Social Group Disparities and Poverty in India[*]

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Abstract

This paper seeks to provide a profile of social group disparities and poverty in India, where social groups are classified as scheduled caste, scheduled tribe and other social groups, and examine the factors underlying differences in levels of living between these groups and for each group separately. The paper argues that social group disparities in levels of living are the result of historically rooted 'social disadvantages' for scheduled castes and scheduled tribes, by way of social exclusion and physical exclusion respectively, which continue to operate in contemporary Indian society.

Keywords: Poverty, Scheduled Caste, Scheduled Tribe, Exclusion, India.
JEL classification: I3

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Section 1: Introduction

'Economic growth with social justice' or 'growth with equity' has been the basic objective of public policy in India since Independence and refers to a broad based strategy of development, with an emphasis on reduction of poverty. But, whether and the extent to which the poor have actually benefited from the growth process has always been an issue of heated academic debate. In recent years, this debate has focused on the effect of economic liberalization policies on poverty in India. Such debates have not been confined to India, but have been the subject of much empirical enquiry in a global context leading to a vast body of literature on poverty, inequality and growth and their inter-relations. However, the focus of much of this literature has been on vertical inequalities i.e. inequalities across income or expenditure classes. In a plural society like India, with people of different castes and religions, it is equally important to focus on 'horizontal inequalities' i.e. disparities between certain identifiable groups in the economy. In India, there are historically marginalized 'social groups' such as the scheduled castes (SC) and scheduled tribes (ST), who comprise a quarter of India's total population (Census of India, 1991). There are separate provisions for their welfare in the 'Constitution of India', which form the basis of targeted development policies by the State to raise the socio-economic status of these groups in absolute terms as well as relative to the rest of society. This paper seeks to provide a profile of social group disparities and poverty in India (where social groups are classified as SC, ST and other social groups categorized as 'Others') by outlining the trends in growth, poverty and inequality for these sub-groups in the economy. It then seeks to examine the factors underlying differences in levels of living (as represented by monthly per capita consumption expenditure) between these groups and for each group separately. The paper is structured as follows: the next section provides a brief historical overview, which situates the development issues of SC and ST in their social context. Section 3 describes the data source for the study. Sections 4 and 5 contain a discussion of the empirical issues mentioned herein and the final section summarizes and concludes.

Section 2: Historical overview

Scheduled castes are a constitutionally declared collection of castes, which suffered from the practice of untouchability. Scheduled tribes are identified on the basis of certain criteria such as primitive traits, distinct culture, geographical isolation and general backwardness. However, the terms 'scheduled caste' and 'scheduled tribe' are nowhere defined in the Constitution of India. They comprise within them more than four hundred castes and tribes respectively, with large cultural heterogeneity (Singh, 1993; Singh, 1994). The former 'untouchables' were considered to be at the bottom of the Hindu social hierarchy and were not a part of the four-fold 'Varna system' comprising Brahmin, Kshatriya, Vaishya and Shudra. They have been variously referred to as 'Avarna' and 'Ati-Shudra'. The tribal people also referred to as 'Adivasis' meaning original inhabitants of the land were not considered part of the Hindu social hierarchy. It is important to note that scheduled castes have historically suffered from social stigma due to untouchability and thus been socially excluded, though physically they have always been a part of mainstream society. Scheduled tribes on the other hand have historically been physically or geographically excluded, but did not face any social stigma and are not socially excluded. So, while scheduled castes even today can be found in almost all villages and urban centers in India, except perhaps the exclusive tribal regions, scheduled tribes are generally concentrated in a few geographical regions, which are relatively physically inaccessible, such as hilly regions and forests. These historically rooted different forms of exclusion have very important implications for the present-day nature and causes of poverty among these groups.

Section 3: Data Source

The consumer expenditure surveys from the National Sample Survey (NSS) represent the main source of data for the issues addressed in this study. The National Sample Survey Organization was started by the Government of India in 1950 to collect socio-economic data employing scientific sampling methods. Different subjects are taken up for survey in different rounds of the NSS and the surveys cover the whole of the Indian Union. The household consumer expenditure survey collects data separately for the rural and urban sectors by way of two-stage stratified random sampling. We use data on monthly per

capita expenditure, which is available for social groups from the 38th round (1983) onwards. The state-wise results in all sections of this paper refer to fourteen major states of India viz. Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. In the first part of the paper, we use data mainly from three quinquennial rounds viz. the 38th round (1983), 50th round (1993-94) and 55th round (1999-00), which are large sample rounds. The 55th round categorizes social groups as ST, SC, OBC[1] and Others. The earlier rounds did not specify a separate OBC category and therefore to maintain comparability, OBC has been combined with Others, for the purpose of our computations. Data on monthly per capita expenditure for the 55th round is available using two reference periods viz. the seven-day and thirty day reference period[2]. The analysis in this paper uses data from the thirty-day reference period.

Section 4: Social group disparities and poverty: A profile

The preamble of the Indian constitution resolves to secure to all its citizens, "Justice, social, economic and political". The Constitution directs the State to promote with special care the educational and economic interests of the scheduled castes and scheduled tribes, and protect them from social injustice and all forms of exploitation. In the spirit of the Constitution of India, there have been a multitude of affirmative action policies for the scheduled castes and scheduled tribes, which include a separate special component plan and tribal sub-plan respectively. In economic parlance, these may be referred to as 'between-group redistributive policies', which in the context of historically marginalized sub-groups in the economy have close connections with the notion of 'equity' and 'social justice'. The trends in social group disparities and poverty in India should be evaluated keeping in view these special policies. So, along with absolute poverty, a discussion of relative deprivation also assumes significance. While recognizing the multi-

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[1] OBC refer to the 'Other Backward Classes', who comprise within them a large number of heterogeneous castes and correspond to the 'Shudra Varna' in the caste hierarchy.

[2] There exists some controversy over the comparability of the 55th round consumer expenditure data with that of earlier survey rounds, mainly because of the use of two reference periods for consumption items of food, pan, tobacco and intoxicants and also a different reference period for infrequently purchased items. However, this is not likely to affect the validity of conclusions of this study, since the focus is comparative in nature, with regard to the different social groups.

dimensionality of poverty, we confine ourselves to growth, inequality and poverty defined in the consumption sphere and seek to examine the following issues: -

i)   What are the trends in absolute poverty and composition of the poor by social group?

ii) What are the trends in between-group disparities and within-group inequalities and changes in the social group hierarchy in India?

iii) What is the nature and direction of the change in poverty for each social group, with regard to the relative role of growth and changes in distribution?

iv) What is the 'growth elasticity of poverty' for social groups in India?

(A) Incidence of poverty and composition of the poor

The head-count ratio of poverty measures the proportion of the population living below the poverty line. Table 1 provides all-India and state-wise estimates of the head-count ratio by social group[3] and indicates that in 1999-00, 45.83% of the ST in rural India were living below the poverty line as compared to 35.89% of the SC and 21.47% of the Others. Scheduled castes have the highest incidence of poverty in urban India[4].

To analyze the trends in absolute poverty of different social groups, we compute the rate of change in the head count ratio for each period under consideration (Table 2(a)). The results for all-India indicate that for the overall time period under consideration (1983 to 99-00) and the period of the 1990s (1993-94 to 99-00) poverty has declined faster among the Others as compared to the SC and ST. From 1993-94 to 99-00, the ST showed the lowest rate of decline in the extent of poverty in both rural and urban India. This is seen to be a common feature across rural areas of almost all states in India (Table 2(b)).

The composition of the poor is slowly changing in rural India (Table 3). In 1983, the SC and ST together comprised about 37% of the poor in rural all-India. In 1999-00, this share has gone up to 45%, which is much higher than their 31% share in the rural

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[3] The North-Eastern states, except Assam, have been excluded from our analysis, mainly due to a problem of small sample size. The scheduled tribes comprise a majority of the population in the North-East, and their economic status is known to be much better compared to that in other states of India (Radhakrishna and Ray, 2004).

[4] These estimates of poverty are based on the official poverty lines as given by the Planning Commission of India (GoI, 2001a).

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population (NSS estimate), even after accounting for changes in the composition of rural population. This may imply a trend towards a concentration of rural poverty among the SC and ST.

(B) Between-group disparities and within-group inequalities

The average monthly per capita expenditure (MPCE) of a social group can be taken as a proxy for the average level of living of that group. We compute compound annual growth rates in average MPCE at constant 1960-61 prices[5] for each time period under consideration, separately for the rural and urban sectors for each social group (Table 4(a)). The figures show that for the period as a whole i.e. from 1983 to 1999-00, the growth rate in average MPCE of the SC and ST was marginally higher than the Others in rural areas, while in urban areas, the SC consistently have the lowest growth rate. The ST in rural India had the lowest growth rate in average MPCE in the period of the nineties. These growth rates also suggest that rural-urban disparities are widening for all social groups i.e. the growth rate in average MPCE for the urban sector is greater than that of the rural sector for each social group, and in the aggregate between each time period under consideration.

These growth rates get reflected in the social disparity ratios (ratio of average MPCE of Others: SC and Others: ST), computed separately for rural and urban areas (Table 4(b)). So, from 1983 to 1999-00, social disparities between SC and Others in rural areas have declined, but in urban areas have increased. Social disparities between ST and Others have however widened at an all-India level between 1993-94 and 1999-00. The disparities between SC and Others in urban areas are wider as compared to rural areas, and the reverse is true for ST.

The state specific variations in social disparities also need to be noted (Table 4(c)) For example, in 1999-00 the average MPCE of the rural SC in Punjab was 68.66% that of Others, but for Assam and West Bengal, it was more than 90% that of Others. Similarly,

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[5] Expenditures at current prices are deflated using state-specific poverty line deflators, which are different for rural and urban areas (GoI, 1993)

the ST in rural Orissa had an average MPCE, which was 66.45% that of Others, but the average MPCE of ST in Assam was actually higher than that of Others. Similar variations can be observed for urban areas.

A comparison of the average consumption level of different groups provides some measure of the magnitude and direction of between-group disparities. However, disparities between groups and their change over time can also be examined by changes in the social group hierarchy, indicated by the population composition of consumption quintiles by social group (Table 5(a), 5(b)). This is obtained by first dividing the population into quintiles on the basis of their MPCE, and then computing the population composition of each quintile by social group. Q1 in the table refers to the bottom quintile of the population (bottom 20%) and Q5 to the top quintile (top 20%). It can be observed that the proportion of ST and SC decreases as we move to higher quintiles, while the proportion of Others increases. In 1999-00, 83.63% and 92.53% of the top quintile comprise of the Others in rural and urban areas respectively. The population composition of quintiles by social group indicates that the Others comprise more than 50% of the population in all quintiles, which would be a reflection of their higher overall population. An alternative profile of the social group hierarchy in India is provided by examining the percentage distribution of social group by quintiles i.e. distribution of the population of each social group across quintiles (Table 6(a) and 6(b)). For the year 1999-00, this shows that 37% of ST and 27% of SC are in the bottom quintile of the rural sector as against 15% of Others. On the whole, more than 50% of ST and SC are in the bottom two quintiles. The proportion of ST in the bottom quintile shows an increase from 34% in 1983 to 37% in 1999-00, while that of SC and Others shows a marginal decline. In urban India, the proportion of both SC and ST has increased in the bottom quintile.

Within group inequalities have been measured using the Gini coefficient, which is the most commonly used measure of inequality in the empirical literature. A priori, the Others may be expected to be a much more heterogeneous group in terms of average consumption levels, as they include the 'Other Backward Classes' (OBC) as well as high caste groups in Indian society. It can be observed (Table 7) that though inequality within

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the Others is higher than within the SC and ST, the magnitude of difference is not as large as may be expected. Within-group inequalities in the rural sector have decreased for all social groups, but in the urban sector have increased for the ST and Others[6]. The within-group disparity ratios indicate the ratio of average MPCE of the top quintile to the bottom quintile. The table shows that the average MPCE of SC and ST in the top quintile of the rural sector is 3.36 and 3.86 times respectively that in the bottom quintile. This ratio is higher in the urban sector and clearly indicates that the SC and ST are not a homogenous group in terms of levels of living.

Total inequality can be decomposed into a within-group and between-group component[7]. The Gini coefficient is not additively decomposable into a within-group and between-group component and this has been done using the Theil's entropy (T) measure (Table 8). The between-group component can be defined as the value of the inequality index for the hypothetical consumption distribution, which assigns to each person within a group, the mean consumption of the group. The within-group component can be defined as the value of the inequality index, when the mean consumption levels for each group are equalized to the overall mean, through an equiproportional change in the consumption of every person within a group.

The results indicate that between-group disparities comprise less than 5% of total inequality in both rural and urban areas. The between-group component in rural areas is larger than in urban areas and has increased in both these sectors from 1983 to 1999-00. Thus, from the table it would appear that it is within-group inequalities that are quantitatively more important than between-group disparities *within* the rural and urban sectors. Kanbur (2003) points out that, the empirical literature on such decompositions for race, gender, spatial units etc in an international context indicates that the between-group component has not exceeded 15%, but the policy interpretation needs to be done with caution, since the social weight on these differences might be far greater than their

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[6] It should be noted however that these estimates of within-group inequality are price unadjusted and thus the trends in inequalities may not correspond to price adjusted estimates, which would require computation and use of price deflators for different fractiles of the population.

[7] Detailed discussion of the method of decomposition and mathematical proofs of the decomposability and non-decomposability of various inequality measures can be found in Anand (1983).

contribution to overall interpersonal inequality. In the context of social group disparities and poverty in India, we may say that it is the existence of differences in average socio-economic status on the basis of caste, across time and across regions, that makes it normatively unacceptable and a cause of policy concern. Whether the unit of action for public policy should be a group or sections within a group could be a matter of debate in which a distinction needs to be made between the social and economic impacts of any such policy.

(C) <u>Decomposition of change in poverty</u>

The proportion of people living below the poverty line as measured by the head count ratio is a function of the mean consumption level as given by the monthly per capita expenditure and the inequality in the distribution of monthly per capita expenditure. Therefore, poverty can be reduced with an increase in mean consumption, with inequality remaining constant; a reduction in inequality with mean consumption remaining constant or an increase in mean consumption simultaneously accompanied by a reduction in inequality of its distribution. While the first strategy focuses on growth alone and the second on reduction of inequality or redistribution, the third strategy brings about a faster reduction in poverty and is referred to as 'redistribution with growth' or 'growth with equity'.

A change in poverty between two periods can be decomposed into a growth component and a redistribution component. We do this decomposition for the SC and ST in each state and all-India for the rural sector between the time periods under consideration. The results of this decomposition would enable a better understanding of the nature and direction of poverty change for these groups. Alternative methodologies exist for doing this decomposition. We use the Datt and Ravallion (1992) methodology, which decomposes a change in poverty over time periods t and t+n (say) as follows: -

$$P_{t+n} - P_t = G(t, t+n) + D(t, t+n) + R(t, t+n)$$

Here, the three terms on the right-hand side of the equation refer to the growth component, redistribution component and residual component respectively. The growth component of a change in the poverty measure is defined as the change in poverty due to

a change in the mean consumption, with inequality in the distribution of consumption remaining constant. The redistribution component is the change in poverty due to a change in inequality while keeping the mean consumption constant. The residual will vanish only if the mean consumption level or the inequality in the distribution of consumption remains unchanged over the decomposition period.

Table 9 gives the results of the decomposition for all-India[8]. The table indicates that for the rural sector, both growth and redistribution have contributed to a decrease in poverty, but the growth component dominates the redistribution component. If we include the state-wise decompositions, in general, the following five cases can be distinguished: -

(1) Both growth and redistribution components have contributed to a reduction in poverty, but growth component dominates redistribution component.

(2) Both growth and redistribution components have contributed to a reduction in poverty, but redistribution component dominates growth component.

(3) Growth component has contributed to an increase in poverty, but redistribution component has contributed to a decrease.

(4) Redistribution component has contributed to an increase in poverty, but growth component has contributed to a decrease.

(5) Both growth and redistribution components have contributed to an increase in poverty.

In case of (3) and (4), the net effect on poverty will depend on the relative magnitude of the growth and redistribution effects. Classifying the state-wise and all-India decompositions for SC, ST, we find that in rural areas, about half the poverty changes can be classified as (1), the next largest component being case (4). We find instances of case (3), (4) and (5), where rural poverty increased due to the particular magnitudes of the growth and redistribution effect. For example, the incidence of rural poverty in Orissa increased among the SC and ST in the period of the 1990s. In the case of the SC this was because of a decline in mean consumption in real terms, while for the ST a decline in mean consumption was also accompanied by an increase in within-group inequality. In

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[8] Due to constraints of space, the tables for state-wise decomposition results are not included in this paper.

Assam, there has been an increase in rural poverty among the SC between 1983 and 1999-00, due to an increase in within-group inequality, which has negated the positive growth effect. So, in general we may say that though growth has been the prime mover of changes in rural poverty among the SC and ST in India in the 1980s and 1990s, within group distributional changes have influenced the magnitude of poverty change and in some cases also influenced its direction.

Between-group redistributive policies will have a limited impact on poverty, if it leads to increases in within group inequalities. So, policies to reduce poverty among the SC and ST may be made more effective by way of a growth driven strategy with special emphasis on the lower quintiles within these groups. The key challenge for the policy maker will lie not only in identifying the policies and institutional structures that will promote equitable growth, but also managing the informational and political-economy constraints that may arise in its implementation.

(D) <u>Growth elasticity of poverty for social groups</u>

As noted earlier, scheduled castes and scheduled tribes are historically excluded groups, scheduled castes by way of social exclusion and scheduled tribes by way of physical or geographical exclusion. It is important to know whether and how far they have been excluded from the benefits of economic growth in the contemporary Indian economy. We examine this by analyzing the extent to which a given rate of economic growth reduces poverty among different social groups, or by examining the 'growth elasticity of poverty' for social groups in India. We define state level economic growth as changes in the per capita net state domestic product at constant prices, and seek to compute the required estimates of growth elasticity of poverty through panel regressions separately for each social group in the rural and urban sector using state-wise data. The model we posit is as follows: -

$Ln\ HCR_{it} = a + b\ ln\ PCNSDP_{it} + c\ ln\ GINI_{it} + d\ INF_i + e_{it}$

$\quad\quad\quad i=1\ to\ 14;\ t=1\ to\ 4$

Here the dependent variable and the three explanatory variables refer to the log of the head count ratio, log of per capita net state domestic product (at constant prices), log of the Gini index and the state level infrastructure index respectively. Our time period is from 1983 to 1999-00, using data from four time points viz. 1983, 1987-88, 1993-94 and 1999-00, the years representing the quinquennial rounds of the NSS consumer expenditure survey. We use data for fourteen major states in India. State-wise estimates of head count ratio and the Gini index for each social group by rural and urban sector are computed using data from these four survey rounds. Data for per capita net state domestic product at constant prices represents the average of the preceding year and the time point under consideration and is computed from the National Accounts Statistics of India (EPWRF, 2003). The state level infrastructure index is for the year 1983 (CMIE, 1997) and acts as a control variable for the initial conditions in states. This regression is run separately for each social group in the rural and urban sectors, using their respective head count ratio and Gini index. Since scheduled tribes are not present in all states, we have forty-eight observations for scheduled tribes in the rural sector and forty observations in the urban sector. For the panel regression for scheduled castes, Others and in the aggregate we have fifty-six observations each. The panel regression was run separately for each social group and in the aggregate using both fixed effect and random effect models. The infrastructure variable gets dropped in the fixed effect model. The Hausman test was applied to choose between these two models. The regression coefficient for the log of per capita net state domestic product can be interpreted to be an estimate of the growth elasticity of poverty, controlling for changes in within-group distribution. The resulting estimates of growth elasticity of poverty for social groups in fourteen major states of India are given in the table below[9]. These indicate the percentage reduction in poverty for a one percent rate of economic growth. All these estimates are statistically significant at 1% level of significance.

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[9] The detailed regression results are not included in this paper, due to constraints of space.

Growth elasticity of poverty

	Rural	Urban
ST	-0.65	-0.71
SC	-0.90	-0.67
Others	-1.21	-1.59
All	-1.01	-1.13

The Others are found to have a higher growth elasticity of poverty in both rural and urban sectors. The scheduled tribes and scheduled castes have the lowest growth elasticity in the rural and urban sectors respectively. The growth elasticity in the aggregate is marginally higher in the urban sector as compared to the rural sector. These results imply that economic growth in the 1980s and the 1990s has not equally benefited the different social groups and the rural and urban sectors, as per evidence from fourteen major states of India.

Section 5: Determinants of average consumption levels

The previous section indicated the presence of social disparities in levels of living, between the SC, ST and Others. It also indicated that the SC and ST are not a homogenous group in terms of levels of living. This section seeks to examine through a cross-section regression analysis the factors underlying differences in levels of living (as represented by monthly per capita expenditure) between the SC and ST as compared to Others and for each group separately.[10] We use household level data from the consumer expenditure survey of the 55th round of NSS, which was conducted from July 1999 to June 2000. The survey was conducted by way of an equal sized sample across four sub-rounds, each of three months duration[11]. The 55th round consumer expenditure survey

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[10] NSS data does not provide information on the specific castes and tribes within the SC, ST.
[11] The NSS sample design provides for an equal sized sample across sub-rounds also for each social group. July to September 1999, October to December 1999, January to March 2000, April to June 2000 were the four sub-rounds.

collected data from 71,385 households in the rural sector and 48,924 households in the urban sector. We use data from the rural sector where 81% of the scheduled caste population and 93% of the scheduled tribe population is concentrated (Census of India, 1991) and focus on fourteen major states of India, which reduces the number of sample households to 59, 601[12].

In table 10, we seek to provide a profile of the characteristics of rural households by social group, in the fourteen states under consideration. We observe notable differences in the occupational structure, education and land possessed across social groups. More than half of SC households are agricultural labour households, implying that their major source of income is from agricultural labour. 44% of ST households have agricultural labour as their main source of livelihood, but a sizeable proportion (35%) are also self-employed in agriculture. Compared to these two social groups, the Others have the least proportion of rural labour households and a larger proportion of cultivators and those engaged in other occupations, which includes regular and salaried employed. These occupational differences are related to the average size of land possessed[13] by each social group. While the ST and Others possess on an average about a hectare of land each, the average size of land possessed by the SC households is only 0.4 hectares, which may indicate a higher proportion of landless households. The Others are seen to have a higher level of education than the other two groups, both by way of percentage of literates and the maximum level of education (in years) in a household. There does not seem to be much difference across social groups in demographic factors such as average household size and proportion of females in the household, nor in terms of average proportion of workers[14] in the household.

We first seek to examine the determinants of monthly per capita expenditure for the rural sector as a whole, consisting of all social groups, and then separately for each social

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[12] The effective number of observations in the regression is lower due to missing values.

[13] Land possessed (in hectares) = land owned + land leased in + land neither owned nor leased in –land leased out.

[14] A person is classified as worker on the basis of usual activity status approach taking into consideration both the principal and subsidiary status.

group. The dependent and explanatory variables used in our analysis are described below along with a discussion of the a-priori expectations on the signs of the regression coefficients.

Dependent variable: The values of monthly per capita expenditure across states are not strictly comparable due to state specific variations in prices, and therefore we express monthly per capita expenditure at all-India prices, using the state-wise and all-India rural poverty lines, and take the logarithm of the monthly per capita expenditure as the dependent variable.

Explanatory variables:

(A) Demographic factors:

(1) Household size: Household size refers to the total number of members in the household, and an increase in the household size may be expected to have a negative effect on the monthly per capita expenditure of the household.

(2) Ratio of workers to household size: It is expected that larger the proportion of working members in a household, higher would be the MPCE.

(3) Ratio of female members to household size: Women in India are known to have a lower labour force participation rate as compared to men and there exists evidence for labour market discrimination against women, by way of lower wages. So, an increase in the proportion of female members in a household may lead to a negative effect on MPCE.

(4) Female-headed household: Dummy variable, which takes the value 1 if the household is a female-headed household and zero otherwise. Households headed by females, such as widows, may be expected to have a lower MPCE than those headed by men and so the expected sign on the regression coefficient would be negative.

(B) Area of land possessed[15]: In the rural economy, a larger area of land possessed may be expected to have a positive effect on the MPCE of a household. As noted earlier, the average size of land possessed by the scheduled tribes and Others is almost equal, but scheduled tribes have a much larger incidence of rural poverty. It would therefore be of policy relevance to examine the impact across social groups, of a marginal increase in the area of land possessed, on the average MPCE.

(C) Occupation: The NSS classifies households into five occupational types viz. 'self-employed in non-agriculture', 'agricultural labour', 'self-employed in agriculture', 'other labour' and 'other occupations', depending on the major source of income of the household[16]. We take dummy variables for these occupational types, with the base category being agricultural labour, known to be the occupational group with the highest incidence of poverty in rural India. So, the regression coefficients for the occupation dummies may be expected to be positive in sign.

(D) Seasonal factors: In a rural economy dependent on agriculture, which is predominantly rain-fed, seasonal variations in average consumption levels may be expected. We take seasonal dummies based on the four sub-rounds with sub-round one (July-September) as the base category since it corresponds to the monsoon season, which is a period of food shortage in the rural economy and when the government public work programmes are also not in operation. However, it is difficult to have any a-priori expectations on the sign of the regression coefficient in this case, since the cultivators and rural labour households may have different consumption patterns in different seasons. But, it would be of interest to examine whether the harvesting season for Kharif (October-December) and Rabi (April-June) crops would have any impact, with reference to the base period. It would also be of interest to examine whether the scheduled castes

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[15] The survey data also includes information on the area of cultivated land and area of irrigated land. However, these variables were not included as explanatory variables, due to a large number of missing values. The area of land possessed acts as a closer proxy to the cultivated area as compared to area of land owned.

[16] The exact method of determining the occupational type of a household can be found in GoI (2001b).

and scheduled tribes, which are the poorer social groups, would have a different seasonal variation in consumption levels as compared to the Others.

(E) Education: The survey classifies the level of education attained by each member of the household into thirteen categories, the lowest being illiterate and the highest being graduate and above. We reduce the number of categories to five viz. 'literate, but below primary', 'primary, but below secondary', 'secondary, but below graduate', 'graduate and above', and take the maximum education level in the household to be the explanatory variable, with 'illiterate' to be the base category. A-priori, it can be expected that the average income level and hence the average consumption level of the household would increase with the maximum level of education attained and hence we would expect the regression coefficients to be positive in sign and increasing in magnitude, with respect to the base category. In the separate regressions for each social group, we take the maximum education in years attained by any member of the household as the explanatory variable by converting the respective category into the corresponding number of years.

(F) Social group and religion: Social group dummies for scheduled caste and scheduled tribe households, with Others as base category, are used as explanatory variables (only in the combined regression for the rural sector), whose regression coefficients could be expected to be negative in sign. The survey categorizes sample households into eight religions viz. Hinduism, Islam, Christianity, Sikhism, Jainism, Buddhism, Zoroastrianism and other religions. We use religion as an explanatory variable with non-Hindus to be the base category. In this context, it would be of interest to examine whether the non-Hindu scheduled castes and scheduled tribes have higher consumption levels than those within the Hindu religion.

(G) Regional characteristics: The National Sample Survey classifies the country into 78 agro climatic regions. For the fourteen states used in our analysis, we have 56 NSS regions. We use three regional characteristics as explanatory variables viz. regions

categorized by the concentration of scheduled caste population, by the concentration of scheduled tribe population and by the level of infrastructure.

(1) Scheduled caste region: We rank the regions in descending order by the composition of scheduled caste population, and define a dummy variable, which takes the value 1, if a household is from any of the first 15 NSS regions defined by the concentration of scheduled caste population, and zero otherwise.

(2) Scheduled tribe region: We rank the regions in descending order by the composition of scheduled tribe population, and define a dummy variable, which takes the value 1, if a household is from any of the first 15 NSS regions defined by the concentration of scheduled tribe population, and zero otherwise.

(3) Infrastructure: The National Institute of Rural Development (NIRD, 1999) has ranked the NSS regions on the basis of their rural infrastructure, using Census of India, 1991 data. We classify the 56 NSS regions in our dataset into regions with high-ranked (top 28 regions) and low-ranked (bottom 28 regions) rural infrastructure. The dummy variable takes the value 1, if the household is from any of the high-ranked infrastructure regions and zero otherwise.

The scheduled caste and scheduled tribe concentrated regions are mutually exclusive, and these regional dummies are not used in the group specific regressions. The population of these regions comprises about 25% and more of scheduled castes and scheduled tribes respectively. The base category in this case will be the remaining 26 regions with a relatively lower composition of both scheduled tribe and scheduled caste population. Other factors remaining constant, a higher level of infrastructure may be expected to have a positive effect on the monthly per capita expenditure of a household.

We specify the four regression equations as follows: -

ST:

$$ln\,(mpce)_i = a_0 + a_1\,lnhsize_i + a_2\,workratio_i + a_3\,femratio_i + a_4\,femhead_i + a_5\,senag_i + a_6\,othlab_i + a_7\,seag_i + a_8\,oth_i + a_9\,rnd2_i + a_{10}\,rnd3_i + a_{11}\,rnd4_i + a_{12}\,relgn_i + a_{13}\,lnedu_i + a_{14}\,lnland_i + a_{15}\,infdum_i + u_i$$

SC:

$$ln\,(mpce)_j = b_0 + b_1\,lnhsize_j + b_2\,workratio_j + b_3\,femratio_j + b_4\,femhead_j + b_5\,senag_j + b_6\,othlab_j + b_7\,seag_j + b_8\,oth_j + b_9\,rnd2_j + b_{10}\,rnd3_j + b_{11}\,rnd4_j + b_{12}\,relgn_j + b_{13}\,lnedu_j + b_{14}\,lnland_j + b_{15}\,infdum_j + u_j$$

Others:

$$ln\,(mpce)_k = c_0 + c_1\,lnhsize_k + c_2\,workratio_k + c_3\,femratio_k + c_4\,femhead_k + c_5\,senag_k + c_6\,othlab_k + c_7\,seag_k + c_8\,oth_k + c_9\,rnd2_k + c_{10}\,rnd3_k + c_{11}\,rnd4_k + c_{12}\,relgn_k + c_{13}\,lnedu_k + c_{14}\,lnland_k + c_{15}\,infdum_k + u_k$$

All:

$$ln\,(mpce)_l = d_0 + d_1\,lnhsize_l + d_2\,workratio_l + d_3\,femratio_l + d_4\,femhead_l + d_5\,senag_l + d_6\,othlab_l + d_7\,seag_l + d_8\,oth_l + d_9\,rnd2_l + d_{10}\,rnd3_l + d_{11}\,rnd4_l + d_{12}\,lbprim_l + d_{13}\,prbsec_l + d_{14}\,sbgrad_l + d_{15}\,grad_l + d_{16}\,stdum_l + d_{17}\,scdum_l + d_{18}\,stregdum_l + d_{19}\,scregdum_l + d_{20}\,relgn_l + d_{21}\,lnland_l + d_{22}\,infdum_l + u_l$$

u_i, u_j, u_k, u_l refer to the respective error terms.

Determinants of average consumption levels in the rural sector:

The regression coefficients of demographic factors such as household size, ratio of workers, ratio of females and gender of the household head are statistically significant at 1% level of significance and have correct signs as per our a-priori expectations. An

increase in the area of land possessed has a positive and significant impact on the average MPCE of a rural household. The coefficients of the occupational dummies are also statistically significant and positive in sign, indicating a higher average consumption level for those households in 'other occupations', self-employed in non-agriculture, self-employed in agriculture and other labour, in that order, as compared to the base category, which is agricultural labour. The regression coefficients of the seasonal dummies are however found to be statistically insignificant, which does not support our hypothesis of seasonal variations in consumption expenditure in the rural sector as a whole. As expected, the education dummies are statistically significant and positive in sign, with higher education levels leading to an increase in average consumption expenditure.

The coefficients of the social group dummies are negative and statistically significant, indicating that the average monthly per capita expenditure of the SC and ST is significantly lower than the Others, so also with the Hindus as compared to the non-Hindus. An important variation exists with regard to the regional dummies for the scheduled tribes and scheduled castes. Other factors remaining constant, the average consumption expenditure, which we regard as a proxy for the level of living, will be lower in a scheduled tribe concentrated region (as defined earlier) as compared to regions with a relatively lower composition of both scheduled caste and scheduled tribe population. However, this does not hold true for a scheduled caste concentrated region. This implies that a scheduled tribe concentrated region may be associated with economic backwardness of the region as a whole, but scheduled castes could be concentrated in number, even in a relatively affluent region[17]. Controlling for other factors, there is a 23% difference in average consumption expenditure between the high-ranked and low-ranked regions in terms of rural infrastructure.

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[17] This may have policy implications for the definition of a 'backward region' from a planning perspective in which the social group composition of the population could be an important indicator.

Determinants of average consumption levels by social group:

As in the regression for the rural sector as a whole, slope coefficients of demographic variables such as household size and proportion of workers are statistically significant with the expected sign. However, there exists a variation across social groups regarding the statistical significance of gender related factors such as the proportion of females, in explaining within-group variations in consumption expenditure. For instance, the regression coefficient for the proportion of females in a household is not significant in the case of ST but is significant at 10% and 1% level of significance for the SC and Others respectively. This could be due to a higher female labour participation rate among the ST, which needs to be explored further. In this context, it may be noted that as per Census of India, 1991 data the sex ratio in India is highest among the ST (976 females per 1000 males) as compared to the SC and Others, who have similar and much lower sex ratios (922 and 923 respectively), indicating a comparatively higher social status for women within the ST.

The regression coefficients of the seasonal dummies are statistically significant only for the ST group. Controlling for other factors, the average MPCE of the ST in sub-round 2 (October to December) and sub-round 4 (April-June) is respectively 8.50% and 6.40% higher than in the base period, which is sub-round 1 (July-September). It is difficult to explain these seasonal variations in consumption expenditure for a particular group, based on available secondary data, since the empirical result would reflect the aggregated outcome of complex, multifaceted processes at the micro-level. However, for present purposes, we may note the existence of seasonal variations in consumption expenditure only for the ST, which is the social group with the highest incidence of poverty in rural India, and with higher average consumption expenditure in the period corresponding to the Kharif and Rabi harvest season, as compared to the monsoon season.

The coefficients for the occupational dummies, level of education and area of land possessed are statistically significant at 1% level of significance for all groups and with the correct sign, as per theoretical expectations. Controlling for other factors, the

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scheduled tribe households in the high-rank infrastructure regions have an average monthly per capita expenditure, which is 23.5% higher than the corresponding households in the low-rank infrastructure regions. The figures for the SC and Others in this regard are 22.31% and 25.54% respectively. The regression coefficient for the religion dummy is found to be statistically insignificant for the ST group, but significant at 1% level of significance for the SC, with a negative sign. This would imply that being a Hindu or non-Hindu would not lead to differences in the levels of living within the ST, but the non-Hindu SC have a higher level of living than the SC, who are Hindus. But the result is not robust if we exclude Punjab, where rural poverty levels for the SC are one-third that of the corresponding all-India figure and where scheduled castes comprise 38% of the state's rural population (NSS estimate).

The regression results indicate that controlling for other factors, a one percent increase in the area of land possessed (in hectares) leads to a 12.9% increase in the average monthly per capita expenditure for the ST, the corresponding figures being 17.6% and 21.5% for the SC and Others respectively. Similarly, a comparison of the partial regression coefficients for the education variable indicates that a one percent increase in the maximum level of education attained in a household (in years) leads to a 10% increase in the average monthly per capita expenditure of SC, but 12.4% and 17.4% respectively in the case of ST and Others. To examine whether these differences in the regression coefficients across social groups are statistically significant, we introduce social group dummies for SC and ST and separate slope dummies for land and education in the specification of the social group regression. The results (Table 12(a), 12(b)) indicate that the regression coefficients of the slope dummies with respect to land and education are negative in sign and statistically significant at 1% level of significance for both the SC and ST group. This implies that a one percent increase in the area of land possessed, and in the maximum level of education attained in a household, has differential impacts across social groups, with the percentage increase in average MPCE being greater for the Others as compared to the SC and ST. The interpretation needs to take into consideration the lower average area of land possessed for the SC, and the lower average levels of education for the SC and ST, as compared to Others. Using the above estimates of

elasticity of average MPCE with respect to land and education, a one hectare increase in the area of land possessed would increase the average MPCE by Rs. 50.74 for the ST, Rs. 197.34 for the SC and Rs. 130.16 for the Others. Similarly, a one year increase in the maximum level of education of a household would increase the average MPCE by Rs. 13.02 for the ST, Rs. 10.20 for the SC and Rs. 16.82 for the Others. For exposition purposes we may refer to these as 'returns to land' and 'returns to education' respectively[18]. So, returns to land are higher for the SC as compared to the Others and are lowest for the ST, while returns to education are lower for both the SC and ST as compared to the Others.

The processes underlying lower returns to education, are however likely to be different for the SC as compared to the ST. These results can be interpreted better keeping in mind the historically rooted different forms of exclusion, which have been faced by the scheduled castes and scheduled tribes viz. scheduled castes being socially excluded, but physically being a part of mainstream society, and scheduled tribes being physically or geographically excluded, but not suffering from any social stigma. That scheduled castes have lower returns to education as compared to the higher caste groups may imply that processes of social discrimination continue to operate in Indian society. The lower returns to land for the ST as compared to the Others can partly be explained by the fact that the scheduled tribes have traditionally been living in difficult terrains such as forests and hilly regions, where the land may not be conducive to cultivation. To obtain a better understanding of the factors which may affect returns to land, we examine some particulars of cultivation practices by social group, using household level data from the 54th round of the NSS. The data pertains to the agricultural year July 1997-June 1998.

The data indicate a marked difference in the cultivation practices of ST as compared to the Others (Table 13). More than half of ST households cultivate only in one agricultural season i.e. either only a Kharif crop or only a Rabi crop[19]. In contrast two-third of the households from the higher caste groups cultivate in both seasons. The percentage of ST

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[18] We borrow these terms from Lanjouw and Zaidi (2000).
[19] A crop is classified as a Kharif crop if the harvesting season falls between July and December, and Rabi crop if the harvesting season is between January and June.

households using some form of irrigation facilities (34.77%) is only half that of the Others (69.98%). The difference is notable also in cultivation practices such as the use of mechanization, fertilizers, improved seeds and pesticides or weedicides. It can be observed however that the cultivation practices of SC cultivators are very similar to that of the Others. This can again be explained by the fact that the SC live in mainstream society, in close proximity with the Others, but the ST are geographically isolated. However, in terms of ownership issues such as the percentage of households owning a well, tubewell, diesel pump or electric pump for irrigation, or the average size of land owned, the proportion of scheduled caste households owning any such asset is lower than the scheduled tribes, though both are lower than the Others. This indicates that access to ownership of an asset may be more difficult for the socially excluded groups as compared to the geographically excluded groups.

Regression decomposition of differences in group means:

Given that there are differences in the occupational pattern, level of education and land holding, and returns to education and land across social groups, it would be of interest to examine the relative importance of different factors in explaining higher levels of living for the Others as compared to the SC and ST. This can be examined by decomposing differences in the group mean of the dependent variable into a part explained by differences in the endowments or levels of different productivity enhancing characteristics ('characteristics effect') and a part explained by differences in returns to these characteristics ('coefficients effect'). There are variations in the precise decomposition techniques employed in the literature, but the standard technique remains the Blinder-Oaxaca decomposition borrowed from the labour economics literature and illustrated in De Walle and Gunewardena (2001). In the context of the present paper, the decomposition can be explained by the following equations, which illustrate with respect to one explanatory variable X, but can easily be extended to more than one regressor[20].

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[20] These expressions are derived from the property that fitted regressions go through the point of means of the dependent and independent variables. The resultant equation for SC and ST respectively is subtracted from the equation for Others, which is taken to be the 'base group'.

$$\ln(mpce)^*_{oth} - \ln(mpce)^*_{sc} = \beta_{oth}(X^*_{oth} - X^*_{sc}) + X^*_{sc}(\beta_{oth} - \beta_{sc}) + (\alpha_{oth}-\alpha_{sc})$$

$$\ln(mpce)^*_{oth} - \ln(mpce)^*_{st} = \beta_{oth}(X^*_{oth} - X^*_{st}) + X^*_{st}(\beta_{oth} - \beta_{st}) + (\alpha_{oth}-\alpha_{st})$$

Characteristics Effect   Coefficients Effect

The left-hand side expression in the two equations represents the difference between the mean of the dependent variable for the Others group and that of SC and ST respectively. The first expression on the right-hand side represents the difference between the Others and SC, ST in the average value of the characteristic, weighted by the respective regression coefficient of the Others, for whom we expect no 'discrimination' or higher 'returns'. The second expression represents the difference in the regression coefficient of the characteristic, weighted by the average value of the characteristic of the SC, ST group. The difference between intercepts can be regarded as a residual term.

The results of this decomposition, which draws on the regression results discussed in previous sections, are given in Table 14. We have included decomposition results only for the more policy relevant variables, which are occupation, land, education and infrastructure. The numbers in the table indicate the percentage share of the respective characteristics effect and coefficients effect in explaining differences in the group means, and can be interpreted to denote the relative importance of different factors considered, in explaining higher levels of living for the Others as compared to the SC and ST[21].

The results indicate that in explaining lower levels of living for the ST as compared to the Others, it is the characteristics effect of the different policy relevant factors indicated by employment in the rural non-farm sector, level of education and level of infrastructure, which is found to have a larger magnitude than the corresponding coefficients effect,

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[21] A similar computation is carried out by Gang, Sen and Yun (2002), who decompose the difference in 'poverty rates' between SC, ST and 'non-scheduled households' into a characteristics effect and coefficients effect using NSS data from the 50th round. However, they use a probit decomposition analysis, which does not take into account the variations in levels of living within the poor and non-poor. They do not include important explanatory variables such as land and infrastructure in their regression specification. Their interpretation focuses on the precise quantitative shares rather than the relative magnitudes as desirable. Moreover, their estimate of the share of the 'aggregate' characteristics effect and coefficients effect in explaining 'higher poverty rates' for SC and ST also includes demographic control variables and the intercept term, which may be misleading in terms of interpretation. Their results differ in many respects from those of the decomposition exercise of our paper.

though the coefficients effect for education is also seen to be an important factor. The notable exception relates to being self-employed in agriculture and size of land holding. As was discussed in earlier sections, the average area of land possessed by the ST is marginally higher than the Others. The proportion of ST households, whose main source of livelihood is being self-employed in agriculture is also comparable to Others. Therefore, it is clear that with regard to land, it is lower returns to land and not lower area of landholding, which is contributing to the lower levels of living as compared to the Others.

Conversely, in explaining lower levels of living for the SC as compared to the Others, it is the coefficients effect that is of larger magnitude than the corresponding characteristics effect for factors such as self-employment in non-agriculture, education and infrastructure. This may be interpreted to imply lower returns from being self-employed in non-agriculture and from education as compared to the higher caste groups, and a lower social access to infrastructure, as compared to physical access. The results indicate the characteristics effect for education to be an important factor contributing to lower levels of living, though the associated coefficients effect is seen to be of a much larger magnitude. On the other hand, the lower average area of land possessed by the SC, which may be a reflection of the larger proportion of landless households within this social group, explains between-group differences in levels of living vis-à-vis the higher caste groups much more than the corresponding coefficients effect.

Section 6: Summary and Conclusion

Social group disparities and poverty in India may be viewed as a purely distributional issue and by way of the specific factors underlying these disparities. However, these two ways of looking at the issue are interlinked. Empirical evidence suggests that in terms of absolute poverty, the rate of decline in the extent of poverty has been faster for the Others as compared to the SC and ST, in the overall time period under consideration. In particular, rural poverty has been virtually stagnant for the scheduled tribes in the 1990s. These trends are reflected in the composition of the rural poor, with poverty tending to get concentrated among the SC and ST. The magnitude of social disparities in India is

state-specific in nature. The social group hierarchy in India has remained virtually unchanged and scheduled castes and scheduled tribes remain concentrated in the bottom quintiles of the economy. Measures of within-group inequality indicate that the SC and ST are not a homogenous group in terms of levels of living. In quantitative terms, within-group inequalities in the rural sector are of a larger magnitude than between-group disparities, but this does not reflect the social weight on horizontal inequalities. Changes in rural poverty for the SC and ST have largely been driven by growth, but within-group distributional changes have also affected the magnitude of change and in some cases its direction. Since between-group redistributive policies will have a limited impact on poverty, if it leads to increases in within-group inequalities, a high-growth strategy focusing on the lower quintiles within the SC, ST may be more effective. However, the growth experience in major states of India in the 1980s and 1990s suggests that the growth elasticity of poverty has been lowest for the scheduled tribes in rural India and scheduled castes in urban India.

The causes of differing growth elasticities of poverty can be explored through the factors underlying differences in levels of living between social groups, and for each group separately. Demographic and occupational factors, level of education and land holding, and infrastructural facilities are found to be significant factors determining the levels of living in rural India. Seasonal variations in consumption expenditure are found to be significant only for the scheduled tribes. In addition to the levels of physical and human capital, social group disparities in levels of living are also the result of differences in returns to education and land. There are contrasting relative magnitudes with regard to scheduled castes and scheduled tribes, of the 'characteristics effect' and 'coefficients effect' of various policy relevant factors in explaining social group disparities, and indicate the distinct nature and causes of poverty among these groups. This in turn is the result of historically rooted 'social disadvantages', by way of social exclusion and physical exclusion respectively, which continue to operate in contemporary Indian society. Overcoming these 'social disadvantages' will constitute the key challenge in any future policy matrix designed for the development of these groups.

Table 1: Incidence of Rural and Urban Poverty (1999-00)

	Rural				Urban			
	ST	SC	Others	All	ST	SC	Others	All
Andhra	23.07	16.47	7.39	10.53	47.53	42.10	24.15	27.23
Assam	39.16	44.98	39.66	40.15	2.93	21.14	5.84	7.22
Bihar	59.37	59.30	38.21	44.09	42.88	51.37	30.12	33.48
Gujarat	27.50	15.57	7.65	12.36	38.44	26.83	11.44	14.78
Karnataka	24.86	25.67	13.59	16.84	51.68	46.67	20.37	24.61
Kerala	25.04	15.61	8.38	9.37	-----	23.41	19.42	19.84
M.P.	57.14	41.21	26.57	37.25	53.44	56.11	34.05	38.48
Maharashtra	44.20	31.64	16.72	23.22	42.75	40.71	23.90	26.75
Orissa	73.10	52.30	33.29	48.14	59.38	72.03	34.18	43.51
Punjab	-----	11.88	2.11	5.99	-----	11.17	2.99	5.47
Rajasthan	24.83	19.52	8.41	13.47	21.80	43.25	13.68	19.43
Tamil Nadu	44.58	31.74	14.40	20.02	-----	45.66	19.29	22.50
Uttar Pradesh	-----	43.38	26.90	31.06	-----	44.33	28.40	30.74
West Bengal	50.05	34.91	28.42	31.66	33.69	28.27	11.23	14.70
All India	45.83	35.89	21.47	26.98	35.61	38.31	20.31	23.44

Source: Author's calculations using NSS household level data from the 55th round.
Note: Blank cells indicate estimates not computable due to very low proportion of ST population in the state.

Table 2(a): Rate of change in head count ratio (All-India)
(% per annum)

	ST	SC	Others	All
Rural				
1983 to 93-94	-2.76	-2.12	-2.64	-2.59
1993-94 to 99-00	-1.34	-4.39	-4.90	-4.09
1983 to 99-00	-2.23	-2.98	-3.50	-3.16
Urban				
1983 to 93-94	-2.47	-1.15	-1.77	-2.46
1993-94 to 99-00	-2.50	-3.73	-5.63	-4.99
1983 to 99-00	-2.48	-2.12	-3.24	-3.42

Source: Author's calculations using NSS data of respective rounds

Table 2(b): Rate of change in head count ratio (rural) (1993-94 to 1999-00)
(% per annum)

	ST	SC	Others	All
Andhra	-0.06	-6.30	-4.90	-4.36
Assam	-2.27	-0.88	-1.80	-1.77
Bihar	-2.50	-3.27	-4.79	-4.62
Gujarat	-1.89	-9.31	-12.06	-8.45
Karnataka	-6.20	-7.82	-7.98	-7.89
Kerala	-8.63	-12.93	-17.44	-16.73
M.P.	-0.22	-1.66	-0.85	-0.97
Maharashtra	-2.01	-6.80	-8.86	-6.28
Orissa	0.69	0.14	-2.70	-0.42
Punjab	-----	-6.54	-17.33	-10.24
Rajasthan	-3.29	-10.24	-11.31	-8.76
Tamil Nadu	1.37	-4.84	-9.42	-6.41
U.P.	-----	-5.16	-4.77	-4.72
West Bengal	-2.08	-4.95	-0.92	-2.45

Source: Author's calculations using NSS data of respective rounds

Table 3

Composition of rural population by social group (%)					
	38th round			55th round		
	ST	SC	Others	ST	SC	Others
Andhra	6.42	18.74	74.83	7.10	22.40	70.49
Assam	18.16	5.70	76.13	15.83	11.13	73.04
Bihar	8.93	17.19	73.89	7.21	21.05	71.74
Gujarat	21.17	9.89	68.94	19.37	10.91	69.72
Karnataka	7.16	14.25	78.60	7.84	19.66	72.50
Kerala	1.86	11.68	86.46	1.70	9.85	88.45
M.P.	32.99	13.61	53.39	27.99	14.50	57.52
Maharashtra	13.27	9.81	76.93	16.64	13.02	70.33
Orissa	24.34	16.91	58.75	27.06	20.97	51.97
Punjab	1.31	28.48	70.21	1.06	38.22	60.72
Rajasthan	14.28	18.04	67.69	19.79	16.34	63.87
Tamil Nadu	0.94	23.04	76.01	1.19	30.70	68.11
Uttar Pradesh	1.37	21.96	76.67	1.21	24.73	74.06
West Bengal	7.48	27.60	64.92	6.72	27.26	66.02
All-India	10.28	17.96	71.76	10.51	20.46	69.04
Composition of rural poor by social group (%)					
	38th round			55th round		
	ST	SC	Others	ST	SC	Others
Andhra	8.57	25.71	65.72	15.55	35.02	49.43
Assam	20.38	5.78	73.85	15.43	12.46	72.11
Bihar	10.26	21.58	68.16	9.69	28.26	62.06
Gujarat	40.74	12.46	46.79	43.10	13.75	43.15
Karnataka	11.26	21.32	67.42	11.56	29.96	58.48
Kerala	2.00	18.67	79.33	4.54	16.41	79.05
M.P.	44.48	16.11	39.41	42.94	16.04	41.03
Maharashtra	18.06	12.84	69.10	31.66	17.73	50.61
Orissa	30.95	18.79	50.27	41.17	22.82	36.01
Punjab	1.48	54.46	44.06	2.95	75.72	21.33
Rajasthan	23.48	21.03	55.49	36.47	23.67	39.85
Tamil Nadu	1.18	28.09	70.74	2.65	48.51	48.51
Uttar Pradesh	1.29	27.08	71.63	1.35	34.53	64.12
West Bengal	8.99	31.71	59.30	10.63	30.07	59.30
All-India	14.18	22.75	63.07	17.84	27.21	54.95

Source: Author's calculations using NSS household level data of respective rounds

Table 4(a): Average MPCE (Rs.) and its Growth rate (at constant prices)
(All-India)

Rural	Average MPCE (Rs.) (current prices)					Compound Growth Rate (% per annum)			
	ST	SC	Others	All		ST	SC	Others	All
1983	87.15	94.31	120.42	112.31	1983 to 93-94	1.38	0.77	0.68	0.66
1993-94	234.37	238.91	302.09	281.40	1993-94 to 99-00	0.65	1.61	1.34	1.37
1999-00	387.59	418.50	520.84	485.87	1983 to 99-00	1.10	1.09	0.93	0.93
Urban	**Average MPCE (Rs.) (current prices)**					**Compound Growth Rate (% per annum)**			
	ST	SC	Others	All		ST	SC	Others	All
1983	133.11	128.95	172.11	165.80	1983 to 93-94	1.63	0.87	1.38	1.28
1993-94	380.54	342.18	480.28	458.04	1993-94 to 99-00	1.96	1.64	2.61	2.45
1999-00	690.06	608.78	904.83	854.69	1983 to 99-00	1.75	1.16	1.84	1.72

Source: Author's calculations using NSS data of respective rounds.
Note: Average MPCE (Rs.) at constant 1960-61 prices computed using poverty line deflators.

Table 4(b): Social Disparity Ratios (All-India)

	Rural			Urban		
	1983	1993-94	1999-00	1983	1993-94	1999-00
Others: SC	1.277	1.264	1.245	1.335	1.404	1.486
Others: ST	1.382	1.289	1.344	1.293	1.262	1.311

Source: Author's calculations using NSS data of respective rounds.
Note: Social disparity ratio refers to the ratio of average MPCE (Rs.) of Others: SC and Others: ST

Table 4(c): Average MPCE of SC and ST (Others=100) (1999-00)

	Rural		Urban	
	SC	ST	SC	ST
Andhra	78.95	79.21	76.42	79.00
Assam	97.43	102.81	65.55	88.16
Bihar	81.31	83.21	69.82	83.11
Gujarat	76.97	73.39	68.94	70.02
Karnataka	78.89	76.04	61.34	65.64
Kerala	75.94	85.75	84.61	-----
M.P.	84.20	73.12	71.69	77.28
Maharashtra	80.21	71.80	68.71	70.57
Orissa	81.99	66.45	64.77	71.97
Punjab	68.66	-----	67.10	-----
Rajasthan	85.49	79.44	69.10	79.85
Tamil Nadu	76.95	69.29	57.66	-----
U.P.	81.52	-----	77.48	-----
West Bengal	93.75	80.18	63.28	61.40
All-India	80.35	74.43	67.27	76.26

Source: Author's calculations using NSS data from 55th round.

Table 5(a): Population composition (%) of quintile by social group (rural)

	1983			1993-1994			1999-2000		
	ST	SC	Others	ST	SC	Others	ST	SC	Others
Q1	17.56	25.70	56.74	16.93	29.59	53.48	19.48	27.68	52.83
Q2	12.03	21.45	66.52	12.77	24.55	62.67	11.66	25.20	63.13
Q3	9.70	17.15	73.16	10.30	21.18	68.52	9.07	20.30	70.62
Q4	7.13	14.86	78.01	8.18	17.73	74.09	7.20	17.73	75.07
Q5	5.00	10.62	84.39	5.91	12.41	81.68	5.07	11.30	83.63
All	10.28	17.96	71.76	10.82	21.09	68.09	10.51	20.46	69.04

Source: Author's calculations using NSS household level data of respective rounds.

Table 5(b): Population composition (%) of quintile by social group (urban)

	1983			1993-1994			1999-2000		
	ST	SC	Others	ST	SC	Others	ST	SC	Others
Q1	3.97	18.95	77.78	4.24	22.87	72.88	5.19	23.98	70.83
Q2	3.11	14.72	82.16	3.85	17.42	78.73	3.79	18.49	77.72
Q3	2.82	11.85	85.34	3.07	13.64	83.29	3.05	14.32	82.62
Q4	2.29	9.58	88.14	2.98	9.38	87.64	2.74	9.83	87.42
Q5	1.59	6.01	92.4	1.91	5.92	92.18	2.23	5.25	92.53
All	2.76	12.08	85.16	3.21	13.85	82.94	3.40	14.38	82.22

Source: Author's calculations using NSS household level data of respective rounds.

Table 6(a): Percentage distribution of social group by quintile (rural)

	1983			1993-1994			1999-2000		
	ST	SC	Others	ST	SC	Others	ST	SC	Others
Q1	34.17	28.64	15.82	31.30	28.06	15.72	37.13	27.09	15.32
Q2	23.39	23.89	18.53	23.61	23.27	18.41	22.24	24.69	18.32
Q3	18.86	19.09	20.38	19.05	20.09	20.14	17.34	19.93	20.54
Q4	13.86	16.55	21.75	15.12	16.80	21.76	13.67	17.29	21.68
Q5	9.71	11.82	23.51	10.92	11.76	23.99	9.63	11.01	24.14
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations using NSS household level data of respective rounds.

Table 6(b): Percentage distribution of social group by quintile (urban)

	1983			**1993-1994**			**1999-2000**		
	ST	**SC**	**Others**	**ST**	**SC**	**Others**	**ST**	**SC**	**Others**
Q1	28.82	30.22	18.27	26.45	33.04	17.57	30.59	33.45	17.28
Q2	22.61	24.37	19.30	23.98	25.16	18.98	22.21	25.64	18.85
Q3	20.44	19.61	20.04	19.14	19.71	20.08	17.97	19.93	20.11
Q4	16.59	15.85	20.70	18.55	13.55	21.13	16.15	13.68	21.27
Q5	11.54	9.94	21.70	11.87	8.54	22.22	13.08	7.29	22.50
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations using NSS household level data of respective rounds.

Table 7: Within-Group Inequality

All-India	Gini index (rural)				Gini index (urban)		
	1983	1993-94	1999-00		1983	1993-94	1999-00
ST	28.06	26.74	24.35	ST	31.56	30.95	32.85
SC	28.54	25.42	23.31	SC	29.46	30.44	27.72
Others	30.85	28.83	26.38	Others	34.12	34.38	34.85
All	30.90	28.59	26.32	All	33.93	34.39	34.69
All-India	Within-group disparity ratio (Q5/Q1) (rural)				Within-group disparity ratio (Q5/Q1) (urban)		
	1983	1993-94	1999-00		1983	1993-94	1999-00
ST	4.32	4.31	3.86	ST	5.14	4.79	5.23
SC	4.34	3.70	3.36	SC	4.72	4.83	4.37
Others	4.71	4.40	3.98	Others	5.68	6.08	5.85
All	4.76	4.35	3.98	All	5.64	5.99	5.85

Source: Author's calculations using NSS household level data of respective rounds.

Table 8: Decomposition of total inequality

	Rural			Urban		
	1983	1993-94	1999-00	1983	1993-94	1999-00
Within-Group component (%)	95.78	96.4	95.03	98.01	97.27	96.45
Between-group component (%)	4.22	3.60	4.97	1.99	2.73	3.55

Source: Author's calculations using NSS household level data of respective rounds.

Table 9: Decomposition of change in poverty

	Change in poverty (% points)	Growth Component (% points)	Redistribution component (% points)	Residual component (% points)
All-India Rural				
SC				
1983 to 1993-94	-11.14	-8.21	-1.45	-1.48
1993-94 to 1999-00	-10.99	-9.28	-1.23	-0.48
1983 to 1999-00	-22.13	-16.37	-2.08	-3.68
ST				
1983 to 1993-94	-15.82	-8.00	-0.71	-7.11
1993-94 to 1999-00	-3.79	-3.64	0.00	-0.15
1983 to 1999-00	-19.61	-17.53	-0.86	-1.22

Source: Author's calculations using NSS data of respective rounds.

Table 10: Characteristics of rural households by social group

	ST	SC	Others	All
% of households	10.87	21.43	67.70	100.00
Average MPCE (Rs.)	373.50	412.20	508.37	474.40
Avg. household size	4.84	4.84	5.12	5.03
Avg. propn. of workers in the household	0.53	0.48	0.43	0.45
Avg. propn. of females in the household	0.48	0.49	0.49	0.49
% of female headed hhlds.	8.10	9.50	10.43	9.98
% of households self-employed in non-agriculture	5.12	11.80	14.87	13.15
% of agricultural labour households	44.57	54.05	26.88	34.63
% of other labour households	7.96	9.11	7.00	7.55
% of households self employed in agriculture	34.53	16.61	38.16	33.14
% of households in other occupations	7.81	8.44	13.10	11.52
Avg. size of land possessed (hectares)	1.06	0.41	0.99	0.88
% of literates (age >=7)	40.41	45.99	60.08	55.18
Avg. maximum level of education in a hhld. (in years)	3.97	4.46	6.20	5.59
% of Hindu households	93.30	91.98	81.98	85.35

Source: Author's calculations using NSS household level data from 55th round.
Note: The figures in this table represent household characteristics from fourteen major states of India.

Table 11(a): Determinants of Monthly Per Capita Expenditure: Rural Sector

Dep. Variable Ln (mpce)	All		
	Coef.	t	P>|t|
Ln (household size)	-0.381	-74.96	0.00
Worker ratio	0.081	7.77	0.00
Female ratio	-0.056	-5.11	0.00
Female head	-0.076	-10.86	0.00
Self emp. In Non-agriculture	0.188	30.09	0.00
Other Labour	0.108	11.63	0.00
Self Emp. In Agriculture	0.115	18.33	0.00
Other occupation	0.231	26.93	0.00
Sub-round2	0.014	1.54	0.12
Sub-round3	-0.003	-0.35	0.72
Sub-round 4	0.012	1.30	0.20
Literate, below primary	0.080	12.93	0.00
Primary, below secondary	0.165	26.70	0.00
Secondary, below graduate	0.347	47.96	0.00
Graduate & above	0.554	53.54	0.00
ST -Dummy	-0.153	-15.20	0.00
SC-Dummy	-0.080	-13.58	0.00
ST-Region-Dummy	-0.064	-6.39	0.00
SC-Region-Dummy	-0.001	-0.10	0.92
Religion - Dummy	-0.049	-6.48	0.00
Ln (land possessed)	0.193	38.75	0.00
Infrastructure - Dummy	0.210	30.65	0.00
_cons	6.340	375.80	0.00
	Sample Size=57252		
	R-Squared=0.4282		

Source: Author's calculations using NSS household level data from 55th round.

Table 11(b): Determinants of Monthly Per Capita Expenditure: Social Group

Dep. Variable	ST			SC			Others		
Ln (mpce)	Coef.	t	P>|t|	Coef.	t	P>|t|	Coef.	t	P>|t|
Ln (household size)	-0.348	-21.65	0.00	-0.334	-24.85	0.00	-0.403	-71.38	0.00
Worker ratio	0.112	3.73	0.00	0.156	6.64	0.00	0.077	6.37	0.00
Female ratio	-0.044	-1.39	0.16	-0.053	-1.92	0.06	-0.044	-3.51	0.00
Female head	-0.055	-2.40	0.02	-0.104	-6.58	0.00	-0.070	-8.39	0.00
Self emp. in non-agri.	0.187	6.83	0.00	0.136	11.18	0.00	0.227	30.50	0.00
Other Labour	0.142	5.33	0.00	0.098	5.10	0.00	0.111	10.22	0.00
Self emp. in agri.	0.109	5.49	0.00	0.102	7.65	0.00	0.140	19.57	0.00
Other occupation	0.304	9.36	0.00	0.252	12.54	0.00	0.295	30.43	0.00
Sub-round2	0.082	3.15	0.00	0.006	0.41	0.69	0.006	0.60	0.55
Sub-round3	0.002	0.06	0.95	-0.007	-0.45	0.65	-0.001	-0.10	0.92
Sub-round4	0.062	2.40	0.02	0.008	0.52	0.60	0.005	0.53	0.60
Religion-Dummy	-0.009	-0.26	0.80	-0.082	-4.35	0.00	-0.057	-6.99	0.00
Ln (education)	0.124	15.69	0.00	0.099	18.64	0.00	0.174	50.23	0.00
Ln (land possessed)	0.129	7.81	0.00	0.176	13.30	0.00	0.215	40.51	0.00
Infrastructure - dummy	0.211	10.57	0.00	0.201	17.48	0.00	0.227	31.31	0.00
_cons	6.010	110.66	0.00	6.205	156.81	0.00	6.229	339.56	0.00
	Sample Size=6254			Sample Size=10708			Sample Size=40290		
	R-Squared=0.3224			R-Squared=0.302			R-Squared=0.3963		

Source: Author's calculations using NSS household level data from 55th round.

Table 12(a): Testing for significance of differences in the land coefficient across social groups

Dependent variable Ln (mpce)	Coef.	t	P>|t|
Ln (household size)	-0.387	-74.91	0.000
Worker Ratio	0.092	8.68	0.000
Female Ratio	-0.044	-3.96	0.000
Female head	-0.078	-10.99	0.000
Self emp. in non-agri	0.202	31.88	0.000
Other Labour	0.108	11.72	0.000
Self emp. in agri.	0.120	18.92	0.000
Other occupations	0.282	31.97	0.000
Sub-round 2	0.015	1.58	0.115
Sub-round 3	-0.002	-0.20	0.839
Sub-round 4	0.013	1.40	0.162
Religion - Dummy	-0.053	-6.87	0.000
Ln (education)	0.153	52.71	0.000
Ln (land possessed)	0.214	41.29	0.000
Infrastructure-dummy	0.223	33.46	0.000
ST-dummy	-0.153	-13.66	0.000
SC-dummy	-0.068	-8.34	0.000
ST dummy * ln (land)	-0.015	-5.40	0.000
SC dummy * ln (land)	-0.009	-2.54	0.011
_cons	6.246	374.08	0.000
	Sample Size = 57252		
	R-squared = 0.4084		

Source: Author's calculations using NSS household level data from 55th round.

Table 12(b): Testing for significance of differences in the education coefficient across social groups

Dependent variable Ln (mpce)	Coef.	t	P>|t|
Ln (household size)	-0.387	-74.88	0.000
Worker Ratio	0.093	8.76	0.000
Female Ratio	-0.044	-3.95	0.000
Female head	-0.078	-11.02	0.000
Self emp. in non-agri	0.201	31.58	0.000
Other Labour	0.107	11.61	0.000
Self emp. in agri.	0.121	19.05	0.000
Other occupations	0.282	32.00	0.000
Sub-round 2	0.015	1.63	0.104
Sub-round 3	-0.001	-0.15	0.882
Sub-round 4	0.013	1.45	0.147
Religion - Dummy	-0.053	-6.92	0.000
Ln (education)	0.162	49.93	0.000
Ln (land possessed)	0.205	40.85	0.000
Infrastructure-dummy	0.223	33.48	0.000
ST-dummy	-0.161	-11.23	0.000
SC-dummy	-0.031	-3.28	0.001
ST dummy * ln (education)	-0.004	-2.18	0.029
SC dummy * ln (education)	-0.008	-7.10	0.000
_cons	6.233	370.95	0.000
	Sample Size = 57252 R-squared = 0.4084		

Source: Author's calculations using NSS household level data from 55th round.

Table 13: Cultivation Practices by Social Group

	ST	SC	Others	All
% of households cultivating only Kharif / only Rabi crops	54.87	38.69	33.24	36.54
% of households using some form of mechanization in cultivation	23.49	58.07	63.33	58.02
% of households using manure in cultivation	77.73	74.90	79.32	78.44
% of households using fertilizers in cultivation	55.27	79.37	83.65	79.78
% of households using improved seeds in cultivation	41.05	50.70	57.79	54.78
% of households using irrigation facilities	34.77	65.98	69.98	65.39
% of households using pesticides / weedicides	34.68	47.76	52.89	50.03
% of households owning well / tube well	14.14	8.73	22.75	18.81
% of households owning any diesel pump for irrigation	5.63	4.02	9.60	7.98
% of households owning any electric pump for irrigation	5.18	2.73	10.44	8.22
Average size of land owned (hectares)	1.07	0.57	1.19	1.06

Source: Author's calculations using NSS household level data from 54th round.
Note: The figures in this table are for All-India.

Table 14: Regression decomposition of differences in group means (of dependent variable)

Share(%)	Between Others and ST		Between Others and SC	
	Characteristics effect	Coefficients effect	Characteristics effect	Coefficients effect
Self emp.-non agri.	7.89	0.68	3.15	5.36
Other Labour	-0.53	-0.76	-1.23	0.49
Self emp.-agri.	0.64	3.91	14.24	3.18
Other occupations	5.85	-0.17	5.01	1.71
Log (Education)	28.49	19.58	29.39	45.91
Log (Land)	-0.89	15.66	28.69	4.53
Infrastructure	15.54	1.39	3.36	5.27

Source: Author's calculations using NSS household level data from 55th round.

References:

1. Anand, Sudhir (1983): *Inequality and Poverty in Malaysia: Measurement and Decomposition*, Oxford University Press, New York.

2. CMIE (1997): *Profiles of States*, Economic Intelligence Service, Centre for Monitoring Indian Economy Pvt. Ltd., Mumbai.

3. Datt, Gaurav and Martin Ravallion (1992): 'Growth and Redistribution components of changes in poverty measures: A decomposition with applications to Brazil and India in the 1980s', *Journal of Development Economics*, Vol. 38, No. 2, pp. 275-295, April.

4. EPWRF (2003): *Domestic Product of States of India, 1960-61 to 2000-01*, Economic and Political Weekly Research Foundation, Mumbai.

5. Gang, Ira, Kunal Sen and Myeong-Su Yun (2002): 'Caste, Ethnicity and Poverty in Rural India', IZA Discussion Paper No. 629, Bonn.

6. Government of India (2001a): *National Human Development Report*, Oxford University Press, New Delhi.

7. Government of India (2001b): *Differences in level of consumption among socio-economic groups*, NSS 55th round (July 1999 – June 2000), Report No. 472, National Sample Survey Organization, New Delhi.

8. Government of India (1993): *Report of the Expert Group on Estimation of Proportion and Number of Poor*, Perspective Planning Division, Planning Commission, New Delhi.

9. Kanbur, Ravi (2003): 'The policy significance of inequality decompositions', mimeo, Cornell University, Ithaca, New York.

10. Lanjouw, Peter and Salman Zaidi (2000): 'Determinants of Income in Rural Uttar Pradesh: The Differential Returns of Scheduled Castes', unpublished mimeo, World Bank Research Department, World Bank, Washington D.C.

11. NIRD (1999): *Regional disparities in development and poverty*, India Rural Development Report, National Institute of Rural Development, Hyderabad.

12. Radhakrishna, R. and Shovan Ray (2004): 'Poverty in India: Dimensions and Character', *India Development Report*, Oxford University Press, New Delhi.

13. Singh, K.S. (1994): *The Scheduled Tribes*, Anthropological Survey of India, People of India National Series Volume 3, Oxford University Press, New Delhi.

14. Singh, K.S. (1993): *The Scheduled Castes*, Anthropological Survey of India, People of India National Series Volume 2, Oxford University Press, New Delhi.

15. Van de Walle, D. and D. Gunewardena (2001): 'Sources of ethnic inequality in Viet Nam' *Journal of Development Economics*, Vol. 65, pp. 177-207.