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Noblesse Oblige? Preferences for Income Redistribution among Urban Residents in India*

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Abstract

Using an original dataset, we investigate the determinants of individual preferences for income redistribution in India. Our results suggest that the preferences of Indians for income redistribution are not really based on monetary motives. We found that people who have had negative experiences or perceptions of their future economic situation favour greater redistribution and people in a good economic (past, current, and future) condition also show a favourable attitude towards redistribution. In short, economically advantaged people seem to behave in a socially responsible manner. This 'noblesse oblige' effect can be explained mostly by prevalent social and religious beliefs.

Keywords: Government redistribution of income, social preference, past economic experiences and future prospects, noblesse oblige, India
JEL classification codes: D31; D63; H23; I38

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1. Introduction

How do people perceive and respond to poverty and inequality in society? Some may prioritise only their own benefit and are totally unconcerned about poverty and inequality, while others may believe that poverty and inequality must be eradicated through public policies because they are associated, to some extent, with crime or simply because people abhor the very existence of these social issues.

In this paper, we examine the determinants of preferences for income redistribution using data from urban India. While a number of studies have investigated the determinants of preferences for income redistribution, only a few have focused on developing countries. However, poverty and inequality are usually more severe in developing countries where adequate policies for eliminating these problems are generally lacking. In addition, the redistribution of income might also be related with economic growth: if redistribution can lead to an increase in investment in the economy as a whole, alleviating inequality would accelerate such growth (see, for instance, Galor and Zeira, 1993). Several studies have found evidence of a negative correlation between inequality and economic growth (Benabou, 1996; Barro, 2000).[i] In the early stages of economic development, where accumulation of physical and human capital is generally low and its marginal productivity is high, alleviating inequality might improve productivity in the country as a whole.[ii] Thus, individual preference for income redistribution in developing countries is an issue of great concern to both policy makers and academic researchers.

The specific setting of India as the object of our study might be of particular relevance at present. First, despite experiencing two decades of significant economic growth, India continues to have the worst poverty problems in the world. One of the

latest estimates indicates that approximately 35 per cent of the Indian population (almost 360 million people), which accounts for approximately one-third of the world's poor, still live on less than one purchasing power parity dollar a day (UNDP, 2007). Second, India has a strong hierarchical social structure, the caste system, which causes substantial economic disparity between the lowest and upper classes (Srinivasan and Kumar, 1999; Thorat, 2002) and cripples economic mobility. The caste hierarchy also extends to the political power structure (Banerjee et al., 2005; Banerjee and Somanathan, 2007). As government redistribution polices could be an important instrument in eliminating poverty and inequality in India, it is important to consider the policy implications of redistributive policies. This paper is the first study to investigate the determinants of preferences for income redistribution using Indian data.

The remainder of this paper is organised as follows. In Section 2, we review the literature on preferences for income redistribution. In Section 3, we explain the original dataset used in the analysis obtained from surveys conducted in six Indian metropolitan cities in 2009 and 2010, covering people between the ages of 19 and 60. In Section 4, we present the estimation results. Contrary to theoretical predictions and empirical findings in previous studies, our results suggest that the preferences of Indian people for income redistribution are not based on monetary motives much. While people having a negative experience or perceptions for the future regarding their economic situation favour greater redistribution, people in a good economic (past, current, and future) condition also show a favourable attitude toward redistribution. In short, economically advantaged people seem to behave in a socially responsible manner. This seemingly 'noblesse oblige' effect can be explained mostly by social and religious beliefs. Section 5 concludes the paper.

2. The Determinants of Preferences for Income Redistribution

Past, current, and future economic status

Preferences for income redistribution have been examined theoretically and empirically by several authors to date. A simple theoretical model with self-interested economic agents predicts that relatively poor individuals favour government income redistribution while rich individuals oppose it;[iii] this has been supported empirically in many studies. Unemployment is also an important determinant of preferences for income redistribution; several studies have found that being jobless has a statistically significant positive impact on preference for income redistribution, even after controlling for income level.

In addition to current economic status, past economic conditions as well as future economic prospects are also important in determining preferences for government income redistribution. For instance, Benabou and Ok (2001) suggested that an individual's prospective social and economic status could be an important determinant of preference for redistribution; this is known as the Prospect of Upward Mobility (POUM) hypothesis and some studies have provided evidence in support of this.[iv]

Contrary to an individual's future prospects, past experiences can also affect the formation of preferences for income redistribution. Using Japanese data, Ohtake and Tomioka (2004) found that experience of job loss within the previous five years has a significant positive effect on approval of income redistribution. In addition, Alesina and Giuliano (2009), who tested whether experiences during youth have a persistent effect on the formation of preferences for income redistribution, found that people who experienced a volatile macroeconomic situation between the ages of 18 and 25 years are

likely to favour income redistribution. However, in this regard, it might be very difficult to distinguish between the effect purely from past experiences and from future prospects, since future prospects are supposed to be built upon past experiences.

Religion, worldview, and social class

A growing number of studies are focusing on the influence of religion on economic behaviour or individual attitudes (Iannaccone, 1998; and Kubota et al., 2011). With regard to the relation between religion and preferences for redistribution, several studies have found that religion is significant in determining preferences for distributive policies. Alesina and Giuliano (2009) suggested that people who have been raised religiously (measured by religious denomination at age 16) appear to have a more favourable attitude toward income redistribution than atheists, thereby suggesting that religious people are more altruistic.

Racial and ethnic group membership is also relevant in the formation of attitudes toward income redistribution. In particular, when living standards vary widely among groups, favouring income redistribution may also vary according to groups. In fact, Alesina and La Ferrara (2005) and Alesina and Giuliano (2009) found significant racial differences in preferences for redistributive policies in the US.

Other demographic characteristics

In addition to economic conditions, other demographic characteristics such as age, sex, education level, and marital status also play a role. While education was commonly found to have a negative impact on preferences for income redistribution, the impacts of age and sex are somewhat mixed. Older people tend to favour income redistribution less

in Japan (Ohtake and Tomioka, 2004), whereas the situation is opposite in the US (Alesina and La Ferrara, 2005; and Alesina and Giuliano, 2009). Similarly, in many countries, women tend to favour income redistributive policies more than men, but this is not the case in Japan. With regard to marital status, being married was found to increase favourability for income redistribution regardless of country.

3. Data

Data and the sampling method

The data employed in this paper are from Indian surveys conducted in 2010 by the Osaka University Global COE program 'Human Behaviour and Socioeconomic Dynamics'. The Indian survey began in 2009 and originally encompassed 1,857 individuals in Delhi, Mumbai, Bangalore, Chennai, Kolkata, and Hyderabad. Each city was divided into five regions (north, east, south, west, and central) and 15 residential areas (first sampling unit) were randomly selected in each area. Then, in a randomly selected area, five people were interviewed by quota sampling based on age, sex, and socio-economic classification (see Table A1). In 2010, these 1,857 respondents were resurveyed and 1,280 responses (response rate, 69.1%) were obtained. In this paper, we use data from the 2010 wave (the attrition issues are discussed in Appendix I).

To check the representativeness of our sample, Table 1 shows the distribution of caste membership in our study region for our survey data (panel A) and the 66th National Sample Survey (NSS) data (panel B). Note that backward castes and scheduled castes and tribes are the lowest classes in the social hierarchy. The table shows that both the datasets have a similar distribution of per capita consumption expenditures. In addition, our original data indicate that households belonging to scheduled castes/tribes

are more likely to be poor and this tendency is also evident in the NSS data. The only striking difference between our original data and the national survey data is the proportion of scheduled castes/tribes included: 31.5% in our sample and 15.1% in the NSS sample. This is due to our sampling method—quota sampling based on socio-economic classification as well as age and sex. Thus, our sample is not completely representative of the study region, but not so far from it.

[Table 1]

Variable for preference for income redistribution by the government

Our measure of preference for income redistributive policies is based on respondents' opinions to the following statement: 'It is the government's responsibility to take care of those who cannot take care of themselves financially.' Respondents were instructed to rate their response on a scale of 1 ('completely disagree') to 5 ('completely agree'). This is the same question used in Pew Research Center's Global Attitude Project, which has conducted surveys in 58 nations in 2002 and 2007.[v]

Figure 1 shows the distribution of the answers. It is evident that the most common answer is 'agree' (approximately 45% of those questioned), followed by 'completely agree' (approximately 34%), and 'neither agree nor disagree' (approximately 18%). Thus, approximately 80 per cent of respondents gave a favourable response to income redistribution by the government. In the empirical analysis, in accordance with previous studies in this field, we created a binary variable that takes unity if the respondent answered 'completely agree' or 'agree', and zero otherwise.

[Figure 1]

4. Results and Discussion

The base specification

We begin with the estimation of base specification including individual and household characteristics as explanatory variables. Basic individual and household characteristics are age, sex, marital status, education level, household size, and family income. In addition to these variables, we include caste membership and religion in order to examine the influence of social and cultural factors. The summary statistics for these variables are given in Table 2.

[Table 2]

Table 3 presents the estimation results of the base specifications. In columns 1 and 2, we report the result of the specification that includes the abovementioned individual and household characteristics using the probit model. In addition, we estimate another specification employing Heckman's probit model to deal with the sample selection problem due to survey attrition (column 3).[vi] The reported figures in the table are the marginal effects and their standard errors (in parentheses).

[Table 3]

When comparing the results in columns 2 (probit estimation) and 3 (Heckman's

probit estimation), it is evident that there is not much difference between the two. The coefficients (marginal effects) of age group dummies show that older people are more likely to support income redistributive policies compared with people in their 20s (the reference category). With regard to marital status, being married has a negative impact on people's preferences for income redistribution. In particular, having spouse has a statistically significant impact when controlling the selection term (column 3). This implies that family formation (through marriage) plays a partial role in sharing income/consumption risks with the spouse's family. With regard to the education level, the results show that highly educated people are less likely to favour income redistribution by the government, although the effects are not statistically significant.

Further, with regard to family income, the results indicate that income level has a positive effect on the preference for income redistribution. This is a surprising result that is inconsistent with previous studies: a standard theoretical model predicts that relatively wealthy individuals favour *lower* taxes and *less* income redistribution, and this has been supported empirically. Our results in columns 2 and 3 indicate that the probability of favouring income redistribution among wealthy people whose income level is above the median income is 6 to 9 percentage points higher than the poor. This is a rather curious result and will be further examined carefully later.

Examining the impact of caste membership, the dummies for backward and scheduled castes/tribes reveal a significant positive effect. This is consistent with our expectations, since people belonging to a lower class have limited access to economic opportunities (Ito, 2009). With regard to religion, all religion dummies (reference group is atheists) have a negative impact on preference for income redistribution, which is different from what we expected. However, only the 'Christian' dummy has a

statistically significant impact (column 3) and this may be attributed to the historical segregation between Christianity and other religions in India.

Alternative measures for income level

Based on the theoretical model by Meltzer and Richards (1981), people with income below (above) the median income demand more (less) income redistribution than do people with income at the median. However, our results in Table 3 show that wealthy people have a favourable attitude to income redistribution as if behaving in a socially responsible manner. This seemingly 'noblesse oblige' effect is completely different from the findings in previous empirical studies.

One possible explanation of this result is that our variable for the income level is inappropriate. To confirm this possibility, we conducted several estimations using alternative income dummies. In column 2 of Table 4, we employ the above-median income dummy based on per capita family income instead of the dummy based on total family income. If high-income households have more (working) members, and the positive impact of income level partially reflects this influence even after controlling for household size, employing per capita family income may solve the puzzle. However, the result indicates that per capita income also has a positive influence on preference for income redistribution. Similarly, we employ the dummy using region-specific median income. In a rigid, stratified society like India, people may be concerned about their relative income level within their communities rather than their absolute income level. If this is the case, people's economic position should be measured relative to that of their neighbours. Thus, we create the income dummy using the region-wise median income (6 cities × 5 regions). However, the result in column 3 shows that the dummy

based on the region-wise median income also has a positive impact. Thus, these results suggest that the finding in Table 3 in which wealthier people are more likely to favour income redistribution is very robust and is not a problem associated with the measurement of the income level.

[Table 4]

Changes in household economic status

Another explanation for the positive income effects is the POUM hypothesis: people are in favour of (or averse to) income redistribution based not only on their current income level but also on future income prospects. In short, the positive influence of income level may reflect the possibility that wealthy people with negative future prospects favour greater income redistribution. In addition to future prospects, we also focus on the influence of past economic experiences. Similar to the POUM hypothesis, perception regarding the current economic status may differ between people with different experiences. Alternatively, past experiences may have an influence on the formation of future prospects. Therefore, in this subsection, we examine the influence of past experiences and future prospects on economic status, specifically on unemployment and income growth, on such preferences.

[Table 5]

For unemployment-related variables, we employ a dummy variable for people for whom someone in the family experienced job loss in the past five years and a

dummy for people who believe that one of their family members is highly likely to lose his or her job within the next two years. Columns 1 and 3 in Panel A of Table 5 show the estimation results using these variables and indicate that preferences for income redistribution are positively correlated with past experience and future prospects of an individual's unemployment status. Then, we include interaction terms between unemployment-related variables and the above-median income dummy (Columns 2 and 4) to investigate the cause of the positive income effect. Both results show a nonsignificant and a rather negative impact of the interaction term. This indicates that wealthy people who favour income redistribution are not those who have a negative past experience and/or future prospects.

Similarly, we investigate the influence of income growth from the previous year and expected income growth in the next year (Columns 1 and 3 in Panel B of Table 5). Contrary to the POUM hypothesis, people with a high rate of income growth (in terms of both the past year and future prospect) are more likely to support redistributive policies. In addition, when including interaction terms with the income dummy (Columns 2 and 4), the impact of the above-median income dummy increases slightly. This indicates that wealthy people who favour income redistribution are not those who experienced negative income growth in the past and/or expect negative income growth in the future.

Thus, the results show that whereas negative past experience and future prospect are positively associated with preference for income redistribution, contrary to the POUM hypothesis, the current income level as well as (positive) income growth in the past and future have a positive impact on the preference for income redistribution by the government. Thus, the 'noblesse oblige' effect cannot be explained on the basis of

the POUM hypothesis.

Past macroeconomic shocks

In the previous subsection, we investigated the influence of unemployment and income growth as an individual- or household-specific economic shock. This subsection focuses on the impact of macroeconomic shocks. According to research in social psychology, past experiences, particularly during youth, have a profound effect on an individual's way of thinking and perceiving the world. The importance of this period (often identified as around age 18) could be attributable to the fact that this period corresponds to one of 'socialization'. Alternatively, economics may attach importance to the period because it corresponds to that when many begin their careers after graduation.

Figure 2 depicts the growth rates of the net state domestic product (NSDP) in six states between 1961 and 2006. Based on this NSDP growth, we build a dummy for those who experienced a recession (bottom 5%, short dashed line) and a dummy for those who experienced a boom (top 5%, long dashed line) at the time of adolescence.

[Figure 2]

Columns 1 to 3 of Table 6 show the results related to the impact of the recession and boom dummies that take unity if people experienced a negative or positive macroeconomic shock in the age group of 15 to 19 years. The results indicate that the recession dummy has a statistically significant positive impact, thereby indicating that people who experienced a negative macroeconomic shock in the age group of 15 to 19 years tend to be more in favour of income redistributive policies. On

the other hand, the boom dummy has a negative coefficient but is statistically insignificant.

As a falsification test, we also employ the recession and boom dummies at the age group of 10 to 14 years (Columns 4 to 5).[vii] The results show the dummies at this age group have no significant impact, and even after controlling for these dummies, the coefficient on the recession dummy at the age group of 15 to 19 years is stable. As is the case for individual past experience and future prospects, negative macro shocks also have a positive impact on the formation of preferences for income redistribution. Although not reported here, the interaction terms between the recession/boom dummies and family income do not have any significant impact on preference for income redistribution.

[Table 6]

Further investigation on the 'noblesse oblige' effect

Thus far, we have attempted to provide the answers to the puzzle that income level has a positive impact on the preference for redistribution; however, it remains to be answered. If this result truly means that wealthier people favour more income redistribution, why do they so? Can it be explained by a sense of 'noblesse oblige' or other reasons?

It is possible that this 'noblesse oblige' effect has nothing to do with aspects such as social responsibilities or prosocial activities. For example, huge income inequality may cause high crime rates; hence, relatively rich individuals support policy efforts for mitigating inequality simply because they want to reduce the risk of being victims of crime (crime deterrent hypothesis). In other words, the 'noblesse oblige'

effect could be explained on the basis of selfish motives.

Of course, there is another possibility that people's belief or preferences other than selfish motives can explain our results. For instance, the rich may believe that their current economic status is attributed to the community or group to which they belong and that it is natural to support the poor in their community (group loyalty hypothesis).[viii] Further explanations of the attitudes of affluent people towards disadvantaged groups could include worldviews based on religion or those not aligned with religion at all and individual preferences such as being inequality-averse or altruistic. Religious beliefs and altruism reflect our beliefs regarding 'noblesse oblige'. In this subsection, we investigate the influence of social and economic beliefs on this 'noblesse oblige' effect (Table 7).

[Table 7]

Columns 2 and 3 of Table 7 show the results controlling for people's economic and social beliefs, such as trust for other people, egalitarianism, and altruism. The 'Do not trust others' dummy (row 2) takes unity if people do not agree ('strongly agree' or 'agree') to the statement, 'Generally speaking, people are mostly trustworthy', and zero otherwise. If wealthy people support income redistributive policies mainly to deter crime (if the crime deterrent hypothesis is true), the interaction term between 'Do not trust others' and above-median income dummy would have a positive coefficient because it is expected that fear of being a victim of crime is related to distrust of other people. The coefficient for the interaction term is positive, which is in line with this hypothesis, but its magnitude is rather small and statistically insignificant. Therefore,

the crime deterrent hypothesis may not hold true.

Column 3 reports the marginal effects of 'egalitarianism' and 'altruism' and their interaction terms with the income dummy. The 'egalitarianism' and 'altruism' dummies are generated from the same question as that posed by Bartling et al. (2009).[ix] The result suggests that affluent people favour redistributive policies based on their egalitarian belief to some extent, since the interaction term with the income dummy has a statistically significant positive effect and the impact of the above-median income dummy is small and insignificant. We also conducted further estimations focusing on caste and other social preferences. However, the results (not reported here) show that the interaction terms between such factors and the income dummy have no statistically and economically significant effects. With regard to the interaction terms of caste dummies, no significant impact suggests that the group loyalty hypothesis is rejected.

Finally, we investigate the effects of religious beliefs, including interaction terms between religion dummies and the above-median income dummy (Column 4). The result shows that the interaction terms of Hindu, Muslim, and other religions (including traditional Eastern religions such as Buddhism, Jainism, and Sikhism) have a positive impact on the preference for income redistribution (only the interaction term of other religions is statistically significant) and the effect of the income dummy becomes negative. Thus, support for redistributive policies by the rich can be explained by religious belief to a large extent. This result is almost unchanged even when all the above factors are included (Column 5). Examining the interaction term of 'egalitarianism', the magnitude and significance of the effect becomes small, thereby suggesting that egalitarianism might be partially based on religious belief.

5. Conclusion

In this paper, using an original dataset from urban India, we investigated how individual's preferences for income redistribution are formed. The main finding obtained from the analysis is that the preferences of Indian people for income redistribution seem to be based on social and cultural motives rather than on monetary motives. This is partly because social factors determine economic status to some extent in Indian society. A typical example is the rigid social hierarchy that manifests as the caste system. Because economic status or the standard of living differs substantially among castes, the proportion of people in favour of income redistribution by the government also varies widely from caste to caste.

With regard to economic-related factors, although a past *negative* shock and future uncertainty have a significant positive impact on people's tastes for redistribution, a *positive* shock in the past or bright prospects for the future are positively associated with support for income redistribution policies. Furthermore, the current income level has a statistically significant positive impact on preference for income redistribution. Thus, it is implied that economically advantaged people seem to behave in a socially responsible manner. This is the most distinctive finding of our study compared to previous ones, and our examination suggests that this 'noblesse oblige' effect can be explained mostly by social and religious beliefs in India.

In the context of Indian society, this result might be of some considerable importance. India has the largest population living below the poverty line, and rigid social stratification based on the caste hierarchy still exists. Consequently, income redistribution policies of the government could be a significant instrument to reduce poverty and inequality. While the political friction among castes has become an

important political issue, support for redistributive policies from wealthy people (regardless of caste) is a positive factor for pursuing further income redistribution.

Appendix I: Dealing with the Attrition Problem

As mentioned in the data commentary section, the 2010 wave of our original survey reveals a relatively high rate of attrition (approximately 30%). If the attrition process does not occur at random, unobserved factors affecting attrition from the survey might have an influence on preferences for income redistribution after controlling for the explanatory variables. Unfortunately, our dataset implies that the attrition does not occur at random (see Table A1). Therefore, we need to deal with the possible bias caused by the sample selection (attrition) using Heckman's (1976) technique.

[Table A1]

Heckman's probit estimation result for the selection equation is reported in Table A2. With regard to the explanatory variables in the selection equation, for the sake of identification, we need to control at least one instrumental variable and employ the interview length in the first survey, which is measured by the time spent on the interview. The interview length seems to be correlated with survey attrition, but is obviously uncorrelated with preference for income redistribution. Thus, the interview length is considered as an appropriate instrument. Other explanatory variables are the same as in the equation of the approval of redistribution except for caste dummies. Because caste information was not surveyed in the first wave of our survey, we cannot include it.

The result for the sample selection equation indicates that older people with low education, no religion, and a high standard of living are less likely to drop from the survey. In addition, the null hypothesis that the interview length is irrelevant for the attrition from the subsequent survey is rejected: $F(2, 374) = 2.920$ (P-value = 0.055).

[Table A2]

Appendix II: Generating variables for egalitarianism and altruism

Here, we explain the egalitarianism dummy used in Table 9. Similar to the question posed by Bartling et al. (2009), our survey includes the hypothetical question mentioned below to elicit the degree of inequality aversion. The question has four simple binary choice games and in each game, respondents must choose a more preferable payoff. While choice A offers an equal payoff (1000 rupees for each of the respondents and a stranger) in all four cases, choice B offers unequal distributions: In Cases 1 and 2, the respondent's payoff is higher than that of the stranger (the prosociality game and the costly prosociality game, respectively); in Cases 3 and 4, the respondent's payoff is lower than that of the stranger (the envy game and the costly envy game, respectively).

[Questions regarding egalitarianism]

Please assume that you and a total stranger can receive a certain amount of money. There are two options for the amount of money that each of you can receive and only you can decide which option to choose—the stranger would not know about the amount of money. In this situation, which would you choose, A or B? Please select one answer for each case.

Case 1	**A**. Rs. 1000 each for you and the stranger.	**B**. You receive Rs. 1000 and the stranger receives Rs. 600.
Case 2	**A.** Rs. 1000 each for you and the stranger.	**B.** You receive Rs. 1600 and the stranger receives Rs. 400.
Case 3	**A**. Rs. 1000 each for you and the stranger.	**B.** You receive Rs. 1000 and the stranger receives Rs. 1800.
Case 4	**A**. Rs. 1000 each for you and the stranger.	**B.** You receive Rs. 1100 and the stranger receives Rs. 1900.

Among the 1,280 respondents, 441 chose the option of equal distribution in the prosociality and costly prosociality games (cases 1 and 2), and 1,078 chose equal distribution in the envy and the costly envy games (cases 3 and 4). Respondents who chose equal distribution in all four games accounted for 371 and those who chose equal distribution in the first two games and unequal distribution in the last two games accounted for 70. We define the former as egalitarian and the latter as altruist, respectively.

[i] On the other hand, Banerjee and Duflo (2003) found that inequality has a nonlinear effect on growth rates: changes in inequality (in any direction) are associated with lower future growth rates.

[ii] Some authors have argued that the negative correlation between inequality and subsequent economic growth is due to redistributive policies since such policies impede investment on the whole (see, for example, Alesina and Rodrick, 1994). However, Perroti (1996) found no relationship between redistributive policies and economic growth.

[iii] See, for example, the well-known model by Meltzer and Richard (1981).

[iv] See, for example, Alesina and La Ferrara (2005) for an American study, Ohtake and Tomioka (2004) for a Japanese study, and Ravallion and Lokshin (2000) for a Russian study.

[v] There are other questions for measuring preference for redistribution. For example, in the General Social Survey, respondents are asked to rate statements such as the following on a 1 to 5 scale: 'Some people think that the government in Washington should do everything to improve the standard of living of all poor Americans' and 'Other people think it is not the government's responsibility, and that each person should take care of himself' and, in the World Value Survey, respondents are required to score statements such as the following on a 1 to 10 scale: 'People should take more responsibility to provide for themselves' and 'The government should take more responsibility to ensure that everyone is provided for.'

[vi] The estimation result for the selection equation in the Heckman probit model is reported in Appendix I. The Wald test statistics of $\chi 2(1) = 3.23$ (P-value = 0.072) indicates the rejection of the null hypothesis that the equation for 'approval of redistribution' is independent of the selection equations. However, note that our main results are barely affected by whether we employ the Heckman probit model or simple probit model.

[vii] We also conducted a further falsification test by employing the recession and boom dummies at the age group of 20 to 24 years; however, our results remain unchanged.

[viii] For the group loyalty hypothesis, see Luttmer (2001).

[ix] See Appendix II for the generation of the dummy variable.

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Tables

Table 1: Comparison of the caste composition and consumption distribution in the study region between our data and National Sample Survey data

A. Our data (2010)	Monthly per-capita expenditure (MPCE)				
	Quartile				Overall
	Poorest	2nd	3rd	Richest	
MPCE (Rs.)	818	1,372	1,968	3,641	1,950
Backward castes	18.1%	30.8%	36.8%	31.4%	29.3%
Scheduled castes/tribes	40.0%	30.8%	28.9%	26.3%	31.5%
Others	41.9%	38.4%	34.3%	42.2%	39.2%
NOBs	315	315	315	315	1,260
B. NSS data (2009/10, 66th round)	Monthly per-capita expenditure (MPCE)				
	Quartile (adjusting sampling weights)				Overall
	Poorest	2nd	3rd	Richest	
MPCE (Rs.)	979	1,559	2,323	4,809	2,415
Backward castes	37.5%	45.0%	33.8%	22.1%	34.6%
Scheduled castes/tribes	23.5%	17.7%	13.7%	5.6%	15.1%
Others	39.1%	37.2%	52.6%	72.2%	50.3%
NOBs	2,870	1,931	2,394	2,764	9,959

Table 2: Summary statistics of empirical variables

Variable	NOBs	Mean	Std. Dev.	Min	Max
Approval of redistribution	1,187	0.774			
Age group dummies					
30 to 39	1,187	0.227			
40 to 49	1,187	0.228			
50 to 59	1,187	0.190			
60 or over	1,187	0.210			
Female dummy	1,187	0.521			
Marital Status dummies					
With spouse	1,187	0.785			
Divorced/bereaved	1,187	0.102			
Education dummies					
Primary school	1,187	0.068			
Middle school	1,187	0.267			
Secondary school	1,187	0.379			
College or more	1,187	0.167			
Household size	1,187	4.713	1.862	1.000	16.000
Log of family income	1,187	10.363	0.674	8.495	13.699
Family income (Rs.)	1,187	42,093	53,384	4,889	890,000
Caste dummies					
Backward castes	1,187	0.287			
Scheduled castes/tribes	1,187	0.261			
Religion dummies					
Hindu	1,187	0.855			
Christian	1,187	0.035			
Muslim	1,187	0.055			
Other	1,187	0.034			

Table 3: Determinants of preferences for redistribution: Base specifications

	(1)		(2)		(3)	
Age group dummies						
30 to 39	0.054	(0.034)	0.055	(0.034)	0.156	(0.060)***
40 to 49	0.091	(0.035)***	0.091	(0.035)***	0.209	(0.066)***
50 to 59	0.109	(0.034)***	0.112	(0.034)***	0.210	(0.058)***
60 or over	0.057	(0.039)	0.057	(0.038)	0.153	(0.063)***
Female dummy	-0.024	(0.024)	-0.023	(0.024)	0.005	(0.034)
Marital Status dummies						
With spouse	-0.027	(0.042)	-0.026	(0.042)	-0.141	(0.073)**
Divorced/bereaved	-0.019	(0.064)	-0.018	(0.064)	-0.074	(0.077)
Education dummies						
Primary school	-0.041	(0.062)	-0.042	(0.062)	0.008	(0.073)
Middle school	-0.033	(0.051)	-0.029	(0.051)	-0.012	(0.060)
Secondary school	-0.053	(0.046)	-0.053	(0.045)	-0.037	(0.056)
College or more	-0.029	(0.056)	-0.033	(0.056)	-0.080	(0.071)
Household size	0.004	(0.007)	0.002	(0.007)	0.002	(0.009)
Log of family income	0.030	(0.021)				
Above median-income dummy			0.060	(0.026)**	0.091	(0.029)***
Caste dummies						
Backward castes	0.097	(0.035)***	0.097	(0.034)***	0.101	(0.043)**
Scheduled castes/tribes	0.102	(0.036)***	0.104	(0.036)***	0.113	(0.044)**
Religion dummies						
Hindu	-0.015	(0.063)	-0.023	(0.063)	-0.078	(0.073)
Christian	-0.133	(0.124)	-0.140	(0.126)	-0.225	(0.122)*
Muslim	-0.027	(0.089)	-0.035	(0.092)	-0.128	(0.109)
Other	-0.035	(0.112)	-0.050	(0.116)	-0.035	(0.122)
Selection term					0.726	(0.242)
Observations	1,187		1,187		1,187 [1,738]	
Estimation model	Probit		Probit		Heckman's probit	
Log-likelihood	-563.9		-562.6		-1,465.0	
Pseud R-squared	0.111		0.113			
Wald test of independent equations in the Heckman's probit estimation: $\chi^2(1) = 3.23$ (P-value = 0.072)						

Note: Reported figures are the marginal effects estimated using the probit (columns 1 and 2) and Heckman's probit model (column 3) and their standard errors (in parentheses) clustered at the residential area to account for intra-area correlation (# of clusters = 375). In the Heckman's probit estimation, the number of uncensored observations is reported in the bracket. Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table 4: Estimation using alternative income measures

	(1) (Column 3,Table 3)	(2)	(3)
Above median-income dummy based on:			
Family income	0.091 (0.029)***		
Per-capita family income		0.074 (0.029)**	
Region specific median-income			0.077 (0.030)***
Observations	1,187 [1,738]	1,187 [1,738]	1,187 [1,738]
Log likelihood	-1,465.0	-1,466.5	-1,466.0

Note: Reported figures are marginal effects estimated using the Heckman's probit model and their standard errors (in parentheses) clustered at the residential area (the first sampling unit) to account for intra-area correlation (# of clusters = 375). Numbers in brackets are the number of uncensored observations. All estimations are implemented with other controls (as in column 3, Table 3). Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table 5: Influence of change in household economic conditions

A. Unemployment	Type of the unemployment variable			
	A family member lost a job in the past 5 years (dummy, mean = 0.149)		Likely that a family member will lose a job in 2 years (dummy, mean = 0.055)	
	(1)	(2)	(3)	(4)
Unemployment variable	0.085	0.112	0.127	0.138
	(0.038)**	(0.047)**	(0.057)**	(0.067)**
Interaction term with above median-income dummy		-0.079		-0.037
		(0.086)		(0.132)
Above median-income dummy	0.094	0.105	0.093	0.095
	(0.030)***	(0.032)***	(0.030)***	(0.030)***
Observations	1,161 [1,738]	1,161 [1,738]	1,161 [1,738]	1,161 [1,738]
Log likelihood	-1,462.5	-1,462.0	-1,462.2	-1,462.2
B. Income growth	Type of the income growth variable			
	Income growth from 2009 to 2010 (%, mean = 3.230, std. dev. = 3.462)		Expected income growth from 2009 to 2010 (%, mean = 3.737, std. dev. = 3.570)	
	(1)	(2)	(3)	(4)
Income growth variable	0.008	0.014	0.010	0.020
	(0.005)	(0.007)**	(0.005)**	(0.006)***
Interaction term with above median-income dummy		-0.012		-0.019
		(0.008)		(0.007)***
Above median-income dummy	0.084	0.123	0.081	0.151
	(0.031)***	(0.039)***	(0.031)***	(0.039)***
Observations	1,161 [1,738]	1,161 [1,738]	1,161 [1,738]	1,161 [1,738]
Log likelihood	-1,463.7	-1,462.6	-1,462.8	-1,460.1

Note: Reported figures are marginal effects estimated using the Heckman's probit model and their standard errors (in parentheses) clustered at the residential area (the first sampling unit) to account for intra-area correlation (# of clusters = 375). Numbers in brackets are the number of uncensored observations. All estimations are implemented with other controls (as in column 3, Table 3). Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table 6: Influence of past macro-economic shocks

	Mean	(1)	(2)	(3)	(4)	(5)
At the age of 15 to 19						
Recession dummy	0.239	0.098		0.100		0.097
		(0.039)**		(0.039)**		(0.039)**
Boom dummy	0.256		-0.042	-0.049		-0.051
			(0.038)	(0.039)		(0.039)
At the age of 10 to 14						
Recession dummy	0.239				-0.033	-0.021
					(0.043)	(0.044)
Boom dummy	0.229				-0.010	-0.017
					(0.036)	(0.038)
Observations		1,038 [1,589]	1,038 [1,589]	1,038 [1,589]	1,038 [1,589]	1,038 [1,589]
Log likelihood		-1,347.3	-1,349.1	-1,346.4	-1,369.8	-1,346.2

Note: Reported figures are marginal effects estimated using the Heckman's probit model and their standard errors (in parentheses) clustered at the residential area (the first sampling unit) to account for intra-area correlation (# of clusters = 375). Numbers in brackets are the number of uncensored observations. All estimations are implemented with other controls (as in column 3, Table 3). Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table 7: Influence of economic/social beliefs

	Mean	(1) (Column 3, Table 3)		(2)		(3)		(4)		(5)	
(1) Above median-income dummy		0.091	(0.029)***	0.071	(0.037)*	0.042	(0.037)	-0.038	(0.163)	-0.047	(0.161)
Social/economic beliefs											
(2) Do not trust others	0.367			-0.155	(0.043)***					-0.141	(0.042)***
× *Above median-income dummy*				*0.064*	*(0.055)*					*0.070*	*(0.051)*
(3) Egalitarianism	0.297					-0.082	(0.053)			-0.073	(0.049)
× *Above median-income dummy*						*0.149*	*(0.055)***			*0.121*	*(0.062)**
(4) Altruism	0.057					-0.104	(0.076)			-0.115	(0.071)
× *Above median-income dummy*						*0.082*	*(0.086)*			*0.102*	*(0.080)*
Religious beliefs											
(5) Hindu		-0.078	(0.073)	-0.080	(0.077)	-0.075	(0.075)	-0.137	(0.096)	-0.129	(0.099)
× *Above median-income dummy*								*0.135*	*(0.156)*	*0.120*	*(0.149)*
(6) Christian		-0.225	(0.122)*	-0.216	(0.125)*	-0.209	(0.123)*	-0.203	(0.149)	-0.168	(0.154)
× *Above median-income dummy*								*-0.038*	*(0.220)*	*-0.063*	*(0.210)*
(7) Muslim		-0.128	(0.109)	-0.129	(0.111)	-0.124	(0.110)	-0.176	(0.142)	-0.161	(0.140)
× *Above median-income dummy*								*0.078*	*(0.179)*	*0.063*	*(0.172)*
(8) Other		-0.035	(0.122)	-0.014	(0.120)	-0.023	(0.121)	-0.281	(0.185)	-0.240	(0.177)
× *Above median-income dummy*								*0.292*	*(0.099)***	*0.286*	*(0.100)***
Observations		1,187 [1,738]		1,187 [1,738]		1,187 [1,738]		1,187 [1,738]		1,187 [1,738]	
Log likelihood		-1,465.0		-1,454.8		-1,460.8		-1,462.3		-1,446.9	

Note: Reported figures are marginal effects estimated using the Heckman probit model and their standard errors (in parentheses) clustered at the residential area (the first sampling unit) to account for intra-area correlation (# of clusters = 375). Numbers in brackets are the number of uncensored observations. All estimations are implemented with other controls (as in column 3, Table 3). Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Table A1: Distribution of observations by age category and city

A: 2009	Age category (years old)					Total
(N = 1,857)	20-29	30-39	40-49	50-59	60-69	
Delhi	3.3%	3.6%	3.4%	3.2%	3.4%	16.9%
Mumbai	3.2%	3.6%	3.4%	3.3%	3.2%	16.8%
Bangalore	3.5%	3.4%	3.3%	3.2%	3.2%	16.7%
Chennai	3.3%	3.5%	3.3%	3.2%	3.3%	16.6%
Kolkata	3.2%	3.4%	3.4%	3.2%	3.2%	16.6%
Hyderabad	3.2%	3.3%	3.3%	3.3%	3.2%	16.4%
Total	19.8%	20.8%	20.2%	19.5%	19.6%	100.0%
B: 2010	Age category (years old)					Total
(N = 1,280)	20-29	30-39	40-49	50-59	60-69	
Delhi	2.3%	3.0%	3.4%	3.0%	3.7%	15.4%
Mumbai	1.7%	4.2%	4.2%	2.7%	3.1%	15.9%
Bangalore	1.6%	2.7%	3.1%	1.5%	2.4%	11.3%
Chennai	2.7%	4.4%	4.1%	3.8%	4.1%	19.0%
Kolkata	3.4%	4.6%	4.1%	3.9%	3.6%	19.6%
Hyderabad	2.7%	3.9%	4.1%	3.6%	4.5%	18.8%
Total	14.4%	22.8%	23.0%	18.4%	21.4%	100.0%

Table A2: Estimation result for the sample selection equation

	Mean	Std. Dev.	Coef.	Std. Err.
Interview length (mins.)	43.948	12.805	-0.004	(0.001)***
Age group dummies				
30 to 39	0.218		0.225	(0.032)***
40 to 49	0.209		0.253	(0.029)***
50 to 59	0.194		0.203	(0.033)***
60 or over	0.209		0.208	(0.034)***
Female dummy	0.506		0.074	(0.027)***
Marital Status dummies				
With spouse	0.815		-0.254	(0.030)***
Divorced/bereaved	0.099		-0.154	(0.059)***
Education dummies				
Primary school	0.062		0.098	(0.048)**
Middle school	0.252		0.032	(0.045)
Secondary school	0.364		0.035	(0.046)
College or more	0.191		-0.106	(0.062)*
Household size	4.719	1.949	-0.005	(0.006)
Log of family income	11.785	0.709	0.062	(0.024)***
Religion dummies				
Hindu	0.853		-0.162	(0.081)**
Christian	0.040		-0.274	(0.138)**
Muslim	0.062		-0.291	(0.134)**
Other	0.029		0.021	(0.133)
Observations	1,738		1,738	
Log likelihood			-1,453.3	

Note: Reported figures are marginal effects estimated using the Heckman's probit model and their standard errors (in parentheses) clustered at the residential area (the first sampling unit) to account for intra-area correlation (# of clusters = 375). Single asterisk (∗), double asterisks (∗∗), and triple asterisks (∗∗∗) denote that the coefficient is statistically significant at the 10%, 5%, and 1% levels, respectively.

Figures

Figure 1: Preferences for redistribution

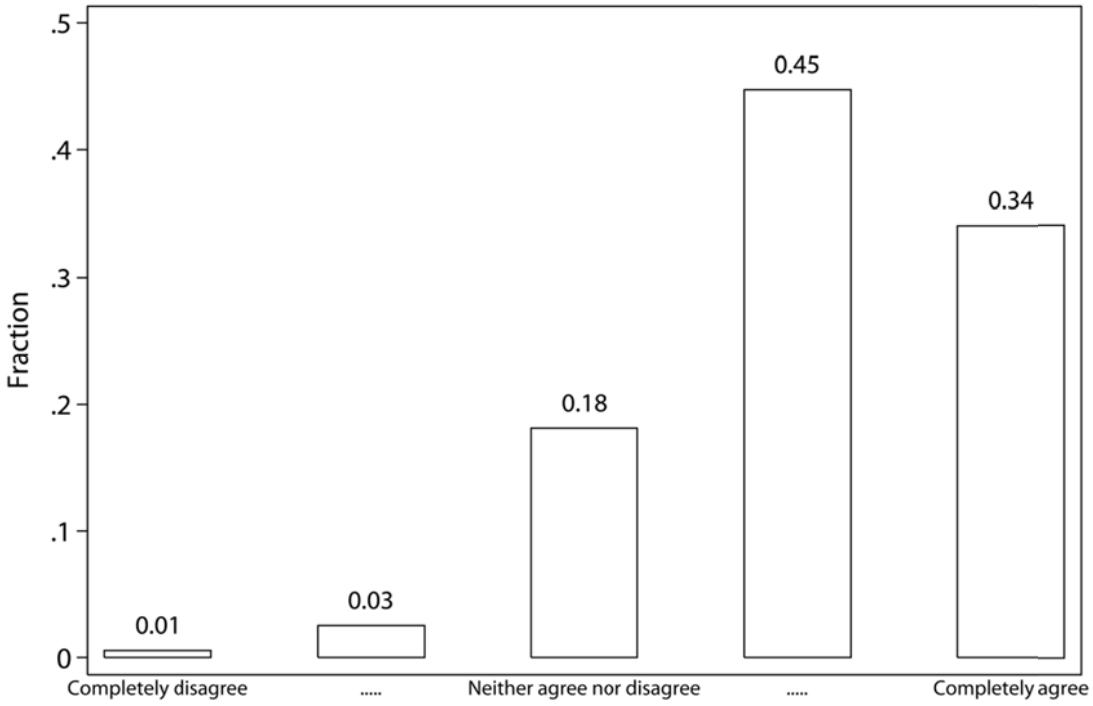

Figure 2: Growth rates of the net state domestic product (NSDP), 1961-2006