SPECIAL ARTICLE

Was the Mandal Commission Right? Differences in Living Standards between Social Groups

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Affirmative action has been at the heart of public policy towards the socially disadvantaged in India. Compensatory discrimination policies adopted for the scheduled castes and scheduled tribes since independence are now available to Other Backward Classes. This paper examines why the OBCs have lower living standards, as measured by per capita household consumption expenditures, relative to the mainstream population, and whether these reasons are similar to those observed for SCs and STs. It finds that while the causes of the gap in living standards for the OBCs are broadly similar to those for the SCs and STs, the role of educational attainment in explaining the gap is particularly important for the OBCs.

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Affirmative action policies to increase access to education and employment have been at the core of public policies towards historically disadvantaged or non-dominant groups in both developed and developing countries (Weisskopf 2004; Mcharg and Nicolson 2006; Yuill 2006). Among developing countries, India has had perhaps the longest history of affirmative action to counter caste and ethnic discrimination (Revankar 1971). Article 46 of the 1950 Constitution pronounced:

> The State shall promote with special care the educational and economic interests of the weaker sections of the people, and, in particular, of the scheduled castes (SCs) and the scheduled tribes (STs), and shall protect them from social injustice and all forms of exploitation.

Articles 341 and 342 of the Constitution included a list of castes and tribes entitled to such protection, and the castes and the tribes included in these two lists are known as SC and ST, respectively. As a consequence of this provision, a policy of compensatory discrimination via reserved positions was implemented both at the national and sub-national levels in the allocation of university places and public service appointments (Galanter 1984).[1]

While there were references in the Constitution to an undefined wider category of "depressed" or "socially and educationally backward classes of citizen", the identity of these groups – the Other Backward Classes (OBC) – was left unclear (Bayly 1999), and no special measures such as job reservations or quotas in educational institutions were implemented for these groups.

Recently, several papers have examined the causes of economic disparities among social groups in India. These studies attempt to answer why living standards among SCs and STs are much lower than the rest of the population (Bhaumik and Chakrabarty 2006; Kijima 2006; Borooah 2005; Gang, Sen and Yun 2008). Gang, Sen and Yun (2008) show that along with lower educational attainment, the occupational characteristics of SC households place them at a disadvantage, while for ST households, locational factors rather than occupational characteristics are more important in explaining higher poverty status. Borooah, Dubey and Iyer (2007) explicitly address the effectiveness of job reservations vis-à-vis the economic opportunities of SC and ST persons, finding that the boost provided by job reservations in raising their proportion in regular salaried employment is 5%.

The issue of whether the compensatory discrimination provided by the Indian state to SCs and STs should also be provided to OBCs has remained at the heart of the affirmative action debate in India, with recent proposals to extend reservation policies for

OBCs to elite institutions of higher education and to the private sector (Thorat 2004; Thorat, Aryamma and Negi 2005). The origin of the debate has been the Mandal Commission's recommendation for providing compensatory discrimination to the OBC community. So far, there have been no studies that have examined the economic status of the OBC, and compared the determinants of the economic conditions of the OBC to those of SC and ST social groups and the remainder of the population.[2]

This paper examines the determinants of living standards for OBC and other social groups in India. Living standards in SC, ST and OBC households are much lower than in the mainstream population, which comprises the Hindu forward castes and other religious groups, including those belonging to the Christian, Muslim and Sikh faiths. We call these households Other Classes and Castes (OCC).[3]

We use average monthly per capita expenditure (PCE) as the measure of living standards. In urban areas, overall, average monthly PCE is Rs 1,208.05. This varies widely by group, with PCEs at Rs 849.65, Rs 918.95, Rs 1,010.37 and Rs 1,499.83, respectively for SC, ST, OBC and OCC households (Table 2). In rural areas, monthly PCE is Rs 597.32. By group, we see PCEs of Rs 505.05, Rs 434.75, Rs 597.25 and Rs 742.44 respectively for SC, ST, OBC and OCC households (Table 1). Thus, the gap in urban living standards for ST, SC and OBC households, as a percentage of urban OCC PCE, is 38.7, 43.7 and 32.6, respectively. The rural living standard gap for ST, SC and OBC households, as a percentage of rural OCC PCE, is 41.4, 32.0 and 19.6, respectively. These are large living standard gaps, suggesting that the incidence of poverty among OBC, SC and ST households is significantly higher than among OCC households.

We study differences in living standards among social groups in India using the Oaxaca decomposition analysis (Oaxaca 1973). Our approach allows us to develop a better grasp of the sources of the differences in living standards among social groups in India, and in particular examine whether differences in levels of schooling, occupational choice and demographic characteristics hold the key to understanding the living standard gap, and whether the income-generating strength of household or individual characteristics (for example, education and occupation) are different for each group.

We investigate whether the factors that explain lower living standards among OBC households are similar to those for SC and ST households. If a similar set of factors explain the lower living standards of OBC as well as SC/ST households relative to OCC households, it provides a stronger justification for the Mandal Commission's finding that OBC share the same economic status in Indian society as the SC and ST. We evaluate specific reservation policies based on our findings on the causes of lower living standards – and in particular, the roles of education and occupation – among OBC households in comparison to SC and ST households.

In the next section, we summarise the historical background of the debate in India on extending compensating

Table 1: Sample Means, Rural Households

Variables	OBC		SC		ST		OCCs	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Monthly PCE	597.250	626.239	505.049	382.650	434.752	328.239	742.438	824.98
Log of monthly PCE	6.234	0.498	6.102	0.455	5.953	0.462	6.422	0.554
Demographic and other control variables								
Age of household head	44.334	12.149	43.167	12.247	42.552	11.844	45.195	12.249
Household size	5.013	2.450	4.832	2.187	4.885	2.203	4.888	2.416
Landowned (hectares)	765.159	1,527.09	340.723	1,046.06	859.778	1,290.33	1,126.88	13,513.2
Education variables (household head)								
Not literate	0.450	0.498	0.560	0.496	0.621	0.486	0.307	0.461
Literate, below primary	0.413	0.492	0.348	0.476	0.316	0.465	0.458	0.498
Literate, below secondary	0.107	0.309	0.073	0.261	0.048	0.214	0.167	0.373
Literate, secondary and above	0.030	0.170	0.019	0.136	0.015	0.120	0.068	0.251
Occupation variables								
Self-employed in non-agriculture	0.180	0.384	0.143	0.351	0.068	0.251	0.172	0.378
Self-employed in agriculture	0.339	0.473	0.183	0.386	0.384	0.486	0.440	0.496
Agricultural labour	0.242	0.428	0.437	0.496	0.384	0.486	0.165	0.371
Non-agricultural labour	0.098	0.297	0.151	0.358	0.116	0.320	0.080	0.271
Miscellaneous	0.098	0.296	0.077	0.266	0.048	0.214	0.142	0.349
Number of observations	25,542		12,325		6,462		18,951	

SD stands for standard deviation. Sample means are calculated using the individual household multiplier.
Source: NSS consumer expenditure survey, 61st round (2004-05).

Table 2: Sample Means, Urban Households

Variables	OBC		SC		ST		OCC	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Monthly PCE	1,010.37	1,026.978	849.654	670.689	918.949	664.273	1,499.832	2,017.17
Log of monthly PCE	6.712	0.593	6.569	0.562	6.619	0.629	7.058	0.662
Demographic and other control variables								
Age of household head	42.915	12.124	42.231	11.714	41.856	11.408	44.520	12.322
Household size	4.445	2.343	4.599	2.191	4.267	2.147	4.331	2.197
Education variables (household head)								
Not literate	0.218	0.413	0.303	0.459	0.313	0.464	0.106	0.308
Literate, below primary	0.425	0.494	0.447	0.497	0.370	0.483	0.328	0.470
Literate, below secondary	0.225	0.417	0.160	0.366	0.207	0.405	0.272	0.445
Literate, secondary and above	0.133	0.340	0.090	0.287	0.111	0.314	0.294	0.456
Occupation variables								
Self-employed	0.412	0.492	0.298	0.457	0.240	0.428	0.403	0.490
Regular wage/salary earning	0.375	0.484	0.433	0.496	0.417	0.493	0.450	0.496
Casual labour	0.142	0.350	0.227	0.419	0.252	0.435	0.059	0.236
Miscellaneous	0.070	0.256	0.042	0.200	0.090	0.287	0.088	0.283
Number of observations	13,764		5,694		1,268		15,818	

Sample means are calculated using the individual household multiplier.
Source: NSS consumer expenditure survey, 61st round (2004-05).

discrimination to the OBCs. The second section discusses the mean characteristics of the social groups in our analysis – OBC, SC, ST and OCC. The next section investigates the determinants of living standards for these social groups, examining the relative influence of various socio-economic variables on monthly PCE. The following section employs decomposition analysis using regression coefficients to examine and explain living standard gaps between OBC, SC, ST on one hand and the mainstream population on the other. Finally, the concluding section provides a summary of our study and its main conclusions.

Extending Affirmative Action to Other Backward Classes

In 1979, a commission under the chairmanship of B P Mandal – popularly known as the Mandal Commission – was established by the ruling Janata Party under the prime ministership of Morarji Desai with the objective of identifying the OBCs. In 1980, it published its findings, placing a total of 3,428 communities in the OBC category, comprising 54.4% of the country's population (Bayly 1999). The Mandal Commission recommended that there should be employment quotas in public sector organisations (including nationalised banks and private sector undertakings which received financial assistance from the government in one form or the other) and reserved places in higher educational institutions of 27% for the OBC in addition to 22.5% job quotas and seats in higher educational institutions that were already in place for SCs and STs (Ramaiah 1992). The figure of 27% was arrived at as the Supreme Court limited total reservations to under 50%.

Due to a change in the government in 1979, the Mandal Commission's report was shelved. In 1989, a successor to the Janata Party – the Janata Dal – achieved power as the leading party in a national coalition government under the prime ministership of V P Singh. It announced plans to implement the Mandal Commission recommendations, significantly increasing quotas in public sector employment and in university admissions for the communities which had been classified as OBC by the Mandal Commission.[4]

The announcement led to violent resistance in many parts of India, including a series of widely publicised self-immolations by high-caste students (Bayly 1999).

In recent years, with the coming to power of the Congress-led government of Manmohan Singh in 2004, there have also been proposals to extend the quotas to private sector jobs and to certain privileged institutions of higher education. In April 2008, the Supreme Court upheld the Mandal Commission recommendation that 27% of seats in government-funded institutions (including the prestigious Indian Institutes of Technology and Indian Institutes of Management) be reserved for OBCs.[5]

However, the Supreme Court did not agree to extend the reservations for OBCs to educational institutions in the private sector.

Unlike compensatory discrimination policies for SCs and STs implemented in the immediate post-independence period, which were widely seen as justified and did not cause much controversy, there has been significant criticism of the Mandal Commission findings and recommendations. First, the methods and criteria adopted by the Mandal Commission to define a backward class were widely regarded as flawed, raising scepticism about whether the communities determined to be OBC by the commission were truly socially disadvantaged or deserving of the massive welfare programmes subsumed under the reservation policy (Beteille 1992; Radhakrishnan 1996). Second, several observers felt that the reasons why successive governments tried to implement the Mandal Commission recommendation had more to do with political factors than economic and social, as several of the communities included in the Mandal Commission's OBC list formed important vote banks for political parties both in power and in the opposition (Sivaramayya 1996; Bayly 1999).

In this paper, we examine whether and why OBCs in India are economically disadvantaged, and whether the Mandal Commission was correct in identifying them as a social group to be brought under the ambit of affirmative action policies.

Data and Descriptive Statistics

For our analysis, we use data from the 61st round of India's National Sample Survey (NSS) on consumer expenditure in rural and urban areas, collected in 28 states and seven union territories. The survey period extended from July 2004 to June 2005. It should be noted that the "thick sample" round previous to the 61st round – the 55th round – was the first time the NSS demarcated OBCs from other non-scheduled caste Hindus in the expenditure survey. Census data on OBCs was not available till the 2011 Census.[6]

In previous rounds, expenditure data on OBCs was combined with that for other non-scheduled caste Hindus, making examination of differences in living standards between OBC and OCC households impossible.

The NSS data consists of a cross-section of a geographically distributed random sample of households. Besides information on household consumer expenditure and demographic behaviour, the NSS contains detailed questions on other household characteristics such as educational levels and occupation of the head of the household. Since the NSS provides expenditure data by household, our estimates of monthly PCE are at the level of the household, not at the level of the individual.[7]

We restrict our sample to households where the age of the head of the household is between 20 and 70 years.

Tables 1 and 2 show the mean characteristics of the sample rural and urban households, respectively. We first describe the mean characteristics of rural households (Table 1). Considering demographic characteristics, we find that OBC, SC and ST households have a lower mean age for the head of the household compared to OCC households. SC households are also smaller than OCC households – the mean household size for SC households is 4.83 compared with a mean household size of 4.89 for OCC households. On the other hand, OBC households are on average larger than OCC households, and there is almost no difference in mean household size between ST and OCC households. OCC households own the most land, followed by ST households and OBC households. The average landholding of SC

households is substantially lower than that of the other three social groups.

A much higher proportion of SC and ST households are not literate, as measured by the literacy status of the household head (56.0% and 62.1%, respectively), compared with OBC households (45.0%) and OCC households (30.7%). With respect to occupation,[8] compared to SC households, a greater proportion of OBC households are self-employed in agriculture. A lower proportion of OBC households are agricultural labourers compared to SC and ST households.

We next describe the mean characteristics of urban households (Table 2). We find that OBC, SC and ST households have a lower mean age for the head of the household compared to OCC households. OBC and SC households are also larger than OCC households – the mean household size for OBC and SC households are 4.45 and 4.56 respectively, compared with a mean household size of 4.33 for OCC households. On the other hand, ST households are smaller than OCC households with a mean household size of 4.27.

The proportion of OCC households whose heads are illiterate is 10.6%, almost less than half of the next literate group – OBC households – where the illiteracy rate is 21.8%. The illiteracy rate for SC and ST households are 30.3% and 31.3% respectively. With respect to occupation, the proportion of SC and ST households who are casual labourers are significantly higher than for OBC and OCC households. The proportion of OBC households where the head of the household is a salaried worker is substantially less than for SC, ST and OCC households.

Determinants of Living Standards

To study determinants of living standards, we regress log average monthly PCE on various household characteristics in addition to state/region fixed effects. The regression equation is $y = X\beta + e$ where y, X, and β are, respectively, an N×1 vector of log real average monthly PCE, an N×K matrix of independent variables, and a K×1 vector of coefficients.

We now discuss the specification of our regression equation, which we estimate using ordinary least squares (OLS) for households in the OCC group, OBCs, SCs and STs, separately. We also discuss the implications of the estimated coefficients on the determinants of living standards. Though the reported coefficients for each of the independent variables are broadly similar across all four social groups, likelihood ratio tests (not reported) show that the coefficients for each group are significantly different from the other groups.[9]

Our focus is on education and occupation. To capture the effect of education on the household's living standards, we use dummy variables corresponding to the highest educational level completed by the head of the household. We include dummy variables corresponding to "literate, below primary level", "literate, below secondary level", and "literate, secondary level and above". (The reference group is households where the head of the household is not literate.) With respect to occupation, we include dummy variables corresponding to four occupational groups for rural households – self-employed in non-agriculture, self-employed in agriculture, agricultural labour and non-agricultural labour – and three occupational categories for urban households – self-employed, wage/salaried workers, and casual labour (with the reference group for both rural and urban households being the occupational category we term miscellaneous).

Besides the explanatory variables capturing occupation and educational levels, we include in our analysis a number of background and demographic variables. We include the generational impact reflected in the age of the person. We use two variables – age (in years), and age-squared (years squared divided by 100), to reflect the non-linear effects of age on living standards. We incorporate the effect of household size on living standards, as previous studies have noted a negative relationship between PCE and the size of the household (Krishnaji 1984). Given the possible presence of economies of scale in household consumption, we include squared household size as an additional control variable. We also include total land owned by the household as a measure of the household's wealth status for rural households.

We include controls for the location of the household. There are significant differences in rural living standards across Indian states, with states in north-western India (Haryana, Punjab) along with the state of Kerala having higher living standards than the national average (Datt and Ravallion 1998). In contrast, living standards in Assam, Bihar and Orissa are much lower than the national average. Furthermore, there is non-negligible variation in rural living standards within Indian states across NSS regions. These variations are crudely associated with differences in agro-ecological conditions which may be vastly different within a state, parts of which may be more similar to those prevailing in geographically contiguous states (Palmer-Jones and Sen 2003).[10]

Similar differences in living standards across Indian states are also evident for urban households. More industrialised states such as Tamil Nadu and West Bengal have higher urban living standards than less industrialised states such as Orissa and Uttar Pradesh. Dubey, Gangopadhyay and Wadhwa (2001) find that urban household PCE increases with the size of the city in which the household is located. This could be attributed to the presence of stronger agglomeration economies in the larger cities. It suggests that there may also be significant living standards differences across NSS regions within Indian states, with regions that contain larger cities having higher living standards on average than regions with smaller cities. The omission of dummy variables to capture the location of the household may bias the results if the OBC households are mostly located in Indian states and NSS regions where living standards are lower, and if these lower living standards are due to state-level and sub-state NSS region-level factors exogenous to the household, such as the nature of state-level public policies toward poorer households, agro-climatic factors or the presence of agglomeration economies. We present our results with the inclusion of NSS region fixed effects.[11]

The OLS estimates of the regression equation for the rural sample are reported in Table 3 (p 47), and for the urban sample in Table 4 (p 47). We first describe our results for the rural sample. The estimated coefficients show that greater educational

attainment is associated with a statistically significant increase in PCE, with everything else held constant. This is true for all four household groups. However, higher educational attainment from the below-secondary post-primary level upwards seems to lead to a greater increase in PCE for OCC households when compared with OBC, SC and ST households.

We now turn our attention to occupation and its impact on PCE. Compared with the occupational category of miscellaneous, all other occupational categories have lower PCE, i e, lower living

Table 3: Determinants of (log) Monthly Per Capita Expenditure for Rural Households

	OBC	SC	ST	OCCs
Intercept	6.392***	6.363***	6.173***	6.665***
	(0.0007)	(0.0001)	(0.0013)	(0.001)
Demographic control variables				
Age	0.018***	0.018***	0.012***	0.010***
	(0.00003)	(0.0001)	(0.001)	(0.001)
Age square	-0.016***	-0.012***	-0.009***	-0.006***
	(0.0003)	(0.00004)	(0.0001)	(0.001)
Household size	-0.127***	-0.147***	-0.145***	-0.130***
	(0.00005)	(0.0009)	(0.0001)	(0.001)
Household size squared	0.005***	0.007***	0.006***	0.005***
	(0.00001)	(0.0001)	(0.0001)	(0.0001)
Landowned (hectares)	0.001***	0.0001***	0.001***	0.0001***
	(0.00001)	(0.000001)	(0.00001)	(0.00001)
Education variables – reference group: "not literate"				
Literate, below primary	0.127***	0.104***	0.120***	0.147***
	(0.00001)	(0.00001)	(0.0002)	(0.001)
Literate, below secondary	0.264***	0.239***	0.269***	0.319***
	(0.00002)	(0.00002)	(0.0004)	(0.001)
Literate, secondary and above	0.487***	0.453***	0.489***	0.564***
	(0.0003)	(0.0005)	(0.00008)	(0.001)
Occupation variables – reference group: "miscellaneous"				
Self-employed in non-agriculture	-0.053***	-0.095***	-0.095***	-0.070***
	(0.0002)	(0.022)	(0.0005)	(0.0001)
Self-employed in agriculture	-0.074***	-0.083**	-0.179***	-0.066***
	(0.0002)	(0.0003)	(0.0004)	(0.0002)
Agricultural labour	-0.254***	-0.234***	-0.260***	-0.313***
	(0.0002)	(0.0002)	(0.0005))	(0.0003)
Non-agricultural labour	-0.146***	-0.145***	-0.132***	-0.191***
	(0.0002)	(0.0003)	(0.0005)	(0.0003)
R-squared	0.374	0.375	0.438	0.417

(1) Observations are weighted by the individual household multiplier. (2) Dependent variable is the natural logarithm of monthly PCE. (3) Standard errors in parentheses are robust to heteroskedasticity and clustered residuals within villages. (4) *** denote significance at the 1% level. (5) Though estimates are not reported, NSS region dummy variables are included in the regression estimation.
Source: NSS consumer expenditure survey, 61st round (2004-05); our calculations.

standards among all four social groups. Agricultural labourer household are more likely to be poorer among all occupational groups, controlling for other determinants. Interestingly, OBC households who are self-employed in non-agriculture are relatively better off compared to other groups, as evidenced by the smaller magnitude on the coefficients on self-employed in non-agriculture for OBC households as compared to SC, ST and OCC households.

With respect to demographic factors, older heads of households are associated with a higher PCE. However, this relationship is non-linear, with further increases in age leading to less than proportionate increases in PCE. A non-linear relationship is also found between living standards and household size; PCE first decreases and then increases. The ownership of land seems to have a positive effect of similar magnitude on PCE for all households.

The results imply that rural households that are larger, where the head of the household is not literate, is an agricultural labourer, is younger in age, and those that possess a smaller amount of land have lower living standards. We also find that the effects of explanatory variables on PCE vary over social groups.

Turning now to the results for urban households in Table 4, we find that as in the case of rural households, higher educational achievements have a monotonically increasing effect on PCE for all social groups. However, the return to education in terms of increasing living standards is more evident among ST and OCC households compared to OBC and SC households. With respect to occupation, casual labourers are most likely to have lower living standards, and this is observed for all social groups. Salaried workers are likely to have higher living standards than other occupations in the case of SC households, though this is not the case with OBC, ST and OCC social groups. As in the case of rural households, age and household size have similar non-linear effects on PCE. While PCE increases and then decreases with the age of the head of the household, PCE decreases then increases with the size of the household.

Accounting for Differences in Living Standards

In this section, we seek to explain why living standards are lower among OBC households compared to OCC households, and see whether the determinants of the living standards gap between OBC and OCC households are different than those for SC and ST versus OCC households.

Table 4: The Determinants of (log) Monthly Per Capita Expenditure for Urban Households

	OBC	SC	ST	OCCs
Intercept	6.861***	6.536***	6.174***	6.823***
	(0.0013)	(0.0019)	(0.005)	(0.0013)
Demographic control variables				
Age	0.011***	0.021***	0.046***	0.017***
	(0.00006)	(0.0001)	(0.00002)	(0.0005)
Age square	-0.008**	-0.018***	-0.052***	-0.010***
	(0.00006)	(0.0001)	(0.00002)	(0.00006)
Household size	-0.173***	-0.220***	-0.164***	-0.199***
	(0.0001)	(0.0002)	(0.0004)	(0.00001)
Household size squared	0.007***	0.010***	0.007***	0.008***
	(0.00001)	(0.0001)	(0.0001)	(0.00001)
Education variables – reference group: "not literate"				
Literate, below primary	0.174***	0.164***	0.247***	0.171***
	(0.0002)	(0.0003)	(0.0008)	(0.0003)
Literate, below secondary	0.430***	0.374***	0.467***	0.443***
	(0.0003)	(0.0004)	(0.001)	(0.0003)
Literate, secondary and above	0.771***	0.627***	0.820***	0.814***
	(0.0003)	(0.0005)	(0.0013)	(0.0003)
Occupation variables – reference group: "miscellaneous"				
Self-employed	-0.064***	-0.021***	-0.328***	-0.023***
	(0.00004)	(0.0008)	(0.0014)	(0.0003)
Waged/salaried workers	-0.033***	0.172***	-0.135***	-0.040***
	(0.004)	(0.00007)	(0.0014)	(0.0004)
Casual labour	-0.281***	-0.132***	-0.485***	-0.324***
	(0.0004)	(0.00008)	(0.0015)	(0.0005)
R-squared	0.470	0.491	0.631	0.488

(1) Observations are weighted by the individual household multiplier. (2) Dependent variable is the natural logarithm of monthly PCE. (3) Standard errors in parentheses are robust to heteroskedasticity and clustered residuals within villages. (4) *** denote significance at the 1% level. (5) Though estimates are not reported, NSS region dummy variables are included in the regression estimation.
Source: NSS consumer expenditure survey, 61st round (2004-05); our calculations.

Sources of differences in living standards can be found in differences in household characteristics across groups (characteristics effect) and in differences in returns to household characteristics across groups (coefficients effect). The characteristics effect relies on the possibility that the characteristics contributing to living standards may differ among groups. For example, one group may have less education than another group, or be in bad jobs. The coefficients effect relies on the possibility that the effectiveness of household characteristics, as reflected in the regression estimates, may vary across groups. For example, education may be less effective in raising living standards in SC, ST and OBC households compared to OCC households. The coefficients effect reflects how differences in the regression coefficients across groups affect living standards.

As Gang, Sen and Yun (2008) argue, interpreting these two effects is always difficult and controversial as studies decomposing wage differentials show. The popular interpretation is that the characteristics effect is not due to discrimination while the coefficients effect may be related to an outcome of unequal treatment by society or discrimination.[12]

Though differences in characteristics are supposed to reflect differences in income-generating qualifications and credentials possessed by various groups, it is possible that the disparity in attributes might result from widespread discrimination against SC, ST and OBC groups in terms of educational opportunity and occupational choice.

On the other hand, it is not clear that discrimination is the only source of the coefficients effect. For example, educational quality may differ between scheduled and non-scheduled households for reasons not of discrimination. Hence, the differences in the coefficients on education may also capture differences in education quality between scheduled and non-scheduled households, in addition to capturing discrimination. Therefore, our interpretation is that the coefficients effect captures the part of the living standard gap caused by the differences in the effectiveness of characteristics in enhancing living standards between the comparison groups. These caveats should be kept in mind in interpreting decomposition results.

Using regression estimates of living standards, we can decompose the average differences in living standards measured in terms of per capita monthly expenditure between group A and B as follows:

$$\bar{y}_A - \bar{y}_B = (\bar{X}_A - \bar{X}_B)\beta_A + \bar{X}_B(\beta_A - \beta_B), \quad (2),$$

where the first and the second components represent the characteristics effect and the coefficients effect, respectively, and the over-bar represents the value of the sample average. Since OLS is used, the residuals effect $(\bar{e}_A - \bar{e}_B)$ disappears.[13]

We now discuss our empirical findings from the decomposition analysis. We focus on the percentage share that tells us what percentage of the total living standard gap is accounted for by that particular element or group of elements. We discuss the overall effects first, and then break down the overall effects into smaller subgroups. We discuss the living standard gap of the OBC relative to OCC households in Table 5, for SC relative to OCC households in Table 6 (p 49), and that of the ST compared with the OCC households in Table 7 (p 50). Tables 5, 6 and 7 provide the results of the aggregate breakdown, and for key groups of variables, for both rural and urban samples for the each of the paired comparisons.

We proceed by first discussing the aggregate effects and sub-aggregate effects for rural OBC households (first half of Table 5). The aggregate effects row shows the overall effects of characteristics versus coefficients in explaining differences in living standards. The top panel shows that 61.7% of the difference in living

Table 5: Decomposition of the Gap in Per Capita Expenditures between OBCs versus OCCs: Aggregate and Sub-Aggregate Effects

	Characteristics Effect		Coefficients Effect	
	Estimate	Share (%)	Estimate	Share (%)
Rural households				
Aggregate effects	0116.***	61.7	0.072***	38.3
	(0.011)		(0.013)	
Intercept	–		0.244***	129.8
			(0.088)	
Landowned (hectares)	0.0002	0.1	-0.036***	-19.1
	(0.0002)		(0.002)	
Age	0.004***	2.1	-0.129	-68.6
	(0.0003)		(0.083)	
Household size	0.009***	4.8	-0.002	-1.1
	(0.0003)		(0.023)	
Education	0.047***	25.0	-0.022**	-11.7
	(0.002)		(0.010)	
Occupation	0.024***	12.8	0.004	2.1
	(0.001)		(0.003)	
NSS region dummy variables	0.031***	5.9	0.013*	6.9
	(0.011)		(0.008)	
Urban households				
Aggregate effects	0.203***	58.7	0.143***	41.3
	(0.012)		(0.015)	
Intercept	-	-	-0.002	-0.6
			(0.123)	
Age	0.012***	3.5	0.190	54.6
	(0.001)		(0.125)	
Household size	0.009***	2.6	-0.081**	-23.4
	(0.001)		(0.033)	
Education	0.135***	39.0	-0.005	-1.7
	(0.004)		(0.004)	
Occupation	0.024***	6.9	0.010	2.9
	(0.002)		(0.009)	
NSS region dummy variables	0.022***	6.4	0.033***	9.3
	(0.011)		(0.012)	

(1) Standard errors in parentheses. (2) ***, **, and * denote significance at the 1, 5 and 10% respectively. (3) Share is the percentage of 0.188 log-points in rural, and of 0.347 log-points in urban.
Source: NSS consumer expenditure survey, 61st round (2004-05).

standards between the OBC and OCC households is explained by differences in the levels of characteristics possessed by the two groups, while 38.3% is explained by differences in the regression coefficients. Both aggregate characteristics and coefficients effects are significant at the 1% level of significance. If in both groups, the various variables influencing living standards had the same strength (i e, their coefficients had been equal), then 38.3% of the lower living standards in OBC households compared to OCC households would disappear. On the other hand, if both groups had the same characteristics, 61.7% of the living standard gap would disappear.

In the first half of Table 5, we also see the breakdown of characteristics and coefficients effects into important variable groupings for the rural sample. We see the importance of the characteristics effect for education in determining the living standard gap,

contributing 25%. The coefficients effect of education is a negative 11.7%. Thus, it is the characteristics effect of education rather than its coefficients effect, which explains why OBC rural households have a much lower level standard of living compared to OCC households. Occupational structure is also important, but not as much as education. The characteristics and coefficients effects of occupation contribute 12.8% and 2.1% respectively to the living standard gap.

Among the control variables, landowned, household size, and age do not contribute significantly to the living standard gap (and in fact, the coefficients effect of landownership help mitigate the living standard gap). The characteristics and coefficients effects of landowned contribute 0.1% and –19.1% respectively to the living standard gap. The coefficients effect of age structure (age and age-squared taken together) is not significant while the characteristics effect is positive and significant, though small. For household size, we find the characteristics effect is positive, and the coefficients effect is negative and small. Finally, locational factors are not important in explaining the large gap in living standards between rural OBC and OCC households – the characteristics and coefficients effects of the NSS region dummy variables together contribute only 12.8% to the living standard gap.

Moving now to urban households (second half of Table 5), we find that 58.7% of the difference in living standards between the OBC and OCC households is explained by the differences in the levels of characteristics possessed by the two groups, while 41.3% is explained by the differences in the regression coefficients. Both aggregate characteristics and coefficients effects are significant at the 1% level of significance. The characteristics effect of education along with the coefficients effect of age dominates other effects in explaining the living standard gap between OBC and OCC households. The characteristics effect of education explains 39.0% of the living standard gap while the coefficients effect of age explains 54.6%. The coefficients effect of education explains only a negative 1.7% of the living standard gap. Interestingly, occupational structure has a very limited role to play in explaining the urban living standard gap for OBC households – the characteristics and coefficients effects of occupation are 6.9% and 2.9%, respectively. Similar to rural households, locational factors (as captured by the NSS regional dummies) are not important in explaining the living standard gap for urban households, contributing only 15.7% to the living standard gap.

We now examine the determinants of differences in living standard between SC and OCC households in Table 6. For the rural sample, the aggregate characteristics and coefficients effects for SC households are similar to OBC households (first half of Table 6). The aggregate characteristics effect contributes 55.9% of the living standard gap. The coefficients effect contributes 44.1% of the living standard gap. Similar to OBC households, a large proportion of the difference in living standards can be explained by the characteristics effects of education and occupation – these contribute 23.1 and 25% respectively of the living standard gap. However, the contribution of the coefficients effects for these two variables is small, –11.3% for education and –5.6 % for occupation. The characteristics and coefficients effects of other variables are small, except the coefficients effect of age at –42.2%.

As in the case with rural households, the aggregate characteristics and coefficients effects for urban SC households are similar to urban OBC households – the characteristics and coefficients effects contribute 63.6 and 36.4% of the living standard gap respectively (second half of Table 6). The characteristics effect of education explains much of the living standard gap, contributing 39.9%. The characteristics effect of occupation contributes only 10.6% of the gap for SC households. Other variables have little role to play in explaining the living standard gap. Locational factors have a minor role to play in explaining the gap.

Finally, examining the determinants of the living standard gap for ST versus OCC households, the aggregate characteristics and coefficients effects for rural ST households is 59.7 and 40.3% respectively (first half of Table 7). The characteristics effects of education and occupation contribute 18.9% and 13.7% respectively of the rural living standard gap. The contribution of the coefficients effects for these two variables is small, –5.5% for education and 2.8% for occupation. Locational factors explain much more of the ST rural living standard gap than they do of the OBC and SC rural living standard gap, with the combined characteristics and coefficients effects of NSS Region dummy variables explaining 33.6% of the rural living standard gap for ST households.

Table 6: Decomposition of the Gap in Per Capita Expenditures between Scheduled Castes vs OCCs: Aggregate and Sub-Aggregate Effects

	Characteristics Effect		Coefficients Effect	
	Estimate	Share (%)	Estimate	Share (%)
Rural households				
Aggregate effects	0.179***	55.9	0.141***	44.1
	(0.008)		(0.011)	
Intercept	-		0.304***	95.0
			(0.092)	
Landowned (hectares)	0.001	0.3	-0.010**	-3.1
	(0.001)		(0.004)	
Age	0.009***	3.1	-0.135	-42.2
	(0.001)		(0.088)	
Household size	0.001***	0.3	0.038	12.2
	(0.0001)		(0.027)	
Education	0.074***	23.1	-0.036**	-11.3
	(0.003)		(0.014)	
Occupation	0.080***	25.0	-0.018***	-5.6
	(0.004)		(0.005)	
NSS region dummy variables	0.013*	4.1	-0.002	-0.6
	(0.008)		(0.007)	
Urban households				
Aggregate effects	0.311***	63.6	0.179***	36.4
	(0.009)		(0.015)	
Intercept	-	-	0.226	46.2
			(0.138)	
Age	0.016***	3.3	-0.051	-10.4
	(0.001)		(0.144)	
Household size	0.033***	7.0	0.039	8.0
	(0.001)		(0.044)	
Education	0.195***	39.9	-0.035***	-7.2
	(0.006)		(0.008)	
Occupation	0.052***	10.6	-0.035***	-7.2
	(0.004)		(0.012)	
NSS region dummy variables	0.014***	2.9	0.033	6.7
	(0.005)		(0.138)	

(1) Standard errors in parentheses. (2) ***, **, and * denote significance at the 1, 5 and 10% respectively. (3) Share is the percentage of 0.320 log-points in rural, and of 0.489 log-points in urban.
Source: NSS consumer expenditure survey, 61st round (2004-05).

In the case of urban households, the aggregate characteristics and coefficients effects of ST households contribute 68.3 and 31.7% of the living standard gap (second half of Table 7). The characteristics effect of education and the coefficients effect of age dominate all other effects, contributing 39% and –120% of the urban living standard gap respectively. The coefficients effect of education explains only –1.6% of the living standard gap. The characteristics

Table 7: Decomposition of the Gap in Per Capita Expenditures between Scheduled Tribes vs OCCs Aggregate and Sub-Aggregate Effects

	Characteristics Effect		Coefficients Effect	
	Estimate	Share (%)	Estimate	Share (%)
Rural households				
Aggregate effects	0.280***	59.7	0.189***	40.3
	(0.010)		(0.016)	
Intercept	-	-	0.135	28.8
			(0.103)	
Landowned (hectares)	0.001	0.2	-0.038***	-8.1
	(0.0002)		(0.005)	
Age	0.013***	2.8	-0.002	-0.4
	(0.0011)		(0.102)	
Household size	0.005***	1.1	0.059*	12.6
	(0.0004)		(0.034)	
Education	0.089***	18.9	-0.026	-5.5
	(0.0036)		(0.020)	
Occupation	0.064***	13.7	0.013	2.8
	(0.003)		(0.008)	
NSS region dummy variables	0.109***	23.2	0.049***	10.4
	(0.013)		(0.103)	
Urban households				
Aggregate effects	0.300***	68.3	0.139***	31.7
	(0.013)		(0.021)	
Intercept	-	-	0.702***	159.9
			(0.255)	
Age	0.027***	6.2	-0.525**	-119.6
	(0.002)		(0.251)	
Household size	-0.006***	-1.4	-0.114*	-26.0
	(0.002)		(0.068)	
Education	0.171***	39.0	-0.007	-1.6
	(0.006)		(0.009)	
Occupation	0.058***	13.2	0.013	3.0
	(0.010)		(0.014)	
NSS region dummy variables	0.051***	11.6	0.069***	
	(0.010)		(0.018)	15.7

(1) Standard errors in parentheses. (2) ***, **, and * denote significance at the 1, 5 and 10% respectively. (3) Share is the percentage of 0.469 log-points in rural, and of 0.439 log-points in urban.
Source: NSS consumer expenditure survey, 61st round (2004-05).

and coefficients effects of occupation contribute 13.2% and 3% to the living standard gap of urban ST households.

The overall findings suggest a rather murky picture of social justice in India. Both in rural and urban areas, the decomposition analysis suggests that the characteristics effects dominates the coefficients effect, explaining around 55-70% of the difference in living standards between SC, ST and OBC households on the one hand and OCC households on the other. Differences in educational attainment are the most important source of the characteristics effect in urban areas, explaining around 40% of the differences in living standards for these social groups. Differences in occupational characteristics are relatively less important in determining the urban living standard gap, explaining around 7-13% of the difference in living standards. Locational factors, characteristics and coefficients effects combined play a small role in explaining the urban living standard gap for OBC and SC households, explaining around 10-16% of the gap. For ST households, locational factors are important in explaining the living standard gap, contributing around 27% to the living standard gap. Interestingly, differences in returns to education do not explain the lower living standards of OBC, SC and ST households as compared to OCC households.

With respect to the rural living standard gap, the characteristics effects of both education and occupation matter for all three social groups. The characteristics effect of education matters slightly more for OBC (25%) and SC households (23.1%) as compared to ST households (18.9%). The characteristics effect of occupation matters much more for SC households (25%) as compared to OBC (12.8%) and ST households (13.7%). Surprisingly, the coefficients effect of education is negative for all three social groups, suggesting that the returns to education lead to higher living standards for OBC, SC and ST households as compared to OCC households. The coefficients effect of occupation is relatively unimportant in explaining the rural standard gap. Differences in locational distribution are more important in explaining the living standard gap for ST households compared to SC and OBC households.

Our aggregate results indicate that the causes of the living standard gap between OBCs and OCCs are broadly similar to those for SCs and STs – the characteristics effects explain a larger proportion of the living standard gap as compared to the coefficients effect, both for rural and urban households. The disaggregated results indicate that the causes of lower living standards for OBCs in urban areas are broadly similar to the other two social groups and can be attributed mainly to lower levels of educational attainment among all three social groups compared to the rest of the population. However, in rural areas, the causes of lower living standards for the OBCs relative to the OCC are not identical to those for SCs and STs, with locational and occupational characteristics playing a less important role compared to differences in educational characteristics.

Summary and Conclusions

Recently, compensating discrimination has been extended in India to the OBC for admission into higher education institutions. This follows, partly, the recommendations of the Mandal Commission, set up in 1979 by the Janata Party government under Prime Minister Morarji Desai with a mandate to identify and suggest policy towards the socially or educationally backward. We use the 61st round of India's NSS on consumer expenditure to examine whether the OBC deserve recognition as a distinct social group requiring special social welfare programmes.

The living standards of OBCs, SCs and STs, are substantially lower than those of OCCs. By employing regression estimates of PCE and an Oaxaca decomposition analysis, we study how these differences in living standards arise. We undertake the decomposition analysis separately for rural and urban households, as the underlying causes for the differences in living standards may be different for rural and urban areas. Using a decomposition equation, we can explain differences in living standards in terms of differences in characteristics or differences in the coefficients.

We find that the factors that explain the living standard gap between the OBCs and OCCs are broadly similar to those for the SCs and STs – the characteristics effects explain much of the living standard gap, both for rural and urban households, relative to the coefficients effect. The results suggest that the roots of economic disadvantage for OBCs are not very different from those for SCs and STs, and that OBCs deserve recognition by the Indian government for targeted welfare and affirmative action programmes, as recommended by the Mandal Commission. In particular, for OBC households, lower levels of educational attainment as compared to OCC households are crucial, whether in rural or urban areas. In the case of SC and ST households, along with lower levels of educational attainment, occupational structure (in the case of SC households) and locational characteristics (in the ST households) also seem to matter in explaining living standard gap, especially in rural areas.

Our findings suggest an important role for policy in redressing the gap in living standards between OBCs and OCCs by increasing the educational attainment of OBC households, both in rural and urban areas. In this respect, the recent judgment of the Indian Supreme Court calling for extension of compensatory discrimination to OBCs for entry into higher education may help. There is also a role for the government to expand the provision of schooling to rural areas, specifically targeted to the socially disadvantaged groups in India. However, our results also suggest that occupational factors are not responsible for the living standard gap for OBC households both in rural and urban areas, and there is little support from the evidence presented in this paper that implementation of the Mandal Commission's recommendation to introduce quotas for OBCs in government jobs will have a significant impact in reducing the gap in living standards between OBCs and the mainstream population.

NOTES

1 SC and ST were also favoured by the Indian government in land redistribution policies, loan allocations, and a large number of other official development programmes. Quotas were also introduced for SC and ST in state legislatures and local governments.

2 Zacharias and Vakulabharanam (2011) look at changes in wealth disparities between OBC and other social groups, but do not examine the determinants of these changes.

3 To make our social groups comparable, we do not confine our analysis of the OCC households to the forward caste Hindu population, as several ST, SC and OBC households were also classified as belonging to religions other than Hinduism. The individuals in these households may have been originally Hindu, but may have converted to a different religion. Note that the OCC category is itself a heterogeneous group as it includes forward caste Hindus, Muslims, and Sikhs among others, and there are large differences in living standards between these communities, though not as large as the difference in living standards between OCC and the ST, SC and OBC social groups.

4 It should be noted that several state governments in India (such as Karnataka and Tamil Nadu) had already extended reservation policies to OBCs for jobs at the state government level.

5 The judgment excluded OBC children from households above a certain income level, or where one of the parents was employed in certain professions (such as doctors, engineers and bureaucrats) from the ambit of the reservation policy. (This was known as the "creamy layer" exclusion). See, Supreme Court (2008): Ashoka Kumar Thakur versus the Union of India, Writ Petition (civil) 265 of 2006. Also at: http://www.academics-india.com/OBC%20quota%20judgement.htm

6 Households self-report as OBCs in the NSS. Thus, if OCC households report that they are OBC to obtain the benefits of reservation, there may be some reporting bias in the expenditure surveys linked to this category. However, the sharp differences in living standards between OBCs and OCCs suggest that this is not the case for the most part.

7 This distinction becomes important when there are significant differences in the intra-household consumption of food and other necessities across SC, ST, OBC and OCC households.

8 The NSS classifies rural and urban households in occupational categories according to the main source of income reported for each surveyed household. This is called the "principal occupation code" of the household. The principal occupation is defined to be that which contributes at least 50% of household income. The category we term "miscellaneous" includes households where no one income source exceeds 50% or more of total income. Thus, the households in this category have very diversified income sources or more than one earning member.

9 This likelihood ratio test supports our approach of studying the OBC, SC and ST separately.

10 NSS regions are groupings of contiguous districts within states. There are 78 regions in the 61st round of the NSS consumer expenditure survey. The inclusion of NSS region dummies in the regressions also controls for differences in the cost of living across states.

11 Our results do not change when we use state dummies instead of NSS region dummies.

12 For example, see Thorat and Newman (2007).

13 For further discussion on the decomposition approach, see Oaxaca and Ransom (1999).

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