

Marjit, Sugata; Santra, Sattwik; Hati, Koushik Kumar

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## Status Seeking Behavior of the Poor: A Study on India

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# Status Seeking Behavior of the Poor: A Study on India

*Sugata Marjit, Sattwik Santra, Koushik Kumar Hati*

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Poschingerstr. 5, 81679 Munich, Germany

Telephone +49 (0)89 2180-2740, Telefax +49 (0)89 2180-17845, email [office@cesifo.de](mailto:office@cesifo.de)

Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl

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# Status Seeking Behavior of the Poor: A Study on India

## Abstract

This paper is the first attempt towards directly testing the existence of status seeking behavior of the poor for a developing economy, India, with the help of a large dataset. The paper empirically validates status consciousness among the relatively poor for both rural and urban areas across the states of India. The hypotheses that inequality impacts consumption patterns via status effect turns out to be statistically significant. Households in the majority of the states, under various specifications, demonstrate concern for status. We explore in detail the extent of this status effect for different sections of the population.

JEL-Codes: D010, D120, C130.

Keywords: status, consumption pattern, inequality, poverty.

*Sugata Marjit*  
*Centre for Studies in Social Sciences*  
*Calcutta / India*  
*marjit@gmail.com*

*Sattwik Santra*  
*Centre for Studies in Social Sciences*  
*Calcutta / India*  
*sattwiks@gmail.com*

*Koushik Kumar Hati*  
*Deshabandhu Mahavidyalaya*  
*Chittaranjan India*  
*koushik\_hati@hotmail.com*

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## **I. Introduction**

In recent times there has been an upsurge in the academic interest on conspicuous consumption and the behaviour of the poor. Originators to the present research on this topic are Smith (1776) and Veblen (1899). Veblen coined the term ‘conspicuous consumption’ to demonstrate how the wealthy class consumed valuable goods to distinguish themselves from other classes of the society. Duesenberry (1949) emphasized that an individual’s utility does not depend on absolute consumption, but on consumption relative to the average. The above studies reveal that whether be it ‘conspicuous’ or composite consumption good, consumption relative to the average matters a lot for an individual’s happiness. The conventional wisdom that poverty causes inequality needs to be reexamined if the status effect is present. Faster growth rates do not mean that the increment is equally shared by various income classes. Rising inequality accentuates status effect and compels people toward status-based consumption pattern and may adversely affect poverty in terms of nutritional measure. Social perception about status might be related to the information about global consumption standard as projected through electronic media. These effects must be looked into seriously. In this paper, we undertake a comprehensive empirical study on India of the said aspect of individuals’ preferences which is termed as “status effect”. In this context, using a large unit level database, this paper tries to test the hypothesis that the poor are affected by status seeking behavior in an unequal society. This is the first attempt to look for such an effect in a macro context with the help of the National Sample Survey Organization (NSSO) database for India. The key empirical insight of the paper is that food expenditure share of the poor is not only a function of their own overall expenditures but also by the expenditures made by the rich on non-food commodities.

## **II. Literature Review**

There is a voluminous theoretical and empirical literature on subjective well-being (see survey by Kahneman and Kreuger (2006) . Frank (1985) talked about context dependent preferences and the concern for status, as we discuss in this paper, is an issue related to a particular social context. More recently, Mujcic and Frijters (2013) have explicitly and convincingly demonstrated a method for measuring the willingness to pay to move up the status ladder. The papers by Easterlin [(1974), (1995) and (2001)] note that income and self-reported happiness are positively correlated across

individuals within a country. The author interprets these findings as evidence that relative income rather than absolute income matters for individual well-being. Using European micro data, Van de Stadt, Kapteyn, and Van de Geer (1985), Clark and Oswald (1996), Senik (2004), and Ferrer-i-Carbonell (2005) find that well-being is partly driven by relative position, where reference groups are defined by demographic characteristics. Using U. S. data, McBride (2001) finds evidence that relative income affects subjective well-being, but they caution about the statistical reliability of their findings. Also, the paper by Luttmer (2005), using National Survey of Families and Households data, finds that controlling for an individual's own income, higher earnings of neighbors are associated with lower levels of self-reported happiness and that increased neighbors' earnings have the strongest negative effect on happiness for those who socialize more in their neighborhood. Works such as Frijters (2013) are also relevant in this area of research work. The experimental social psychology such as Sivanathan and Petit (2010), have confirmed that individuals are quite sensitive to their relative status in the society and would like to 'mend' their 'self', under constant attack from various social pressures, by taking recourse to status-signaling consumption pattern. This is one of the building blocks of the empirical model that the paper uses in the subsequent analysis.

The paper starts off by highlighting a well-observed empirical phenomenon, discussed extensively in the literature on poverty in India. Patnaik (2007) and Deaton and Dreze (2009) have dealt with the conflict between income-based measure and nutrition-based measures of poverty. In India people moving above the poverty line with greater monthly expenditure on overall consumption demonstrate lower nutritional intake. Thus Patnaik (2007) asserts that actual poverty estimate is far greater than the optimistic figure provided by the government. While Deaton and Dreze (2009) analyze various reasons for such a behavior, not much emphasis is given to the role of a status-driven consumption pattern, although they do not altogether ignore such a possibility. That social inequality can influence individuals' consumption and induce greater consumption of the so-called status good, becomes quite relevant for such analysis. While for the rich such behavior may not affect absolute nutritional intake, for the poor it might.

Given this extensive literature on 'status', we felt the importance of empirically validating the presence of status in the context of India. In simple terms, status responsiveness in consumption of a representative individual, makes her consumption of certain goods respond to not only her income, but also how she is relatively placed with respect to the reference group in the changed

circumstances. Hence, a direct test would imply that the expenditure share of non-status good will be sensitive to the distributional position. We proceed to test this hypothesis in terms of the most widely used data set in India, the National Sample Survey Organization data on household level consumption with the latest round of data across Indian states for the rural and urban sectors. A motivation for using a large sample is that in earlier works, experiments, anecdotal observations, case studies (see Luttmer (2005), Fafchamps and Shilpi (2008), Banerjee and Duflo (2011), etc.) do point toward such behavior. The natural question therefore, is whether a large data set with wider variations in data, can accommodate such claims.

The paper is structured as follows. The upcoming section: section three, discusses throws up some anecdotes and references that validates our particular choice of dependent variable of our model to measure the status responsiveness. Using the National Sample Survey data of consumption, we formally investigate the empirical relationship between consumption share of food and inequality in the subsequent section. Section five is devoted to analyzing the empirical results obtained thus, and the following section concludes.

### **III. Empirical Analysis:**

Given the massive impact that distribution of income has on one's perception of her status in the society and thus her consumption decisions, it becomes vital at this stage to evaluate the impact of such perceptions on one's decision making process, empirically. Available theory has already established that status concerns have an adverse effect on the consumption of "non-status" goods in the face of rising incomes, here we exemplify the existence of such a phenomenon empirically. For our purpose, we take up India, as a prospective candidate and look for the prevalence of status, affecting the relative consumptions of commodities.

To conduct an analysis on the hitherto mentioned behavioral aspect of status consciousness, we first need to identify the commodities whose consumption stands to be affected due to status effect. For our analysis, we consider the food commodities as the prospective commodity group whose consumption is like likely to be (negatively) affected by the perception of status. The reason why we chose the food commodities is as follows. In India, it is often observed that higher levels of overall consumption expenditure (which is approximated as a proxy for income levels) among the poor do not imply higher nutritional intake which is quiet contrary to general perception – a quite alarming trend. To present some anecdotal evidences along these lines, we consider the degree of

poverty (measured by percentage of population lying below the poverty line) and child malnourishment (measured by percentage of children suffering from malnourishment) for the states of India. Figure F1 plots those two variables against the states' per capita gross state domestic product (taken in log) for the year 2011-12<sup>1</sup>. From the figure, we can clearly appreciate that although with a rise in the gross state domestic product (hereafter referred to as GSDP) as a proportion of total population there is an appreciable decline in poverty, no such trends are observed for child malnourishment. For example, states like Andhra Pradesh, Gujrat, Haryana, Himachal Pradesh, Karnataka, Punjab and Tamil Nadu although having a respectable amount of per capita GSDP, still register a high degree of child malnutrition compared to the states having relatively lower amount of per capita GSDP like Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa and Rajasthan, Uttar Pradesh and West Bengal. But if we consider poverty, we can see that changes in poverty figures of the states are more amenable to the respective per capita GSDP figures.

*Insert Figure F1 about here*

World Bank Data reveals that in the past decade, India has seen high annual growth rates from about 4 percent to an average of 8 percent peaking to about 10 percent in 2011. Also the poverty levels (according to data from World Bank) have reduced over years. But the nutritional status of many states of the country does not show respectable levels of improvement. Svedberg (2008) found that between 1993 and 2006, net state domestic product per capita grew by about 4.5% per year on an average, nearly a doubling of real income, while the prevalence of child stunting and underweight reduced by a meagre 23 percent to 12 percent over the past 13 years. Whereas in China, child stunting fell from 33 to 10 percent during 1992-2005 and child underweight was practically eliminated. Also prevalence of under nutrition in adult women in 2005-2006 was 33%, down only by 3 percentage points from 36 percent in 1998-1999<sup>2</sup>. All these facts and figures indicate that not only does one may obtain different conclusions if one takes a nutrition based approach of poverty, rather than an income based approach but in addition, changes in per capita GSDP which may result from certain policy prescriptions may have different impacts as judged

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<sup>1</sup> We consider this time period since the data we use for our empirical exercise belongs to this same time span.

<sup>2</sup> International Institute of Population Sciences, Research Brief, No. 2, (2007).



by these two measures of poverty. One possible candidate that can generate such a non-trivial observation, can be attributed to the persistence of status effect (the inherent tendency to consume status goods rather than nutritious goods to conform to societal status) prevailing among the population which interacts with the income effect and determines the overall relative consumption patterns. This might be important from the view point of formulating economic policies. In many middle-income countries it has been observed that as the income levels of the people rises disproportionately such that it raises income inequality, the low income people try to mimic the consumption pattern of higher income class, thereby bringing a shift in their expenditure structure toward luxury goods and thus affecting their nutritional status. This would imply another aspect of income inequality – that income inequality distorts consumption and expenditure patterns among the poor.

Thus these anecdotal and empirical evidences have led us to consider the food commodities as the possible candidate for introspection in our analysis as the variable whose consumption has been profoundly affected due to the presence of status consciousness. In accordance with our objective, we consider a situation where the poor people are concerned about their relative social status. In a society with unequal distribution of income, low income people, to keep up with the standards of the high income class, try to spend more on luxury goods so as to retain their relative status. In other words, income inequality in a society has an impact on the tendency to retain relative social status among the poor. This can be quantified by the spending on non-food luxury items in comparison to food items. In the ensuing sections we develop an empirical model to validate the widespread prevalence of status consciousness in the Indian society.

#### **IV. Data and Methodology**

For our entire analysis, we use the extensive datasets provided by the National Sample Survey Organization of India viz. the NSSO 68th round all India unit level survey on consumption expenditure (Schedule 1.0, Type 1 and 2) conducted during July 2011 to June 2012. We chose data from this particular timespan since this is the latest round of available dataset that provides extensive coverage of households' consumption<sup>3</sup>. This dataset is a nationally representative sample

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<sup>3</sup> The later rounds (called thin rounds) also provide data on consumption expenditure but the extent of their data is limited.

of observations that are collected following a stratified sampling of households. The dataset provides a detailed breakup of the consumption expenditure of the households as well as observations on the various characteristics specific to the households and the individuals belonging to the households. In addition to this, data is also provided on the households' localization which includes the sector (Rural or Urban), the district and the state/union territory (henceforth, the union territories will be referred to as states). Some details on the constituents of the dataset are provided in Table 1.

*Insert table 1 about here*

As discussed at the outset, we are chiefly concerned with the impact of status on the food expenditures of the relatively poor people of the society and thus, we first identify the 'poor' households in our data. To do the same, we take a brief look at the sampling design of the data. NSSO follows a stratified sampling scheme for the survey design. The design scheme consists of first stage units (FSU) which are the 2001 census villages in the rural sector and urban frame survey (UFS) blocks in the urban sector. The Urban Frame Survey blocks are formed from towns/cities which are divided into **aerial compact** blocks with clear cut identifiable boundaries and permanent land marks. Large FSUs identified in terms of their population, are further divided into hamlet-groups/ sub-blocks in a way to more or less equalize the population within the hamlet-groups/ sub-blocks. Households listed in the selected FSU/ hamlet-group/ sub-block are stratified into three second stage strata (SSS) such that households listed in the first of the three SSS are relatively affluent in their respective FSU/ hamlet-group/ sub-block: the level of affluence determined from the NSSO 66th round (July 2009-June 2010) consumption survey. We utilize this characteristic of the survey design and define a household to be "poor" if it is not listed in the first SSS. For our formal empirical model, we also need to identify a variable, which we refer to as the "status" variable, that quantifies the influences that promotes the status responsiveness of the poor households. In order to do so, we consider each FSU and evaluate the average per-capita monthly non-food consumption expenditures (in logarithms) of the relatively affluent households listed in the first SSS of the FSU. A list of the principal non-food items is summarized in Table 1. Note that in computing the non-food consumption expenditures of the relatively affluent households, we

exclude the medical expenditures, taxes and cesses incurred by these households<sup>4</sup>. We take this value of the estimated average per-capita monthly non-food consumption expenditure (in logarithms and net of medical expenditures) of the relatively affluent households as the value of the status variable of all the poor households belonging to that particular FSU. The status variable constructed thus, also has the advantage that it makes our analysis robust to specification biases. This follows since the manner in which the status variable of a household is defined makes it irresponsive to the household's expenditure up to a certain extent. Thus, when we formally establish an association between the expenditure share of food items with the status variable for the poor households, we guarantee that the relationship truly represents the households' status responsiveness rather than capturing certain nonlinearity of the households' overall expenditure. We pursue this possibility further and demonstrate the robustness of our result by subsequently reestablishing the association while allowing for an arbitrary functional dependence of the expenditure share of food on the overall consumption expenditure.

At this point, we would like to pacify one of the concerns that might arise since we are considering the income share of food commodities as our dependent variable: the variable whose consumption for a household is due to fall with a rise in impetus to the household's status perception. As one might argue, it is possible that the food commodities are inclusive of some luxurious "status" food items whose consumption might rise (instead of falling) as a status response of the household. We claim that this feature does not affect our analysis. This follows because of two reasons. Firstly, we are only analyzing the consumption patterns of the poor households whose food commodity basket is not likely to be composed of such luxurious "status" food commodities. Secondly, even if we are to acquiesce the existence such food commodities in their consumption basket, their existence would only bias our results towards zero and (hence) if we can prove the existence of

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<sup>4</sup> As any causal implication of the medical expenditures, taxes and cesses incurred by the affluent households on the food expenditures made by the poor households is not indicative of status responsiveness. For medical expenditures, a causal association may arise out of a correlation between the medical expenses incurred by the rich and the poor households with the latter, directly affecting the total expenditures made by the poor households on food. Similarly, taxes and cesses are administratively imposed on the households and taxes and cesses incurred by the affluent households may similarly be correlated with that of the poor households. This in turn, affects the total food expenditures made by the poor households.

status responsiveness, the actual responsive to status is likely to be more pronounced than our estimated figures.

With the definition of rich and poor households we summarize some of the key statistics related to the principal variables of our analysis namely the monthly per capita total expenditure and the monthly per capita expenditures on food commodities in Table 2. This table also provides some information for some subsidiary variables of interest such as the household size and the number of households in the population.

*Insert table 2 about here*

To motivate our empirical model, we present some preliminary observations from the data. For the same, we restrict our attention to the poor households. For these households, we consider their monthly per-capita total expenditure (hereafter MPCE), their consumption shares of food and their respective status variable (which is the average per-capita monthly non-food consumption expenditure of the relatively affluent households listed in the first SSS of the respective FSU to which a poor household belongs). Based on their MPCE, we classify the households into quintiles and we further sub classify the households in each of the MPCE quintiles based on the quintiles of their status variable. For the households belonging to each of these sub-classification, we compute the average expenditure share of food. Table 3 records the values of these average expenditure shares for the poor households classified according to the quintiles of their status variable within each MPCE quintile. The figures indicate the presence and the impact of status consciousness amongst the households. The expenditure share of food, decreases for households exposed to a relatively higher value of the status variable and may even be lower than that of households having a higher overall per-capita expenditure but with a lower value of the status variable. For example, the average expenditure shares of households belonging to the first MPCE quintile but belonging to the last quintile of the status variable (i.e. having a relatively high value of the status variable compared to other households belonging to the same MPCE quintile) is lesser than that for the households belonging to the third MPCE quintile and the first quintile of the status variable (i.e. having a relatively low value of the status variable compared to other households belonging to the third MPCE quintile).

*Insert table 3 about here*

With this initial result in hand, we move on develop a detailed and robust statistical framework in the subsequent paragraphs to study the nature and significance of the role of status in shaping individuals' food consumption patterns.

To test for the presence of status among the poor households, we look at the statistical significance of the association of the status variable with the expenditure share of food while allowing for the influences of total expenditure and a host of other covariates. For our underlying empirical model, we follow closely the “Almost Ideal Demand System (AIDS)”, structure forwarded by Deaton and Muellbauer (1980). We chose AIDS over other formulations since the underlying expenditure function from which AIDS is derived is flexible enough to serve as first order approximations to any set of demand functions derived from utility-maximizing behavior. The AIDS specification for the demand function of an individual household ‘ $h$ ’ can be summarized in the budget share form given by:

$$w_{ih} = a_i + \sum_j b_j \log(p_j) + \sum_j \sum_k c_{jk} \log(p_j) \log(p_k) + d_i \log(x_h) + e_i z_h \quad \dots(E1)$$

where ‘ $i$ ’ indexes the commodities, ‘ $w$ ’ represents the budget share, ‘ $p$ ’ represents the price of the subscripted commodities, ‘ $x$ ’ is the total consumption expenditure of the subscripted household,  $z_h$  is a measure of the effective household size and is a function of certain household specific characteristics such as the age profile, the scale economies of the household size among others and ‘ $a$ ’, ‘ $b$ ’, ‘ $c$ ’, ‘ $d$ ’ and ‘ $e$ ’ are parameters. Give the above specification, we propose to estimate the relationship:

$$w_h = \alpha_r + \beta \log(x_h) + \gamma z_h + \theta D_h + \varepsilon_h \quad \dots(E2)$$

where ‘ $w$ ’ represents the combined budget share of all food commodities,  $\alpha_r$  represents an unobservable ‘fixed effect’ that is specific to some region ‘ $r$ ’ in which the household ‘ $h$ ’ belongs,  $z$  represents a vector of other household specific control variables, ‘ $D$ ’ is the status variable of the household and  $\varepsilon$  is the idiosyncratic error term. In our model, we include the household size, the number of child lesser than eighteen years of age in the household, the number of elderly greater than sixty five years of age in the household, the maximum education of the members of the household (considered as dummies for the five education groups detailed in Table 1), the median age of the members of the household (in logarithm) and its squared value, an indicator on whether

the household belongs to the SC/ST/OBC castes, and the religion of the household (considered as dummies for the three religion groups detailed in Table 1) as constituents of the variable ‘ $z$ ’.

Note that our formulation departs from the AIDS specification in two aspects. Firstly, the system of equations implied by all the commodities in the AIDS structure puts certain restrictions on the parameters ‘ $a$ ’, ‘ $b$ ’, ‘ $c$ ’, ‘ $d$ ’ and ‘ $e$ ’ in the AIDS formulation. Since we are mainly interested in analysing the association between the consumption share of food and the status variable, we do not estimate (E2) as a system and hence we impose no restrictions on the model parameters. Secondly, we incorporate an unobservable region specific “fixed effect” parameter ‘ $\alpha$ ’ instead of the commodity prices in our estimating equation. We implement this change since NSSO does not provide information on regional commodity prices. Although NSSO does provide information on the quantity of a commodity purchased, from which one can obtain the unit values of the commodities (which are the ratios of commodity expenditures to the physical quantities) and that these unit values do depend on actual market prices, however, it is not possible to use unit values as direct substitutes for true market prices in the analysis of demand patterns (for a discussion see Deaton (1988)). Also note that these unit values are available only for a select set of commodities and are not available for a significant number of commodities including education, medicine, household related services and certain durables. The fixed effect parameter in the model subsumes not only the impact of prices on the budget share of food but also other possible region specific fixed effects. For our present analysis, we assume that a combination of state, sector and district constitutes a region. This construction assumes that commodity prices are invariant within a particular sector of a district in a state. This is not a restrictive assumption since by the period of the survey, India as a whole has had improved connectivity and transport facilities which rules out any significant price variations within such a region. Note also that all official statistics on commodity prices (at any level of aggregation) do not provide data at such level of regional disaggregation as we are assuming in our model.

Responsiveness to status being a part of the preference patterns of the economic agents are liable to vary across the households. Since we can extend our econometric model to capture such heterogeneity, we generalize (E2) and estimate an alternative formulation given by:

$$w_h = \alpha_r + \beta \log(x_h) + \gamma z_h + \theta_g D_h + \varepsilon_h \quad \dots(E3)$$

In the above equation, ‘ $g$ ’ indexes certain group to which the household ‘ $h$ ’ belongs and such households are assumed to exhibit a group specific status responsiveness. For the groups, we

classify the poor households according to some exogenously fixed household characteristics. These household specific characteristics include the MPCE quintile (considering only the poor households) to which the households belong, the maximum education level attained by the households' members, the principal occupation group of the households, the median age of the adult (age greater than or equal to eighteen years) members of the households (we consider the adult members only since we believe that status consumption decisions are taken by the adult members irrespective of the number of children and this may vary according to the age of the decision makers if at all) considered as quintiles, the sectoral (rural or urban) localization of the households and finally, the states in which the households belong.

To arrive at the parameter estimates of equations (E2) and (E3) we use ordinary least square estimation techniques.

In a given geographical confine, the incomes of individuals are likely to be correlated even when such individuals have different levels of income and are probably even employed in different occupations. Such an interdependence may get transmitted to the overall expenditures incurred by these individuals. As such, if the status variable of the poor households constituted by the average non-food expenditures made by the affluent households located in a spatial proximity, acts as a proxy of some non-linear function of the overall expenditure of the poor households then a statistically significant estimates of the coefficient associated with the status variable may as well signify certain non-linear association between the expenditure share of food with the overall expenditures rather than representing status responsiveness of the poor households. To pacify these concerns in particular and to guarantee robustness of our results, we also estimate an extension to equation (E2) and (E3) given by:

$$w_h = \alpha_r + \beta f(\log(x_h)) + \gamma z_h + \theta D_h + \varepsilon_h \quad \dots(E4)$$

$$w_h = \alpha_r + \beta f(\log(x_h)) + \gamma z_h + \theta_g D_h + \varepsilon_h \quad \dots(E5)$$

where is  $f(\cdot)$  an arbitrary smooth function. The above empirical models allow for any arbitrary smooth functional association between the total consumption expenditure of the households and their expenditure share of food. A significant level of  $\theta$  in the estimation of above equations would strengthen our claim of the presence of status responsiveness in the preference patterns of the poor households. The semiparametric AIDS formulation serves as a generalization to alternate extensions of the AIDS model such as the Quadratic Almost Ideal Demand System (Banks, Blundell, & Lewbel, 1997). Moreover, if we relax maximizing behaviour on part of the economic

agents, the above formulation can still provide a reasonably sound first-order approximation to the underlying demand structure thus extending the generality of the model. To estimate (E4) and (E5), we implement Baltagi and Li's (2002) series estimation of partially linear panel data models (also see Libois and Verardi (2012) and Yatchew (1999)).

In the next section, we discuss the conclusions drawn from the estimates of the model parameters set up thus far.

## V. Results and Discussion

If poor people are indeed concerned about their relative standing in the society then it must get reflected in our empirical exercise as a significant  $\theta$  or  $\theta_g$ : the coefficient associated with the status variable. If  $\theta$  or  $\theta_g$  is significantly negative, it indicates that overall or for the particular group indexed by 'g', a rise in income inequality coerces the individuals who are relatively poor, to consume food commodities in relatively lesser quantities compared to other non-food items.

The results for the model estimated for the NSSO 68<sup>th</sup> round data reveals that overall, for the whole country, status effect among the poor significantly lowers their relative food consumption (refer to Table 4) for both the linear and the semiparametric models. This implies that overall, an increase in the expenditure towards non-food items by the 'affluent' households have a significantly negative impact on the consumption share of food for the relatively poor households.

*Insert table 4 about here*

When the coefficient of the status variable is allowed to vary across the quintiles of monthly per-capita expenditure of the poor households, figures reported in Table 5 indicate that not only for all the quintiles status effect is significant and negative for both the models, but in addition, the magnitudes of these coefficients indicate that the degree of status responsiveness of the poor households follow a U-shape pattern. Within the poor households, both the relatively well off and the relatively worse off households exhibit a stronger responsiveness to status compared to the poor households who belong to the middle of the overall expenditure spectrum of these households – a fact substantiated by the F statistics from the equality tests of the status coefficients reported in the table.



*Insert table 5 about here*

In the next table we analyse the status responsiveness of the poor households with respect to the maximum level of education attained by the households. We classified the households according to the maximum education attained by the members of the households. These education levels are grouped into five categories (see Table 1 for the categorization) that are ordered according to increasing educational achievement. The results from Table 6 (noting the F statistics from the equality tests of the status coefficients reported in the table) indicate that for the linear model the extent of status responsiveness secularly increases with the level of education while for the semiparametric model we can once again register a U-shaped relationship between status responsiveness and the level of education in that, both the relatively well educated and the relatively poorly educated households exhibit a stronger responsiveness to status compared to the moderately educated households.

*Insert table 6 about here*

The U-shaped relationship is obtained one more time when we allow the coefficient of the status variable to vary according to the households' principal occupation broadly ranked into five categories according to the requirement of skill. Estimates of the coefficients reported in Table 7 for both the models and the associated statistics from the tests of equality of the status coefficients validate this result and upholds the earlier result of such a U-shaped association between status responsiveness and the expenditure quintiles. This follows since overall expenditures are likely to be related to the income levels which, in turn, depend on the nature of employment.

*Insert table 7 about here*

When we classify the households according to the quintiles of the median age of the adult (age greater than or equal to eighteen years) members of the households we find no statistically significant difference in the degree of status responsiveness for households across the age quintiles except a statistically significant difference between the first two quintiles. This is depicted in Table 7 where, for both the models the statistics from the tests of equality of the status coefficients fails

to reject the null of equal coefficients except for the first two quintiles. This largely suggests the empathy of the decision makers of households towards status consumption remains invariant with age.

*Insert table 8 about here*

For our next table we allow the coefficient of status variable to vary across the rural and urban sectors. Figures reported in the table indicate that for both the models status effect is prevalent not only for both sectors but in addition, the persistence of status is more pronounced (in fact more than twice in magnitude) for households in the urban sector compared to their rural counterparts.

*Insert table 9 about here*

For the sake of completeness, as our final exercise, we report the coefficients of the status variable which are allowed to vary across the households located at the different states in Table 10. Owing to the limitations in the number of observations for some states and based on the proximity of these states to each other, we club a number of such states and determine the status coefficient for households in these states instead of considering households in these states separately. Yet again we find that barring some states, for both the models, households belonging to a majority of the states register a statistically significant disposition towards status.

If we summarize the results obtained from the above regressions, we show that the coefficient of the status variable is indeed negative and significant for the country as a whole and even for almost all the groups defined. This empirically affirms our assumption regarding individuals' status consciousness and its impact on the individuals' consumption of certain "non-status" goods particularly food.

## **VI. Conclusion**

In this paper we focus on the impact of relative status on the consumption behaviour of the relatively poor households of India: characterized by a society with highly unequal income distribution. In terms of the currently latest NSSO 68th round dataset on consumption expenditures in India, estimation of a number of alternative models strongly corroborate our claim of status

consciousness among the relatively poor individuals. The results indicate that concern for social status might prompt poor individuals to spend less on food and more on status good. Another interesting find is that, among the poor households, both the relatively well off and the relatively worse off households exhibit a stronger responsiveness to status compared to the moderately poor households.

The essence of this paper may be extended in a number of directions. For example, the bottom-line of these findings imply that, we cannot rule out the negative impact of inequality, which is the primary causative agent behind the concern for status, on relative consumption of food. As an implication, income and nutrition-based measures of poverty will give qualitatively different result and income growth will be consistent with malnutrition. Status led consumption can hurt the level of intergenerational bequests and increase the probability of a poverty trap with imperfect credit markets as demonstrated in Moav and Neeman (2012). Given our empirical results, the impact of status responsiveness and its contribution to the level of poverty needs to be reexamined in the context of India. Empirical findings in the literature on child labour forwards some counter intuitive results. Studies conducted by Swaminathan (1998) for a city in Gujarat, India, that by Barros et al. (1994) and Duryea and Arends-Kuenning (2003) for Brazil, finds an increase in the incidence of child labour with economic growth or economic prosperity. To explain these observations, Dwibedi and Marjit (2017) questions the validity of the poverty hypothesis of child labour for these circumstances and instead forwards an theory where status consciousness leads to a situation where in spite of an increase absolute income of the poor if their relative position in the society deteriorates then it may lead to an increase in child labour. The generality and robustness of our results corroborates such a theoretical justification.

## References

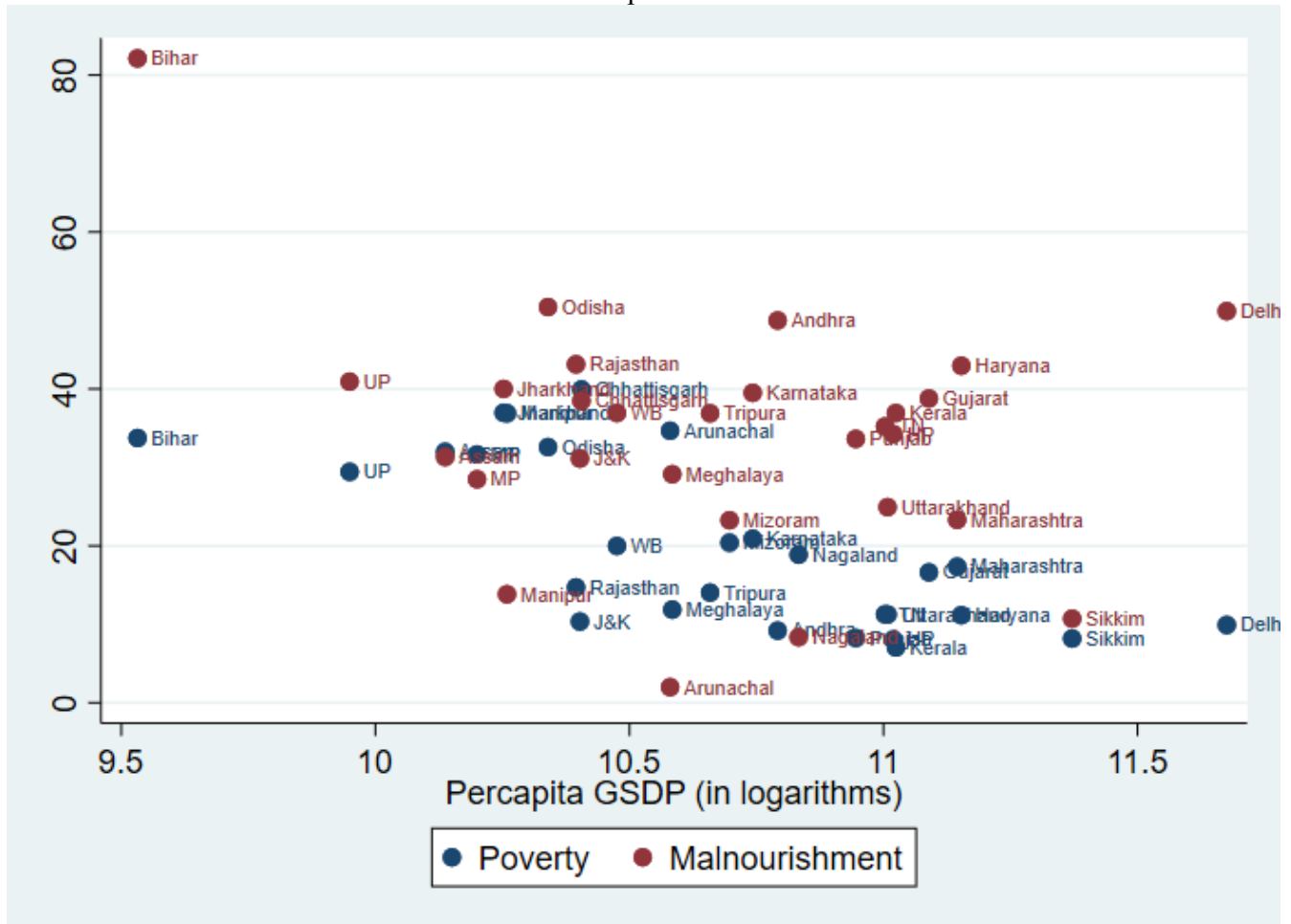
- Baltagi, B. H., & Li, D. (2002). Estimation of Partially Linear Panel Data Models with Fixed Effects. *Annals of Economics and Finance*, Vol. 3, 103-116.
- Banerjee, A. V., & Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. New York: PublicAffairs.
- Banks, J., Blundell, R., & Lewbel, A. (1997). Quadratic Engel Curves and Consumer Demand, Vol.(4). *The Review of Economics and Statistics*, 527-539.
- Barros, R., Mendonca, R., & Velazco, T. (1994). Is poverty the main cause of child work in urban Brazil? *Texto Para Discussao No 351, Servico Editorial*.

- Clark, A. E., & Oswald, A. J. (1996). Satisfaction and Comparison Income. *Journal of Public Economics*, LXI, 359–381.
- Deaton, A. (1988). Quality, Quantity, and Spatial Variation of Price. *The American Economic Review*, Vol. 78(3), 418-430.
- Deaton, A., & Dreze, J. (2009). Food and Nutrition in India: Facts and interpretation. *Economic & Political Weekly*, 44(7), 42-65.
- Deaton, A., & Muellbauer, J. (1980). An Almost Ideal Demand System. *The American Economic Review*, Vol. 70(3), 312-326.
- Duesenberry, J. (1949). *Income, Saving and the Theory of Consumer Behavior*. Harvard University Press.
- Duryea, S., & Arends-Kuenning, M. (2003). School attendance, child labor, and local labor markets in urban Brazil. *World Development*, Vol. 31, 1165–1178.
- Dwivedi, J. K., & Marjit, S. (2017). Relative Affluence and Child Labor—Explaining a Paradox. *Review of Development Economics*, Vol. 21(4), 1178-1190.
- Easterlin, R. A. (1974). Does Economic Growth Improve the Human Lot? Some Empirical Evidence. In P. A. David, & M. W. Reder, *Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz*. New York: NY: Academic Press.
- Easterlin, R. A. (1995). Will Raising the Incomes of All Increase the Happiness of All? *Journal of Economic Behavior and Organization*, XXVII, 35–48.
- Easterlin, R. A. (2001). Income and Happiness: Towards a Unified Theory. *Economic Journal*, CXI, 465–484.
- Fafchamps, M., & Shilpi, F. (2008). Subjective welfare, isolation, and relative consumption. *Journal of Development Economics*, Vol. 86(1), 43-60.
- Ferrer-i-Carbonell, A. (2005). Income and Well-Being: An Empirical Analysis of the Comparison Income Effect. *Journal of Public Economics*, LXXXIX, 997–1019.
- Frank, R. H. (1985). The Demand for Unobservable and Other Nonpositional Goods. *American Economic Review*, Vol. 75(No. 1), 101-116.
- Frijters, P. (2013). *An Economic Theory of Greed, Love, Groups, and Networks*. New York: Cambridge University Press.
- Kahneman, D., & Kreuger, A. B. (2006). Developments in the Measurement of Subjective Well-Being. *Journal of Economic Perspectives*, 20(1), 3-24.
- Leser, C. (1963). Forms of Engel Functions. *Econometrica*, Vol. 31, 694-703.
- Libois, F., & Verardi, V. (2012). Semiparametric Fixed-Effects Estimator. *Depart of Economics Working Paper Series WP 1201*. Centre for Research in the Economics of Development, University of Namur.
- Luttmer, E. F. (2005). Neighbors as Negatives: Relative Earnings and Well Beings. *Quarterly Journal of Economics*, Vol. 120(3), 963-1002.

- Marjit, S., & Roychowdhury, P. (2012). Inequality, status effects and trade. *MPRA Paper 40225*, University Library of Munich, Germany.
- Marjit, S., & Yang, L. (2015). *Accumulation with Malnutrition - The Role of Status Seeking Behavior*. Brisbane: The University of Queensland, School of Economics Discussion Paper No. 544 (Retrieved from <http://www.uq.edu.au/economics/544-accumulation-with-malnutrition-the-role-of-status-seeking-behavior>).
- Marjit, S., Santra, S., & Koushik, H. K. (2015). *Relative Social Status and Conflicting Measures of Poverty: A Behavioural Analytical Model*. Nottingham: University of Nottingham. Forthcoming: Journal of Quantitative Economics, New Springer Edition. Retrieved from <http://www.nottingham.ac.uk/gep/documents/papers/2015/2015-02.pdf>
- McBride, M. (2001). Relative-Income Effects on Subjective Well-Being in the Cross-Section. *Journal of Economic Behavior and Organization*, XLV, 251–278.
- Moav, O., & Neeman, Z. (2012). Saving Rates and Poverty: The Role of Conspicuous Consumption and Human Capital. *The Economic Journal*, 122(563), 933-956.
- Mujcic, R., & Frijters, P. (2013). Economic choices and status: measuring preferences for income rank. *Oxford Economic Papers*, 65(1), 47-73.
- Patnaik, U. (2007). Neoliberalism and Rural Poverty in India. *Economic and Political*, Vol. 42(30), 3132-3150.
- Senik, C. (2004). Relativizing Relative Income. *Manuscript, DELTA and University Paris-IV Sorbonne*.
- Sivanathan, N., & Petit, N. (2010). Protecting the self through consumption of Status goods. *Journal of Experimental Social Psychology*, Vol. 46, 1238-1244.
- Smith, A. (1776). *The wealth of nations*. Penguin Classics.
- Svedberg, P. (2008). Why Malnutrition in Shining India Persists. *4th Annual Conference on Economic Growth and Development*. ISI Delhi.
- Swaminathan, M. (1998). Economic growth and the persistence of child labor: Evidence from an Indian city. *World Development*, Vol. 26(8), 1513-1528.
- Van de Stadt, H., Kapteyn, A., & Van de Geer, S. (1985). The Relativity of Utility: Evidence from Panel Data. *Review of Economics and Statistics*, LXVII, 179-187.
- Veblen, T. (1899). *The Theory of the Leisure Class*.
- Yatchew, A. (1999). *Differencing methods in nonparametric regression: simple techniques for the applied econometrician*. University of Toronto. Retrieved from <http://homes.chass.utoronto.ca/~yatchew/DifferencingPaper.pdf> on 7/6/2017

Figure: F1

A comparison of poverty and child malnourishment in the Indian states with per-capita gross state domestic product.



Source: Per Capita GSDP for the year 2011-12 is obtained from the Ministry of Statistics and Programme Implementation, Government of India, poverty percentage is obtained from the press note on poverty estimates, 2011-12 by Planning Commission, Government of India, child malnourishment percentage figures is obtained from the Ministry of Health and Family Welfare, Government of India.

Number of states/union territories	35
Number of districts	624
Number of sampled households	115,213
Principal food items	Cereal and cereal substitutes, pulses, pulse products, milk, milk products, salt, sugar, edible oils, egg, fish, meat, vegetables, fruits (fresh and dry), spices, beverages, purchased processed food.
Principal non-food items	Mouth fresheners (betel leaf and products), tobacco, intoxicants, fuel, lighting, clothing, bedding, footwear, education, entertainment, minor durables, toilet articles, household consumables, consumer services, conveyance, house, garage, residential land and other rents, hotel lodging charges, furnitures, fixtures, recreation goods, crockery, utensils, household appliances, personal transport equipment, therapeutic appliances, personal devices, servicing of residential buildings and land and related durables, jewelry and ornaments.
Religion	Hinduism coded as group 1, Islamism coded as group 2, other denominations coded as group 3.
Social caste	SC/ST/OBC coded as group 1 and general category not coded as any group.
Education	Illiterate and literate without formal schooling coded as group 1, below primary and primary coded as group 2, middle and secondary coded as group 3, higher secondary and diploma/certificate course coded as group 4 and graduate, postgraduate and above coded as group 5.
Principal occupation of households	Elementary occupations and workers not classified by occupations coded as group 1, plant/machine operators and assemblers and craft and related trades workers coded as group 2, skilled agricultural workers and fishery workers coded as group 3, service workers, sales workers and clerks coded as group 4, technicians and associate professionals, professionals, legislators, senior officials and managers coded as group 5.

Table 1: A description of the NSSO 68<sup>th</sup> round combined type I and type II dataset.

Monthly per capita total expenditure									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
Mean	1460.11	2543.87	1754.88	2397.46	6804.75	5117.80	1523.42	3558.71	2162.08
Median	1202.16	2184.38	1382.21	1870.42	5261.62	3828.33	1235.23	2603.90	1485.90
Monthly per capita food expenditure									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
Mean	725.98	965.14	791.03	998.66	1839.90	1517.90	744.39	1173.48	879.04
Median	635.61	866.17	687.14	877.43	1545.33	1269.39	648.39	985.40	727.00
Mean household size									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
	4.50	4.28	4.44	5.42	3.15	4.02	4.56	4.01	4.39
Number of households (population, in millions) with maximum level of education									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
Illiterate and literate without formal schooling	27.90	4.24	32.14	0.31	0.24	0.55	28.21	4.48	32.70
Primary and below primary	62.20	13.30	75.50	1.36	0.78	2.14	63.56	14.09	77.65
Middle and secondary	108.64	35.04	143.68	6.08	4.30	10.38	114.72	39.35	154.06
Higher secondary and diploma/certificate course	38.41	20.54	58.95	4.97	6.60	11.57	43.38	27.14	70.52
Graduate and above	20.53	23.14	43.67	5.94	18.17	24.12	26.47	41.31	67.78
Number of households (population, in millions) with principal occupation									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
Elementary occupations and workers not classified by occupations including unemployed	105.17	23.93	129.10	1.65	7.15	8.80	106.82	31.08	137.89
Craft and related trades workers, plant and machine operators and assemblers	34.57	29.04	63.62	1.32	3.05	4.36	35.89	32.09	67.98
Skilled agricultural workers, fishery workers	84.28	3.24	87.51	9.61	0.67	10.27	93.88	3.90	97.79
Clerks, service workers, sales workers	15.05	17.26	32.31	1.83	4.53	6.36	16.88	21.79	38.67
Legislators, senior officials, managers, professionals, technicians and associate professionals	18.62	22.80	41.42	4.26	14.71	18.96	22.87	37.51	60.38
Number of households (population, in millions)									
	Poor			Rich			Combined poor and rich		
	Rural	Urban	All India	Rural	Urban	All India	Rural	Urban	All India
	257.68	96.27	353.95	18.66	30.10	48.76	276.34	126.37	402.71

Table 2: Descriptive statistics of key variables.

Source: Authors' calculations based on data.



	Status variable				
MPCE	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Quintile 1	0.58	0.56	0.56	0.54	0.51
Quintile 2	0.57	0.55	0.54	0.53	0.50
Quintile 3	0.54	0.52	0.51	0.50	0.46
Quintile 4	0.49	0.48	0.46	0.43	0.41
Quintile 5	0.42	0.38	0.36	0.31	0.28

Table 3: Average expenditure share of food over MPCE quintiles and quintiles of status variable.

For an explanation, see text.

Source: Authors' calculations based on data.

Variables	Overall Model	
	OLS model	Semiparametric model
Status variable	-0.0194*** (0.0014)	-0.0116*** (0.0013)
Monthly consumption expenditure (in logs)	-0.0572*** (0.0041)	
Household size	0.0146*** (0.0006)	0.0176*** (0.0005)
No. of child (age<18)	-0.0024*** (0.0008)	-0.0040*** (0.0007)
No. of old (age>=65)	-0.0032** (0.0013)	-0.0008 (0.0012)
Dummy for maximum education group 2	0.0025 (0.0030)	-0.0021 (0.0029)
Dummy for maximum education group 3	-0.0037 (0.0029)	-0.0080*** (0.0029)
Dummy for maximum education group 4	-0.0204*** (0.0035)	-0.0206*** (0.0031)
Dummy for maximum education group 5	-0.0332*** (0.0042)	-0.0187*** (0.0032)
Median age of household (in logs)	0.0382*** (0.0095)	0.0373*** (0.0092)
Squared median age of household (in logs)	-0.0069*** (0.0016)	-0.0071*** (0.0015)
Dummy for SC/ST/OBC social	-0.0003 (0.0014)	-0.0025* (0.0013)
Dummy for religion group 2	0.0206*** (0.0017)	0.0209*** (0.0018)
Dummy for religion group 3	0.0032 (0.0025)	0.0039* (0.0024)

Table 4: Regression results for overall model.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across monthly per-capita expenditure quintiles			
	OLS model		Semiparametric model	
Status variable for monthly per-capita expenditure quintile 1	-0.0208*** (0.0015)		-0.0147*** (0.0014)	
Status variable for monthly per-capita expenditure quintile 2	-0.0171*** (0.0014)		-0.0123*** (0.0013)	
Status variable for monthly per-capita expenditure quintile 3	-0.0166*** (0.0014)		-0.0109*** (0.0013)	
Status variable for monthly per-capita expenditure quintile 4	-0.0180*** (0.0014)		-0.0106*** (0.0013)	
Status variable for monthly per-capita expenditure quintile 5	-0.0217*** (0.0015)		-0.0115*** (0.0013)	
Monthly consumption expenditure (in logs)	-0.0492*** (0.0069)			
Household size	0.0121*** (0.0013)		0.0192*** (0.0007)	
No. of child (age<18)	-0.0014* (0.0008)		-0.0036*** (0.0007)	
No. of old (age>=65)	-0.0037*** (0.0013)		-0.0008 (0.0012)	
Dummy for maximum education group 2	0.0035 (0.0030)		-0.0005 (0.0029)	
Dummy for maximum education group 3	-0.0036 (0.0029)		-0.0069** (0.0029)	
Dummy for maximum education group 4	-0.0188*** (0.0034)		-0.0193*** (0.0031)	
Dummy for maximum education group 5	-0.0286*** (0.0040)		-0.0166*** (0.0032)	
Median age of household (in logs)	0.0266*** (0.0094)		0.0341*** (0.0092)	
Squared median age of household (in logs)	-0.0048*** (0.0016)		-0.0068*** (0.0015)	
Dummy for SC/ST/OBC social	-0.0014 (0.0014)		-0.0026** (0.0013)	
Dummy for religion group 2	0.0202*** (0.0017)		0.0204*** (0.0017)	
Dummy for religion group 3	0.0034 (0.0025)		0.0045* (0.0024)	
	F statistic	p-value	F statistic	p-value
Status variable for expenditure quintile 1 = Status variable for expenditure quintile 2	103.1805***	0.0000	41.9428***	0.0000
Status variable for expenditure quintile 2 = Status variable for expenditure quintile 3	1.6547	0.1983	26.8914***	0.0000
Status variable for expenditure quintile 3 = Status variable for expenditure quintile 4	15.9461***	0.0000	0.8899	0.3455
Status variable for expenditure quintile 4 = Status variable for expenditure quintile 5	68.7676***	0.0000	9.2816***	0.0023

Table 5: Regression results for status across overall monthly per-capita expenditure quintiles of the poor households.  
Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across maximum household education groups			
	OLS model		Semiparametric model	
Status variable for maximum household education group 1	-0.0134*** (0.0031)		-0.0178*** (0.0037)	
Status variable for maximum household education group 2	-0.0144*** (0.0021)		-0.0092*** (0.0019)	
Status variable for maximum household education group 3	-0.0193*** (0.0017)		-0.0112*** (0.0015)	
Status variable for maximum household education group 4	-0.0234*** (0.0020)		-0.0101*** (0.0018)	
Status variable for maximum household education group 5	-0.0289*** (0.0022)		-0.0156*** (0.0020)	
Monthly consumption expenditure (in logs)	-0.0564*** (0.0042)			
Household size	0.0145*** (0.0006)		0.0176*** (0.0005)	
No. of child (age<18)	-0.0023*** (0.0008)		-0.0039*** (0.0007)	
No. of old (age>=65)	-0.0031** (0.0012)		-0.0008 (0.0012)	
Dummy for maximum education group 2	0.0089 (0.0237)		-0.0613** (0.0265)	
Dummy for maximum education group 3	0.0362* (0.0219)		-0.0535** (0.0258)	
Dummy for maximum education group 4	0.0492** (0.0232)		-0.0740*** (0.0275)	
Dummy for maximum education group 5	0.0785*** (0.0245)		-0.0311 (0.0284)	
Median age of household (in logs)	0.0384*** (0.0095)		0.0369*** (0.0092)	
Squared median age of household (in logs)	-0.0069*** (0.0016)		-0.0070*** (0.0015)	
Dummy for SC/ST/OBC social	-0.0004 (0.0014)		-0.0025* (0.0013)	
Dummy for religion group 2	0.0202*** (0.0017)		0.0209*** (0.0018)	
Dummy for religion group 3	0.0035 (0.0025)		0.0039 (0.0024)	
	F statistic	p-value	F statistic	p-value
Status variable for maximum household education group 1 = Status variable for maximum household education group 2	0.0915	0.7623	4.9511**	0.0261
Status variable for maximum household education group 2 = Status variable for maximum household education group 3	4.8710**	0.0273	1.1032	0.2936
Status variable for maximum household education group 3 = Status variable for maximum household education group 4	4.7062**	0.0301	0.3459	0.5565
Status variable for maximum household education group 4 = Status variable for maximum household education group 5	5.9721**	0.0145	6.7456***	0.0094

Table 6: Regression results for status across maximum household education groups.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across principal household occupation groups			
	OLS model		Semiparametric model	
Status variable for principal household occupation group 1	-0.0190*** (0.0014)		-0.0115*** (0.0013)	
Status variable for principal household occupation group 2	-0.0183*** (0.0014)		-0.0113*** (0.0013)	
Status variable for principal household occupation group 3	-0.0175*** (0.0014)		-0.0098*** (0.0013)	
Status variable for principal household occupation group 4	-0.0193*** (0.0014)		-0.0118*** (0.0013)	
Status variable for principal household occupation group 5	-0.0202*** (0.0014)		-0.0119*** (0.0013)	
Monthly consumption expenditure (in logs)	-0.0573*** (0.0042)			
Household size	0.0142*** (0.0006)		0.0173*** (0.0005)	
No. of child (age<18)	-0.0020*** (0.0008)		-0.0037*** (0.0007)	
No. of old (age>=65)	-0.0033*** (0.0013)		-0.0010 (0.0012)	
Dummy for maximum education group 2	0.0019 (0.0030)		-0.0022 (0.0029)	
Dummy for maximum education group 3	-0.0045 (0.0029)		-0.0081*** (0.0029)	
Dummy for maximum education group 4	-0.0205*** (0.0034)		-0.0202*** (0.0031)	
Dummy for maximum education group 5	-0.0304*** (0.0040)		-0.0172*** (0.0032)	
Median age of household (in logs)	0.0393*** (0.0095)		0.0389*** (0.0092)	
Squared median age of household (in logs)	-0.0071*** (0.0016)		-0.0074*** (0.0015)	
Dummy for SC/ST/OBC social	0.0000 (0.0014)		-0.0019 (0.0013)	
Dummy for religion group 2	0.0214*** (0.0017)		0.0219*** (0.0018)	
Dummy for religion group 3	0.0031 (0.0025)		0.0038 (0.0024)	
	F statistic	p-value	F statistic	p-value
Status variable for principal household occupation group 1 = Status variable for principal household occupation group 2	9.2432***	0.0024	0.4993	0.4798
Status variable for principal household occupation group 2 = Status variable for principal household occupation group 3	13.4021***	0.0003	40.0146***	0.0000
Status variable for principal household occupation group 3 = Status variable for principal household occupation group 4	44.1937***	0.0000	53.8828***	0.0000
Status variable for principal household occupation group 4 = Status variable for principal household occupation group 5	9.3672***	0.0022	0.2649	0.6067

Table 7: Regression results for status across principal household occupation groups.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across household adult median age quintiles			
	OLS model		Semiparametric model	
Status variable for household adult median age quintile 1	-0.0170*** (0.0013)		-0.0120*** (0.0013)	
Status variable for household adult median age quintile 2	-0.0163*** (0.0013)		-0.0115*** (0.0012)	
Status variable for household adult median age quintile 3	-0.0161*** (0.0013)		-0.0117*** (0.0013)	
Status variable for household adult median age quintile 4	-0.0162*** (0.0013)		-0.0118*** (0.0012)	
Status variable for household adult median age quintile 5	-0.0164*** (0.0013)		-0.0121*** (0.0013)	
Monthly consumption expenditure (in logs)	-0.0787*** (0.0021)			
Household size	0.0166*** (0.0005)		0.0177*** (0.0005)	
No. of child (age<18)	-0.0049*** (0.0008)		-0.0039*** (0.0009)	
No. of old (age>=65)	-0.0004 (0.0012)		-0.0007 (0.0012)	
Dummy for maximum education group 2	0.0094*** (0.0026)		-0.0030 (0.0029)	
Dummy for maximum education group 3	0.0042* (0.0025)		-0.0087*** (0.0028)	
Dummy for maximum education group 4	-0.0098*** (0.0028)		-0.0209*** (0.0031)	
Dummy for maximum education group 5	-0.0182*** (0.0031)		-0.0194*** (0.0032)	
Median age of household (in logs)	0.0441*** (0.0094)		0.0334*** (0.0096)	
Squared median age of household (in logs)	-0.0094*** (0.0016)		-0.0062*** (0.0016)	
Dummy for SC/ST/OBC social	-0.0009 (0.0013)		-0.0025* (0.0013)	
Dummy for religion group 2	0.0207*** (0.0017)		0.0214*** (0.0018)	
Dummy for religion group 3	0.0007 (0.0023)		0.0039 (0.0024)	
	F statistic	p-value	F statistic	p-value
Status variable for household adult median age quintile 1 = Status variable for household adult median age quintile 2	10.2182***	0.0014	3.7266*	0.0536
Status variable for household adult median age quintile 2 = Status variable for household adult median age quintile 3	0.4569	0.4991	0.5609	0.4539
Status variable for household adult median age quintile 3 = Status variable for household adult median age quintile 4	0.2603	0.6099	0.0768	0.7818
Status variable for household adult median age quintile 4 = Status variable for household adult median age quintile 5	0.7687	0.3806	1.6476	0.1993

Table 8: Regression results for status across household adult median age quintiles.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across sectors			
	OLS model		Semiparametric model	
Status variable for rural sector	-0.0151*** (0.0015)		-0.0093*** (0.0015)	
Status variable for urban sector	-0.0400*** (0.0025)		-0.0225*** (0.0021)	
Monthly consumption expenditure (in logs)	-0.0570*** (0.0041)			
Household size	0.0146*** (0.0006)		0.0176*** (0.0005)	
No. of child (age<18)	-0.0023*** (0.0008)		-0.0039*** (0.0007)	
No. of old (age>=65)	-0.0032** (0.0012)		-0.0008 (0.0012)	
Dummy for maximum education group 2	0.0024 (0.0030)		-0.0021 (0.0029)	
Dummy for maximum education group 3	-0.0040 (0.0029)		-0.0081*** (0.0029)	
Dummy for maximum education group 4	-0.0206*** (0.0035)		-0.0206*** (0.0031)	
Dummy for maximum education group 5	-0.0327*** (0.0042)		-0.0185*** (0.0032)	
Median age of household (in logs)	0.0383*** (0.0095)		0.0378*** (0.0092)	
Squared median age of household (in logs)	-0.0069*** (0.0016)		-0.0072*** (0.0015)	
Dummy for SC/ST/OBC social	-0.0004 (0.0014)		-0.0025* (0.0013)	
Dummy for religion group 2	0.0201*** (0.0017)		0.0207*** (0.0018)	
Dummy for religion group 3	0.0033 (0.0025)		0.0039 (0.0024)	
	F statistic	p-value	F statistic	p-value
Status variable for rural sector = Status variable for urban sector	77.1520***	0.0000	26.7549***	0.0000

Table 9: Regression results for status across sectors.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.

Variables	Status across household adult median age quintiles	
	OLS model	Semiparametric model
Status variable for Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, and Uttaranchal	-0.0232*** (0.0030)	-0.0134*** (0.0027)
Status variable for Rajasthan	-0.0012 (0.0058)	0.0001 (0.0057)
Status variable for Uttar Pradesh	-0.0172*** (0.0036)	-0.0094*** (0.0036)
Status variable for Bihar	-0.0275*** (0.0060)	-0.0197*** (0.0067)
Status variable for Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura	-0.0440*** (0.0049)	-0.0363*** (0.0042)
Status variable for West Bengal	-0.0247*** (0.0047)	-0.0097*** (0.0036)
Status variable for state Chhattisgarh and Jharkhand	-0.0210*** (0.0043)	-0.0141*** (0.0047)
Status variable for state Orissa	-0.0197*** (0.0056)	-0.0197*** (0.0056)
Status variable for state Madhya Pradesh	-0.0214*** (0.0050)	-0.0099* (0.0054)
Status variable for state Gujarat	-0.0335*** (0.0050)	-0.0220*** (0.0051)
Status variable for state Andaman and Nicobar Islands, Dadra and Nagar Haveli, Daman and Diu, Goa, Lakshadweep and Pondicherry	-0.0124 (0.0082)	-0.0042 (0.0079)
Status variable for state Maharashtra	0.0061 (0.0059)	-0.0011 (0.0039)
Status variable for state Andhra Pradesh	-0.0338*** (0.0052)	-0.0125** (0.0057)
Status variable for state Karnataka	-0.0153** (0.0064)	-0.0112* (0.0061)
Status variable for state Kerala	-0.0029 (0.0039)	-0.0049 (0.0039)
Status variable for state Tamil Nadu	-0.0250*** (0.0044)	-0.0145*** (0.0045)
Monthly consumption expenditure (in logs)	-0.0575*** (0.0040)	
Household size	0.0147*** (0.0006)	0.0176*** (0.0005)
No. of child (age<18)	-0.0025*** (0.0007)	-0.0040*** (0.0007)
No. of old (age≥65)	-0.0033*** (0.0012)	-0.0009 (0.0012)
Dummy for maximum education group 2	0.0026 (0.0030)	-0.0020 (0.0029)
Dummy for maximum education group 3	-0.0034 (0.0029)	-0.0079*** (0.0029)
Dummy for maximum education group 4	-0.0202*** (0.0034)	-0.0205*** (0.0031)
Dummy for maximum education group 5	-0.0329*** (0.0041)	-0.0186*** (0.0032)



Median age of household (in logs)	0.0371*** (0.0095)	0.0371*** (0.0093)
Squared median age of household (in logs)	-0.0067*** (0.0016)	-0.0070*** (0.0015)
Dummy for SC/ST/OBC social	-0.0000 (0.0014)	-0.0023* (0.0013)
Dummy for religion group 2	0.0205*** (0.0017)	0.0209*** (0.0018)
Dummy for religion group 3	0.0032 (0.0026)	0.0038 (0.0024)

Table 9: Regression results for status across states.

Standard errors in brackets. \*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels respectively.