Perception of Fairness and Redistributive Choices: Evidence from Experiments with Large Groups

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Extensive experimental evidence based on bargaining games suggests that economic agents may be motivated by forces other than self-interest, such as aversion to inequality (Camerer, 2003). Nevertheless, most of these studies have focused on small group interactions, and it is unclear how these findings can be generalized to explain attitudes toward equality and redistribution at the societal level (Frohlich, Oppenheimer, 1992; Cowell, Schokkaert, 2001). A related strand of literature based on survey data suggests that people’s support for redistribution is likely to be affected by the perception of what determines income inequality: differences in luck or initial conditions or differences in ability or effort (Fong, 2002; Alesina, La Ferrara, 2002).

Our contribution addresses these two issues by reporting the results of a set of experiments in which a large number of subjects have to choose what level of redistribution to implement when the initial distribution of earnings is determined in different ways. We provide new evidence on: 1) agents’ attitude toward income redistribution in large groups; 2) individuals’ willingness to pay for greater equality; and 3) how preferences for redistribution respond to the perception of whether earnings are ‘deserved’ or not.

Each session was run in a PC classroom and involved twenty-one subjects. Participants were asked to perform redistributive choices under different experimental conditions; this allowed us to analyze the role of both involvement and uncertainty in subjects’ distributional judgment. First, each subject was asked to choose a proportional tax rate (from 0% to 100%) to be applied to the pre-tax payoff distribution among twenty other anonymous participants, knowing that, at the end of the session, one person would be randomly selected to determine the actual degree of redistribution among the others. Participants were informed that the base payoff of the selected ‘decisive’ individual would be determined randomly, independently from the tax rate he or she had chosen.

Next, each subject was asked to repeat the initial choice this time knowing that, if selected, his or her preferred tax rate would be applied to the pre-tax earning distribution among all participants, including him- or herself.

In both situations, prior to choosing, participants were informed that the pre-tax earnings distribution would be determined with equal probability according to one of four methods designed to mimic different determinants of economic success in the real world: a) randomly; b) in accordance with the average income of the place where they grew up (derived from the ZIP code); c) according to their performance on a general knowledge quiz; d) according to their score on a computer-based game of skills. Participants were asked to select a tax rate for each of the four methods.

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Finally, after performing the tasks, participants were informed of their ranking in each of the four methods and were offered the possibility of revising their tax choice. At the end of the experiment, one of the two experimental conditions and one of the four methods were randomly selected to be the basis for payment.

Two additional dimensions of treatment variation were included in order to analyze how individual support for redistribution changes when taxation is more costly in terms of a direct reduction in the decisive individual’s payoff (similar to Andreoni, Miller, 1998), as well as in terms of aggregate inefficiency (following Beckman, Formby, Smith, 2004). The four alternative prices to the decision-maker and three alternative efficiency settings yielded 12 treatments. Sixteen experimental sessions were held, involving a total of 336 Brown University undergraduate students from a wide range of disciplines. In each section of the experiment, every participant selected a tax rate for each one of the four possible pre-tax income determination methods (for a total of 1340 observed choices).

According to our results, a large majority of subjects are willing to sacrifice a significant fraction of their anticipated payoffs in order to realize a more equal distribution within the macro-community of the other twenty participants. The demand for redistribution is responsive to the cost of taxation incurred by the decision maker. However, the relationship is non-monotonic: the supported level of taxation is fairly inelastic for low and intermediate levels of tax cost, but displays a sharp decline when redistribution becomes very costly. We also find evidence that personal characteristics such as gender, socio-economic status, risk aversion, ethnic background, political self-identification, and the number of economics courses taken have a significant effect on participants’ redistributive choices. In particular, women appear to choose systematically higher tax levels than men. Furthermore, their choices tend to vary less with changes in the private cost of taxation.

When performing their redistributive choices, participants also seem to be concerned about inefficiency, even when this does not directly impact their expected payoff. In fact, the demand for redistribution decreases when taxation generates a larger dead-weigh loss. However, this effect is large only when taxation is associated with a 25% dead-weigh loss.

With regard to fairness perception, intra-subject comparisons show that participants tend to choose significantly higher levels of taxation when pre-tax earnings are determined either randomly, or according to socio-economic background, rather than on the basis of the performance on the quiz or game, which are perceived as relatively fairer mechanisms of resource allocation. Interestingly, this trend is much more evident among men than among women, whose choices appear to be less sensitive to the perception of ‘entitlement’.

Finally, comparisons between redistributive choices made under different experimental conditions provide interesting insights with regard to the relative importance of inequality aversion and self-interest, both under uncertainty and when uncertainty is resolved.