RSWE for persons whose households were in the lowest quintile of HPCE was 10.9% as against 24.1% for persons whose households were in the highest quintile and Table 3.3 shows that, for the 68<sup>th</sup> round, the synthetic probability of being OAW for persons whose households were in the lowest quintile of HPCE was 44.7% as against 58.9% for persons whose households were in the highest quintile. Conversely, the predicted likelihood of men being CWE decreased steadily with the HPCE quintile in which their households were placed: Table 3.2 shows that, for the 68<sup>th</sup> round, the synthetic probability of being CWE for persons whose households were in the lowest quintile of HPCE was 44.4% as against 17% for persons whose households were in the highest quintile.

The results for landownership were different to those for HPCE. Now the predicted likelihood of men being RSWE and CWE decreased steadily with the land-holding quintile in which their households were placed: Table 3.1 shows that, for the 68<sup>th</sup> round, the synthetic probability of

being RSWE for persons whose households were in the lowest quintile of landholding was 23% as against 8.4% for persons whose households were in the highest quintile and Table 3.2 shows that, for the 68<sup>th</sup> round, the synthetic probability of being CWE for persons whose households were in the lowest quintile of landholding was 44% as against 10.5% for persons whose households were in the highest quintile. Conversely, the predicted likelihood of men being OAW increased steadily with the land holding quintile in which their households were placed: Table 3.3 shows that, for the 68<sup>th</sup> round, the synthetic probability of being OAW for persons whose households were in the lowest quintile of landholding was 33% as against 81.2% for persons whose households were in the highest quintile.

### 3.4 A Decomposition Method for Measuring Discrimination

The previous section drew a distinction between two types of probabilities of being in a particular occupational status, say RSWE. The first type was the (average) *predicted probability* (PP) of men from a particular social group being in RSWE and these probabilities were denoted:

$\hat{p}^{FC}$ ,  $\hat{p}^M$ ,  $\hat{p}^{OBC-NM}$ ,  $\hat{p}^{SC}$ , and  $\hat{p}^{ST}$  for the five social groups. The values of the predicted probabilities of men from each of these groups being RSWE would be identical to the proportion of men in the estimation sample from that group who were RSWE.

<Figures 1 and 2>

The second type of probability was the *synthetic probability* (SP) of men from a particular social group being in RSWE and these probabilities were denoted:  $\tilde{p}^{FC}$ ,  $\tilde{p}^M$ ,  $\tilde{p}^{OBC-NM}$ ,  $\tilde{p}^{SC}$ , and  $\tilde{p}^{ST}$  for the five social groups. The synthetic probabilities were computed using the method of “recycled proportions”, discussed above, and the point was made that difference between the different social groups in their synthetic probabilities of being in a particular occupational type (RSWE) could be ascribed *entirely* to differences between them in their social group. The predicted and synthetic probabilities for the different social groups are compared graphically in Figures 1 and 2.

Following from these observations, the difference between two groups - say, FC and SC - in the proportion of their men in the estimation sample that are RSWE (respectively,  $\hat{p}^{FC}$  and  $\hat{p}^{SC}$ ) may be written as:

$$\overbrace{\hat{p}^{FC} - \hat{p}^{SC}}^Z = \overbrace{(\tilde{p}^{FC} - \tilde{p}^{SC})}^A + \left[ \overbrace{(\hat{p}^{FC} - \tilde{p}^{FC})}^B - \overbrace{(\hat{p}^{SC} - \tilde{p}^{SC})}^C \right] \quad (3.5)$$

In the following discussion, it is assumed that  $\hat{p}^{FC} > \hat{p}^{SC}$  that is, the term  $Z > 0$ . The term  $A$  in equation (3.5) represents the difference in *synthetic* probabilities between men from the FC and SC being RSWE, that is the difference which is *solely* due to their different caste backgrounds. Consequently, it would be legitimate to regard this difference as due to “discrimination”. The term  $B$  in equation (3.5) represents the difference between men from the FC in their (average) predicted and synthetic probabilities of being RSWE. The predicted probability (or observed proportion) is based on FC coefficients applied only to the (employment-related) attributes of FC men; the synthetic probability men is based FC coefficients applied to the (employment-related) attributes of the entire sample of men drawn from all the social groups. The term  $B$  can, therefore, be interpreted as a measure of the “superiority” of the attributes of FC men over the general level of attributes as manifest over the entire sample. Similarly, the term  $C$  can be interpreted as a measure of the “superiority” of the attributes of SC men over the general level of attributes of the entire sample. The difference between the two terms  $B$  and  $C$  in equation (3.5) is a measure of the *relative* superiority of the attributes of FC men vis-à-vis their SC counterparts.

The terms  $B$  and  $C$  in equation (3.5) could be positive or negative. If say,  $C < 0$ , then  $\hat{p}^{SC} < \tilde{p}^{SC}$  and the proportion of SC men that is RSWE is less than the proportion which would result if SC men were assigned the general level of attributes. This implies that men from the SC have employment related attributes which are *inferior* to the general level of attributes. On the other hand, if  $C > 0$ , then  $\hat{p}^{SC} > \tilde{p}^{SC}$  and the proportion of SC men that is RSWE is greater than the proportion which would result if SC men were assigned the general level of attributes. This implies that men from the SC have employment related attributes which are *superior* to the general level of attributes.

If  $B > 0$ , then  $\hat{p}^{FC} > \tilde{p}^{FC}$  and the proportion of FC men that is RSWE is greater than the proportion which would result if FC men were assigned the general level of attributes. This implies that men from the FC have employment related attributes which are *superior* to the general level of

attributes. On the other hand, if  $B < 0$ , then  $\hat{p}^{FC} < \tilde{p}^{FC}$  and the proportion of FC men that is RSWE is less than the proportion which would result if FC men were assigned the general level of attributes. This implies that men from the FC have employment related attributes which are *inferior* to the general level of attributes.

From the above discussion, the term  $\delta = A / Z$  represents the proportion of the overall difference between FC and SC men (who are RSWE) that is due to discrimination. The term  $\lambda = (B - C) / Z$  represents the proportion of the overall difference between FC and SC men (who are RSWE) that is due to the relative superiority of FC men, over their SC counterparts, in terms of employment-related attributes. In this context, there are four main possibilities:

1.  $A > 0$  and  $(B - C) > 0$ . In this situation,  $Z > 0$  partly because of discrimination ( $\delta > 0$ ) and partly because of the relative superiority of FC over SC attributes ( $\lambda > 0$ ). In this situation,  $A < Z$  so that  $0 < \delta < 1$ .
2.  $A > 0$  and  $(B - C) < 0$ . In this situation,  $Z > 0$  in spite of the relative *inferiority* of FC to SC attributes ( $\lambda < 0$ ) because the effect of discrimination exceeds that of the attributes effect ( $\delta > |\lambda|$ ). In this situation,  $A > Z$  so that  $\delta > 1$ .
3.  $Z > 0$  when  $A < 0$  and  $(B - C) > 0$ . In this situation,  $Z > 0$  in spite of *reverse discrimination* in favour of the SC, through say, a policy of reserving a certain number of RSWE jobs for the SC (“reservation policy”), because the relative *superiority* of FC attributes ( $\lambda > 0$ ) offsets the reverse discrimination ( $|\delta| < \lambda$ ). In this situation,  $|A| < |Z|$  so that  $-1 < \delta < 0$ .
4.  $Z < 0$  when  $A < 0$  and  $(B - C) > 0$ . In this situation,  $Z < 0$  because *reverse discrimination* in favour of the SC is not offset by the relative *superiority* of FC attributes ( $\lambda > 0$ ). In this situation,  $|A| > |Z|$  so that  $\delta < -1$ .

Table 3.4 shows the empirical results from the 68<sup>th</sup> and 55<sup>th</sup> rounds corresponding to equation (3.5) for RSWE. For the 68<sup>th</sup> round, the gap in the estimation sample proportions of men from the FC and men from other groups who were RSWE were 17, 12, 11.9, and 11.8 points for, respectively, the ST, SC, OBC-NM, and Muslims. The gap in the synthetic probabilities of men from the FC and men from other groups who were RSWE were much smaller: 3.5, 2.4, 3.8, and 4.8 points for, respectively,



the ST, SC, OBC-NM, and Muslims. Since the gap in synthetic probabilities are interpreted as discrimination, the largest amount of discrimination in RSWE was faced by Muslims: 41% (=4.8/11.8) of the gap between Muslim and FC men in their sample proportion as RSWE was due to discrimination; on the other hand, the smallest amount of discrimination in RSWE was faced by SC men: 20% (=2.4 /12) of the gap between SC and FC men in their sample proportion as RSWE was due to discrimination.

<Table 3.4>

These results mirrored those from the 55<sup>th</sup> round. Then, too, the largest amount of discrimination in RSWE was faced by Muslims: 21% (=3.5/16.7) of the gap between Muslim and FC men in their sample proportion as RSWE was due to discrimination; on the other hand, the smallest amount of discrimination in RSWE was faced by SC men: 8% (=1.5/19.1) of the gap between SC and FC men in their sample proportion as RSWE was due to discrimination. From a comparison of the panels in Table 3.5 for the 68<sup>th</sup> and 55<sup>th</sup> rounds it is clear that discrimination against minority groups as RSWE has increased: for Muslims, it increased from 21% in the 55<sup>th</sup> round to 41% in the 68<sup>th</sup> round; for the OBC-NM it increased from 16% to 32%; for the SC it increased from 8% to 20%; and for the ST it increased from 1% to 21%.<sup>16</sup>

### 3.5 Discrimination and Job Reservation

As noted in the introductory section to this chapter, a certain proportion of public sector — but, *not* private sector- jobs are earmarked for persons from the ‘reserved categories’ as a form of *compensatory discrimination* intended to make amends for their social and economic backwardness.<sup>17</sup> Although compensatory discrimination takes many forms, listed in the introduction to this chapter, it is jobs reservation, along with reservation of places in higher educational institutions, that are the most contentious of the public concessions towards the ‘reserved categories’ and the ones which arouse the strongest of passions.<sup>18</sup> This is partly because in arriving at a judgement about who should

<sup>16</sup> Note that these figures relate to the proportions  $(\tilde{p}^{FC} - \tilde{p}^x)/(\hat{p}^{FC} - \hat{p}^x)$  expressed as a percentage.

<sup>17</sup> For the history and evolution of caste-based preferential policies in India see Osborne (2001).

<sup>18</sup> 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

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 sub-groups of the 'reserved categories' (for example, *chamars* from the SC) while poorer sub-groups (for example, *bhangis* who are also from the SC) have failed to benefit.

Public resentment also festers because, in addition to the points made above, there is the growing demand to extend reservation to persons from groups which are not currently in the 'reserved categories' but who, nevertheless, like to think of themselves as being economic and socially backward groups and, therefore, legitimate members of the OBC<sup>19</sup>. Furthermore, as the "reserved categorie" see shrinkages in the public sector, with a concomitant drying up of jobs, there is lobbying for reservation to be extended to include jobs in the private sector.<sup>20</sup>

This section assesses how positive discrimination embodied in the job reservation policy of the Indian government with respect to public sector jobs – and its obverse, the absence of job reservation in private sector jobs – has impacted on the policy's beneficiaries (persons from the 'reserved categories': ST and the SC and, to a lesser extent, from the OBC-NM) vis-à-vis those who do not benefit from jobs reservation (persons from the 'general category': Muslims and persons from the FC).

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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 benefit.

<sup>19</sup> 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.

<sup>20</sup> See Bhambri (2005); Thorat (2005).

In order to provide this assessment, an equation was estimated, *over the sample of men who were RSWE*, such that dependent variable of the equation,  $y$ , took the values:  $y_i=1$ , if person  $i$  was a RSWE in the public sector;  $y_i=2$ , if person  $i$  was a RSWE in a public/private limited company;  $y_i=3$ , if person  $i$  was a RSWE in ‘another’ enterprise type. Table 3.5 shows that the synthetic probabilities of FC and SC men, who were RSWE, of being employed in the public sector were, respectively, 27.5% and 37.6% with corresponding sample averages of 33% and 32%; similarly, the synthetic probabilities of FC and SC men, who were RSWE, of being employed in the private sector were, respectively, 22.9% and 15.8% with corresponding sample averages of 24.9% and 15%.

<Table 3.5>

So, in terms of a comparison between FC and SC men in RSWE, the value of  $Z$  (as defined in equation (3.5)) for the public sector was  $33\%-32\% = 1$ . Since, the difference in synthetic probabilities,  $A=27.5-37.6 = -10.1$  was negative, this indicates that there was positive discrimination in favour of men from the SC. The coefficient of discrimination is  $A/Z = -10.1$ . However, offsetting this positive discrimination in favour of SC men was the fact that their attributes were *inferior* to men in the general population ( $C=32-37.7 = -5.6$ ) while the attributes of FC men were *superior* to men in the general population ( $B=33-27.5 = 5.5$ ). The effect of job reservation in favour of the SC was, therefore, diluted by their lack of attributes. This combination of SC men’s “attribute inferiority” and FC men’s “attribute superiority” means that, *notwithstanding positive discrimination in favour of the SC in the public sector*, the observed proportion of SC men who were RSWE in the public sector was one percentage point lower than that the corresponding proportion for FC men.

There is, of course, no jobs reservation for the ‘reserved categories’ in the private sector. Now the value of  $Z$  (as defined in equation 3.5)), in the private sector was  $24.9\%-15\% = 9.9$  for FC vis-à-vis SC men. Since, the difference in synthetic probabilities,  $A=22.9-15.8 = 7.1$  is positive, this indicates that there is discrimination against SC men in the private sector but this discrimination is weaker than the 10.1 point discrimination in favour of SC men in the public sector. Aggravating the discrimination that SC men face in the private sector was the fact that their attributes were *inferior* to the general population of men ( $C=15-15.8 = -0.8$ ) while the attributes of FC men were *superior* to general male population ( $B=24.9-22.9 = 2$ ). This combination of SC men’s “attribute inferiority” and FC men’s

“attribute superiority” meant that discrimination against SC men in the private sector was amplified and the difference between FC and SC men in the observed proportion who were RSWE in the private sector was greater than what would have been predicted solely on the basis of discrimination.

### **3.6 Extending Jobs Reservation to the Private Sector?**

There has been a growing demand in India to include the private sector in the reservation of jobs. For example, Thorat *et. al.* (2016) in making the case for extending the reservation of jobs to the private sector, for the SC, make the point that this is needed because the “ownership of agricultural land and enterprises among the SC is meagre” (p.62). While this might be true, if meagreness in the ownership of assets was to be the argument for reserving jobs then *all* those who were so handicapped – regardless of caste identity – should benefit from job reservation. Reserving jobs exclusively for the SC, on the grounds that its members were asset-poor, would only be justified if it could be demonstrated that *all* persons from the SC, and *only* persons from the SC, did not own income-earning assets. The problem with “identity based” group-preference policies, such as that advocated by Thorat *et. al.* (2016), is that they are blind to the misfortunes of those that do not belong to the protected group(s) they are promoting.

The usual justification for group-preference is that of correcting “historical wrongs”: positive discrimination was needed to shoe-horn members of the “wronged” group into positions (*inter alia* in education and in employment) from which, hitherto, they had been *unfairly* excluded. The moral argument for ‘group-preference’, based on redressing past injustices, is often buttressed by the contention that this redress can be provided without economic cost: establishing quotas or lowering standards to accommodate persons from certain groups would not result in productivity declines.

The calculations in Table 3.5 showed that, in respect of RSWE, positive discrimination in the public sector *in favour* of men from the SC was much stronger than negative discrimination *against* their counterparts in the private sector. So, of men in RSWE, it is those from the SC who are the *net gainers*, and those from the FC who are the *net losers*, from jobs reservation policies. Furthermore, there is the question, alluded to above, of whether jobs reservation can be accomplished without accompanying damage to productivity. Thorat *et. al.* (2016) cite Desphande and Weiskopp’s (2010)

study which argued that there was no evidence that jobs reservation in the Indian Railways adversely affected its productivity.

Modern India, however, aspires to do more than simply run a railway system. It needs doctors, scientists, and engineers and here the evidence offers scope for disquiet about the effect of reservation policies on productivity. On information available for 2013, there were a total of 9,885 seats in the 17 Indian Institutes of Technology (IIT) of which 4,844 (49%) were in the general category and the rest were reserved: 2,599 for the (non-creamy layer) OBC (25.9%); 1,437 for the SC (14.5%); 721 for the ST (7.3%); 140 for those general category candidates with physical disabilities (0.7 %); 75 for OBC candidates with physical disabilities (0.8%); 44 for SC candidates with physical disabilities (0.4%); 25 for ST candidates with physical disabilities (0.2%).<sup>21</sup>

The instrument for filling reserved places was to apply different admissions criteria for ‘general category’ and ‘reserved category’ applicants. For example, in 2015, the IIT admitted as general category students those who had obtained 124 marks (24.5 percent of a possible 504 marks) in the Joint Entrance Examination (JEE) while simultaneously admitting, under the ‘reserved category’ (for SC, ST, and ‘people with disability’), students those who had obtained 62 marks (12.5 percent of a possible 504 marks) in the JEE. Furthermore, those reserved category students who had obtained 31 marks (6.1 percent of a possible 504 marks) were admitted to a one-preparatory course with a view to equipping them for admission to the IIT in the following year.<sup>22</sup> It is very possible that ‘reserved category’ students, admitted with weaker academic credentials, caught up with ‘general category’ admissions and emerged from the IITs with same level of competence as scientists and engineers. But, it is also possible that they did not.

There is concern that reservation policies might harm students/job seekers from ‘reserved categories’ by placing them in courses and in academic institutions, or in jobs and organisations, for which they were either ill-suited or ill-prepared (or both). This is the case of reservation-induced ‘mismatch’. The obverse of this mismatch, which is rarely articulated, is that reservation policies

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<sup>21</sup> *The Hindu*, 20 June 2013, <http://www.thehindu.com/news/cities/Hyderabad/9885-seats-available-in-17-iits-results-on-june-23/article4834329.ece?css=print> (accessed 11 April 2016).

<sup>22</sup> See “This year, IITs will admit students with even 6 percent in entrance examination”, *Times of India*, 14 July 2015, <http://timesofindia.indiatimes.com/home/education/entrance-exams/This-year-IITs-will-admit-students-with-even-6-in-entrance-exam/articleshow/48061694.cms> (accessed 11 April 2016).

might also harm students/job seekers from the ‘general category’ by *denying* them places in courses and in academic institutions, or in jobs and organisations, for which they were well-suited and well-prepared. In the US context, Sander (2004) has argued that admissions policies in law harmed black students by admitting them to elite departments where they were unable to cope.

It is arguable that such a situation also exists in India. For example, the Centre for Development Studies in Thiruvananthapuram analysed the academic performance of all the engineering colleges in Kerala during 2004-08 to show that only 17.7% of SC/ST, and 40% of OBC, students passed their final exams.<sup>23</sup> Similarly, 90% of the students that IIT Roorkee expelled in July 2016 for poor performance in July 2016 - a decision which was later rescinded to give these failures a second chance - belonged to backward castes (SCs, STs and OBCs).<sup>24</sup> So, while reservation offers persons from the ‘reserved categories’ easier entry into public academic institutions and public sector jobs it does not ensure that success – whether academic or professional – will follow after entry has been obtained.

### 3.7 Conclusions

India’s tragedy is that jobs reservation is seen by groups as a panacea for all their social and economic woes. The tragedy stems from the fact that reservation policies are based not on *economic backwardness* – which is a legitimate rationale for reservation – but on *social backwardness* where such backwardness is defined entirely by the caste into which a person is born. A person born into a ‘backward caste’ (that is, belonging to one of the ‘reserved categories’) will be eligible for reservation, while a person born into a ‘forward’ caste (that is, belonging to the ‘general category’) will be ineligible, regardless of their respective economic circumstances. Moreover, the mere fact of being born to a ‘backward caste’ would guarantee reservation benefits in perpetuity, both to oneself and to one’s heirs, regardless of economic circumstance.

The irony of this should not be lost. B.R. Ambedkar (1891-56), the leading intellectual of the Scheduled Castes, railed against the fact that the Hindu social order was hereditary - once a Brahmin

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<sup>23</sup> *First Post*, 6 August 2015. <http://www.firstpost.com/india/90-percent-of-iit-roorkee-dropouts-are-backward-caste-a-case-against-affirmative-action-2379964.html> (accessed 12 December 2016).

<sup>24</sup> <https://indianexpress.com/article/india/india-others/good-jee-rank-failing-first-year-iit-struggles-to-find-out-why/> (accessed 6 October 2018).

always a Brahmin; once an ‘untouchable’, always an ‘untouchable’ – with the permanence of the caste structure allocating, in perpetuity, benefits to Brahmins and imposing burdens on ‘untouchables’ (Ambedkar, 1987). Yet, the Indian Constitution, of which Ambedkar was the principal architect, by reversing the flow of costs and benefits, saw no contradiction in preserving the hereditary nature of the caste system in post-independence India: now, however, reservation conferred a permanent benefit to the SC, the ST, and, latterly, the non-Muslim OBC at the expense of a permanent cost on the others.<sup>25</sup>

Reservation on the basis of caste would make sense if there was complete overlap between caste and economic backwardness that is, if everyone (or most) who belonged to the ‘reserved categories’, and no one (or very few) who were in the ‘general category’, were poor. If, quite plausibly, higher education is viewed as an important instrument for being a RSWE, only 12% of those ST persons, and only 9.8% of those SC persons *who were in higher education* were ‘poor’ (in the sense of coming from households who were in the lowest quintile of household per capita consumption expenditure [HPCE] ); at the other end of the spectrum, 48% of ST and SC persons *who were in higher education* were ‘well off’ (in the sense of coming from households who were in the highest, or next highest, quintile of HPCE); yet reservation benefits were extended to *all* ST and SC persons in higher education, rich or poor.<sup>26</sup> Simultaneously, no reservation benefits were extended to the 7.7% of Muslims, or the 3% of persons from the FC, that were poor.

The overlap between caste and economic backwardness became even more tenuous when in 1990, following the Mandal Commission’s recommendations, reservation was extended to include the OBC. If the present demands by the prosperous *Jats* of Haryana, the *Patels* (*Patidars*) of Gujarat, and the *Marathas* of Maharashtra, to also be accorded the benefits of reservation, are conceded, ‘social’ and ‘economic’ backwardness will be almost entirely decoupled. Victimhood will become the currency of power with groups of people claiming special privileges by reference to, real or imagined, past collective suffering. As a corollary, reservation policy in India will, indeed may already have,

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<sup>25</sup> The Indian Supreme Court was told in 2007 by the Solicitor General of India that "there cannot be any time limit imposed for the policy of reservation in admission (to educational institutions) or in employment."

<http://www.hindustantimes.com/delhi/no-time-limit-on-reservations-apex-court-told/story-4LX7890NR3urrwau8xarSK.html> (accessed on 17 December 2016).

<sup>26</sup> See Borooah (2017).

cease to be an instrument for uplifting the downtrodden (as it was originally conceived) and take the form of the proverbial goose that laid golden eggs for the perpetual benefit of those groups with enough political muscle to stake a claim to these.

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**Table 3.1: Synthetic and Marginal Probabilities of Men (aged 21-60) being Regular Salaried/Wage Employees<sup>§</sup>**

	68 <sup>th</sup> round (2011/12)				55 <sup>th</sup> round (1999/00)			
	Synthetic Probability	Marginal Probability	Standard Error	t-value	Predicted Probability	Marginal Probability	Standard Error	t-value
<b>Social Group</b>								
Scheduled Tribe	0.157	-0.035**	0.012	-2.8	0.230	-0.003	0.009	-0.4
Scheduled Caste	0.168	-0.024**	0.009	-2.6	0.218	-0.015**	0.006	-2.6
OBC non-Muslim	0.154	-0.038**	0.009	-4.4	0.207	-0.026**	0.005	-5.1
Muslims	0.144	-0.048**	0.009	-5.1	0.198	-0.035**	0.007	-5.4
Forward Caste [R]	0.192				0.233			
<b>Education</b>								
Illiterate [R]	0.074	-0.557**	0.021	-27.0	0.091	-0.437**	0.011	-39.1
Below Primary	0.094	-0.537**	0.021	-25.9	0.138	-0.390**	0.011	-34.0
Up to Middle School	0.139	-0.492**	0.020	-24.4	0.204	-0.324**	0.011	-30.3
Secondary and Higher	0.249	-0.382**	0.020	-18.9	0.356	-0.172**	0.011	-16.2
Graduate and above	0.631				0.528			
<b>Quintile of Per capita consumption</b>								
Lowest: Q1 [R]	0.109				0.124			
Q2	0.135	0.026**	0.006	4.1	0.157	0.033**	0.005	6.1
Q3	0.175	0.066**	0.007	9.4	0.199	0.076**	0.006	13.4
Q4	0.211	0.101**	0.008	12.7	0.253	0.130**	0.006	21.1
Highest: Q5	0.241	0.132**	0.010	13.5	0.317	0.193**	0.008	24.2
<b>Age</b>								
21-30	0.191				0.200			
31-40	0.148	-0.043**	0.005	-7.9	0.211	0.011**	0.004	2.8
41-50	0.152	-0.039**	0.006	-6.8	0.226	0.025**	0.004	6.1
51-60	0.148	-0.043**	0.006	-7.1	0.238	0.038**	0.005	7.5
<b>Land Owned by Quintile</b>								
Lowest: Q1 [R]	0.230				0.294			
Q2	0.186	-0.044**	0.007	-6.2	0.212	-0.082**	0.007	-11.4
Q3	0.163	-0.067**	0.007	-9.4	0.176	-0.118**	0.006	-18.9
Q4	0.111	-0.119**	0.007	-18.1	0.133	-0.161**	0.005	-30.0
Highest: Q5	0.084	-0.146**	0.007	-22.5	0.107	-0.187**	0.005	-37.0

<sup>§</sup>68<sup>th</sup> and 55<sup>th</sup> rounds: From multinomial logit estimates on data for 76,742 and 116,102 men, respectively, between the ages of 21 and 60 years.

\*\* Significant at 5%; \* significant at 10%; [R] denotes reference category

Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012) and NSS 55<sup>th</sup> round (July 1999-June 2000)

**Table 3.2: Synthetic and Marginal Probabilities of Men (aged 21-60) being Casual Wage Employees<sup>§</sup>**

	68 <sup>th</sup> round (2011/12)				55 <sup>th</sup> round (1999/00)			
	Synthetic Probability	Marginal Probability	Standard Error	t-value	Predicted Probability	Marginal Probability	Standard Error	t-value
<b>Social Group</b>								
Scheduled Tribe	0.410	0.120**	0.016	7.6	0.396	0.113	0.010	11.6
Scheduled Caste	0.445	0.155**	0.012	13.0	0.443	0.160	0.007	22.1
OBC non-Muslim	0.347	0.057**	0.011	5.1	0.326	0.043	0.007	6.1
Muslims	0.294	0.004	0.013	0.3	0.279	-0.004	0.011	-0.4
Forward Caste [R]	0.290				0.283			
<b>Education</b>								
Illiterate [R]	0.475	0.449**	0.011	42.0	0.474	0.396**	0.009	41.9
Below Primary	0.425	0.400**	0.011	35.5	0.383	0.305**	0.010	30.3
Up to Middle School	0.345	0.320**	0.009	35.6	0.304	0.226**	0.008	26.9
Secondary and Higher Secondary	0.233	0.207**	0.009	22.2	0.187	0.109**	0.008	12.9
Graduate and above	0.026				0.078			
<b>Quintile of Per capita consumption</b>								
Lowest: Q1 [R]	0.444				0.462			
Q2	0.368	-0.076**	0.009	-8.8	0.386	-0.076**	0.006	-12.8
Q3	0.320	-0.124**	0.010	-12.3	0.322	-0.140**	0.007	-20.4
Q4	0.260	-0.184**	0.012	-16.0	0.252	-0.210**	0.007	-28.2
Highest: Q5	0.170	-0.274**	0.012	-23.2	0.178	-0.284**	0.009	-31.8
<b>Age</b>								
21-30	0.457				0.434			
31-40	0.356	-0.101**	0.008	-12.7	0.328	-0.107**	0.005	-21.4
41-50	0.309	-0.148**	0.008	-18.2	0.292	-0.142**	0.005	-28.1
51-60	0.274	-0.183**	0.009	-20.6	0.257	-0.177**	0.006	-30.1
<b>Land Owned by Quintile</b>								
Lowest: Q1 [R]	0.440				0.395			
Q2	0.466	0.026**	0.010	2.6	0.447	0.052**	0.008	6.2
Q3	0.444	0.004	0.011	0.4	0.479	0.085**	0.007	12.5
Q4	0.256	-0.184**	0.010	-17.7	0.284	-0.110**	0.006	-18.8
Highest: Q5	0.105	-0.335**	0.009	-35.9	0.113	-0.281**	0.006	-46.0

<sup>§</sup>68<sup>th</sup> and 55<sup>th</sup> rounds: From multinomial logit estimates on data for 76,742 and 116,102 men, respectively, between the ages of 21 and 60 years.

\*\* Significant at 5%; \* significant at 10%; [R] denotes reference category

Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012) and NSS 55<sup>th</sup> round (July 1999-June 2000)

**Table 3.3: Synthetic and Marginal Probabilities of Men (aged 21-60) being Own Account Workers<sup>§</sup>**

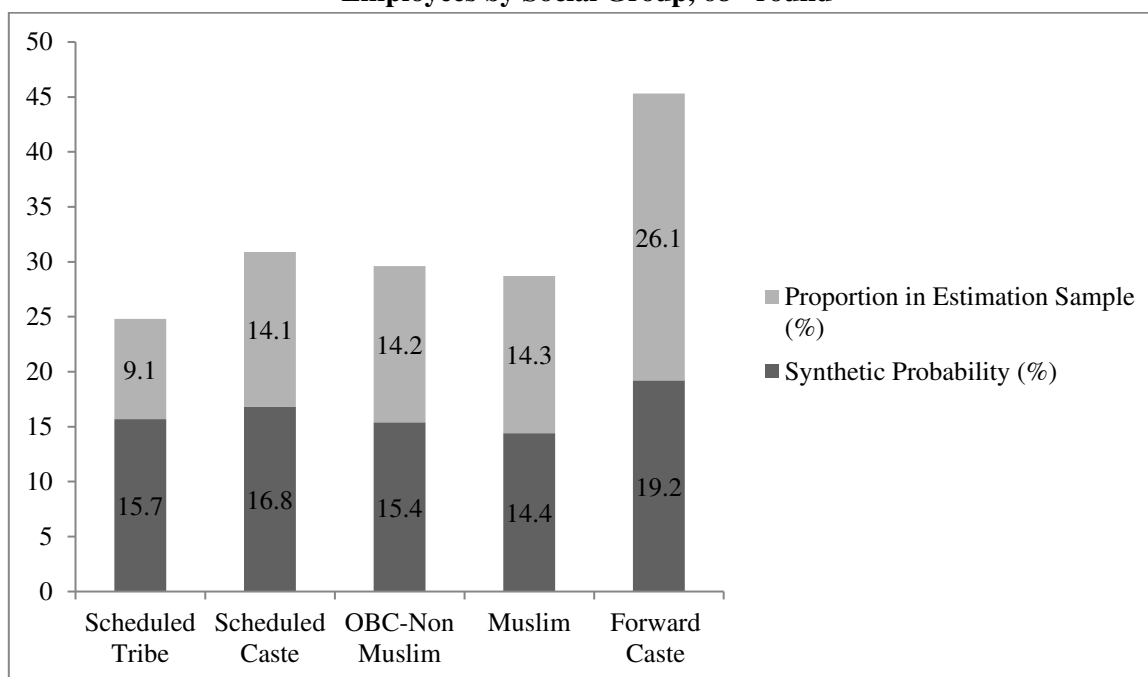
	68 <sup>th</sup> round (2011/12)				55 <sup>th</sup> round (1999/00)			
	Synthetic Probability	Marginal Probability	Standard Error	t-value	Predicted Probability	Marginal Probability	Standard Error	t-value
<b>Social Group</b>								
Scheduled Tribe	0.433	-0.085**	0.013	-6.4	0.374	0.120**	0.016	7.6
Scheduled Caste	0.387	-0.131**	0.011	-12.3	0.339	0.15**	0.012	13.0
OBC non-Muslim	0.499	-0.019**	0.010	-2.0	0.467	0.057**	0.011	5.1
Muslims	0.562	0.044**	0.012	3.7	0.523	0.040**	0.013	3.0
Forward Caste [R]	0.518				0.484			
<b>Education</b>								
Illiterate [R]	0.452	0.108**	0.021	5.2	0.435	0.041**	0.011	3.8
Below Primary	0.481	0.137**	0.022	6.4	0.479	0.085**	0.011	7.5
Up to Middle School	0.516	0.172**	0.020	8.5	0.492	0.099**	0.010	9.5
Secondary and Higher Secondary	0.518	0.174**	0.020	8.6	0.457	0.064**	0.011	6.0
Graduate and above	0.343				0.394			
<b>Quintile of Per capita consumption</b>								
Lowest: Q1 [R]	0.447				0.414			
Q2	0.497	0.051**	0.008	6.0	0.457	0.043**	0.006	6.9
Q3	0.505	0.058**	0.010	6.1	0.478	0.064**	0.007	9.2
Q4	0.529	0.082**	0.011	7.6	0.495	0.080**	0.008	10.6
Highest: Q5	0.589	0.142**	0.013	11.1	0.505	0.091**	0.008	10.8
<b>Age</b>								
21-30	0.352				0.366			
31-40	0.496	0.145**	0.008	18.3	0.462	0.096**	0.005	19.3
41-50	0.539	0.187**	0.008	23.2	0.482	0.117**	0.005	22.0
51-60	0.578	0.226**	0.009	24.6	0.505	0.139**	0.006	22.6
<b>Land Owned by Quintile</b>								
Lowest: Q1 [R]	0.330				0.311			
Q2	0.348	0.018**	0.009	2.0	0.341	0.030**	0.008	3.7
Q3	0.393	0.063**	0.010	6.1	0.345	0.034**	0.007	4.9
Q4	0.633	0.303**	0.010	29.6	0.583	0.271**	0.006	42.8
Highest: Q5	0.812	0.481**	0.010	50.3	0.779	0.468**	0.007	71.0

<sup>§</sup>68<sup>th</sup> and 55<sup>th</sup> rounds: From multinomial logit estimates on data for 76,742 and 116,102 men, respectively, between the ages of 21 and 60 years.

\*\* Significant at 5%; \* significant at 10%; [R] denotes reference category

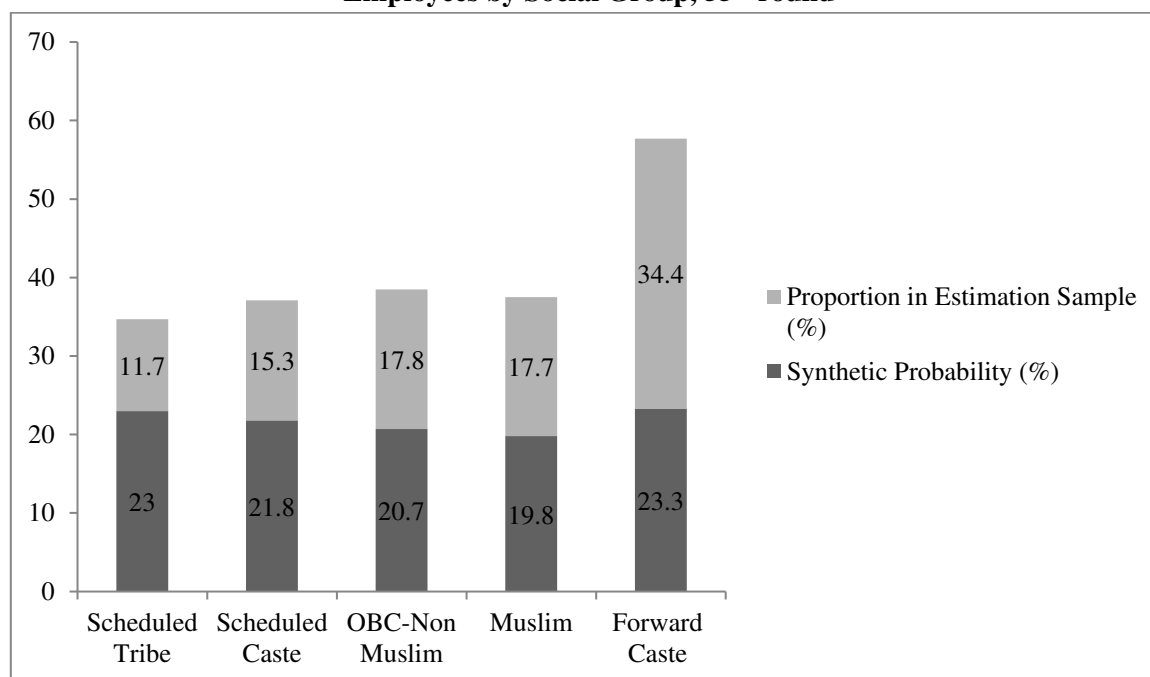
Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012) and NSS 55<sup>th</sup> round (July 1999-June 2000)

**Figure 3.1: Synthetic Probabilities and Observed Proportions for Regular Salaried and Wage Employees by Social Group, 68<sup>th</sup> round**



Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012)

**Figure 3.2: Synthetic Probabilities and Observed Proportions for Regular Salaried and Wage Employees by Social Group, 55<sup>th</sup> round**



Source: Own calculations from NSS 55<sup>th</sup> round (July 1999-June 2000)

**Table 3.4: Measuring Discrimination in Regular Salaried and Wage Employment for Men Aged 21-60, by Social Group**

	68 <sup>th</sup> round				55 <sup>th</sup> round			
	$\hat{p}^{FC} - \hat{p}^X$	$\tilde{p}^{FC} - \tilde{p}^X$	$\hat{p}^{FC} - \tilde{p}^{FC}$	$\hat{p}^X - \tilde{p}^X$	$\hat{p}^{FC} - \hat{p}^X$	$\tilde{p}^{FC} - \tilde{p}^X$	$\hat{p}^{FC} - \tilde{p}^{FC}$	$\hat{p}^X - \tilde{p}^X$
Scheduled Tribe	17	3.5	6.9	-6.6	22.7	0.3	11.1	-11.3
Scheduled Caste	12	2.4	6.9	-2.7	19.1	1.5	11.1	-6.5
OBC, non-Muslim	11.9	3.8	6.9	-1.2	16.6	2.6	11.1	-2.9
Muslims	11.8	4.8	6.9	-0.1	16.7	3.5	11.1	-2.1

Note: Discrimination is measured vis-à-vis men from the Forward Castes

Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012) and NSS 55<sup>th</sup> round (July 1999-June 2000)

**Table 3.6: Synthetic Probabilities of Male Regular Salaried/Wage Employees Being in Different Sectors of Employment, by Social Group (68<sup>th</sup> round)**

	Government/Public Sector	Public/Private Limited Companies	Other	Difference Between Public and Private Sectors	Standard Error of difference	z-value
Scheduled Tribe	46.2 [47.1]	13.0 [14.6]	40.8	33.2**	3.4	9.8
Scheduled Caste	37.6 [32.0]	15.8 [15.0]	46.6	21.8**	2.3	9.5
OBC, non-Muslim	30.4 [29.4]	17.6 [16.9]	52.0	12.8**	1.6	7.8
Muslims	23.5 [16.7]	11.3 [9.7]	65.2	12.2**	2.1	5.7
Forward Caste	27.5 [33.0]	22.9 [24.9]	49.6	4.6**	2.0	2.3

\*\* Difference in synthetic probabilities between public and private sectors is significant at 5% level. Estimated on data for 17,318 men aged 21-60 who were regular salaried wage employees. Figures in [ ] are proportions in estimation sample.  
*Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012)*



**Table 3.7: Measuring Discrimination in Regular Salaried and Wage Employment for Men Aged 21-60, by Social Group and Sector of Employment (68<sup>th</sup> round)**

	Government/Public Sector				Public/Private Limited Companies			
	$\hat{p}^{FC} - \hat{p}^X$	$\tilde{p}^{FC} - \tilde{p}^X$	$\hat{p}^{FC} - \tilde{p}^{FC}$	$\hat{p}^X - \tilde{p}^X$	$\hat{p}^{FC} - \hat{p}^X$	$\tilde{p}^{FC} - \tilde{p}^X$	$\hat{p}^{FC} - \tilde{p}^{FC}$	$\hat{p}^X - \tilde{p}^X$
Scheduled Tribe	-14.1	-18.7	5.5	0.9	10.3	9.9	2	1.6
Scheduled Caste	1.0	-10.1	5.5	-5.6	9.9	7.1	2	-0.8
OBC, non-Muslim	3.6	-2.9	5.5	-1	8	5.3	2	-0.7
Muslims	16.3	4	5.5	-6.8	15.2	11.6	2	-1.6

Note: Discrimination is measured vis-à-vis men from the Forward Castes. Figures are derived from Table 3.6

Source: Own calculations from NSS 68<sup>th</sup> round (July 2011-June 2012)