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Saving Behaviour in India

Understanding the Differences Across Castes

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Saving Behavior in India:

Understanding the Differences across Castes*

Viktoria Hnatkovska† and Amartya Lahiri‡

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Abstract

The past three decades in India have witnessed a sharp reduction in the historically large gaps in the education levels, occupation choices and wages of the backward castes called scheduled castes and tribes (SC/STs) relative to the rest of the population (non-SC/STs). We examine how these changes have impacted the saving behavior of the two groups. We find that while the saving rates of SC/STs exceeded that of non-SC/STs in 1983, this excess saving of SC/STs declined during 1983-2010 period. A decomposition of consumption into durables and non-durables reveals that this trend also extends to durable goods consumption of the two groups. We find that a decline in wage uncertainty facing SC/STs may have contributed to the saving convergence between them and non-SC/STs.

JEL Classification: J6, R2

Keywords: Saving, castes, India

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1 Introduction

The period since the early 1980s has witnessed a sharp turnaround in the macroeconomic performance of India. Aggregate GDP growth rates have routinely exceeded 6 percent for almost two decades now relatively to the anaemic 3 percent growth that characterized the country prior the 1980s. This aggregate takeoff has also been accompanied by significant changes at the micro level. Thus, disparities between rural and urban Indians in terms of their education levels, their occupation choices as well as their wages have declined sharply and significantly between 1983 and 2010 (see Hnatkovska and Lahiri (2012)). Similarly, the education, occupation and wage gaps between the scheduled castes and tribes (SC/STs) and the rest of the population (non-SC/STs) have also declined sharply (see Hnatkovska, Lahiri, and Paul (2012) and Hnatkovska, Lahiri, and Paul (2013)). Given the major aggregate changes that India underwent during this period including industrial and trade reforms, this distributional convergence provides evidence that periods of such rapid aggregate changes can also be coincident with narrowing of historic inequalities within society.

While the overall distributional convergence in these key indicators is reassuring, what the overall facts do not reveal is how households belonging to these different groups in society are using the large changes in their incomes and resources for their consumption and saving purposes. Do they view changing incomes and jobs as being temporary in nature or permanent? Do they have access to similar instruments of saving or do they choose to save using different saving vehicles? Answers to these questions potentially reveal a different dimension of heterogeneity, specifically in terms of their saving decisions. In this paper we shall examine this issue by contrasting the saving behavior of SC/STs and non-SC/STs in India between 1983 and 2010.

Using the National Sample Survey (NSS) household survey data for rounds 38 (1983), 43 (1987-88), 50 (1993-94), 55 (1999-2000), 61 (2004-05) and 66 (2009-10) on both consumption and employment/unemployment, we find that the saving behavior of the SC/STs and non-SC/STs has become similar over time. Specifically, while the saving rate of SC/ST households was higher than the saving rate of non-SC/ST households in 1983 across all percentiles, this difference has almost disappeared by 2010 for all but the poorest 25 percentiles. We find that this feature of the data is robust to whether we include only wage earners in the sample or also include the self-employed by imputing their income, whether we compute household saving on a per capita basis or on an aggregate basis.

We also examine the household-level disaggregated consumption expenditure data. Since certain kinds of durable goods expenditures also have a saving motive to them, we compute the differences in durable goods expenditures of SC/ST and non-SC/ST households. In corroboration of our finding

of saving convergence from the income side, we also find that expenditures on durable goods have become similar for the two groups. Hence, we consider the convergence of saving rates of SC/STs and non-SC/STs to be a robust feature of the data.

Modern economic theory identifies a number of determinants of personal saving. Amongst these are income and wealth, rates of return on saving, access to capital markets etc.. In terms of the effect of income on saving, a well known result of optimal dynamic consumption plans is that temporary income innovations should be saved while permanent changes should be absorbed by consumption. Moreover, under fairly general specifications for preferences, greater uncertainty regarding the income process should induce greater saving due a precautionary motive. Our results suggest a couple of interesting possibilities. First, the higher saving rates of SC/STs in 1983 might indicate greater uncertainty regarding their income process than for non-SC/STs. Second, the convergence in saving over time could indicate differential changes in the income uncertainty facing the two groups. We investigate these conjectures in detail using the NSS data.

To assess the role played by income uncertainty for saving of SC/STs and non-SC/STs we focus on the types of employment (casual versus regular) and occupations (white-collar, blue-collar, agrarian) that these groups select into and the wage uncertainty in these employment types and occupations. We find that SC/STs predominantly work in jobs characterized by higher job insecurity, such as casual employment and agriculture and blue-collar jobs. In contrast, non-SC/STs tend to predominate in regular employment and white-collar jobs, which tend to provide higher job security. This channel suggests that the precautionary motive should be stronger for SC/STs compared to non-SC/STs thereby raising their saving, in line with our findings. However, we also find that wage uncertainty, as measured by the cross-sectional wage dispersion, is lower for casual employment and agrarian and blue-collar occupations. This implies that for SC/STs, who dominate these jobs, the greater job insecurity is mitigated by lower wage uncertainty. Thus, the end effect of income uncertainty for the precautionary saving of SC/STs is ambiguous.

We also find that wage dispersion in casual employment and agrarian and blue-collar occupations has been declining *over time*, while the wage dispersion in regular employment and white-collar jobs has been increasing *over time*. Given the employment and occupation distribution of SC/STs and non-SC/STs and its dynamics over time, these changes in wage uncertainty could have facilitated the convergence of saving between the two social groups by reducing the saving of SC/STs and raising it for non-SC/STs.

We should note that our results on the changing saving patterns also suggest that the relative

income gains experienced by SC/STs are more likely to be permanent. However, since the NSS does not provide panel data on households we are unable to address the issue of the effect of the income process in a definitive way. We intend to use alternative data sources to address this in future work.

The focus of this paper on saving behavior along the development path has an old genesis. In one of the most celebrated papers on the challenges of development, Lewis (1954) identified the central issue surrounding the development process as being the difficulty in raising saving rates. While most of the existing work on saving in developing countries uses aggregate data, our focus on household level data is most similar in motivation to the work of Ravallion and Chen (2005) who used the cross-section variation induced by the Southwest China Poverty Reduction Project to identify the determinants of household saving, in particular, the effects of the program on income and the perceived permanence of those changes. A precursor to that work which examines saving using household data is Schmidt-Hebbel, Webb, and Corsetti (1992).

The rest of the paper is organized as follows: the next section describes the data and our measurement strategy. Section 3 presents the results while the last section concludes.

2 Data and Measurement

Our data comes from successive rounds of the Employment & Unemployment surveys of the National Sample Survey (NSS) of households in India. The survey rounds that we include in the study are 1983 (round 38), 1987-88 (round 43), 1993-94 (round 50), 1999-2000 (round 55), 2004-05 (round 61), and 2009-10 (round 66). We impose the minimal set of restrictions on our sample. Namely, we focus on individuals for whom we have both education and occupation information and who belong to male-led households.[1] These restrictions leave us with 150,000 to 220,000 individuals per survey round.

To compute household level saving we need to first estimate household income and then subtract household consumption from it. The survey data reports total household consumption during the month preceding the survey. Household income data is more problematic. The NSS only reports wage income of household members who had wage income. Thus, the income of the self-employed is not reported. To compute household income we proceed in two ways. Our first method involves aggregating the wage income of household members who reported wage income and computing household saving by subtracting household consumption from the resulting household wage income. The first procedure clearly has the downside that it underestimates household income due to the

[1] The latter restriction avoids households with special conditions since male-led households are the norm in India.

absence of the income of the self-employed. This could be problematic for inferring differences between SC/STs and non-SC/STs if the incidence of self-employment is different for the two groups. To address this, we adopt a second approach where we impute the income of self-employed using information for wage-earners. In particular, we first estimate a regression equation for wages of wage earners as a function of their individual characteristics. We then use the estimated coefficients from this regression to impute the non-wage income of the self-employed workers in the data set, given their characteristics. We then compute aggregate household income by adding the reported wage income of workers in the household and the imputed income of the self-employed members of the household. Household saving is then computed as the difference between total household income and consumption.

We report the computed saving in two forms: saving levels as well as saving rates. Moreover, we also report the computed saving for the aggregate household as well as for the household per person. This latter step involves adjusting the aggregate household numbers by the household size. Hence, this adjustment picks up any trends that are potentially due to differential changes in household size. As we shall see, our results are robust to all these alternative methods.

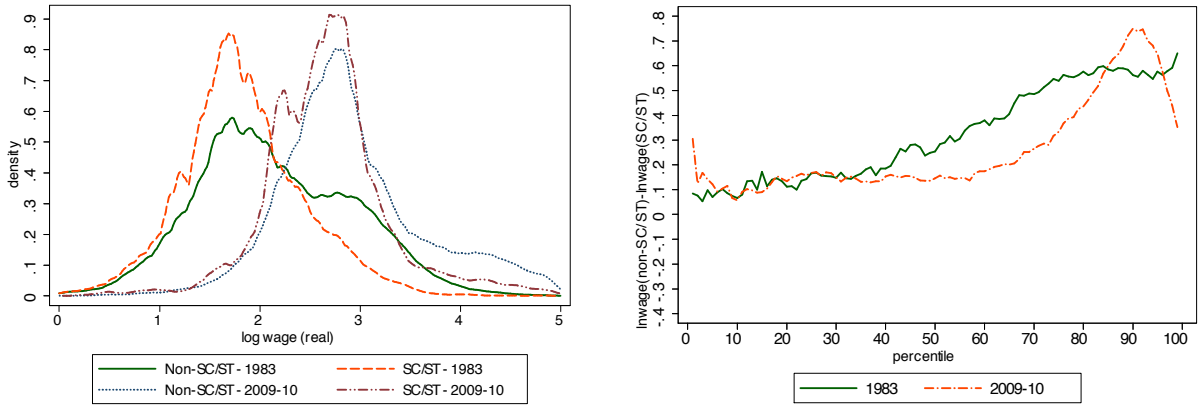
3 Results

We start by plotting the distributions of individual daily wages for SC/STs and non-SC/STs as presented in Figure 1. These plots extend the results reported in Hnatkovska, Lahiri, and Paul (2012) to 2009-10 survey round. Panel (a) shows kernel densities of log individual wages for the two groups in 1983 and 2009-10, while panel (b) shows the gap in (log) individual wages between the two groups for each year (non-SC/ST (log) wage - SC/ST (log) wage). The figure makes clear a few important features of the individual wage data. First, from panel (a) it is clear that the wage distribution of both groups have shifted rightward during the period under study. Second, from panel (b) it is easy to sees the wage gap has declined as the line depicting the wage gap for 2009-10 lies mostly below that for 1983. Hence, wages of SC/STs rose faster than wages of non-SC/STs during this period. This implies that there has been wage convergence during this period.

3.1 Aggregate household income and consumption

Our first measure of household income is aggregate household wage income. This is the most conservative estimate of total household income. We proceed as follows. For each individual we have information on her activities during the week preceding the survey round. We know the number of

Figure 1: Individual wage income of non-SC/STs and SC/STs in 1983 and 2009-10



(a) densities of individual log-wages (b) difference in percentiles of individual log-wages

Notes: Panel (a) shows the estimated kernel densities of individual (log) real wages for non-SC/ST and SC/ST workers, while panel (b) shows the difference in percentiles of individual log-wages between non-SC/STs and SC/STs plotted against the percentile. The plots are for 1983 and 2009-10 NSS rounds.

days spent in each activity and total remuneration received for each activity. Thus, we can compute average daily income for each individual. To obtain household-level income we add up average daily wage income received by all household members. We then multiply it by 30 to obtain a monthly equivalent which is comparable with monthly consumption expenditures available in our data. To get a measure of household saving with compare this monthly household income with monthly household consumption expenditures.

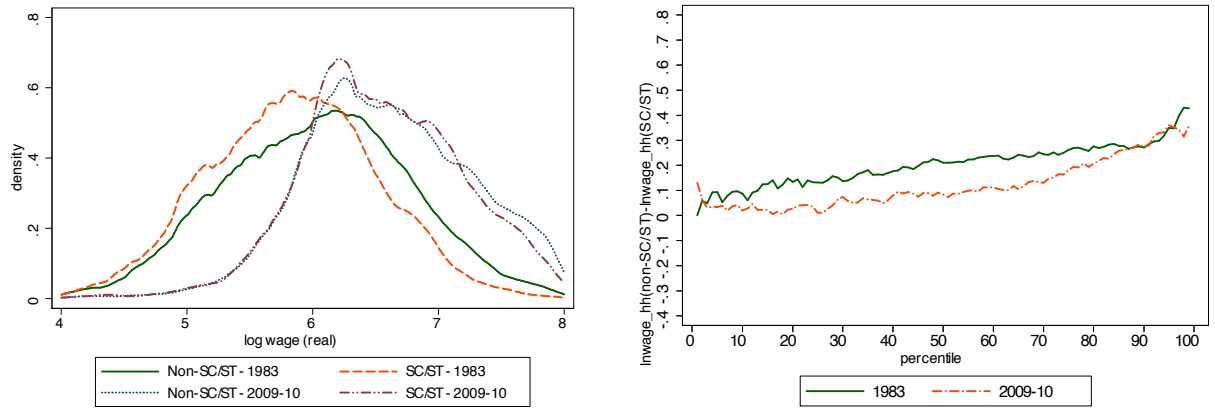
The distributions of *household* wage income (monthly, total for the household) for SC/STs and non-SC/STs are presented in Figure 2. Panel (a) shows kernel densities of (log) aggregate household wages for the two groups in 1983 and 2009-10, while panel (b) shows the gap in (log) aggregate household wages between the two groups for each year.

The distributions of household consumption expenditures (monthly, total for the household) for SC/STs and non-SC/STs are presented in Figure 3. Panel (a) shows kernel densities of log consumption expenditures for the two groups in 1983 and 2009-10, while panel (b) shows the gap in log consumption expenditures between the two groups for each year.

These distributions for income and consumption naturally imply household saving. We report the distribution of saving in both levels and rates, which are summarized in Figure 4. It is clear from both panels that, independent of whether one considers saving in levels or rates, saving rose for both SC/STs and non-SC/STs during this period as the kernel density plots for 2009-10 was shifted rightward relative to the 1983 distributions for both groups.

To get a better idea of the differences in saving behavior between non-SC/STs and SC/STs we

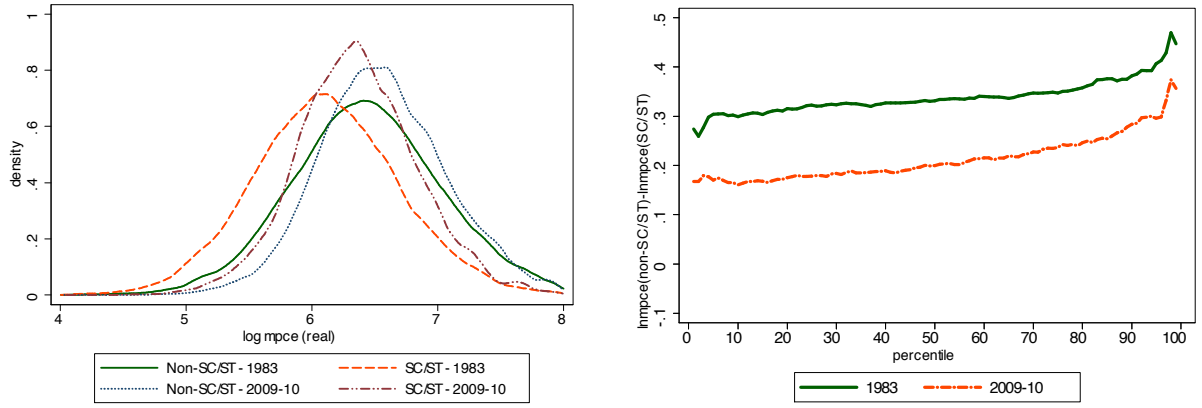
Figure 2: Household wage income of non-SC/ST and SC/STin 1983 and 2009-10



(a) densities of household log-wages (b) difference in percentiles of household log-wages

Notes: Panel (a) shows the estimated kernel densities of (log) aggregate household real wage income for non-SC/ST and SC/ST households, while panel (b) shows the difference in percentiles of log aggregate household wage income between non-SC/STs and SC/STs plotted against the percentile. The plots are for 1983 and 2009-10 NSS rounds.

Figure 3: Household consumption of non-SC/STs and SC/STs in 1983 and 2009-10



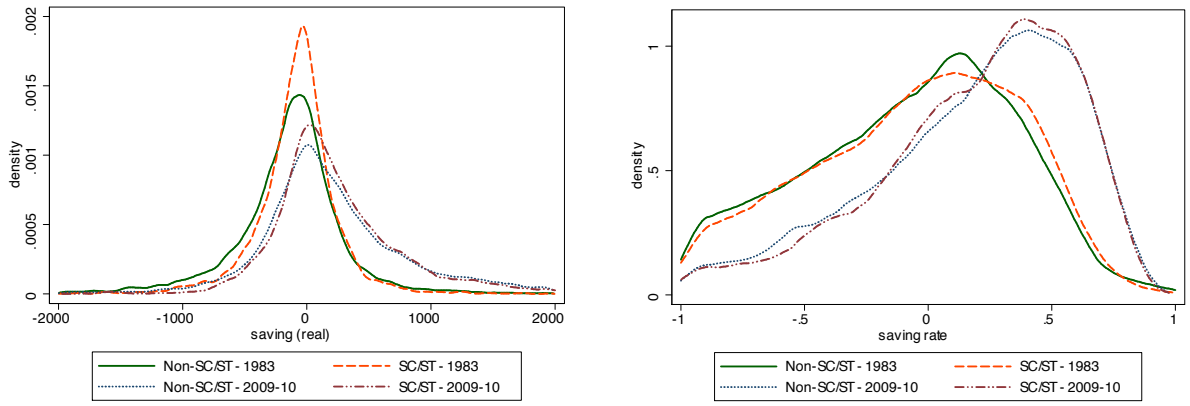
(a) densities of log-mpce (b) difference in percentiles of log-mpce

Notes: Panel (a) shows the estimated kernel densities of (log) aggregate real consumption for non-SC/ST and SC/ST households, while panel (b) shows the difference in percentiles of log aggregate consumption between non-SC/STs and SC/STs plotted against the percentile. The plots are for 1983 and 2009-10 NSS rounds.

compute the difference, both in levels and rates between the two groups for each percentile and plot it against the percentile. Figure 5 presents the results for 1983 and 2009-10. Panel (a) shows the gap for aggregate *saving level* between the two social groups. The difference was negative for the majority of the distribution in 1983, indicating higher saving by SC/STs. The difference has shrunk in 2009-10, suggesting that saving behavior of the two groups became more aligned over time.

As shown in panel (b), the saving behavior in terms of rates was similar to that in levels. Thus,

Figure 4: Household saving of non-SC/STs and SC/STs in 1983 and 2009-10

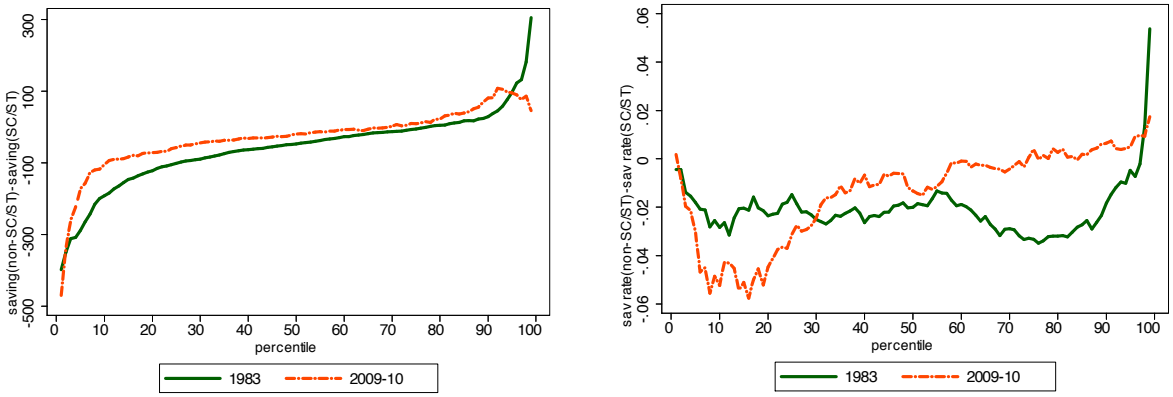


(a) saving (b) saving rate

Notes: Panel (a) shows the estimated kernel densities of aggregate saving for non-SC/ST and SC/ST households, while panel (b) shows the estimated kernel densities of saving rate for non-SC/ST and SC/ST households. The plots are for 1983 and 2009-10 NSS rounds.

the *saving rate* was higher for SC/STs in 1983 at every percentile, except the very top 5 percent. In 2009-10 the difference widened further for the bottom 30 percent, for whom the saving rate was 3 to 5 percent higher for SC/STs than for non-SC/STs. For those above the 30th percentile, the saving rates for non-SC/STs and SC/STs have come closer together. In fact the gap has disappeared for the 80th percentile and above.

Figure 5: Gap in household saving level and rate between non-SC/STs and SC/STs



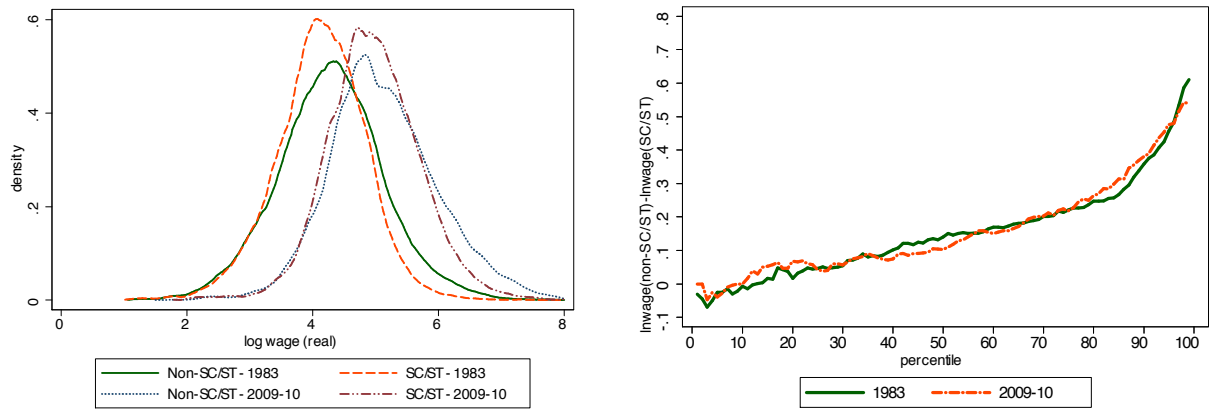
(a) gap in saving (b) gap in saving rate

Notes: Panel (a) shows the difference in percentiles of aggregate saving between non-SC/ST and SC/ST households plotted against the percentile, while panel (b) does the same for the saving rate. The plots are for 1983 and 2009-10 NSS rounds.

3.2 Per capita household income and consumption

Our second measure of household income is per capita household wage income. It is computed as above, except we divide both aggregate household wage income and consumption by household size. The distributions of (monthly, per capita) household wage income for SC/STs and non-SC/STs are presented in Figure 6. Panel (a) shows kernel densities of (log) household per capita wages for the two groups in 1983 and 2009-10, while panel (b) shows the gap in (log) household per capita wages between the two groups for each year.

Figure 6: Household wage income (per capita) of non-SC/STs and SC/STs in 1983 and 2009-10



(a) densities of log-wages (b) difference in percentiles of log-wages

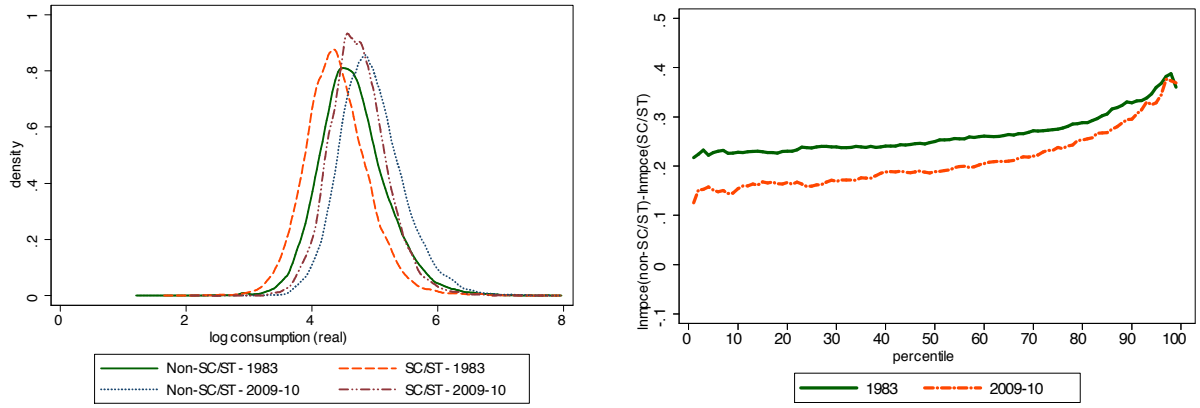
Notes: Panel (a) shows the estimated kernel densities of (log) per capita real household wages for non-SC/ST and SC/ST households, while panel (b) shows the difference in percentiles of (log) per capita real household wages between non-SC/STs and SC/STs plotted against the percentile. The plots are for 1983 and 2009-10 NSS rounds.

The distributions of (monthly, per capita) household consumption expenditures for SC/STs and non-SC/STs are presented in Figure 7. Panel (a) shows kernel densities of (log) per capita monthly consumption expenditures for the two groups in 1983 and 2009-10, while panel (b) shows the gap in (log) per capita consumption between the two groups for each year.

The per capita wage income and consumption distributions induce distributions for both the saving level and saving rate per member of the household. These are summarized in Figure 8. We should note that the distribution for the saving rate will be the same for both the aggregate and per capita household cases because the numerator and the denominator for the saving rate in the two cases are scaled by the same household size factor making it immune to this scaling.

Figure 9 plots the difference in per capita saving and in the saving rate between the two groups for each percentile for 1983 and 2009-10. Panel (a) shows the gap for per capita saving level between the two social groups. The difference was negative for the majority of the distribution in 1983, indicating

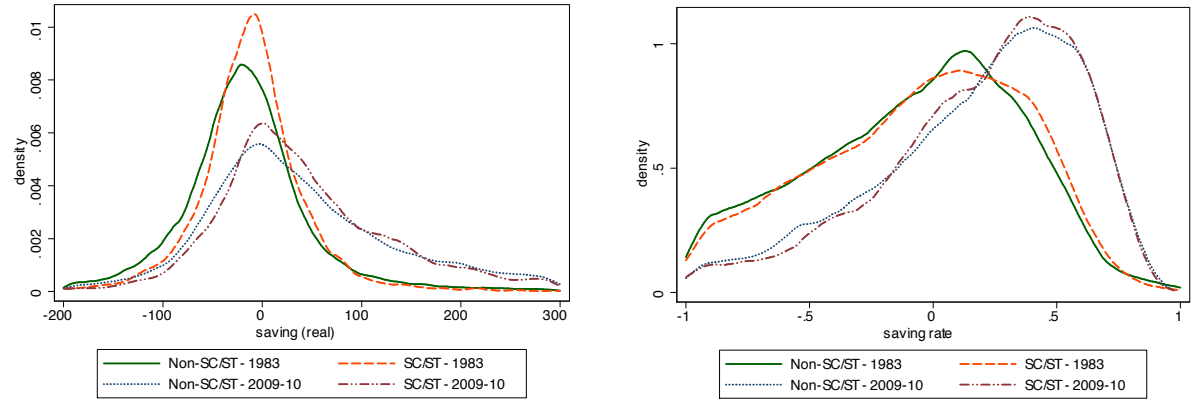
Figure 7: Household consumption (per capita) of non-SC/STs and SC/STs in 1983 and 2009-10



(a) densities of log-mpce (b) difference in percentiles of log-mpce

Notes: Panel (a) shows the estimated kernel densities of (log) per capita real consumption for non-SC/ST and SC/ST households, while panel (b) shows the difference in percentiles of (log) per capita consumption between non-SC/STs and SC/STs plotted against the percentile. The plots are for 1983 and 2009-10 NSS rounds.

Figure 8: Househld saving (per capita) of non-SC/STs and SC/STs in 1983 and 2009-10



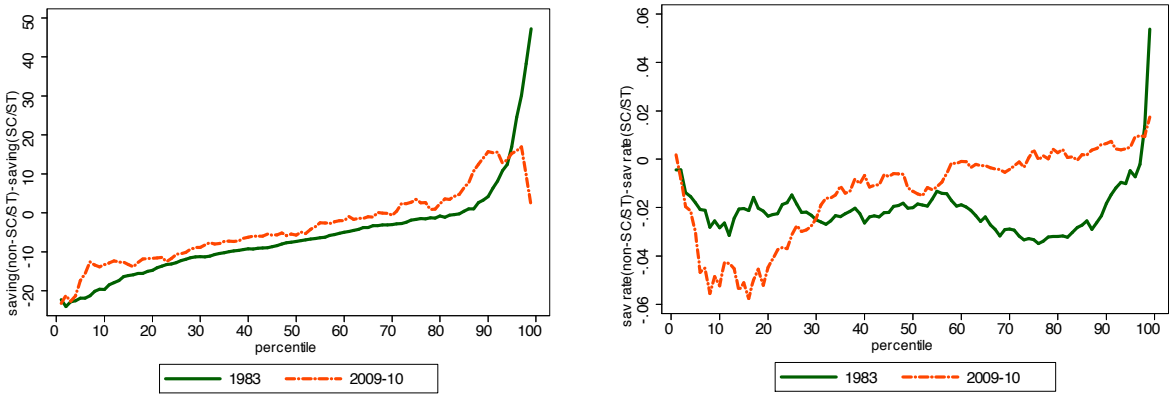
(a) per capita saving (b) saving rate

Notes: Panel (a) shows the estimated kernel densities of per capita saving level for non-SC/ST and SC/ST households, while panel (b) shows the estimated kernel densities of the per capita saving rate for non-SC/ST and SC/ST households. The plots are for 1983 and 2009-10 NSS rounds.

higher saving by SC/STs. The difference has shrunk somewhat in 2009-10, suggesting that saving behavior of the two groups became more aligned. The picture for the saving rate in panel (b) is exactly the same as that in panel (b) of Figure 5 and shows a similar convergence in saving rates of SC/STs and non-SC/STs.

Overall, as can be seen from the two sets of results presented above (separately for aggregate household and for per capita), SC/STs tended to save more than non-SC/STs throughout. This excess saving declined between 1983 and 2009-10 for the majority of distribution.

Figure 9: Gap in (per capita) household saving level and rate between non-SC/STs and SC/STs



(a) gap in per capita saving

(b) gap in saving rate

Notes: Panel (a) shows the difference in percentiles of per capita saving between non-SC/ST and SC/ST households plotted against the percentile, while panel (b) does the same for the saving rate. The plots are for 1983 and 2009-10 NSS rounds.

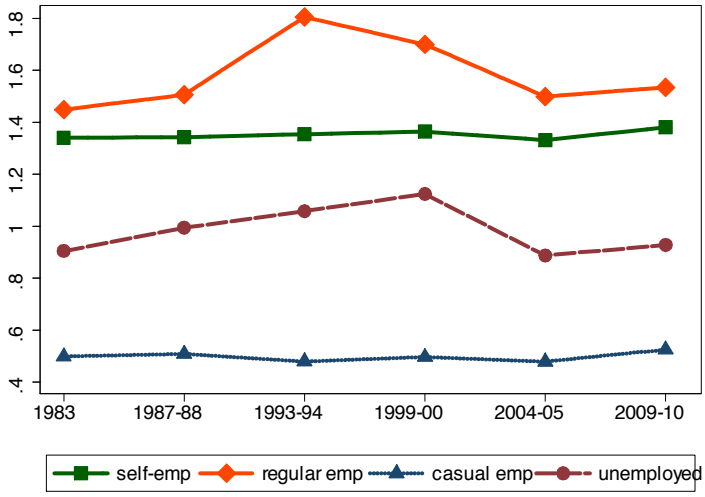
3.3 Accounting for self-employment

A potential issue with the analysis presented above is that it understates the true household income since it only includes wage income of household members. If there are self-employed members of the household, who do not report any wages but contribute to household income, the total wage income may be below total household income. We attempt to address this issue next. First, we compare the incidence of self-employment among SC/STs and non-SC/STs and their changes over time. Figure 10 presents relative gaps in employment shares between non-SC/STs and SC/STs. We consider the following categories among workers: self-employed, regular salaried workers, casual workers and unemployed. Clearly, the share of self-employed is higher for non-SC/STs, but it has remained stable over time.

Despite the evidence above that there has not been a differential change in the incidence of self-employment between the two groups, there is still an issue of household size differentials and changes therein being important for understanding household saving. Specifically, there could be scale economies in consumption which could imply that adding a worker to the household could raise saving since household consumption would rise by a fraction of the rise in aggregate household income. To address this issue we need a measure of income of the self-employed workers in our sample. Since the NSS survey does not provide this information, we need a proxy for self-employed income.

We take the following approach to proxy income of self-employed. First, using the sample of

Figure 10: Labor market gaps



Note: "self-emp" refers to the ratio of self-employment rates of non-SC/STs to SC/STs. "regular emp" and "casual emp" refer to the ratio of employment rates in regular and casual jobs for the two groups; while "unemployed" are unemployment rates ratios.

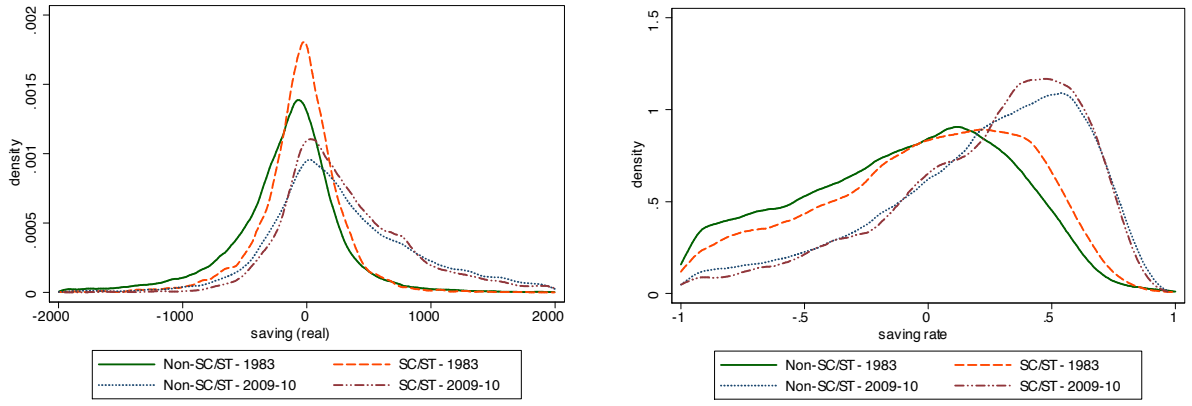
workers who reported their wages we estimate an OLS regression of log wages on their characteristics. The set of characteristics includes: age, age squared, rural location dummy, dummies for a geographical zone of residence (North, South, East, West, Central and North-East), education dummies (5 categories) and occupation dummies (7 categories). We also include a dummy for caste status (SC/ST). We then use this regression to predict the wages of those who reported their weekly occupation status as self-employed. Next we use these estimated wages to obtain total household income by adding wages across members of each household.

Given the aggregate household income numbers including the imputed incomes of the self-employed, we then obtain saving as the difference between aggregate household income and consumption. The saving level and saving rate distributions for non-SC/STs and SC/STs are presented in Figure 11. The basic patterns in the pictures are similar to the patterns based on wage income alone. Saving rose for both groups between 1983 and 2010 and also became more symmetric over time.

To capture the differences in the saving behavior between the two groups, Figure 12 plots the gaps in saving and saving rate between non-SC/STs and SC/STs. These plots reveal very similar trends to those that we uncovered above based on wage income alone. In particular, SC/STs were saving more than non-SC/STs both in levels and rates in 1983. Over our sample period this excess saving has declined for almost all percentiles.

In summary, we conclude that all the trends we uncovered with wage income are robust to

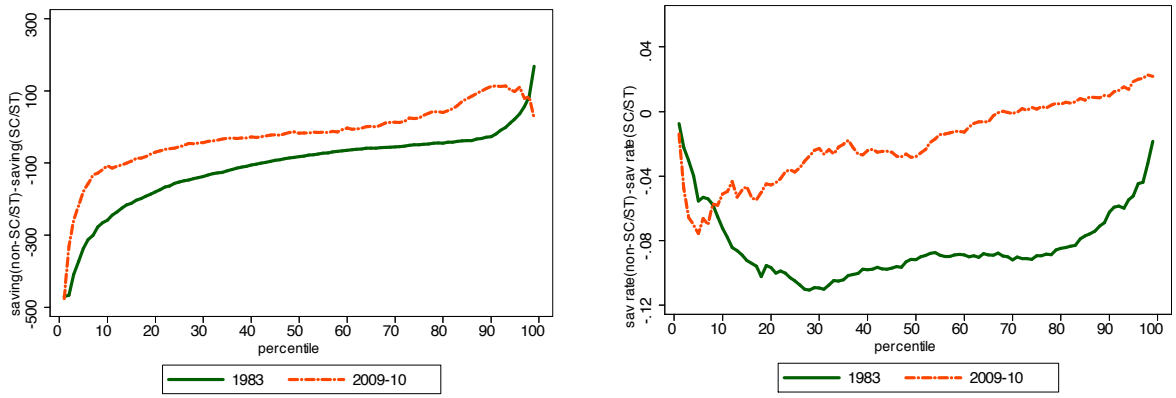
Figure 11: Household saving of non-SC/STs and SC/STs in 1983 and 2009-10, including self-employed



(a) saving (with self-employed) (b) saving rate (with self-employed)

Notes: Panel (a) shows the estimated kernel densities of saving for non-SC/ST and SC/ST households, while panel (b) shows the estimated kernel densities of saving rate for non-SC/ST and SC/ST households. The plots are for 1983 and 2009-10 NSS rounds and based on both reported wage income as well the imputed income of self-employed workers.

Figure 12: Gap in household saving level and rate between non-SC/STs and SC/STs, including self-employed



(a) gap in saving (with self-employed) (b) gap in saving rate (with self-employed)

Notes: Panel (a) shows the difference in percentiles of saving between non-SC/ST and SC/ST households plotted against the percentile, while panel (b) does the same for the saving rate. The plots are for 1983 and 2009-10 NSS rounds and are based on reported wage income and imputed income of self-employed workers.

inclusion of income of self-employed members of households.

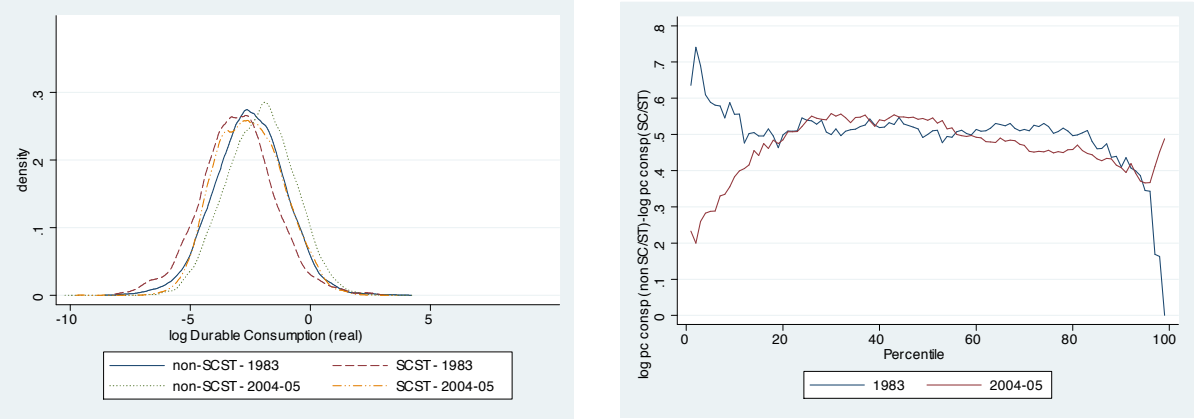
3.4 Disaggregated consumption categories

The results we have reported above are based on saving computed using the traditional method of subtracting measured consumption from measured income. This of course leaves open the question of

saving through alternative means. In particular, durable goods often have a saving aspect associated with them even though they are included in consumption. Examples of key categories like this are real estate as well as household durables such as precious jewelry and household vehicles such as cars, motorcycles, scooters and cycles. Lastly, household investment in human capital involves expenditures on education. This too is a form of saving which doesn't get recorded in the measures we computed above. In this section we ask whether there are variations in the patterns of durable goods consumption between the two groups.

In order to examine this, we use the NSS consumption survey data for rounds 1983 to 2004-05.[2] These surveys report consumption expenditures by disaggregated consumption categories. We created a category for durable goods expenditures by combining household expenditures on jewelry, personal transportation and education. For all the data that we report, we use the 30-day recall period.

Figure 13: Gap in durable household consumption between non-SC/STs and SC/STs



(a) densities of log-mpce (durable) (b) difference in percentiles of log-mpce (durable)

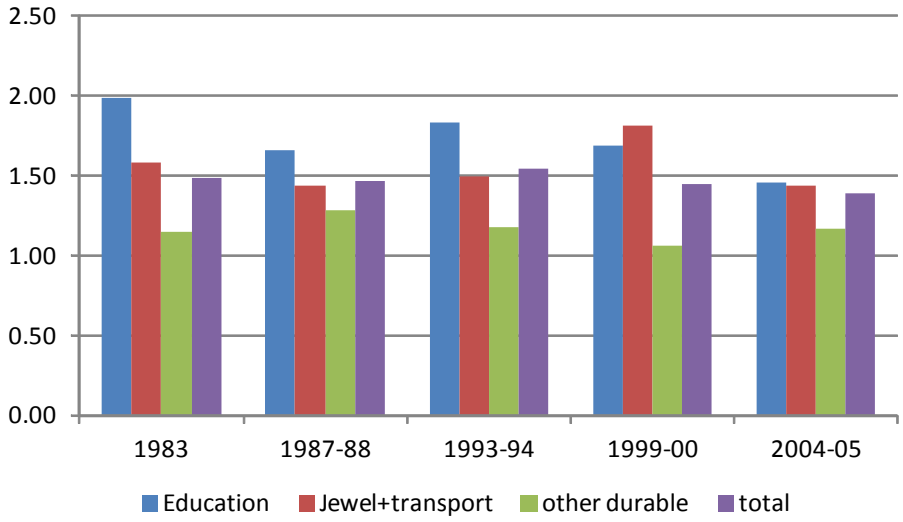
Notes: Panel (a) shows the kernel density plots of durable consumption expenditure on jewelry, personal transportation and education combined for non-SC/ST and SC/ST households. Panel (b) plots the difference between durable expenditures of the two groups for each percentile. The plots are for 1983 and 2004-05 NSS rounds.

The key features to note from Figure 13 are that (a) durable expenditures have risen for both groups over time (see panel (a)); (b) durable expenditures are higher throughout for non-SC/ST households; and (c) the lower percentiles of SC/STs (till the 20th percentile), whose expenditures on durables used to be markedly lower than the corresponding expenditures by the 20th percentile or below of non-SC/STs, have significantly increased their expenditures on durables (see panel (b)). The gaps amongst other percentiles have remained relatively unchanged.

[2] The 2009-10 consumption is not available.

While the picture above does reveal an overall trend, it does not show what categories of durables are households spending on. Thus, expenditure on education may have different long run household implications relative to expenditures on jewelry. More specifically, the same aggregate expenditure gap in durables may mask important changes in the underlying composition of durable goods spending which could have long run consequences due to differential returns on the various categories of spending. We examine this issue in greater detail now by comparing the budget shares of different categories of durable goods for non-SC/ST and SC/ST households.

Figure 14: Gap in durable consumption shares between non-SC/STs and SC/STs households



Notes: The figure shows the ratio of the non-SC/ST to SC/ST budget share of each durable consumption category across the NSS survey rounds.

Figure 14 shows the budget shares of three broad categories of durable expenditure – education, jewelry and personal transportation, and other durables. Each bar plots the ratio of the average budget share of non-SC/ST households to the corresponding share of SC/ST households. The last bar in each set (the purple bar) plots the ratio of the total durable goods budget share of the two groups.

Two features are worth pointing out. First, the gap in total durable goods share has changed only marginally between 1983 and 2005. In 1983 the non-SC/ST budget share of durable goods was about 50 percent higher than that of SC/ST households. By 2005 this discrepancy had declined to about 40 percent. In other words, SC/ST households increased the share of their budgets devoted to durable goods marginally faster than the rate at which non-SC/STs raised their durable goods budget share. Second, this overall marginal change masks a significant underlying change in that SC/STs

raised their expenditure shares on education much faster than non-SC/STs during this period. As a result, the sharpest convergence in the durable goods expenditure patterns was in education. This potentially signals lower future disparities in income and expenditure between the two groups since education gaps are a key source of long run discrepancies in earning potential.

Overall, the pictures above for consumption patterns corroborate the fact that saving behavior has begun to converge between SC/STs and non-SC/STs over the past three decades.

3.5 The role of uncertainty

What accounts for the higher saving of SC/ST households during 1983-2010 period, and for the convergence of saving between SC/STs and non-SC/STs during the same period? In this section we investigate the role of income risk for saving decisions of the two social groups. Under a fairly general specification of the utility function, a precautionary motive for saving arises in the presence of uncertainty. Specifically, the precautionary motive induces households to save more when faced with greater uncertainty.

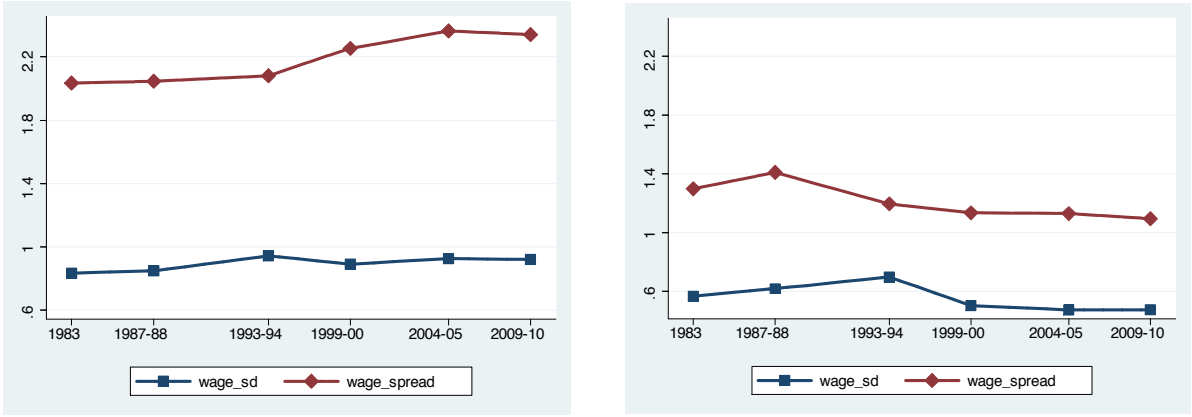
Income uncertainty facing workers can be decomposed into two components. The first is due to the types of employment and occupations they work in. For instance, part-time and casual jobs typically have lower job security than full-time and regular jobs. The second component is the uncertainty associated with wages that workers receive in these occupations and employment types. We thus contrast these components for SC/STs and non-SC/STs in order to assess the contribution of uncertainty to their saving.

When it comes to types of employment, we showed in Figure 10 that SC/STs are more likely to be employed in casual jobs, and less likely to participate in regular employment. SC/STs are also somewhat more likely to be unemployed relative to non-SC/STs (although the probabilities were at parity in the 1990s). A combination of higher unemployment rate and higher incidence of casual employment, which is typically associated with weaker job security relative to regular employment, suggests that SC/STs are faced with greater job uncertainty than non-SC/STs. This should induce higher precautionary saving for SC/STs, in line with our earlier findings.

The second component of income uncertainty is wage uncertainty which we proxy with two simple measures: (i) cross-sectional dispersion of individual wages; and (ii) spread of individual wages computed as the difference between the 90th and the 10th percentiles of wage distribution. Figure 15 presents these measures during 1983-2010 period separately for regular and casual workers.

The key result that stands out from this figure is that casual jobs are characterized by a smaller

Figure 15: Dispersion of wages for casual and regular workers



(a) regular workers (b) casual workers

Notes: Panel (a) shows the std dev and spread (computed as 90th minus 10th percentile) of (log) real wages earned by workers in regular employment between 1983-2010 period. Panel (b) shows the same for workers employed in casual employment.

dispersion of wages compared to regular employment.[3] Since SC/STs are over-represented in casual jobs, the precautionary saving motive arising from wage uncertainty, therefore, is weaker for them. Overall, our findings indicate that the effect of uncertainty on saving of SC/STs and non-SC/STs is ambiguous. Higher job uncertainty effect implies higher precautionary saving for SC/STs, while weaker wage uncertainty suggests the opposite.

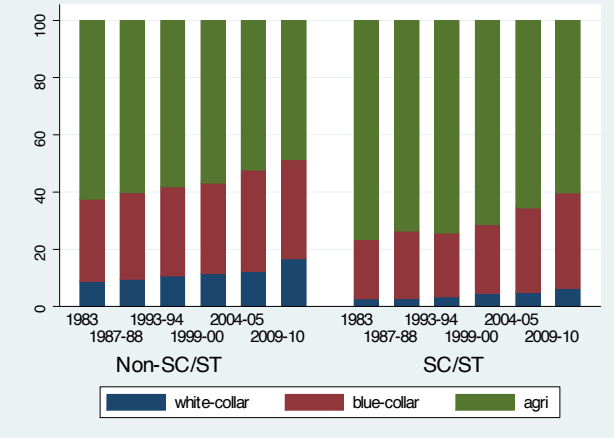
In terms of time-series changes, we showed that saving of SC/STs were converging to saving of non-SC/STs. Can this convergence be driven by the precautionary motive? Examining the dynamics of casual, regular employment and unemployment gaps between the SC/STs and non-SC/STs from Figure 10 suggests no pronounced changes in those gaps. Thus, the job uncertainty has evolved in a similar manner for the two groups. In contrast, wage uncertainty has exhibited some interesting dynamics over time. From Figure 15 it is easy to see that regular jobs have seen an increase in cross-sectional dispersion of wages, while casual jobs were characterized by a fall in this dispersion. Since SC/STs are much more likely to work in casual jobs, the precautionary motive must have become weaker for them over time. At the same time, non-SC/STs work predominantly as regular workers, so the precautionary saving motive must have become stronger for them. This result suggests that changes in wage uncertainty could have contributed to converging saving of SC/STs and non-SC/STs during 1983-2010 period.

We confirm the results above by considering occupation choices of the two social groups. Figure

[3]It is important to note that the differences in wage dispersion and its dynamics over time are not driven by differences in skills and age composition of workers in each employment type. We obtain very similar results when we compute the standard deviation and spread of the residuals of wages after controlling for individual age and education attainments.

16 presents the evolution of occupation distribution of non-SC/ST and SC/ST workers over time. It shows that SC/STs are more likely to be working in agriculture and less likely to be employed in higher-skill blue-collar and white-collar jobs.

Figure 16: Distribution of labor force across occupations



Notes: The figure shows the distribution of labor force across occupations separately for non-SC/STs and SC/STs.

Which of these occupations are more risky? In our data we can evaluate the riskiness of various occupations by considering the unemployment rates and the frequency of casual jobs in each occupation. We present these characteristics of white-collar, blue-collar and agricultural jobs during 1983-2010 period in Table 1. Several features of the data are noteworthy. First, jobs in agriculture are characterized by the highest unemployment rate and the highest incidence of casual employment. Second, white-collar jobs have the lowest unemployment rate, provide predominantly regular employment and have the lowest incidence of casual jobs. Third, in blue-collar jobs the unemployment rate is higher than in white-collar jobs but is significantly lower than in agricultural employment. Blue-collar jobs also have about equal share of casual and regular workers.[4] Based on these results, jobs in agriculture tend to be the most risky in terms of employment security, followed by blue-collar jobs. White-collar jobs provide the most job security to their workers.

We also find that there are significant differences across occupations in terms of wage uncertainty. As Figure 17 illustrates, the dispersion of wages is the highest in white-collar jobs and it is the lowest in agricultural jobs. These findings for wage uncertainty counteract the job insecurity results we documented above. Therefore, as was the case with casual/regular employment analysis, our findings for occupations suggest that the overall effects of uncertainty on saving of SC/STs and non-SC/STs

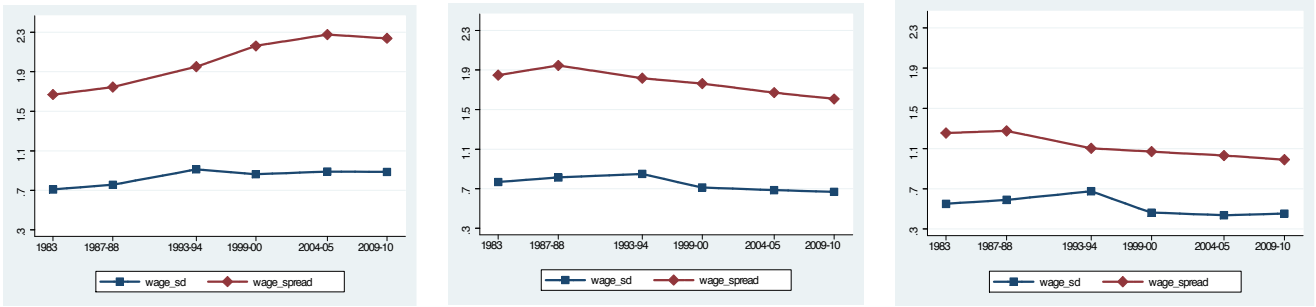
[4]Note that the remaining share of employed workers in each occupation (aside from being in regular or casual jobs) are self-employed.

Table 1: Unemployment rate, and frequency of casual and regular employment across occupations

	white-collar	blue-collar	agrarian
Panel A. Unemployment rate			
1983	0.0063	0.0158	0.0255
1987-88	0.0062	0.0167	0.0227
1993-94	0.0037	0.0109	0.0151
1999-00	0.0054	0.0125	0.0211
2004-05	0.0063	0.0157	0.0227
2009-10	0.0045	0.0125	0.0158
Panel B. Share of regular workers			
	white-collar	blue-collar	agrarian
1983	0.7643	0.2828	0.0378
1987-88	0.7430	0.2618	0.0405
1993-94	0.7099	0.2596	0.0207
1999-00	0.6251	0.2599	0.0175
2004-05	0.5878	0.2577	0.0154
2009-10	0.4603	0.2830	0.0141
Panel C. Share of casual workers			
	white-collar	blue-collar	agrarian
1983	0.0212	0.2141	0.3196
1987-88	0.0173	0.2371	0.3342
1993-94	0.0119	0.2359	0.3619
1999-00	0.0169	0.2556	0.3719
2004-05	0.0119	0.2479	0.3337
2009-10	0.0103	0.3365	0.3895

is ambiguous.

Figure 17: Dispersion of wages, by occupation



(a) white-collar (b) blue-collar (c) agrarian

Notes: Panels shows the std dev and spread (computed as 90th minus 10th percentile) of (log) real wages earned by workers in various occupations between 1983-2010 period.

The time-series changes in uncertainty, however, are consistent with the convergent pattern of saving between SC/STs and non-SC/STs. As Figure 17 shows, agricultural and blue-collar jobs have seen a decrease in cross-sectional dispersion of wages, while the wage uncertainty in white-collar jobs has increased. Since the employment share of SC/STs has increased the most in blue-collar, while the non-SC/STs are predominantly shifting into while-collar occupations, the wage uncertainty facing SC/STs is likely to be falling over time, while the opposite is true for non-SC/STs. This suggests to us that the precautionary motive is growing in importance for non-SC/STs but declining in importance

for SC/ST. This could have been a contributing factor to the observed convergence in their saving.[5]

Overall, our results in this section suggest that uncertainty likely played an important role in the saving decisions of SC/STs and non-SC/STs during the 1983-2010 period.

4 Conclusion

The period since 1983 has seen a sharp decline in wage disparities between SC/STs and non-SC/STs along with accompanying declines in the disparities between the groups in their education and occupation choices. In this paper we have examined the effects of these convergent patterns on the saving behavior of SC/STs and non-SC/STs. We have done this by constructing household saving from the NSS household survey data. We computed saving both by using wage income reported by households as well as by imputing the income of self-employed individuals within the household. Our primary finding is that saving behavior of the two groups has also converged during this period. While SC/ST households used to save more than non-SC/ST households in 1983, this excess saving has declined over the past three decades as their incomes have risen. We also examined the pattern of durable goods consumption of the two groups. Here too we find that the budget shares of durable goods have begun to converge during this period with a particularly sharp convergence in the budget share of education.

Based on standard economic theory, our results on the decline in the saving of SC/STs may indicate a decline in the uncertainty surrounding their income process. We investigate the role played by the latter in detail. We find that the effect of uncertainty on the level of precautionary saving of SC/STs is ambiguous, since higher job insecurity for them is offset by lower wage dispersion in their jobs and occupations. However, a pronounced decline in the wage uncertainty of casual employment and agrarian and blue-collar occupations in which SC/STs predominantly work together with a corresponding increase in the wage uncertainty of regular employment and white-collar occupations in which a larger fraction of non-SC/STs work may have facilitated their saving convergence.

Another possible explanation for the decline in the SC/ST saving rates between 1983 and 2010, a period during which their wages and education levels rose faster than non-SC/STs, is that SC/ST households possibly perceived these gains as increasing their permanent income and hence raised their consumption levels in response. As a result, the savings differential between SC/STs and non-SC/STs declined. While the NSS data, which doesn't have a panel structure, does not directly allow us to investigate this issue here, we intend to pursue this in future work.

[5] Notice that job security for each occupation did not exhibit any pronounced changes during our sample period.

Our findings also indicate that changes in wage uncertainty rather than uncertainty associated with job security may have been behind the converging saving of the two groups. Importantly though, uncertainty arising from job insecurity remains one of the most pressing issues facing SC/STs compared to non-SC/STs. For instance, the unemployment rate and the incidence of casual employment remain highly prevalent among SC/STs, and, sadly, have shown little improvement over time. This is one of the key areas where government efforts in providing social nets may help improve the welfare of lower castes and bring their disparities relative to upper castes further down.

References

Hnatkovska, V., and A. Lahiri (2012): "Structural Transformation and the Rural-Urban Divide," Working paper, University of British Columbia.

Hnatkovska, V., A. Lahiri, and S. Paul (2012): "Castes and Labor Mobility," *American Economic Journal: Applied Economics*, 4(2), 274–307.

——— (2013): "Breaking the Caste Barrier: Intergenerational Mobility in India," *Journal of Human Resources*, 48(2), 435–473.

Lewis, A. (1954): "Economic development with unlimited supply of labour," *The Manchester School*, 22(2), 139–191.

Ravallion, M., and S. Chen (2005): "Hidden impact? Household saving in response to a poor-area development project," *Journal of Public Economics*, 89(11-12), 2183–2204.

Schmidt-Hebbel, K., S. B. Webb, and G. Corsetti (1992): "Household Saving in Developing Countries: First Cross-Country Evidence," *World Bank Economic Review*, 6(3), 529–47.

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