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HOW BACKWARD ARE THE OTHER BACKWARD CLASSES? CHANGING CONTOURS OF CASTE DISADVANTAGE IN INDIA

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How Backward are the Other Backward Classes? Changing Contours of Caste Disadvantage in India

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Abstract

While there is a growing literature on the political rise of the Other Backward Classes (OBCs) in India, where they are often seen as the new elite or the dominant castes, detailed empirical assessments of their socio-economic condition are practically non-existent. Using individual-level data from the National Sample Survey for 1999-2000 and 2009-2010, our paper is one of the first to undertake a comprehensive empirical exercise, both at the national as well as the regional levels. We compare five age-cohorts, born between the years 1926-85, for the OBCs, SC-STs and Others (everybody else) and examine the differences in key indicators such as educational attainment, occupation and activity status, wages and consumption expenditure through a difference-in-differences method. Our results show clear disparities in virtually all indicators of material well-being, with Others at the top, SC-STs at the bottom and OBCs in between. We find evidence of convergence between OBCs and Others in literacy and primary education, but continued divergence when higher educational categories are considered. In the realm of occupation, the younger cohorts among OBCs seem to be closing the gap vis-a-vis the Others in terms of access to prestigious white-collar jobs. Finally comparing wage gaps for males in the labour force and estimates of labour market discrimination, we find that while average wages of Others are higher than those for OBCs for all age cohorts, the unexplained (or the discriminatory) component is lower for younger OBC cohorts, compared to the older ones, and that OBCs face lower labour market discrimination compared to SC-STs, when the average wages of both groups are compared to those of Others.

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1 Introduction

The rise of the Other Backward Classes (OBCs) in the political arena since the mid-1980s has been heralded as India's "silent revolution" (Jafferlot, 2003). This political ascendancy has also been viewed as representing a large enough flux in the traditional hierarchies of the caste system, such that we now have "a plethora of assertive caste identities... [that] articulate alternative hierarchies" leading to a scenario where "there is hardly any unanimity on ranking between jatis" Gupta (2004). Indeed, there is no doubt, especially since the 73rd and 74th constitutional amendments in the early 1990s, that the so-called lower castes have become an important force in Indian politics at all levels, local, state and national. Has this change in the political arena been accompanied by a corresponding reshuffling of the traditional economic hierarchies, such as to prevent any meaningful ranking of castes?

The nature and degree of change in the economic ranking between castes, or broad caste groups, is a matter of empirical verification. While there is a large and growing body of work documenting the changes in the standard of living indicators of the Scheduled Castes and Tribes (SCs and STs), as well as the economic discrimination faced by these groups, (see Deshpande 2011, for a review of the recent research), the discussion about the material conditions or the economic dominance of the group of castes and communities classified as the Other Backward Classes (OBCs) in India is prompted more by beliefs, or localised case studies, rather than by an empirical analysis of the macro evidence. Part of the reason for this lacuna is the lack of hard data: until the 2001 census, OBCs were not counted as a separate category, while affirmative action (quotas in India) were targeted towards OBCs at the national level since 1991, and at the state level since much earlier. This would be the only instance of an affirmative action anywhere in the world where the targeted beneficiaries of a national programme are not counted as a separate category in the countrys census.

Researchers have, therefore, had to rely on data from large sample surveys such as the National Sample Survey (NSS), National Family and Health Survey (NFHS), to mention a few sources, in order to get estimates about the material conditions of the OBCs. The use of this data has generated research which undertakes a broader analysis of various caste groups, OBCs being one of the groups in the analysis, along with the SC-STs and Others, the residual group of the non-SC-ST-OBC population (for instance, Deshpande 2007; Iyer et al. 2013; Madheswaran and Attewell 2007; Zacharias and Vakulabharanam 2011, among others). Others include the Hindu upper castes and could be considered a loose approximation for the latter, but data constraints do not allow us to isolate the upper castes exclusively. Existing evidence suggests that OBCs lie somewhere in between the SC-STs and the Others, but first, very little is known about their relative distance from the two other categories and second, in order to make a meaningful intervention about the possible links between their political ascendancy and their economic conditions, it is important to trace how their

relative economic position has changed vis-a-vis the other two groups over time. Here again, the economic researcher is stymied by the lack of good longitudinal data.

The present paper is an attempt to fill this caveat in the empirical literature by focusing on an important facet of contemporary caste inequalities, viz., the changing economic conditions of OBCs, relative to the other two broad social/caste groups. We use data from two quinquennial rounds of the employment-unemployment surveys (EUS) of the NSS for 1999-2000 and 2009-10 (NSS-55 and NSS-66, respectively), to examine the multiple dimensions of material standard of living indicators, and the changes therein for the OBCs in India, in comparison to SC-STs (for the purpose of this paper, we have pooled the two groups, because despite considerable differences in their social situation, their economic outcomes are very similar), and the Others. We look at five age cohorts between 25 and 74 years of age in each NSS round, and examine changes in multiple indicators using a difference-in-differences (D-I-D) approach, comparing the three social groups to one another over consecutive cohorts to see how the gaps on the key indicators of interest have evolved over the 60 year period. This allows us to gauge the relative generational shifts between the major caste groups. Our analysis focuses particularly on the OBCs, and compares how the evolution of the different OBC cohorts (in relation to the Others) compares with the evolution of the corresponding SC-ST cohorts to the Others.

Through an analysis based on a comparison of different age cohorts, we are able to build a comprehensive trajectory of change for each of the caste groups since independence, since the oldest cohort in our analysis consists of individuals born between 1926 and 1935, and the youngest cohort consists of those born between 1976 and 1985. Thus, we are able to track outcomes for successive generations of individuals who reached adulthood in the 63 years between Indian independence (in 1947) and 2010.

We start by examining the household level aggregates, such as monthly per capita expenditure (MPCE), proportion of urban population and two landholding measures, and then move to individual indicators, specifically, education, occupation (which focuses on occupation categories as well as the principal activity status and changes in the Duncan dissimilarity index based on activity status) and finally wages and Blinder-Oaxaca estimates of labour market discrimination.

Our main results can be summarized as follows. In a three-fold division of the population between SC-ST, OBCs and Others, we see clear disparities in virtually all indicators of material well-being, with Others at the top, SC-STs at the bottom and OBCs in between. This confirms the results from several other studies. The average gaps between the Others and the other two social groups however remain large. MPCE, an indicator of standard of living in developing countries, shows that the average MPCE of the OBCs and SC-ST is 51 and 65 percent of the Others, respectively. Similarly the gap between Others and OBCs for the composite indicator of years of education remains as large as 2.21, whereas the gap between SC-ST and OBCs is 1.47 years of education. The average wages of the OBCs and SC-ST are seen to be only 42 and 55 percent of

the average wage of Others and the share of labour force employed in white collar prestigious jobs is just one-fourth and half the proportion of the Others employed in white collar jobs.

Breaking down the indicator of years of education, we find evidence of convergence between OBCs and Others in literacy and primary education, but continued divergence when higher educational categories are considered. In the realm of occupation, the younger cohorts among OBCs seem to be closing the gap vis-a-vis the Others in terms of access to prestigious white-collar jobs. Based on principal activity status, our calculations of the Duncan Index reveal that OBCs are closer to the Others (less dissimilar to them) as compared to the SC-STs (who are more dissimilar compared to the Others). For the category of regular wage/salaried (RWS) jobs we find divergence between the Others and OBCs and SC-ST except for the very youngest cohort. Looking at average wage gaps for males in the labour force and estimates of labour market discrimination, we find that while average wages of Others are higher than those for OBCs for all age cohorts, the unexplained (or the discriminatory) component is lower for younger OBC cohorts, compared to the older ones, and that OBCs face lower labour market discrimination compared to SC-STs, when the average wages of both groups are compared to those of Others.

2 The broad picture: household-level indicators

Table 1 presents estimates of some indicators of standard of living for three major caste groups: SC-STs considered together, OBCs and Others, for NSS-55 and NSS-66 respectively. The indicators of interest are MPCE, proportion of the group that is urban (percent urban) and two land holding measures: land owned and land possessed.

D-I-D for household-level variables is calculated as:

$$D-I-D_{jk} = [(Indicator_{ijs} - Indicator_{iks}) - (Indicator_{ij(s-1))} - Indicator_{ik(s-1)})] \quad (1)$$

where j and k are the two caste groups being compared, for the i^{th} indicator (say MPCE) between survey rounds s and $s-1$.

MPCE is shown in nominal terms: Others have the highest MPCE, followed by OBCs, and then the SC-STs. While the MPCE for each of the groups has expectedly increased in nominal terms, the D-I-D allows us to see the relative gains of groups. Between 1999-00 and 2009-10, we see that the MPCE gap between OBCs and SC-STs has increased by Rs. 173 in favour of OBCs. However, for the OBCs, MPCE has fallen behind that of the Others by Rs. 428 over the decade. Others MPCE has increased by Rs. 600 relative to SC-STs over the decade. Thus, SC-STs not only continue to have the lowest MPCE, but the

other two groups have gained relative to them in terms of MPCE. OBCs have gained relative to SC-STs, but the magnitude of their falling behind Others is over 2.5 times their gain over SC-STs. Thus, on MPCE, there is no evidence of convergence between Others, either with OBCs or with the SC-STs.

[Insert Table 1]

Urbanisation (percent of the groups population which is urban) is an indicator of structural change or of potential integration into the modern, formal sector economy. We see a rise in urban proportions for both OBCs and Others (at 28 and 43 percent respectively in 2009-10, but virtually no change for the SC-ST population at around 17 percent). Again, looking at relative changes across groups using D-I-D, we find the same pattern as that for MPCE, but the relative gain of Others over OBCs is only about 2 percentage points. The percentage of population classified as urban for OBCs and Others increased between 3.3 and 3.55 percentage points relative to SC-STs.

The two land holding variables (land possessed and land owned) show sharp disparities in across caste groups in both rounds, with average values for SC-STs slightly over half of the values for Others. However, in terms of the relative change in these two variables, we see that OBCs marginally fell behind SC-STs by 0.01 hectares for land possessed, but gained over Others by close to 0.05 hectares. [1] SC-STs appear to have gained over Others in both land owned and land possessed by 0.017 and 0.059 hectares respectively. These changes are negligible in magnitude to have any real consequences for standard of living, and are clearly not matched by trends in MPCE.

Overall, at the household level, we see a clear hierarchy in MPCE, such that Others are at the top, followed by OBCs and then SC-STs. Over the decade, the gap between OBC and SC-STs has increased in favour of the former, and Others MPCE has increased relative to both SC-STs and OBCs, but the magnitude of gain has been larger vis-a-vis the SC-STs than OBCs.

3 Individual-level characteristics : Education

3.1 The construction of cohorts

We construct five age cohorts using the age variable in each of the NSS rounds as follows:

[Insert Table 2]

From their age, we can determine their birth year (relative to year 2000 and 2010, i.e. the end years of the survey respectively) and thus, over the two rounds we are able to get information for six cohorts, with the oldest being born between 1926-1935 and the youngest cohort of individuals born between 1976-1985. As

can be seen from the table above, matching years of birth implies that Cohort 2 in NSS-55 is Cohort 1 of NSS-66, Cohort 3 in NSS-55 is Cohort 2 in NSS-66 and so on.

3.2 Years of education

The first indicator of interest that we consider is education. Figure 1 plots the evolution of *years of education* for the six cohorts over the two rounds.[2]

[Insert Figure 1]

We see that all three groups have increased their average years of education over the first five cohorts for both the rounds of the NSS. The oldest cohort aged 65-74 in 2000 (NSS-55) has 0.70 years of education for the SC-STs, 1.14 years for OBCs and 3 years of education for Others. We see that these increase steadily and stand at 4.52, 6.09 and 8.30 respectively for Cohort 6, aged 25-34 in the year 2010 (Cohort 5 of NSS-66). The average years of education for the OBCs over the 50-year period increases by 4.95 years, whereas it increases by 3.92 years for the SC/ST and 5.3 years for the Others over the same period.

We calculate the D-I-D over consecutive cohorts defined as follows:

$$D-I-D_{jk} = [(Indicator_{ijn} - Indicator_{ikn}) - (Indicator_{ij(n-1))} - Indicator_{ik(n-1)})] \tag{2}$$

where j and k are the two caste groups being compared, for the i^{th} indicator, first for the n^{th} cohort and then for the $n-1^{th}$ cohort (results on the D-I-D and its significance for key indicators of education are presented in the Table 14 in the appendix).

The evolution of D-I-D for years of education for the 6 cohorts is shown in Figure 2. This shows us that the OBCs lose around 0.36 years of education compared to Others when we compare Cohort 2 with Cohort 1, i.e. gap between the OBCs and the Others increases from 1.85 years of education to 2.21 years of education. For the first cohorts who entered schooling after independence, we see again divergence in the country. A comparison of Cohorts 3 and 2 for the OBCs and the Others shows that the gap between the 2 groups increased by 0.50 years of education. A comparison of Cohorts 4 and 3 for the OBCs and the Others shows that the gap increased again by 0.08 years, where the D-I-D is insignificantly different from zero. After this we see that the OBCs gain about 0.16 years and 0.42 years of education when we compare Cohorts 5 and 4 and Cohorts 6 and 5, respectively. The gap between the Cohort 6 of the Others and OBCs is around 2.21 years of education, increasing from the gap of 1.85 years observed for Cohort 1. The fact that the difference between the two groups, for years of education, has increased when looking at the individuals born between 1926-35 in relation to 1976-85 seems to suggest that overall, in the big picture, convergence

seems to be absent.

[Insert Figure 2]

An alternative way of comparing the evolution of the gaps could be to compare the oldest cohort who went to school after independence with the youngest cohort. This would imply comparing the cohort born in 1946-55 (Cohort 3) to the ones born in 1976-85 (Cohort 6). This comparison presents a more optimistic picture as the gap between the OBCs and Others for the cohort born in 1946-55 was 2.71 years of education, which reduces to 2.21 years for the cohort born in 1976-85.

Similarly, when we compare SC-STs with the Others, the picture is not very optimistic. Again we see that the gap in average years of education for the cohort born in 1926-35 (Cohort 1) is around 2.29 years. This gap, in fact, increases to 3.68 years of education, when looking at the last cohort born in 1976-85. This seems to suggest a picture of divergence rather than convergence in the country. Alternatively, comparing the oldest cohort who went to school after independence with the youngest cohort (Cohort 3 and Cohort 6) for SC-STs with the Others suggests a gain for the SC-STs of 0.08 years of education, which is insignificantly different from zero.

3.3 Other indicators of educational attainment

In order to better understand the picture of evolution of the three social groups on educational attainment, we now look at four separate categories of education, namely, the proportion of each cohort literate or more, has finished primary schooling or more, has finished secondary schooling or more and finally is a graduate or has higher education.[3]

For the category literate or more, the proportion of the cohort born in 1926-35 which was literate was 15 percent, 25 percent and 46 percent for SC-STs, OBCs and Others, respectively. This increased to 63, 73 and 86 percent respectively for the cohort born in 1976-85. Looking at the evolution of the OBCs in relation to Others shows a picture of steady convergence in the country. The gap between the two groups was such that that 21 percent more of the Others were literate as compared to the OBCs for Cohort 1, and this decreases to 13 percent for Cohort 6. Comparing SC-STs to the Others also shows a pattern of convergence where the gap reduces from 31 percent more of Others being literate for Cohort 1 to 23 percent for Cohort 6.[4]

The picture for the category "primary education and more" is very similar to the picture for literacy and more. For the cohort born in 1926-35, the proportion that has primary education or more, stands at 7, 13 and 31 percent for the SC-STs, OBCs and Others, respectively. This increases to 51, 64 and 78 percent respectively for the Cohort 6 born in 1976-85 and aged 25-34. The gap between Cohorts 2 and 6 for the

OBCs and the Others reduces from 20 percentage points to 14 percentage points. Similarly, comparing SC-STs with Others, the gap reduces from 32 percent to 26 percent. The convergence is especially strong for the last 3 cohorts of the OBCs, who gain 8 percentage points relative to the Others.[5]

The next category of education we examine is all those with "secondary education or more". For the cohort born in 1926-35, 2 percent of SC-STs, 3 percent of OBCs and 13 percent of Others have secondary education or more. This increases to 19, 30 and 48 percent respectively for Cohort 6 born in 1976-85. The evolution of the OBCs and SC- STs in relation to the Others suggests that contrary to the earlier categories, the picture for this category of education has been one of divergence rather than convergence. Again, comparing the gap between the two groups for Cohorts 1 and 6 suggests a picture of divergence. 10 percent more of Cohort 1 had secondary education or more for the Others as compared to the OBCs. This gap, in fact, increases to 18 percent for Cohort 6 born in 1976-85. Similarly, for SC-STs the gap increases from 11 percent more of Others having secondary education or more for Cohort 1 to about 29 percent for Cohort 6.[6]

For the last category of education, those with a graduate degree or more, for the cohort born in 1926-35, 0.5 percent of SC-STs, 0.4 percent of OBCs and 4 percent of Others had a graduate degree or more. This increases to 4.7, 9 and 20 percent respectively, for the cohort born in 1976-85 (see Figure 3).

[Insert Figure 3]

Comparing the gap between the OBCs and Others for Cohort 2 (which is Cohort 1 in NSS-66) shows that 6 percent more of Others had a graduate degree and this gap, in fact, increases to 10.5 percent for Cohort 6 born in 1976-85, suggesting divergence in this category of education. The SC- ST with Others comparison again shows a picture of divergence. The gap between SC-ST and Others for the cohort born in 1935-46 (Cohort 2) was 7 percent, which increases to 15 percent for the cohort 6 born in 1976-85 (See Figure 4).[7]

[Insert Figure 4]

3.4 The overall picture in education indicators

The overall picture suggests that there seems to be convergence between the Others and the two socially disadvantaged groups, SC-STs and OBCs when lower categories of educational attainment, namely, literacy and primary schooling are considered. However, this picture is overturned when higher categories of education, viz., secondary schooling or higher, and graduate degree or higher are considered. The composite index of years of education suggests a picture of no change in the gap when the OBCs and Others are compared for the cohort born in 1936-45 and for the cohort born in 1976-85, and a divergence by 0.36 years when the cohort born in 1926-35 is compared to the one born in 1976-85. This result for the OBCs and Others

is overturned when we compare the oldest cohort (born in 1946-55) that went to school after independence with the youngest cohort that would have finished schooling by 2010 (born in 1976-85). Such a comparison suggests that the OBCs have gained on an average 0.50 years of education, as compared to the Others, over the 40 year period, even though the current gap between the two groups remains as large as 2.21 years of education. On the other hand, comparing SC-STs and Others for the cohorts born in 1936-45 and 1976-85 suggests that SC-STs fell back by 0.50 years of education more over the 50-year period, and the current gap between the two groups remains as large as 3.70 years of education.

The fact that on the higher categories of education, which would be critical to achieve social mobility, traditional hierarchies have not only persisted but widened over the 50 year period is noteworthy. This indicates that policies targeted towards closing the gaps at the higher education levels are not entirely misplaced, as the lower educational levels are witnessing a convergence between broad caste groups, but higher levels are not, and hence targeted policies would be needed to close those gaps.

3.5 The education transition matrix

The above analysis has analysed shifts across birth cohorts. We can go further to examine generational shifts. In order to do that, we go on to construct a matrix which depicts the transitional probabilities of the son's education belonging to a particular education category given the fathers level of education.

We construct six categories of education as follows: 0 representing illiterate; 1 representing literacy but less than primary schooling; 2 representing more than primary schooling but less than secondary; 3 representing more than secondary but lower than higher secondary; 4 representing more than higher secondary but lower than graduate; and 5 representing graduate education and higher. We then match the male head of households category of education to his son's category of education for the NSS-55 and NSS-66.

The transition matrix provides us easy visual representation of the underlying intergenerational mobility in education for the three social groups. This helps us understand whether the pattern of increasing educational attainment which we observed above is driven by sons of household heads with high education obtaining even higher education (i.e. intergenerational persistence), or is it due to the upward movement of sons whose fathers had low education moving up the ladder (intergenerational mobility).

The transition matrix shown in the table below computes the probability p_{ij} the probability of a father with education category i having a son in educational category j. A high p_{ij} where $i = j$ represents low intergenerational education mobility, while a high p_{ij} where $i < j$, would indicate high intergenerational education mobility. The last column of the table labelled "size" shows the proportion of fathers in that particular educational category.

So, for instance, from Table 3 we see that in NSS-55, the proportion of SC-ST fathers that were illiterate was 59.66 percent. Given that the father was an illiterate, the probability of a son from a SC-ST family being illiterate was 40.89 percent, being literate was 11.8 percent, having primary but less than secondary was 31.68 percent, having secondary but less than higher secondary education was 8.9 percent, having more than higher secondary but less than graduate was 4.6 percent, and finally holding a graduate degree or higher was 2.1 percent. Similarly the proportion of OBC fathers who were illiterate was 46.44 percent in 1999-2000. The probabilities of the son being in education categories 0 to 5 were 35.75, 11.58, 34, 11.03, 5.52 and 2.1percent respectively. Finally, 26.5 percent fathers in the Others category were illiterate, and probabilities of the son being in categories 0 to 5 were 26.68, 12.14, 38.21, 14.14, 5.6 and 3.2 percent respectively.

[Insert Table 3]

Comparing the transitional probabilities of NSS-55 in Table 3 with those of NSS-66 in Table 4, we first observe that for all three social groups there is an increase in the average proportion of fathers in higher educational categories. For instance, the proportion of fathers with more than primary schooling but less than secondary schooling increases from 17.45 to 22.85 percent, 23.98 to 29.87 percent and 27.87 to 29.80 percent for the SC-STs, OBCs and Others respectively. We also observe that for sons whose fathers had education category 3, 4 or 5, the probability of the son achieving an educational category equal to or higher than their father increases for all three groups, i.e. intergenerational persistence is high for families with higher levels of education. For instance, for the probability of the father belonging to the education category 3 (more than secondary but lower than higher secondary) and his son belonging to the category 3, 4 or 5 increases from 73.8 to 75.9 percent, 72.8 to 85 percent and 82.1 to 87.8 percent for the SC-STs, OBCs and Others respectively.

[Insert Table 4]

Having said this, it should be noted that conditional on fathers education, sons from the social group Others are more likely to achieve an education category equal to or higher than their father as compared to SC-STs and OBCs. So, for instance, in 2009-10, for fathers with education category 5 (graduate education and higher), the probability that the son also achieves educational category 5 is 37.8, 33.56 and 54.01 percent for the SC-ST, OBCs and Others, respectively. The reading of the matrix suggest that the ability of highly educated parents to ensure an equivalent or higher education level for their children is best reaped by the Others. The fact that SC-ST sons have a higher probability to be graduates and above, compared to the OBCs, contingent upon their fathers being graduates suggests that reservations for SC-STs in higher education might be playing a role. The fact that the reservation for SC-ST have been in operation much

longer, than for OBCs, could be resulting in producing a greater share of graduates among SC-STs in families where the fathers are also highly educated. It is likely that the SC-ST sons are second-generation beneficiaries of reservations. Also, the calculated transitional probabilities suggest that the conversion of parents endowment of education into human capital of children is highest for people from the socially privileged, i.e. non-backward groups.

3.6 Ordered probit regressions for education categories

We ran an ordered probit regression to calculate the marginal effects of being in five educational categories defined as follows: Education category 1: not literate; category 2: literate, below primary; category 3: primary; category 4: middle; category 5: secondary and above. Table 5 shows the probabilities of being in each of these categories for OBCs and SC-STs relative to Others. We see that all cohorts of OBCs and SC-STs are significantly more likely to be illiterate (category 1) than Others. The marginal effects rise from Cohort 1 to 3 and decline thereafter, such that between Cohort 1 and 5, the likelihood of OBCs being illiterate as compared to the Others reduces from 20.6 percent to 7.2 percent. We see a similar trend for SC-STs as well, but first, their likelihood of being illiterate relative to Others is higher than that for OBCs and second, the decline in this probability over successive cohorts is lower than that for OBCs.

[Insert Table 5]

For higher educational categories, the trend in probabilities changes. For category 2, i.e. literate, below primary, we see that the three youngest cohorts of OBCs show positive marginal effects compared to the Others, indicating convergence. For the next higher category, we see that only the two youngest cohorts of OBCs show positive marginal effects. For the last two educational categories (middle and secondary and above), all cohorts of OBCs are less likely to be in these categories than the Others, confirming the D-I-D result that after the middle school level, we see divergence, rather than convergence in educational attainment.

3.7 Inequality in Years of Education

Given the differences in the educational achievement of the groups (the Others have nearly 80 percent and 37 percent more years of education than the SC-STs and OBCs respectively), we calculate some generalized entropy measures of inequality in educational achievement, or more precisely in years of education. The generalized entropy measures fulfil the six criteria of a good inequality measure.[8]

The measure is given by:[9]

$$GE(\alpha) = \frac{1}{\alpha(\alpha-1)}[\frac{1}{n}\sum_{i=1}^{n}(\frac{y_i}{\bar{y}})^{\alpha} - 1] \tag{3}$$

where y_i is the educational attainment of individual i and $\bar{y}$ the mean years of schooling in the population. The parameter α in the GE class represents the weight given to distances between incomes at different parts of the income distribution, and can take any real value. For lower values of α, GE is more sensitive to changes in the lower tail of the distribution, and for higher values GE is more sensitive to changes that affect the upper tail. The values of GE measures vary between 0 and ∞, with zero representing an equal distribution and higher value representing a higher level of inequality.

The commonest values of α used are 0,1, and 2, where GE(1) is the commonly used Theil's T Index and GE(0) is the Theil's L Index or the mean log deviation measure. The results are shown in Table 6.

[Insert Table 6]

We see that for all values of α in NSS-55, Others have the lowest level of inequality, followed by the OBCs, and finally the SC-STs who have the highest level of inequality. Decomposing the inequality in educational attainment into the between and within group components shows that the within group inequality accounts for the substantial portion of inequality observed in the educational attainment of the three social groups. For instance for the Theil T and L, the between component accounts for as little as 0.4 percent to 8.5 percent of total inequality.

For NSS-66, we see that the inequality for all groups has decreased. The pattern however remains the same, in that for all values of α, Others have the lowest level of inequality, followed by the OBCs and finally the SC-STs have the highest level of inequality. Decomposing the total inequality into its between and within components again shows that between-group inequality accounts for 0.2 percent and 4.1 percent of inequality when we consider he Theil T and L index, respectively, thus both between- group and within-group components have decreased over the decade.

4 Occupation

How does the evolution of differences in educational attainment translate into occupational differences between groups? To start this investigation, we first estimate the number of individuals in the labour force.[10] We then aggregate these individuals into three categories: those with agricultural jobs, blue- collar jobs and white-collar jobs.[11]

In 1999-2000, based on NSS-55, for the first cohort born in 1926-35, the proportion of those in agricultural jobs was 78.85 for SC-ST, 74.55 for OBC and 71.85 for Others. Over successive cohorts, we see that for all

groups, proportion of individuals in agricultural jobs declines, to stand at 51.28, 46 and 35.46 respectively for Cohort 4 in NSS-66 (those who are 35-44 years old in 2010).[12] For blue-collar jobs, proportions for Cohort 1 in NSS-55 for the three groups are 17.78, 21.68 and 18.97 respectively, which have doubled for Cohort 4 in NSS-66 to stand at 40.4; 41.1 and 39.57 respectively. This illustrates the shift away from agriculture towards secondary and tertiary sectors respectively. We also note that gaps between groups in agricultural occupations are sharper than those for blue-collar jobs. The decline in proportions in agricultural jobs is matched by an increase in proportions with blue-collar and white-collar jobs, reflecting the structural shift in the economy, where the proportion of the population dependent on agriculture is declining over the last several decades.

The other notable feature of the occupational division is of sharp inter-caste disparities in access to these broad occupations. In NSS-55, SC-STs record the highest proportion in agricultural jobs consistently for all cohorts, followed by OBCs and Others; whereas for white-collar jobs, Others record the highest proportions for all cohorts, followed by OBCs and then SC-STs. For blue-collar jobs, the picture is mixed, in that OBCs record the highest proportions, followed by Others and then SC-STs. A decade later, our calculations with NSS-66 reveal a similar pattern in caste disparities, with proportions of different caste groups in blue-collar jobs closer to each other, and with OBCs having a slight edge over the other caste groups. [13]

4.1 Evolution of White-Collar Jobs

For the most prestigious white-collar jobs, caste disparities remain substantial: from 3.37 (SC-ST); 3.76 (OBC) and 9.18 (Others) percent respectively for Cohort 1 in NSS-55, the shares of the three groups stand at 8.32; 12.93 and 24.97 respectively for Cohort 4 in NSS-66 (see Figure 5). However, we need to examine D-I-D between cohorts across groups in order to understand the relative change between successive generations across the three caste groups.

[Insert Figure 5]

For Cohort 1 (NSS-55), share of OBCs in white-collar jobs is 5.4 percentage points less than the Others and that of SC-STs is 5.81 percentage points less than the Others. Looking at Cohort 5 (i.e. Cohort 4 in NSS-66), we find that the gap between OBCs and Others has increased to 12.04 percentage points and that between SC-STs and Others has increased to 16.65 percentage points. Thus, the share of OBCs and SC-STs in white- collar jobs has lagged behind that of the Others, but by a greater percentage for the latter.

[Insert Figure 6]

Looking at the evolution of D-I-D in share of the population in white-collar jobs (Figure 6), we see that OBCs in absolute terms are clearly ahead of the SC-STs, although still substantially lower than Others (the evolution and statistical significance of the calculated D-I-D are shown in Table 15 in the appendix). D-I-D between Cohort 2 and 1 reveals that shares of OBCs and SC-STs in white collar jobs further falls behind 2 and 5 percentage points less compared to the Others. For the SC-ST only Cohort 5 seems to close the gap with the Others though the gap for the cohort aged 35-44 remains as large as 17 percentage points. SC-STs continue to lag behind Others in terms of their access to white collar jobs. This is reflected in the overall D-I-D between SC-STs and Others, whether measured as the gap between Cohort 5 and 1 (-11 percentage points) or between Cohorts 5 and 2 (-6 percentage points). The OBCs, on the other hand, are behind the Others by 5 percent points comparing the gap between Cohort 1, but after Cohort 4 through successive cohorts, continue to gain vis-a-vis the Others. Thus, while the larger picture (comparing the gap with Others for cohort 1 (from NSS-55) with a similar gap for cohort 5 (cohort 4 from NSS 66th), suggests divergence, as the gap has increased, focusing on a slice of younger cohorts alters the picture. Their overall D-I-D relative to Others, if measured as the gap between Cohort 5 and Cohort 2 in NSS-66, suggests that OBCs have converged with the Others proportion by 3.2 percentage points. Given that NSS-66 is the latest survey, the D-I-D evidence from this survey is a clearer indication of the contemporary trends, which suggests that OBCs are catching up with the Others in access to white collar jobs, whereas SC-STs continue to lag behind. Given the presence of quotas in public sector and government jobs, the continued lagging behind of SC-STs possibly indicates continued gaps in the private sector.

4.2 Public sector jobs

We can examine this more directly by looking only at access to public sector jobs, one of the sites for affirmative action, which in India takes the form of caste-based quotas (22.5 percent for SC-ST). Additional 27 percent quotas for OBCs were introduced at the national level (i.e. for central government jobs) in 1990; various state governments introduced state-specific OBC quotas at different points in time after 1950. Public sector jobs, even those at the lowest occupational tier, are considered desirable because most offer security of tenure and several monetary benefits, such as inflation indexation, cost-of-living adjusted pay, provident fund, pensions and so forth. The private sector wage dispersion is larger, so there is a possibility of far greater pay at the higher end, but the private sector is an omnibus category covering very heterogeneous establishments, with large variability in the conditions of work and payment structures.

[Insert Table 7]

Looking at Table 7 based on NSS-66, we see that SC-ST percentages with access to public sector jobs are consistently higher than those for OBCs, which is at variance with the access to white collar jobs, discussed above. We believe that the difference in the relative picture between SC-STs and OBCs reflects the longer operation of SC-ST quotas. Others have the highest percentage of public sector jobs across cohorts. The D-I-D reveals that OBCs are catching up, both with SC-STs and Others (the evolution and statistical significance of the calculated D-I-D are shown in Table 15 in the appendix). This is most strikingly true for cohort 3 of NSS-66, born between 1956-1965, individuals who would have been between 35 and 25 years old in 1990 and hence eligible to take advantage of the new quotas. This catch-up continues onwards to cohort 4. We see a similar convergence between SC-ST and Others, which is in contrast to the picture of divergence between SC-ST and Others in access to white-collar jobs.

Within the public sector, white and blue-collar jobs present different scenarios. The result of quotas can be clearly seen here. Take a representative example. 6.51 percent SC-ST, 13 percent OBCs and 26.29 percent of Cohort 3 of NSS-66 (Cohort 4 of the six cohorts) are in white-collar jobs. But of these, 36 percent of (the 6.51) SC-ST, 21.2 percent OBCs and 24.08 percent Others are in the public sector. This reveals that there are gaps between caste groups even within the public sector but a much higher proportion of SC-STs owes their access to white-collar jobs to the public sector. If there had been no quotas, the SC-ST access to white collar jobs would not have been as large as 6.51, which is already less than one-fourth the proportion of the Others. The D-I-D for white collar public sector jobs reveals that OBCs are gaining vis--vis both SC-STs and Others, whereas SC-STs are losing vis--vis the Others.

Thus, our suspicion that the lagging behind of the SC-STs in white collar jobs is a result of gaps in the private sector is further confirmed by this picture. Of course, our data do not allow us to identify quota beneficiaries explicitly; hence attributing the catch up to quotas is conjectural. The OBCs access to white-collar jobs (both public and private), as well as public sector jobs (both blue and white-collar) shows convergence with Others. A part of this convergence would be due to the operation of quotas but not all of it, since there is convergence between OBCs and Others in both public and private sectors.

4.3 Estimating Probabilities of Job Types

We ran multinomial probit regressions separately for each cohort to estimate the probability of being in one of the three job types (agricultural, blue-collar and white- collar) for the three caste groups. Table 8 presents the probabilities (marginal effects) with and without controls for region, sector, and years of education for each cohort for both rounds of NSS.

[Insert Table 8]

From the estimates for NSS-66, we see that SC-STs in Cohort 1 are 1.9 times less likely (without controls) and 12.8 times less likely (with controls) be in agricultural jobs compared to Others. However, SC-STs in Cohorts 2-5 are more likely to be in agricultural jobs compared to Others in corresponding cohorts. Similarly, OBCs are more likely to be in agricultural jobs compared to Others in all cohorts (in regressions without controls), but controlling for others explanatory factors, are less likely to be in agricultural jobs.

OBCs, as well as SC-STs, are less likely to be in white-collar jobs compared to Others in all cohorts, with and without controlling for other explanatory factors. However, Table 9 shows us that the marginal effects have by and large declined from the oldest to the youngest cohort, suggesting that the disadvantage of younger cohorts of OBCs relative to Others appears to have decreased.

[Insert Table 9]

Comparing the marginal effects from a similar regression for NSS-55, we see that while OBCs were less likely than Others to be in white-collar jobs also in 1999-2000, the marginal effects for the NSS-66 cohorts of OBCs are lower, again suggesting that the relative OBC disadvantage might have reduced over the decade between the two surveys. These regressions confirm the D-I-D trends in white-collar jobs for OBCs versus Others.

4.4 Duncans Dissimilarity Index

The NSS divides workers into a few broad categories based on their principal activity status.[14] Thus, this classification is distinct from the one used above, where we aggregated several occupations into three broad types. Using the principal activity status, we calculate the *Duncan Dissimilarity Index* between groups. The value of this index for any two groups (in our case, caste groups) gives the proportion of population that would have to change their activity status to make the distribution of the two groups identical.

Looking at the evolution of the index across cohorts, we find that in 1999-2000, SC-STs are the most dissimilar to the Others, with the dissimilarity *rising* from older to younger cohorts. Between OBCs and Others, Cohorts 3 and 4 are more dissimilar to the Others, as compared to the other three cohorts, and overall, all cohorts taken together, the OBCs are more similar to Others than they are to SC-STs (See Figure 7).

[Insert Figure 7]

Data from 2009-10 (see Figure 8) reveals that the dissimilarity between SC-STs and Others continues to look the same as a decade earlier. Between OBCs and Others, too, barring Cohorts 3 and 4, where dissimilarity between the two groups seems to have *increased*, the distribution is similar to what it was in 1999-2000. Again, barring Cohort 4, the OBC distribution is closer to Others than it is to SC-STs.

[Insert Figure 8]

4.4.1 Understanding sources of dissimilarity

There are clear differences in the share of caste groups in the various principal status categories. Across all cohorts, SC-ST proportions in casual wage labour are the highest, followed by OBCs and then by Others. Mirroring this feature, we find that SC- ST proportions among employers are the lowest across all cohorts, followed by OBCs and then by Others.

While each of these categories merits a separate analysis, in this paper we focus on two of the important sources of dissimilarity, viz., the proportion of all workers that are regular wage/ salaried (RWS) employees and those doing casual labour. Proportion in RWS jobs is a good indicator of involvement in the formal sector; these jobs are coveted also because of the benefits they confer to the worker, which are typically missing from informal sector or casual jobs (some possible benefits could be inflation-linked indexation, pensions, gratuity, illness cover, group insurance, provident fund and so forth). As Banerjee and Duflo (2011) suggest, job security and regular wages seems to be one of the important aspirations of the poor in India. Thus, the small proportions of SC- STs and OBCs in RWS jobs suggests that this is an important facet of occupational disparity across caste groups.

We see that across all groups, the proportions engaged in RWS jobs have been rising, indicating the greater formalization of jobs. As Figure 9 shows, for the Others, there is sharp rise in the proportion in RWS jobs from Cohort 1 to Cohort 4, but the rise is not sustained in the next two cohorts. OBCs and SC-STs too show a much sharper rise from Cohort 1 to Cohort 4, than for the latter two cohorts.

[Insert Figure 9]

What is interesting is that the D-I-D in the share of salaried employees across cohorts between groups shows slightly different patterns between NSS-55 and NSS-66. In NSS 55 Cohort 4 and 5 of the OBCs and SC-ST gain relative to the Others. In NSS 66 only Cohort 5 of the OBCs and SC-ST gain relative to the Others.[15] Given that NSS-66 is the later survey, we can take the results from this survey as indicating the latest trends. The share of RWS employees by cohort and their evolution of the D-I-D are shown in Figure 10 and 11, respectively.

[Insert Figure 10]

Thus, between Cohort 2 and Cohort 1, OBCs fall 9.71 percentage points behind the Others. This gap consistently increases and finally between Cohort 5 and 4, OBCs gain 3.28 percentage points relative to

Others. The SC-ST versus Others D-I-D shows the same trend, except that the final cohort gains only 0.62 percentage points relative to the Others. Over the entire sample period we see that for the OBCs the gap increases from -0.97 percentage points for Cohort 1 to 8.9 percentage points for cohort 5 (born 1966-75). Similarly for the SC-ST the gap increases from 1.5 percentage points for cohort 1 to 14 percentage points for the cohort born in 1966-75. So over the 50 year period there seems to have been divergence in terms of share of RWS between the Others and OBCs and SC-ST.

[Insert Figure 11]

Given the divergence except for the very youngest cohorts in the activity status of RWS, looking at NSS-66 we explore whether the trends in casual labour mirror those of RWS i.e. whether Others have decreased their share of labour force in casual labour relative to the SC-ST and OBCs.

[Insert Figure 12]

From NSS-66 (Figure 12) we see that SC-STs not only have the highest proportions in casual labour, this proportion has gone up from 37.66 for Cohort 1 to 50.82 for Cohort 5. The corresponding proportions are 19.74 to 29.94 for OBCs and 8.51 and 18.61 for Others. Comparing D-I-D across cohorts (Figure 13), we see that overall, OBCs movement across cohorts is not very different from that of Others (D-I-D between Cohort 5 and 1 is 0.1). Between Cohorts 4 and 3, the increase in OBC proportion in casual labour is higher than that of Others, but between Cohort 5 and 4, the increase in proportion for Others is higher than that for OBCs, and for the other cohorts, the increase in OBC proportions is marginally higher, so the net result, comparing OBCs and Others, is that casualisation of labour is proceeding at a similar rate. But between SC-STs and Others, the trend is exactly the opposite, in that SC-ST labour is getting into casual jobs in higher proportions across successive cohorts compared to the Others. Comparing OBCs and SC-STs, again the rate of casualisation for SC-STs is significantly higher than that for OBCs. Thus, the activity status profiles of the three groups continue to look dissimilar for the three groups, with OBCs closer to the Others than to SC-STs.

[Insert Figure 13]

To sum up the picture seems to suggest that the Others have increased the proportion of their RWS jobs as compared to the OBCs and SC-ST (except for the youngest cohort). The trend in casualisation of labour is very similar for Others and OBCs over the period whereas the amount of work force employed as casual labour has increased for the SC-ST relative to the Others. The two strands of evidence suggest that there has been divergence in the principal activity status between the Others and the OBCs and SC-ST, with the Others especially increasing their share of the coveted RWS jobs.

5 Wages and labour market discrimination

The average wages for the three caste groups show the expected ranking. In 2009- 10, the average wages were Rs. 660, 848 and 1286 respectively for SC-STs, OBCs and Others respectively. Interestingly, for OBCs and Others, average wages for Cohort 4 were the highest, as is expected given that this cohort is between 54 and 45 years old, in other words, is at the peak of the earning cycle. However, for SC-STs, average wages for Cohort 3 are higher than for Cohort 4, as can be seen in the Figure 14.

[Insert Figure 14]

The D-I-D analysis of wages shows that while the gap between OBCs and Others increases between Cohort 3 and 1 by Rs. 1075, OBCs average wages catch up by Rs. 87 between Cohort 4 and Cohort 3, by Rs. 301 between Cohort 5 and 4 and by Rs. 285 between Cohort 6 and 5. However, in the overall gap (measured as the gap between Cohort 6 and 1), OBCs fall behind the Others by Rs. 500, but it is clear that younger cohorts of OBCs are catching up with the Others in terms of average wages. Overall, SC-STs remain further behind the Others as compared to OBCs (the overall gap between Cohort 5 and Cohort 1 increasing by being Rs. 889), but the two youngest cohorts appear to catch up with the Others (the evolution and statistical significance of the calculated D-I-D are shown in Table 15 in the appendix).

[Insert Figure 15]

The kernel density plots for two cohorts of SC-STs (aged 55-64 and aged 35-44) shows a rightward shift in the distribution, confirming that the younger SC-ST cohort is doing better in terms of wages (Figure 16). Similar plots for OBCs and Others (Figures 16) do not show this clear rightward shift the OBC distribution for the younger cohort is flatter and smoother; the Others distribution retains two peaks but becomes smoother for the younger Cohort.

[Insert Figure 16]

5.1 Blinder-Oaxaca Decomposition

We conduct the Blinder-Oaxaca (B-O) decomposition on the average male wage gap between OBCs and Others in order to separate the explained from the unexplained component, the basic methodology for which is explained in the Appendix. Based on NSS-66, the results of the B-O decomposition exercise between OBCs and Others (for males in the labour force) can be seen in Table 10.

[Insert Table 10]

We see that in regressions which include personal characteristics as controls (years of education, age, age squared, married), for all cohorts between 25 to 74 years, we see that the (geometric) means of wages are Rs. 1254 for Others and Rs. 830 for Others, amounting to a difference of 51 percent. Adjusting OBC endowment levels to Others would increase OBC wages by 28.4 percent, but a gap of 17.6 percent remains unexplained. Adding controls for region and sector (rural-urban), the wage difference between OBCs and Others reduces slightly to 49 percent, with endowment difference now accounting for 30.6 percent and the unexplained component now reduced to 14.4 percent. Adding controls for occupation, the unexplained component further reduces to 9.8 percent. However, whether it is appropriate to add occupational controls is a moot point.

Running similar regressions for each of the cohorts separately, we see from Table 10, that the unexplained component is 14.5 percent for the cohort aged 55-64 with personal characteristics as controls, which reduces to 12.1 percent with personal characteristics combined with region and sector and to 3.2 percent with occupation controls included as well. For the cohort aged 45-54, we see that the unexplained component is higher (24 percent) with personal characteristics; 21 with additional sector and region controls and 10.9 percent with further addition of occupation controls. In others words, for all three specifications, the unexplained component of the wage gap for this cohort is higher than for the previous cohort. For the cohort aged 35-44, the respective unexplained proportions are 15, 9.2, and 8.7 i.e. smaller than for the previous cohort. This reversal or improvement compared to the previous cohort is in line with the evidence from the D- I-D analysis of wage changes across cohorts reported above. The unexplained proportions do not change from this cohort to the next youngest (aged 25-34 years).

Comparing these estimates with the Blinder-Oaxaca decomposition conducted between SC-ST and Others (Table 11) reveals that first, the wage gap for all cohorts considered together is nearly 92 percent (average wage for SC-ST being Rs. 653.86).

[Insert Table 11]

Thus, the average wage gap between SC-ST and Others is a little less than twice the wage gap between OBCs and Others. Correspondingly, the unexplained portion is 29.8 percent with personal characteristics as controls; with region and sector controls, this reduces to 20 percent, and further to 14.25 percent with controls for occupation included. Thus, all estimates indicate that labour market discrimination against SC-ST is significantly greater than against OBCs, when the wages of these groups are compared to the Others.

6 Conclusion

The findings suggest that the gap between the Others and OBCs and SC-ST remain large for a variety of important indicators. MPCE and wages of the OBCs and SC-ST are 51 and 65 percent and 42 and 55 percent, respectively, of the average of the Others. Their shares of labour force employed in white collar prestigious jobs is about one fourth and half the proportion of the Others employed in white collar jobs. On the other hand their share of labour force employed as casual labour is twice and thrice higher than the Others for the OBCs and SC-ST, respectively. However, despite significant gaps in the above indicators, we find substantial evidence of catch- up between OBCs and Others for the younger cohorts (especially in literacy, primary education, access to white-collar jobs, wages), but we find continued divergence in all education categories after the middle school level. This picture is different from the one that emerges after a similar analysis between SC-STs and Others, where the divergence and dissimilarity in all indicators vis-a-vis the Others is much greater. The only exception is in the education transition matrix: we find that sons of graduate fathers are more likely to be graduates for SC-STs than for OBCs. This could possibly be the result of the longer history of educational quotas for SC-STs in institutes of higher education as compared to that for OBCs. Younger cohorts of OBCs are closer to the Others than to SC-STs in all indicators, whereas the older cohorts were closer to the SC-STs in several key indicators. What precise factors have contributed to the OBC catch-up needs to be investigated, and we hope to be able to address this in our on going research.

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Notes

[1]1 acre=0.4047 hectares. Land possessed is defined as land (owned+leased-in+neither owned nor leased- in)- land leased out.

[2]The NSS does not have information on years of education. We use the method followed in Hnatkovska et al. (2012) for converting information on educational attainment to years of education. Thus, those with formal schooling were assigned 0 years of education; those with schooling below primary were assigned 2 years; those with primary completed 5 years; those with middle school completed 7 years; those with secondary completed 10 years; those with higher secondary 12 years; those with graduate degrees in technology, engineering, medicine and agriculture 16 years and those with graduate degrees in all other subjects were assigned 15 years.

[3]The detailed tables and charts for all the educational categories are available with the authors upon request. In the interest of space, we are only presenting the figures on years of education and for the educational category "graduate and above".

[4]If we consider the Cohort aged 15-24, i.e. those who should have achieved literacy by the time the survey was done, the gaps further reduce, and the Others have a lead of 7 percent and 13 percent over the OBCs and SC/ST, respectively.

[5]If we consider the Cohort aged 15-24, i.e. those who should have finished primary schooling by the time the survey was done, the gaps further reduce, and the Others have a lead of 9 percent and 16 percent over the OBCs and SC-STs, respectively.

[6]Here even if we compare the oldest cohort who went to school after independence (cohort 3), with the youngest cohort who would have finished schooling by 2010 (cohort 6) makes the D-I-D for the OBCs compared to the Others marginally positive (1 percent) but insignificant, whereas for the SC-STs and Others, it remains negative and significant (gap of 5 percent).

[7]Comparing the oldest cohort that went to school after independence (cohort 3) with the youngest cohort that would have finished schooling by 2010 (cohort 6), the D-I-D for the OBCs and SC-STs compared to the Others remains negative and significant.

[8]These are namely mean mean independence, population size independence, symmetry, Pigou-Dalton Transfer sensitivity, decomposability and statistical testability.

[9]Note that the above is true for all values of $\alpha \neq 0, 1. GE(1) = \frac{1}{n}\sum_{i=1}^{n}[\frac{y_i}{\bar{y}} ln(\frac{y_i}{\bar{y}})]$ and $GE(0) = \frac{1}{n}\sum_{i=1}^{n}[ln(\frac{\bar{y}}{y_i})]$

[10]In the NSS EUS, these are all individuals with principal activity status codes between 11 and 81.

[11]We use NCO-68 codes for this classification. Following Hnatkovska et al. (2012), all those with NCO codes between 600 and 699 are classified as being in agricultural jobs; those between 400 and 599 or between 700 and 999 as being in blue-collar jobs; and those between 0 and 399 are classified as having white-collar jobs.

[12]When we trace the evolution of occupations, we focus on Cohort 1 of NSS-55 (the oldest cohort) and compare that with Cohort 4 of NSS-66, which is the second youngest cohort in our data set. The youngest group is cohort 5 in NSS- 66, but these are individuals between 25-34 years of age and might be still be in a state of transition in terms of their occupational choices. Those aged 35-44 years would be more likely settled in their choices.

[13]The appendix shows the table showing the distribution of the labour force across the 3 occupations for the 3 social groups.

[14] The principal activity status has the following categories: own-account worker, employer, helper in household enterprise, regular wage/ salaried employment; casual wage labour in public works; casual wage labour in other types of work.

[15]The graphs for the NSS 55th are provided in the appendix.

Table 1: **Household level indicators: All India**

Indicator	**SC/ST**	**OBCs**	Others
MPCE 55th Round	454.66	534.57	747.50
MPCE 66th Round	956.68	1209.38	1850
D-I-D MPCE	172.79	-427.69	-600.48
% Urban 55th Round	17.10	23.96	38.8
% Urban 66th Round	17.65	27.85	42.9
D-I-D % Urban	3.34	-0.21	-3.55
Household size 55th Round	4.77	4.94	4.87
Household size 66th Round	4.45	4.47	4.31
D-I-D Household size	-0.15	0.10	0.24
Land owned 55th Round	0.44	0.64	0.74
Land owned size 66th Round	0.43	0.62	0.70
D-I-D Land owned	0.00	0.02	0.02
Land possessed 55th Round	4.77	4.94	4.87
Land possessed size 66th Round	4.45	4.47	4.31
D-I-D Land possessed	-0.15	0.10	0.24

a. Note the D-I-D corresponding to the column SC/ST refers to the one calculated comparing OBCs to the SC/ST, the D-I-D in column OBCs compares OBCs to Others and the D-I-D in column Others compares SC/ST to Others.
b. A negative D-I-D in column SC/ST and OBCs implies OBCs are relatively losing ground relatively, a negative D-I-D in column Others implies SC/ST are relatively losing ground.
c. Land owned and land possessed are in 1000's of hectares..

Table 2: **Birth year of cohorts used from NSS 55th and 66th in the sample**

	Age	Birth year round 55th	Birth year round 66th
Cohort 1	65-74	1926-1935	1936-1945
Cohort 2	55-64	1936-1945	1946-1955
Cohort 3	45-54	1946-1955	1956-1965
Cohort 4	35-44	1956-1965	1966-1975
Cohort 5	25-34	1966-1975	1976-1985

Note: Cohort 1 of NSS round 66th has the same birth years as Cohort 2 of NSS 55th, Cohort 2 of round 66th as Cohort 3 of NSS 66th, Cohort 3 of NSS 66th as Cohort 4 of NSS 66th and finally cohort 4 of NSS 66th as Cohort 5 of NSS 55th. We often combine the 1st cohort of the NSS 55th with the 5 cohorts of NSS 66th. This implies our sample covers the birth years 1926-1985 or sample period of 60 birth years.

Table 3: **Educational Transition Matrix, All India - NSS 55th Round**

Transition Matrix for the SC/ST							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.41	0.12	0.32	0.09	0.05	0.02	59.66
Edu 1	0.13	0.17	0.44	0.15	0.08	0.03	14.22
Edu 2	0.07	0.06	0.49	0.20	0.11	0.06	17.45
Edu 3	0.03	0.01	0.22	0.29	0.32	0.13	5.11
Edu 4	0.03	0.02	0.19	0.26	0.32	0.19	1.83
Edu 5	0.01	0.00	0.17	0.22	0.33	0.26	1.73
Transition Matrix for the OBCs							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.36	0.12	0.34	0.11	0.06	0.02	46.44
Edu 1	0.10	0.12	0.49	0.16	0.09	0.04	17.97
Edu 2	0.06	0.04	0.46	0.23	0.14	0.07	23.98
Edu 3	0.02	0.02	0.23	0.33	0.23	0.17	7.10
Edu 4	0.01	0.02	0.23	0.22	0.28	0.25	2.58
Edu 5	0.00	0.02	0.09	0.18	0.35	0.36	1.94
Transition Matrix for the Others							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.27	0.12	0.38	0.14	0.06	0.03	26.50
Edu 1	0.07	0.14	0.42	0.20	0.10	0.08	15.24
Edu 2	0.04	0.03	0.41	0.26	0.15	0.11	27.87
Edu 3	0.01	0.01	0.15	0.28	0.28	0.26	14.95
Edu 4	0.02	0.00	0.10	0.21	0.34	0.33	5.90
Edu 5	0.02	0.00	0.04	0.13	0.32	0.49	9.55

Notes: Each cell ij represents the average probability (for a given NSS survey round) of a household male head with education i having a son with education attainment level j. Column titled "size" reports the fraction of fathers in education category 0, 1, 2, 3, 4, or 5 in a given survey round.

Table 4: **Educational Transition Matrix, All India - NSS 66th Round**

Transition Matrix for the SC/ST							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.23	0.09	0.42	0.13	0.10	0.03	50.12
Edu 1	0.04	0.10	0.55	0.16	0.10	0.05	14.08
Edu 2	0.03	0.03	0.45	0.24	0.20	0.06	22.85
Edu 3	0.01	0.00	0.23	0.27	0.37	0.12	6.38
Edu 4	0.00	0.01	0.12	0.27	0.32	0.27	3.33
Edu 5	0.00	0.11	0.06	0.09	0.36	0.38	3.24
Transition Matrix for the OBCs							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.19	0.12	0.38	0.16	0.11	0.04	35.66
Edu 1	0.04	0.11	0.43	0.21	0.17	0.04	13.53
Edu 2	0.03	0.02	0.38	0.25	0.22	0.10	29.87
Edu 3	0.01	0.01	0.13	0.28	0.36	0.21	10.57
Edu 4	0.02	0.00	0.13	0.15	0.42	0.28	6.16
Edu 5	0.00	0.00	0.07	0.13	0.47	0.34	4.21
Transition Matrix for the Others							
	Edu 0	**Edu 1**	**Edu 2**	**Edu 3**	**Edu 4**	**Edu 5**	**Size**
Edu 0	0.15	0.10	0.40	0.19	0.12	0.05	23.20
Edu 1	0.02	0.08	0.45	0.20	0.16	0.08	9.89
Edu 2	0.02	0.02	0.32	0.28	0.24	0.12	29.80
Edu 3	0.01	0.00	0.11	0.26	0.35	0.27	16.26
Edu 4	0.01	0.00	0.08	0.11	0.45	0.35	8.81
Edu 5	0.01	0.00	0.02	0.08	0.36	0.54	12.04

Notes: Each cell ij represents the average probability (for a given NSS survey round) of a household male head with education i having a son with education attainment level j. Column titled "size" reports the fraction of fathers in education category 0, 1, 2, 3, 4, or 5 in a given survey round.

Table 5: **Marginal Effect of SC/ST and OBC dummy in ordered probit regression for education categories**

		ALL COHORTS	COHORT 1	COHORT 2	COHORT 3	COHORT 4	COHORT 5	COHORT 6	Cohort 2 to 1	Cohort 3 to 2	Cohort 4 to 3	Cohort 5 to 4	Cohort 6 to 5	Cohort 5 to 1
Edu 1	SC/ST	0.307***	0.324***	0.347***	0.366***	0.314***	0.268***	0.155***	0.023	0.019	-0.052	-0.046	-0.113	-0.056
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.191***	0.208***	0.231***	0.229***	0.196***	0.147***	0.072***	0.023	-0.002	-0.033	-0.049	-0.075	-0.061
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Edu 2	SC/ST	-0.001***	-0.061***	-0.038***	-0.020***	0.005***	0.027***	0.030***	0.023	0.018	0.025	0.022	0.003	0.088
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.006***	-0.030***	-0.016***	-0.003***	0.011***	0.021***	0.016***	0.014	0.013	0.014	0.01	-0.005	0.051
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Edu 3	SC/ST	-0.030***	-0.076***	-0.065***	-0.055***	-0.025***	0.004***	0.020***	0.011	0.01	0.03	0.029	0.016	0.08
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	-0.011***	-0.044***	-0.037***	-0.027***	-0.008***	0.011***	0.013***	0.007	0.01	0.019	0.019	0.002	0.055
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Edu 4	SC/ST	-0.067***	-0.062***	-0.074***	-0.082***	-0.071***	-0.051***	-0.044***	-0.012	-0.008	0.011	0.02	0.007	0.011
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	-0.038***	-0.041***	-0.048***	-0.049***	-0.040***	-0.023***	-0.018***	-0.007	-0.001	0.009	0.017	0.005	0.018
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Edu 5	SC/ST	-0.209***	-0.124***	-0.171***	-0.209***	-0.222***	-0.248***	-0.162***	-0.047	-0.038	-0.013	-0.026	0.086	-0.124
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	-0.147***	-0.093***	-0.130***	-0.151***	-0.159***	-0.156***	-0.083***	-0.037	-0.021	-0.008	0.003	0.073	-0.063
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Note: Panel (a) reports the mraginal effects of the SC/ST and OBC dummy in an opdered probit regression of education categories 1 to 5 on a constant and an SC/ST and OBC dummy for each cohort. Panel (b) of the table reports the change in the marginal effects over successive cohorts and over the entire sample period. Standard errors are in parenthesis. * p-value0.10, ** p-value0.05, *** p-value0.01.

Table 6: **Generalized entropy measures of inequality for years of education from NSS 55th and 66th**

	GE(-1)	**GE(0)**	**GE(1)**	**GE(2)**	**Gini**
NSS 55th round					
SC-ST	8.65e+10	14.677	0.995	1.007	0.7
OBC	9.41e+10	11.968	0.757	0.676	0.617
Others	9.12e+10	7.223	0.431	0.328	0.459
Within-Group Inequality					
	1.01e+11	10.70051	0.60998	0.50791	
Between-Group Inequality					
	0.05654	0.0535	0.0519	0.05155	
NSS 66th round					
SC-ST	9.24E+10	9.805	0.594	0.491	0.545
OBC	8.92E+10	8.131	0.488	0.385	0.491
Others	7.61E+10	5.192	0.313	0.23	0.385
Within-Group Inequality					
	9.00e+10	7.60097	0.43655	0.33438	
Between-Group Inequality					
	0.01804	0.01806	0.01824	0.01858	

For lower values of α, GE is more sensitive to changes in the lower tail of the distribution, and for higher values GE is more sensitive to changes that affect the upper tail.

Table 7: **Evolution on public sector jobs by cohorts**

Social Group	COHORT 1	COHORT 2	COHORT 3	COHORT 4	COHORT 5
	(1)	(2)	(3)	(4)	(5)
Share of public sector jobs by cohorts					
SC/ST	2.91	8.02	9.56	7.66	4.76
OBC	0.63	5.69	8.77	5.67	3.85
OTHERS	0.29	10.54	15.07	9.37	5.44
Share of public sector jobs in blue collar jobs by cohorts					
SC/ST	9.01	18.05	18.65	12.86	6.98
OBC	1.11	11.89	14.8	8.06	5.76
OTHERS	0.25	18.31	23.43	12.85	6.9
Share of public sector jobs in white collar jobs by cohorts					
SC/ST	2.29	39.88	35.96	26.35	16.48
OBC	1.58	17.03	21.2	15.97	9.2
OTHERS	1.3	22.15	24.08	15.73	9.02

Note: Cohort 1-5 are from NSS-66.

Table 8: **Unconditional marginal Effect of SC/ST and OBC dummy in ordered probit regression for occupational categories**

		COHORT 1	COHORT 1	COHORT 2	COHORT 3	COHORT 3	COHORT 3	COHORT 4	COHORT 4	COHORT 5	COHORT 5
NSS 55th marginal effects unconditional											
		1	2	3	4	5	6	7	8	9	10
Agricultural Jobs	SC/ST	0.061***	-0.020***	0.158***	0.017***	0.217***	0.008***	0.225***	0.029***	0.206***	0.050***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.020***	-0.026***	0.095***	-0.023***	0.133***	-0.027***	0.135***	0.009***	0.112***	0.015***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Blue Collar Jobs	SC/ST	-0.016***	0.031***	-0.048***	-0.001	-0.069***	-0.002***	-0.106***	-0.031***	-0.103***	-0.026***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.024***	0.049***	-0.002***	0.034***	-0.006***	0.049***	-0.029***	0.018***	-0.029***	0.012***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
White Collar Jobs	SC/ST	-0.045***	-0.012***	-0.110***	-0.016***	-0.147***	-0.005***	-0.119***	0.002***	-0.103***	-0.024***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	-0.044***	-0.023***	-0.092***	-0.011***	-0.127***	-0.022***	-0.105***	-0.027***	-0.082***	-0.027***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NSS 66th marginal effects unconditional											
		1	2	3	4	5	6	7	8	9	10
Agricultural Jobs	SC/ST	-0.019***	-0.128***	0.147***	-0.028***	0.175***	-0.015***	0.147***	-0.041***	0.176***	0.024***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.001***	-0.059***	0.087***	-0.028***	0.106***	-0.006***	0.098***	-0.015***	0.087***	0.016***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Blue Collar Jobs	SC/ST	0.106***	0.159***	-0.017***	0.067***	-0.014***	0.075***	-0.011***	0.071***	-0.021***	0.049***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	0.061***	0.079***	0.020***	0.058***	-0.002***	0.036***	0.002***	0.037***	-0.005***	0.014***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
White Collar Jobs	SC/ST	-0.087***	-0.031***	-0.131***	-0.038***	-0.161***	-0.061***	-0.136***	-0.030***	-0.155***	-0.073***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
	OBCs	-0.063***	-0.020***	-0.107***	-0.030***	-0.103***	-0.029***	-0.100***	-0.023***	-0.082***	-0.030***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

a. Columns (1), (3), (5), (7) and (9) reports the marginal effects on a constant and an SC/ST and OBC dummy for each cohort.
b. columns (2), (4), (6), (8) and (10) reports the marginal effects on a SC/ST and OBC dummy controlling for regional dummies, sector and years of education for each cohort.
c. Standard errors are in parenthesis. * p-value0.10, ** p-value0.05, *** p-value0.01.

Table 9: **Changes in unconditional marginal Effect of SC/ST and OBC dummy in ordered probit regression for occupational categories**

		Cohort 2 to 1	Cohort 2 to 1	Cohort 3 to 2	Cohort 3 to 2	Cohort 4 to 3	Cohort 4 to 3	Cohort 5 to 4	Cohort 5 to 4	Cohort 5 to 1	Cohort 5 to 1
		1	2	3	4	5	6	7	8	9	10
NSS 55th changes in marginal effects											
Agricultural Jobs	SC/ST	0.097	0.037	0.059	-0.009	0.008	0.021	-0.019	0.021	0.145	0.07
	OBCs	0.075	0.003	0.038	-0.004	0.002	0.036	-0.023	0.006	0.092	0.041
Blue Collar Jobs	SC/ST	-0.032	-0.032	-0.021	-0.001	-0.037	-0.029	0.003	0.005	-0.087	-0.057
	OBC	-0.026	-0.015	-0.004	0.015	-0.023	-0.031	0	-0.006	-0.053	-0.037
White Collar Jobs	SC/ST	-0.065	-0.004	-0.037	0.011	0.028	0.007	0.016	-0.026	-0.058	-0.012
	OBC	-0.048	0.012	-0.035	-0.011	0.022	-0.005	0.023	0	-0.038	-0.004
NSS 66th changes in marginal effects											
Agricultural Jobs	SC/ST	0.166	0.1	0.028	0.013	-0.028	-0.026	0.029	0.065	-0.176	-0.024
	OBCs	0.086	0.031	0.019	0.022	-0.008	-0.009	-0.011	0.031	-0.087	-0.016
Blue Collar Jobs	SC/ST	-0.123	-0.092	0.003	0.008	0.003	-0.004	-0.01	-0.022	0.021	-0.049
	OBCs	-0.041	-0.021	-0.022	-0.022	0.004	0.001	-0.007	-0.023	0.005	-0.014
White Collar Jobs	SC/ST	-0.044	-0.007	-0.03	-0.023	0.025	0.031	-0.019	-0.043	0.155	0.073
	OBCs	-0.044	-0.01	0.004	0.001	0.003	0.006	0.018	-0.007	0.082	0.03

a. Columns (1), (3), (5), (7) and (9) reports the change in marginal effects on a constant and an SC/ST and OBC dummy for each cohort.
b. columns (2), (4), (6), (8) and (10) reports the change in marginal effects on a SC/ST and OBC dummy controlling for regional dummies, sector and years of education for each cohort.
c. Note all changes are significant at the 1% level..

Table 10: **Blinder-Oaxaca Decomposition: Others versus OBCs: 2009-10**

	Mean wage: Others	Mean wage: OBCs	Gap	Explained	Unexplained	N
All Cohorts: Controls - personal characteristics(PC)	1254.204	830.4833	51.02	28.4	17.61	29919
Controls: PC, Region and Sector	1251.429	837.2537	49.46	30.62	14.42	28033
Controls: PC, region, sector, occupation	1246.638	836.9334	48.95	34.94	10.38	28033
Cohort aged 55-64: Controls - PC	1422.958	810.3948	75.58	53.35	14.49	2820
Controls: PC, Region and Sector	1402.582	799.2925	75.47	56.57	12.07	2638
Controls: PC, region, sector, occupation	1341.673	812.1725	65.19	60.1	3.17	2638
Cohort aged 45-54: Controls - PC	1527.084	868.8451	75.76	40.77	24.85	7115
Controls: PC, Region and Sector	1510.842	872.5434	73.15	42.64	21.39	6664
Controls: PC, region, sector, occupation	1454.542	894	62.7	46.67	10.92	6664
Cohort aged 35-44: Controls - PC	1273.638	837.951	51.99	32.11	15.04	9568
Controls: PC, Region and Sector	1268.662	848.7306	49.47	36.9	9.18	8978
Controls: PC, region, sector, occupation	1309.48	859.2448	52.399	40.18	8.71	8978
Cohort aged 25-34: Controls - PC	1273.638	837.951	51.99	32.11	15.04	9568
Controls: PC, Region and Sector	1268.662	848.7306	49.47	36.9	9.18	8978
Controls: PC, region, sector, occupation	1309.48	859.244	52.39	40.18	8.71	8978

a. Personal characteristics controlled for are years of education and marital status

Table 11: **Blinder-Oaxaca Decomposition: Others versus SC/ST: 2009-10**

	Mean wage: Others	Mean wage: SC-ST	Gap	Explained	Unexplained	N
All Cohorts: Controls - personal characteristics(PC)	1254.204	653.8629	91.81	47.69	29.86	29374
Controls: PC, Region and Sector	1251.429	657.9229	90.2	58.41	20.06	27321
Controls: PC, region, sector, occupation	1246.638	657.5139	89.59	65.94	14.25	27321
Cohort aged 55-64: Controls - PC	1422.958	634.8243	124.14	84.325	21.6	2667
Controls: PC, Region and Sector	1402.582	644.172	117.73	86.55	16.71	2490
Controls: PC, region, sector, occupation	1341.673	642.8613	108.7	91.01	9.25	2490
Cohort aged 45-54: Controls - PC	1527.084	687.7152	122.05	76.26	25.97	7007
Controls: PC, Region and Sector	1510.842	690.5461	118.78	83.1	19.48	6521
Controls: PC, region, sector, occupation	1454.542	716.7164	102.94	94.24	4.48	6521
Cohort aged 35-44: Controls - PC	1273.638	693.2092	83.73	44.75	26.92	9357
Controls: PC, Region and Sector	1268.662	688.2011	84.344	58.34	16.41	8660
Controls: PC, region, sector, occupation	1309.48	663.3888	97.39	62.67	21.33	8660
Cohort aged 25-34: Controls - PC	1273.638	693.2092	83.73	44.75	26.92	9357
Controls: PC, Region and Sector	1268.662	688.2011	84.34	58.34	16.41	8660
Controls: PC, region, sector, occupation	1309.48	663.388	97.39	62.67	21.33	8660

a. Personal characteristics controlled for are years of education and marital status

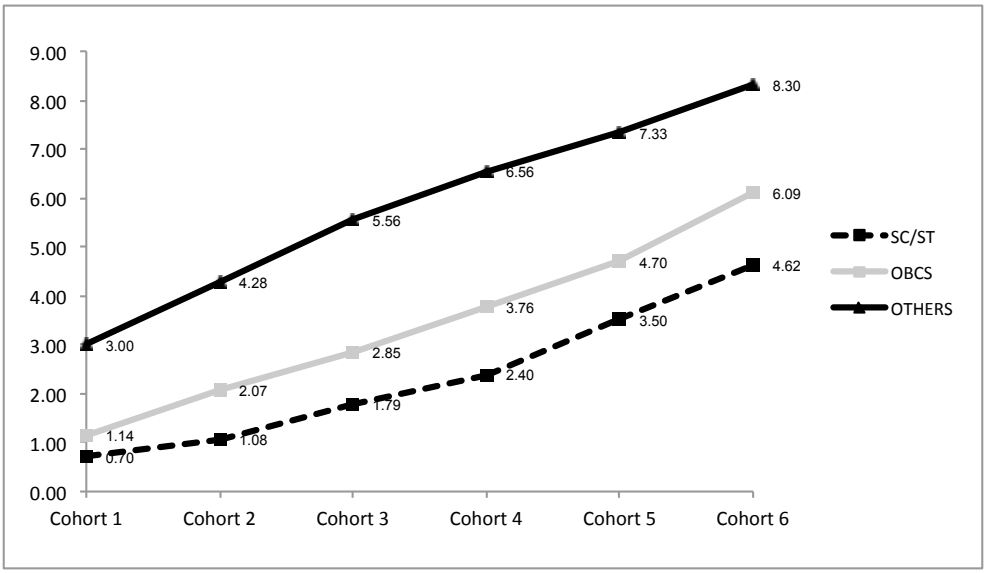

Fig. 1: **Years of Education across cohorts**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

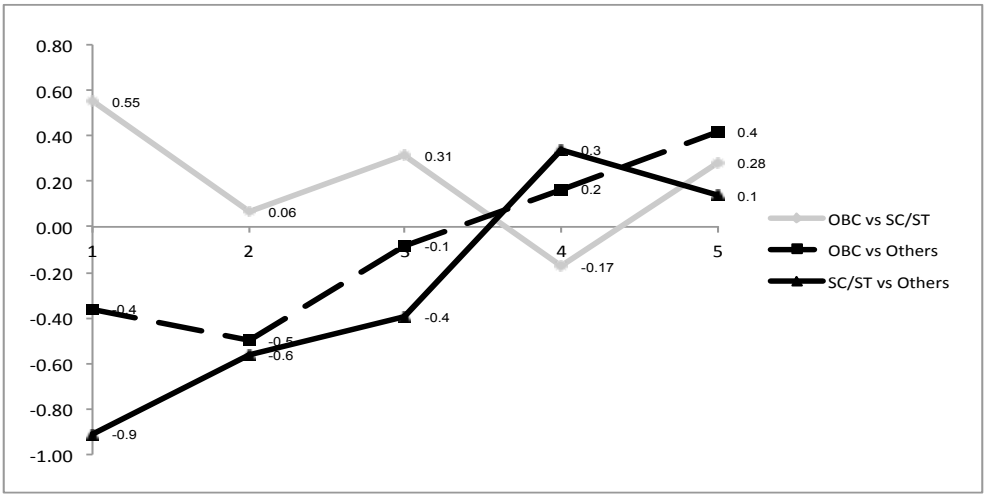

Fig. 2: **Evolution of D-I-D for years of education across consecutive cohorts**
Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies convergence.

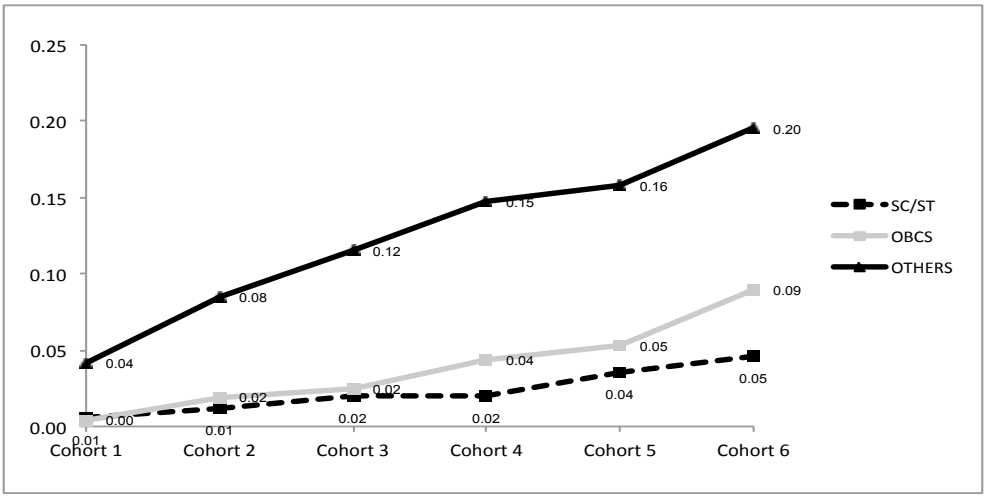

Fig. 3: **Proportions of different cohorts that have a graduate degree or more of education**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

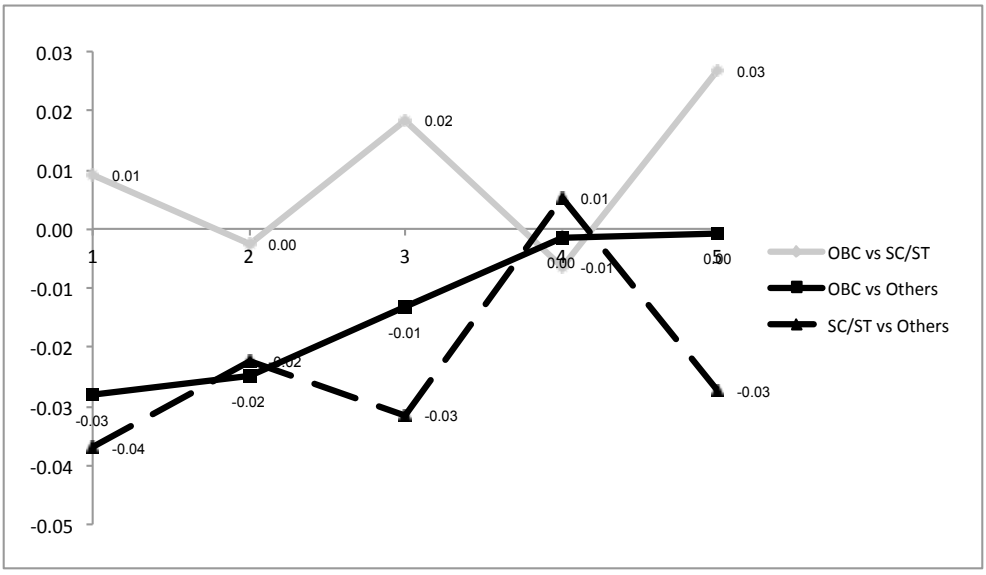

Fig. 4: **Evolution of D-I-D for graduates and more across consecutive cohorts**
Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies convergence.

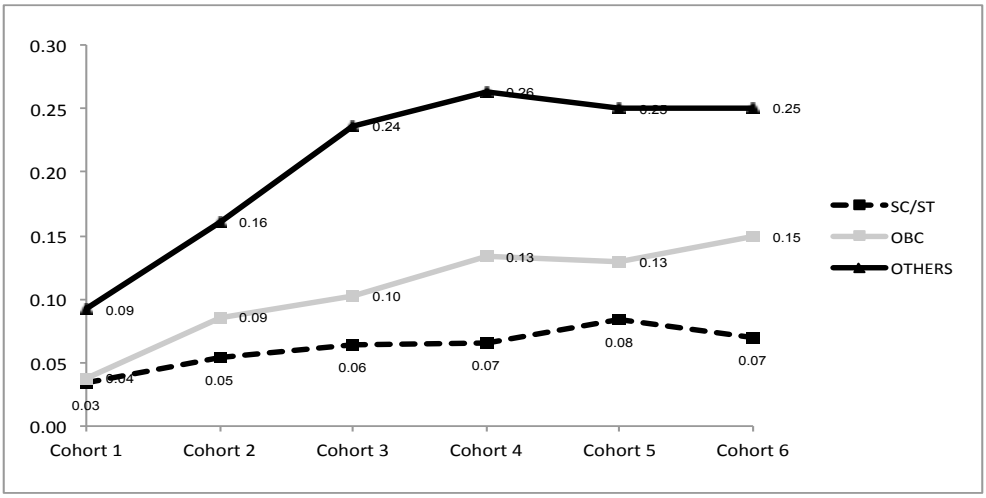

Fig. 5: **Proportion in white-collar jobs across cohorts**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

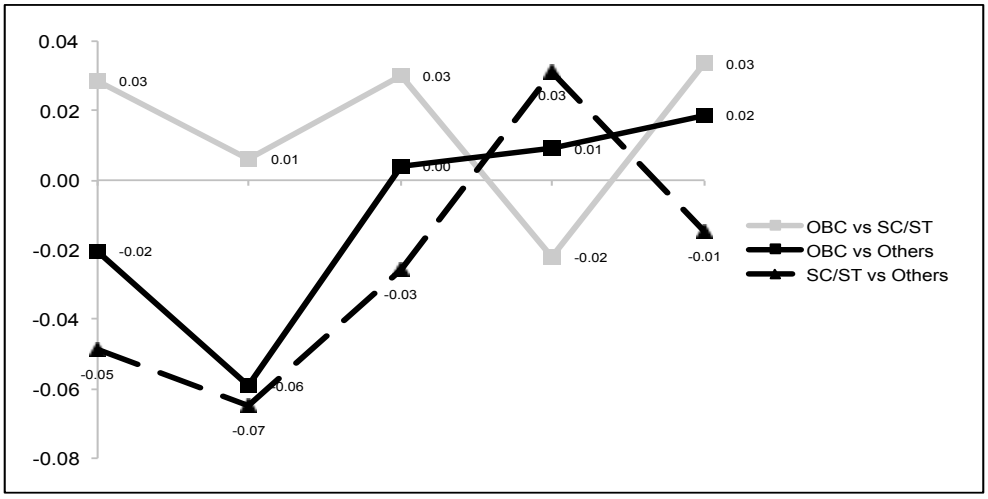

Fig. 6: **Evolution in D-I-D in white collar jobs**
Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies convergence.

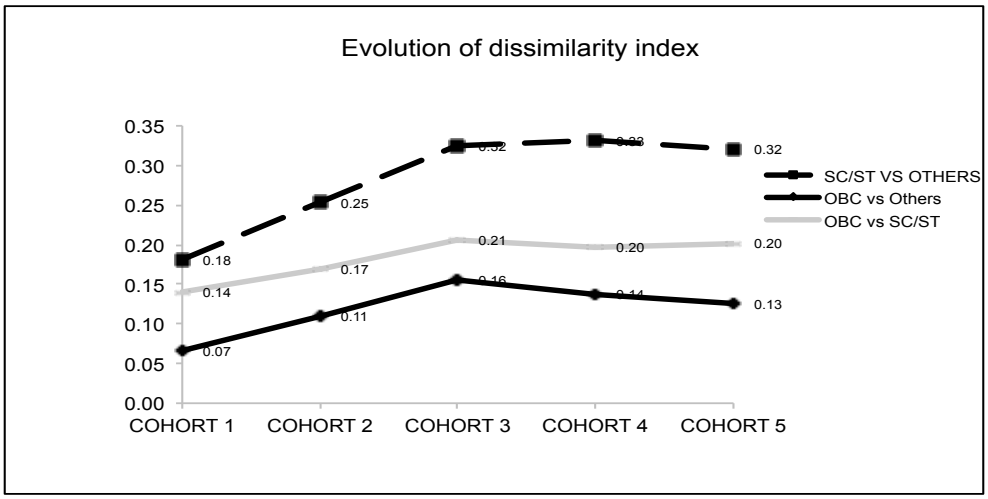

Fig. 7: **Duncan Dissimilarity Index 1999-2000**
Note: These represent Cohort 1 to 5 from the NSS 55th.

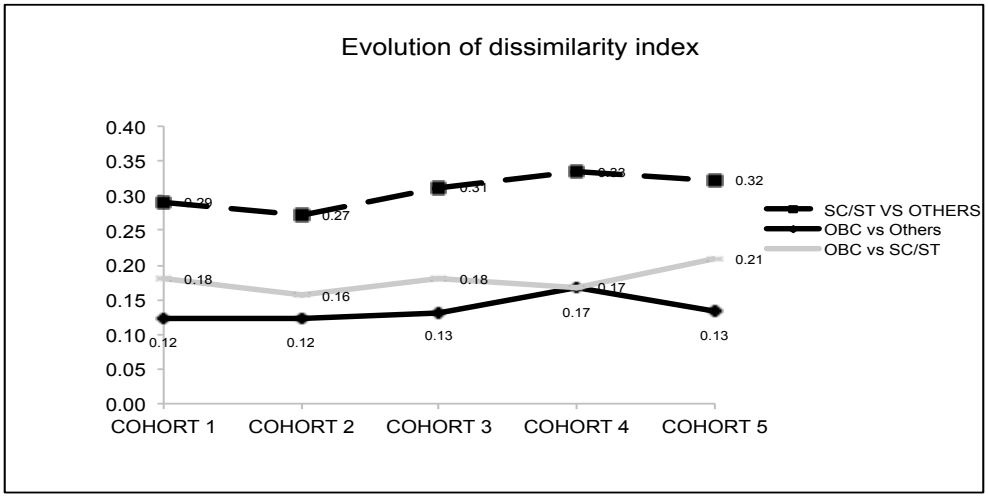

Fig. 8: **Duncan Dissimilarity Index 2009-2010**
Note: These represent Cohort 1 to 5 from the NSS 66th.

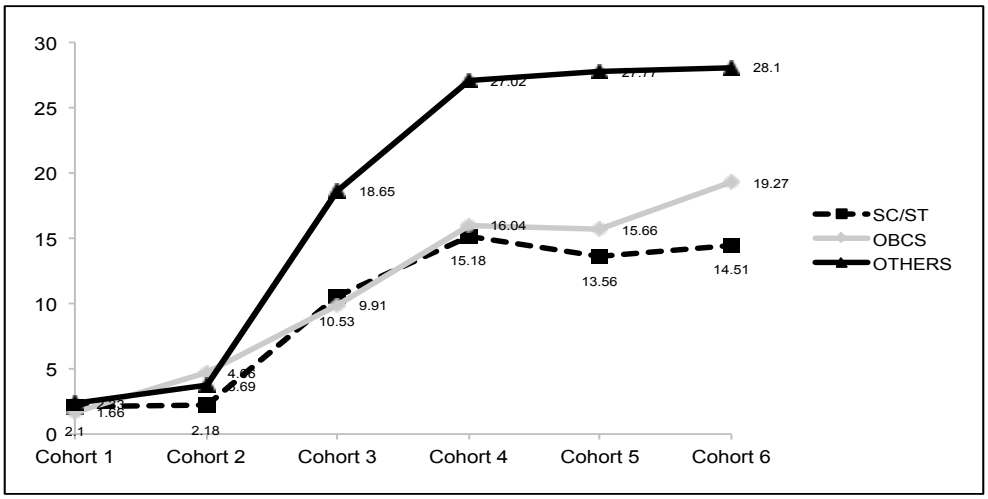

Fig. 9: **Regular wage/salaried employees by cohort**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

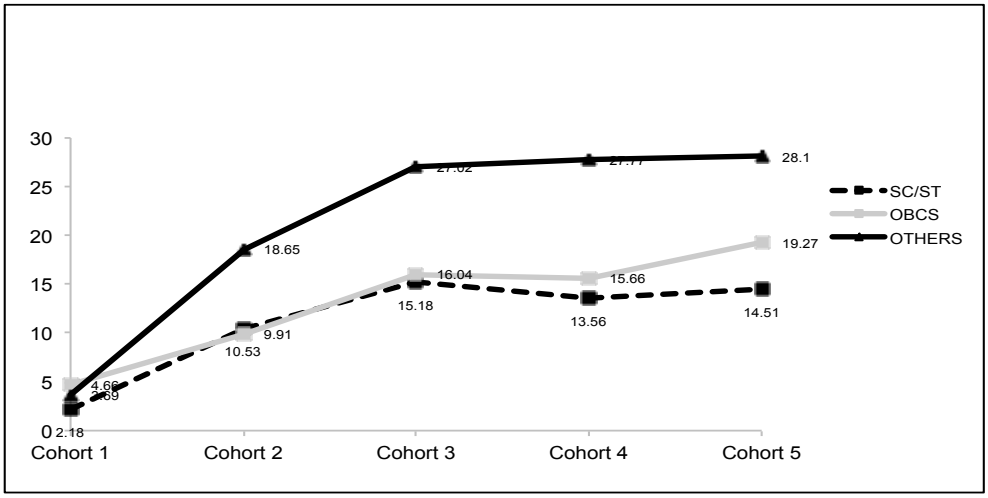

Fig. 10: **Regular wage/salaried employees by cohort**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

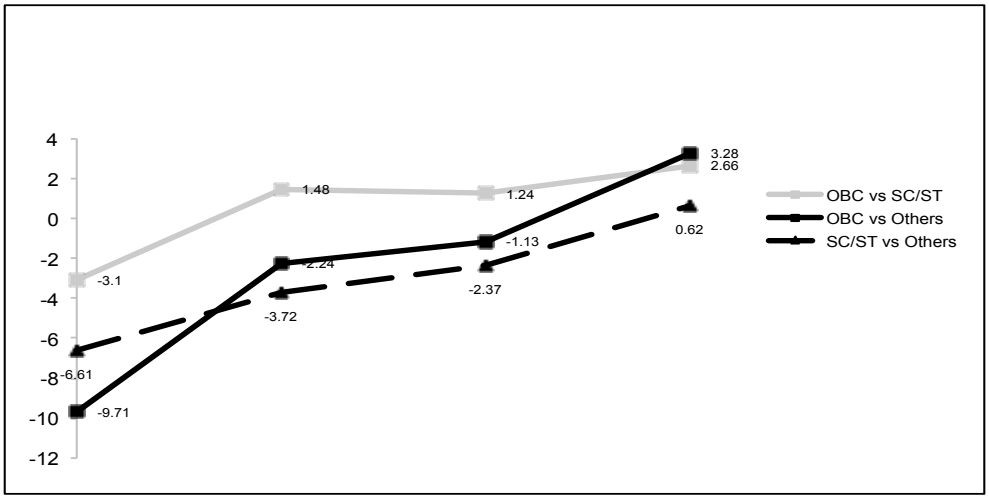

Fig. 11: **Evolution of D-I-D in regular salaried employees**
Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies convergence.

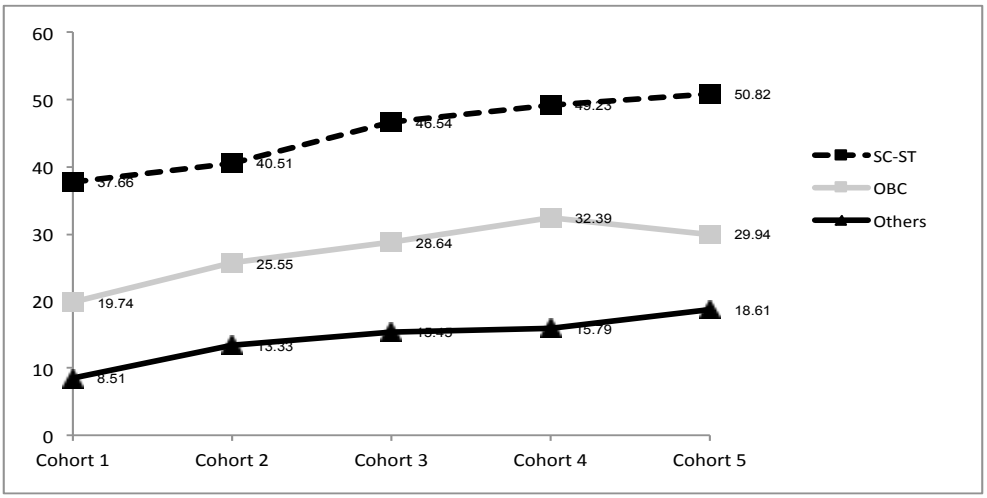

Fig. 12: **Share of casual labour in workforce by cohort 2009-10**
Note: These represent Cohort 1 to 5 from the NSS 66th.

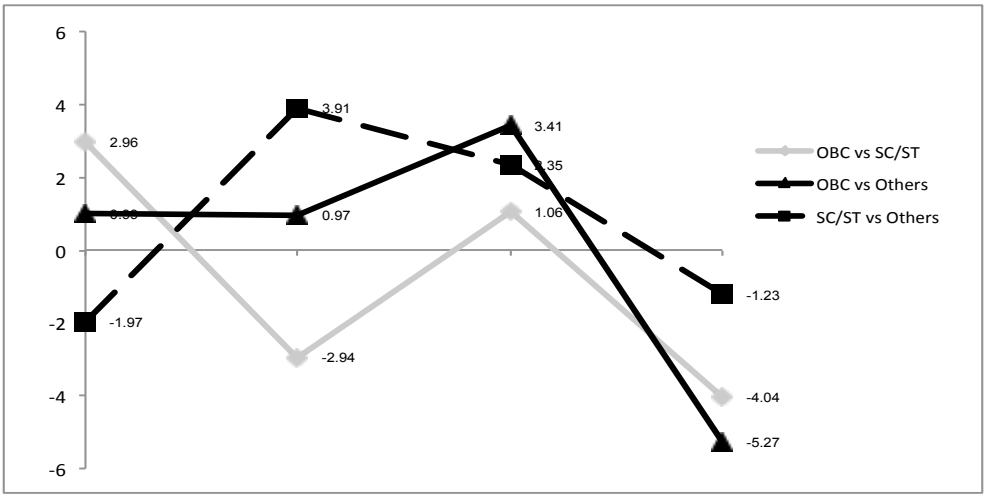

Fig. 13: **Evolution of D-I-D in casual labour force share 2009-10**
Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies convergence.

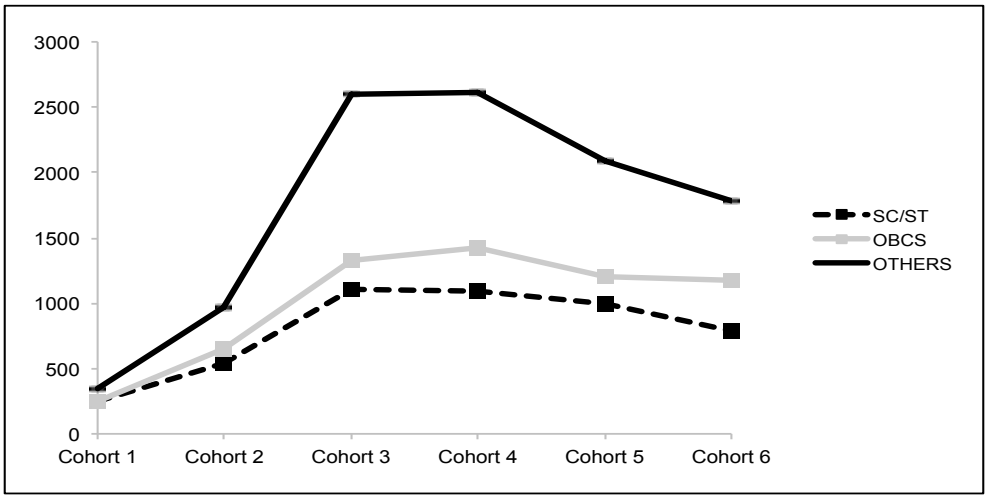

Fig. 14: **Wages by cohort**
Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

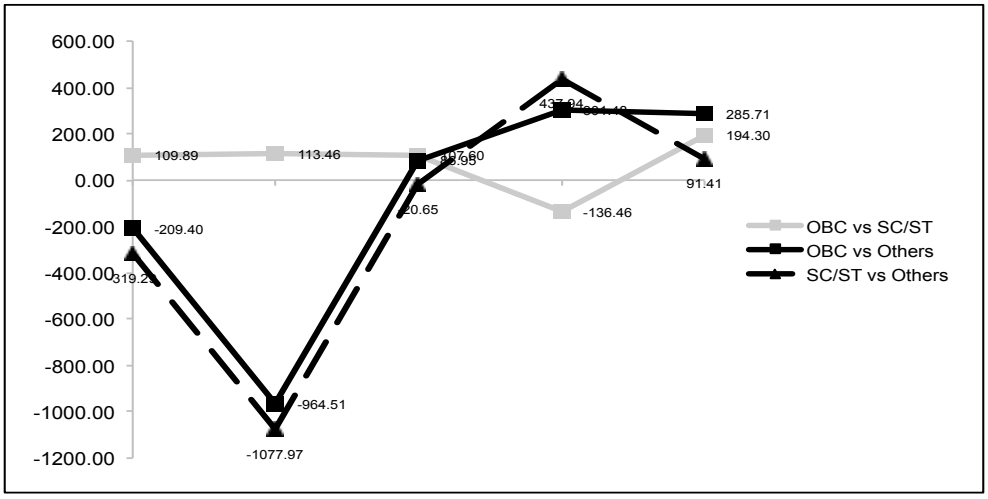

Fig. 15: **Evolution of D-I-D in wages**

Note: A negative D-I-D for the line comparing OBCs to Others or the OBCs to the SC/ST implies OBCs relatively losing ground whereas a positive value implies convergence in case of comparison with the Others and divergence when compared to SC/ST. A negative value D-I-D line comparing Others to SC/ST implies the SC/ST are relatively losing ground when compared to the Others and positive value implies c

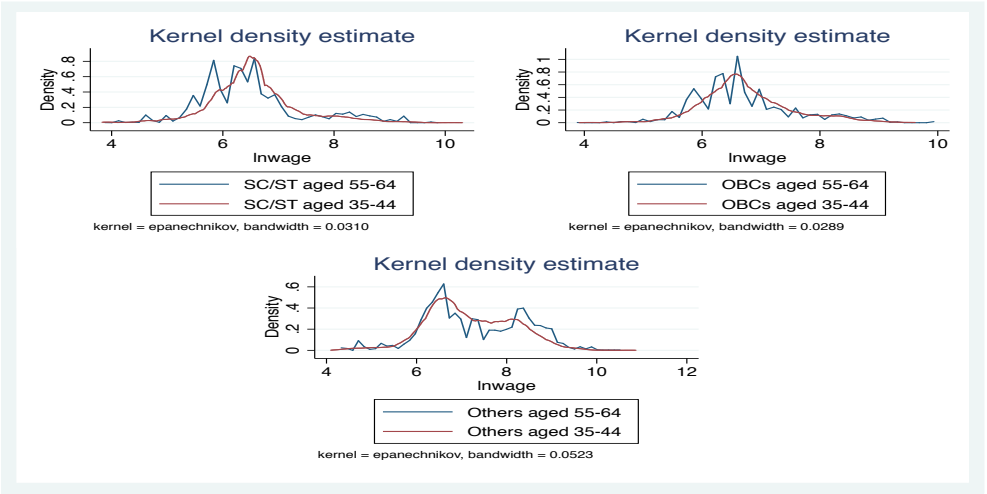

Fig. 16: **The wage distributions of SC-ST, OBCs and Others for 2009-10**

7 Appendix

7.1 The Blinder-Oaxaca Decomposition Methodology

The detailed methodology can be found in Jann (2008). In this appendix we explain the method intuitively for those not inclined to go into the technical details. In two independently written pioneering papers, Blinder (1973) and Oaxaca (1973) outlined the econometric methodology to decompose the average wage gap between two groups into two components: the explained component, or the part of the wage gap which can be explained by human capital or endowments (the wage-earning characteristics), and the unexplained component. The latter is interpreted as a measure of labour market discrimination as it is the part of the wage gap that remains unaccounted for after all the wage-earning characteristics are accounted for. The basic belief behind this approach is that wages differ both because of productivity or skill differences between groups as well as because the market treats the same characteristics differently. What can be observed are only the actual wage differences; the B-O method artificially separates the endowment/productivity differences from the treatment or the rate of return effect. The basic Blinder- Oaxaca method suggests substituting the estimated rates of returns from one group into the estimated wage equation of the other group to construct counterfactual wage distributions (if there are two groups being compared, as in our paper, there are two counterfactual wage distributions which get constructed). However, this leads to question of which counterfactual wage distribution would prevail in the absence of discrimination and one possible alternative to estimating two separate counterfactuals is to estimate a pooled model over both groups to get the reference coefficients (which are supposed to represent the non-discriminatory wage structure). We use the pooled method in the present paper.

7.2 Additional figures and tables

Table 12: **Evolution on educational indicators across cohorts**

Social Group	COHORT 1 (1)	COHORT 2 (2)	COHORT 3 (3)	COHORT 4 (4)	COHORT 5 (5)	COHORT 6 (6)
Years of education						
SC/ST	0.703	1.076	1.789	2.396	3.504	4.618
OBCS	1.145	2.068	2.846	3.764	4.697	6.093
OTHERS	2.997	4.281	5.557	6.558	7.327	8.304
Proportion of cohort literate or more						
SC/ST	0.148	0.201	0.294	0.382	0.504	0.626
OBCS	0.25	0.337	0.43	0.53	0.625	0.731
OTHERS	0.462	0.553	0.634	0.729	0.781	0.86
Proportion of cohort with primary schooling or more						
SC/ST	0.079	0.116	0.205	0.272	0.39	0.52
OBCS	0.13	0.234	0.319	0.416	0.508	0.636
OTHERS	0.312	0.437	0.549	0.635	0.706	0.784
Proportion of cohort with secondary schooling or more						
SC/ST	0.02	0.034	0.066	0.091	0.141	0.187
OBCS	0.03	0.082	0.114	0.156	0.214	0.299
OTHERS	0.133	0.205	0.306	0.362	0.414	0.48
Proportion of cohort with higher secondary schooling or more						
SC/ST	0.008	0.021	0.032	0.04	0.071	0.099
OBCS	0.011	0.032	0.049	0.076	0.104	0.16
OTHERS	0.063	0.122	0.175	0.225	0.259	0.312
Proportion of cohort with graduate degree or more						
SC/ST	0.006	0.012	0.02	0.02	0.036	0.046
OBCS	0.004	0.019	0.025	0.043	0.053	0.089
OTHERS	0.042	0.085	0.115	0.147	0.158	0.195

Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

Table 13: **Evolution on indicators of interest across cohorts**

Social Group	COHORT 1 (1)	COHORT 2 (2)	COHORT 3 (3)	COHORT 4 (4)	COHORT 5 (5)	COHORT 6 (6)
Wages by cohorts						
SC/ST	244.171	539.399	1103.313	1094.255	1001.993	790.764
OBCS	244.45	649.571	1326.945	1425.486	1196.763	1179.836
OTHERS	346.864	961.386	2603.267	2614.855	2084.648	1782.01
Proportion employed in white collar jobs by cohorts						
SC/ST	0.034	0.054	0.064	0.065	0.083	0.069
OBC	0.038	0.086	0.103	0.133	0.129	0.149
OTHERS	0.092	0.16	0.236	0.263	0.25	0.25
Proportion employed in RWS jobs by cohorts						
SC/ST	0.021	0.0218	0.1053	0.1518	0.1356	0.1451
OBCS	0.0166	0.0466	0.0991	0.1604	0.1566	0.1927
OTHERS	0.0233	0.0369	0.1865	0.2702	0.2777	0.281
Proportion employed in casual labour jobs by cohorts						
SC/ST	0.3493	0.3766	0.4051	0.4654	0.4923	0.5082
OBCS	0.1674	0.1974	0.2555	0.2864	0.3239	0.2994
OTHERS	0.0922	0.0851	0.1333	0.1545	0.1579	0.1861

Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

Table 14: **Evolution of D-I-D on selected educational indicators**

	D-I-D (COHORT(2-1))	D-I-D (COHORT(3-2))	D-I-D (COHORT(4-3))	D-I-D (COHORT(5-4))	D-I-D (COHORT(6-5))
	(1)	(2)	(3)	(4)	(5)
Years of education					
OBC vs Others	-0.36***	-0.5***	-0.08	0.16***	0.42***
	(0.08)	(0.10)	(0.08)	(0.07)	(0.06)
SC/ST vs Others	-0.91***	-0.56***	-0.39***	0.34***	0.14***
	(0.13)	(0.11)	(0.08)	(0.07)	(0.06)
Literacy or more					
OBC vs Others	-0.004	0.012	0.005	0.042***	0.028***
	(0.008)	(0.01)	(0.008)	(0.006)	(0.005)
SC/ST vs Others	-0.038	0.011	-0.006	0.069***	0.044***
	(0.015)	(0.011)	(0.008)	(0.007)	(0.006)
Graduate or more					
OBC vs Others	-0.028***	-0.025***	-0.013***	-0.001	-0.001
	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
SC/ST vs Others	-0.037***	-0.022***	-0.032***	0.005***	-0.027***
	(0.006)	(0.006)	(0.005)	(0.004)	(0.004)

Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, so covering the birth years 1926-85.

Table 15: **Evolution of D-I-D on selected indicators**

	D-I-D (COHORT(2-1))	D-I-D (COHORT(3-2))	D-I-D (COHORT(4-3))	D-I-D (COHORT(5-4))	D-I-D (COHORT(6-5))
	(1)	(2)	(3)	(4)	(5)
Wages					
OBC vs Others	-209.4**	-964.51***	86.95	301.48***	285.71***
	(101)	(221)	(102)	(64)	(60)
SC/ST vs Others	-319.29***	-1077.97***	-20.65	437.94***	91.41
	(123)	(229)	(98)	(63)	(91)
Proportion employed in white collar jobs					
OBC vs Others	-0.02***	-0.059***	0.004	0.009	0.019***
	(0.01)	(0.01)	(0.09)	(0.007)	(0.007)
SC/ST vs Others	-0.049***	-0.065***	-0.026**	0.031***	-0.015**
	(0.015)	(0.015)	(0.10)	(0.007)	(0.007)
Proportion employed in public sector jobs					
OBC vs Others	-0.0519****	-0.0145****	0.026****	0.0211****	
	(0.009)	(0.007)	(0.005)	(0.004)	
SC/ST vs Others	-0.0514****	-0.0299****	0.038****	0.0103****	
	(0.011)	(0.008)	(0.006)	(0.004)	

Note: Cohort 1 is Cohort 1 of NSS-55 and Cohort 2-6 are Cohort 1-5 of NSS-66, for the indicator of wages and white collar jobs. The proportion employed in public sector jobs is for the fiest 5 cohorts of NSS-66.