



Inequality aversion predicts support for public and private redistribution

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Rising inequality has brought redistribution back on the political agenda. In theory, inequality aversion drives people's support for redistribution. People can dislike both advantageous inequality (comparison relative to those worse off) and disadvantageous inequality (comparison relative to those better off). Existing experimental evidence reveals substantial variation across people in these preferences. However, evidence is scarce on the broader role of these two distinct forms of inequality aversion for redistribution in society. We provide evidence by exploiting a unique combination of data. We use an incentivized experiment to measure inequality aversion in a large population sample ($\approx 9,000$ among 20- to 64-y-old Danes). We link the elicited inequality aversion to survey information on individuals' support for public redistribution (policies that reduce income differences) and administrative records revealing their private redistribution (real-life donations to charity). In addition, the link to administrative data enables us to include a large battery of controls in the empirical analysis. Theory predicts that support for public redistribution increases with both types of inequality aversion, while private redistribution should increase with advantageous inequality aversion, but decrease with disadvantageous inequality aversion. A strong dislike for disadvantageous inequality makes people willing to sacrifice own income to reduce the income of people who are better off, thereby reducing the distance to people with more income than themselves. Public redistribution schemes achieve this but private donations to charity do not. Our empirical results provide strong support for these predictions and with quantitatively large effects compared to other predictors.

inequality aversion | redistribution | charitable donation | social preferences | altruism

Over the last decades, many Western countries have experienced steadily rising inequality (1, 2) and decreasing social mobility (3–5). This concerns the general public (6–8) and puts redistribution and fairness of tax-benefit policies back on the political agenda (9, 10). Theory suggests that people's direct concerns about the distribution of income—their distributional preferences—should play an important role in their support for private redistribution in the form of charitable donations and in their support for public redistribution, which reduces income differences through tax-benefit policy (11–13). Despite the existence of a large literature on distributional and social preferences (14–23), we have limited empirical insights into how these preferences affect people's support for private and public redistribution.

A key insight from the literature (24) is that people's distributional preferences often differ strongly depending on whether social comparison occurs in the domain of advantageous inequality (i.e., relative to those who are worse off) or in the domain of disadvantageous inequality (i.e., relative to those who are better off). People also exhibit vast heterogeneity in their dislike of advantageous inequality and in their aversion to disadvantageous inequality (13, 20, 23, 25, 26). Many people resist both types of inequality while others care mostly about advantageous inequality and little about disadvantageous inequality. Those who are averse to both advantageous and disadvantageous inequality are the most equality seeking in the sense that they are willing to incur costs to reduce both types of inequality.

Theory suggests that individuals with a stronger dislike of advantageous inequality, *ceteris paribus*, display stronger support for both public and private redistribution (see *SI Appendix, SI Text* for a formal derivation of the predictions in a basic model of redistribution). These individuals are willing to sacrifice own income if this reduces the income gap to people with lower incomes. Both public and private redistribution achieve this. In contrast, theory predicts that individuals with a stronger dislike of disadvantageous inequality are more supportive of public redistribution while engaging

Significance

Growing inequality and debates about the need for action highlight the importance of understanding what drives support for redistribution in society. Beyond traditional selfish motives, the theory of inequality aversion predicts that individuals dislike advantageous inequality (material well-being relative to those worse off) and dislike disadvantageous inequality (material well-being relative to those better off) and that these two motives drive people's support for public redistribution policies and their choices of private redistribution (charitable donations). Our empirical results confirm these theoretical predictions of human behavior by using a unique combination of experiments eliciting people's inequality aversion, survey information about their support for public redistribution, and administrative records documenting their real-life private donations to charity.

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less in private redistribution. These individuals are willing to sacrifice own income by, e.g., paying higher taxes if taxation simultaneously reduces the income gap to people with higher incomes. They are, however, less willing to sacrifice income for charities as this increases the income gap to those with higher incomes.

Thus, advantageous and disadvantageous inequality aversion should both be positively associated with demand for public redistribution, but have opposite signs when examining the association with private redistribution. We test these predictions by leveraging a unique combination of data where we use an incentivized experiment to measure both types of inequality aversion in a large representative sample of roughly 9,000 Danish working-age individuals (20 to 64y old) and link these experimental data to administrative records with third-party reported information on their charitable donations to humanitarian aid as well as survey evidence on their support for public redistribution policy. In addition, we include a rich set of controls obtained from other administrative records, survey responses, and preference elicitation experiments, which provide information about income, wealth, education, school performance, age, gender, family size, immigrant status, beliefs about the causes of income inequality, and other economic preference parameters (time and risk preferences).

Our empirical analysis confirms the predictions from theory. Individuals with the highest aversion against advantageous inequality are 8 percentage points more likely to donate to charity compared to those with the lowest aversion when controlling for all the other observable differences across people. In contrast, individuals with the highest aversion to disadvantageous inequality are less likely, by 5.5 percentage points, to donate to charity than individuals with the lowest aversion. The coefficients are significant at the one percent level and are comparable in size to the 4.5 percent effect of moving from the bottom to the top of the income distribution. In our analysis of the demand for public redistribution, we find that the support for more redistribution goes up by 9.5 to 10 percentage points when moving from the lowest level to the highest level in either aversion against advantageous inequality or aversion against disadvantageous inequality while keeping other factors fixed. The magnitude of each of these effects corresponds to more than 1/3 of the effect of income on the demand for redistribution, which is sizable when taking into consideration that people's position in the income distribution is known to be one of the strongest predictors of the demand for redistribution (8, 27, 28).

We follow a large literature in experimental economics that uses incentivized choice experiments to elicit preference parameters (29–31). A few studies have been able to link experimental data to administrative records at the individual level and in this way analyze whether elicited preferences of people predict differences in their real-life choices and outcomes (32, 33). We contribute to this line of research by linking distributional preferences to charitable giving records for a large representative sample of individuals. Our measure of charitable giving captures all donations to approved charities eligible for tax deductions and is based on third-party reported records implying that it is not affected by tax evasion behavior. Previous studies of charitable giving rely on self-reported measures of charitable giving or use smaller student samples (34–37).

Another important feature is that we elicit both advantageous and disadvantageous inequality aversion for each individual instead of using a single measure of subjects' pro- or antisociality. This differentiates us from the literature that uses social value orientation (15, 38) or public goods contributions (36, 37) as

measures of social preferences. Finally, by studying demand for both public and private redistribution, we are able to study an important conceptual difference between advantageous and disadvantageous inequality aversion. Both dimensions predict support for public redistribution, but they predict opposite effects when it comes to private redistribution (charitable giving).

Materials and Methods

The starting point for our analysis is a random sample provided by Statistics Denmark of around 40,000 individuals in the age span 20 to 64, who we invited to participate in the online preference-elicitation experiment. Each participant received a personalized invitation letter from the University of Copenhagen in an official electronic mailbox (Digital Post), which is the default way to receive mail from public authorities in Denmark. Each letter contained a unique link to a customized internet platform, which enables Statistics Denmark to link the experimental data to administrative data. The first screen on the online platform informed the participants about the experiment, the use of data, and how they were to be paid money depending on their choices in the experiment. Participants were asked to give consent and continue to the experiment by clicking on a button on the screen. Payment was done through MobilePay, a Danish app used for immediate money transfers. 23% of the invitees participated in the experiment, which is in line with other studies inviting a random sample to participate in experiments and surveys (8, 32, 33).

The experiment follows previous research (13, 14) by eliciting inequality aversion along two dimensions: aversion to advantageous inequality and aversion to disadvantageous inequality. People are averse to advantageous inequality if they are willing to give up some of their own payoff to reduce the gap between themselves and a person who has less than them. An example from the experiment is illustrated in Fig. 1A. It shows the payoff of a decision maker on the x-axis and the payoff of another person on the y-axis. Both payoffs are measured in Danish kroner (DKK). At point A, the two persons receive the same payoff equal to DKK 188, while at point B, the decision maker receives DKK 212 and the other person receives DKK 112. A selfish person, who focuses only on own outcomes, would prefer allocation B which gives the highest payoff to the decision maker. In contrast, a person who is sufficiently averse to advantageous inequality would prefer allocation A. Such a person is willing to give up DKK 24 by choosing B instead of A, which allocates DKK 76 more to the other person with the end result that they both get DKK 188.

People are averse to disadvantageous inequality if they are willing to give up some of their own payoff to decrease the payoff of a person who has more than themselves such that the gap between them is reduced. This is also illustrated in Fig. 1A. At point C, the decision maker receives DKK 212 which is less than the DKK 264 received by the other person. A selfish person would prefer this allocation to allocation A, which only gives DKK 188 to the decision maker. In contrast, a person who is sufficiently averse to disadvantageous inequality would prefer point A. Such a person is willing to forgo DKK 24 if this implies that the other person receives DKK 76 less, in which case they both receive DKK 188.

The experiment included a number of choice tasks to elicit inequality aversion. At the beginning of the experiment, the participants were informed that one of their decisions would be randomly selected for pay-out at the end of the experiment. In each choice task, the participant was presented with 11 different allocations of money between themselves and another person and the participant had to decide, which allocation they preferred. The other person was a randomly selected participant from the same population and the two people would never know each others' identity. Fig. 1B is a screenshot from the experiment and shows an example of a choice task used for eliciting aversion to advantageous inequality. Allocation 1 is an equal distribution with DKK 188 to each of the two participants (similar to point A in Fig. 1A), while allocation 11 allocates DKK 212 to the participant and DKK 112 to the unknown participant (similar to point B in Fig. 1A). The remaining allocations are equally spaced out between allocations 1 and 11 (corresponding to the possibility of choosing different allocations on the line segment between points A and B in Fig. 1A). The closer the participant's choice is to allocation 1, the more aversion to advantageous inequality the participant displays, measured by how much the participant is willing to sacrifice of own payoff to achieve more equality. Similarly, the experiment included choice

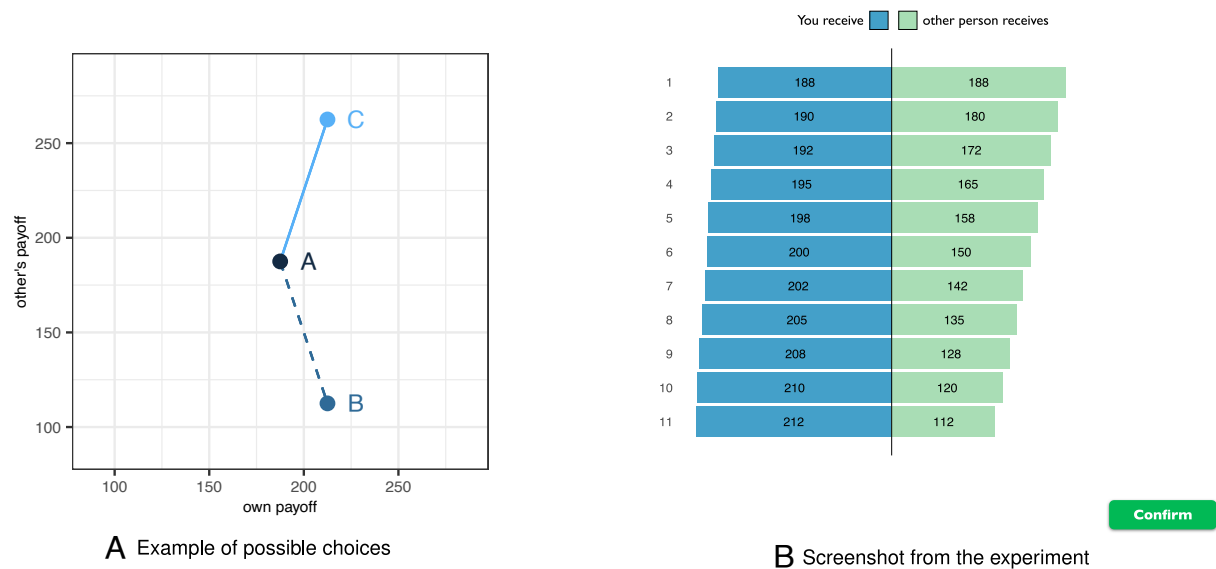


Fig. 1. Decision choices in the experiment. Panel A provides an example of possible choices in the experiment. Panel B gives an example of a screen shot shown to the participants.

situations in the domain of disadvantageous inequality to elicit the participant's willingness to sacrifice own payoff to achieve more equality in the domain of disadvantageous inequality.

Each participant was presented with 20 different choice tasks in a random order. The payoffs and the resulting inequality between the participant and the other person were systematically varied across the different choice tasks (the full set of choice tasks is shown in *SI Appendix, Table S1*). The task was explained in an animated video and participants had to complete a trial session before they could begin the experiment. In the experiment, we also elicited time and risk preferences using standard experimental tasks (32, 33).

We use two methods to summarize the participants' inequality aversion based on the choice data from the experiment. The nonparametric method computes for each choice situation how much the respondent is willing to sacrifice of own payoff relative to the maximum possible in the domain of advantageous inequality and in the domain of disadvantageous inequality. Then we compute the average sacrifice ratio of the person for each domain. Afterward, we rank people on a 1 to 100 scale within their birth-cohort. This corresponds to their percentile positions in the distribution of elicited advantageous and disadvantageous inequality aversion within their cohort. The structural method estimates each participant's aversion to advantageous and disadvantageous inequality using a parametric model with a Fehr-Schmidt utility function (the estimation is explained in *SI Appendix, SI Text*) and then uses these parametric estimates to rank people within birth-cohort on a 1 to 100 scale within each domain. The two methods give almost identical results. The next section shows the results from using the nonparametric method. *SI Appendix, Table S3*, columns (3) and (8) display results from using the structural method.

After the experimental elicitation of preferences, participants completed a short survey, where respondents were asked about their support for public redistribution, i.e., whether they agreed with the statement "The government should do more to reduce differences in income levels". 55% of respondents agreed with the statement (responded 4 to 7 on a 1 to 7 Likert scale). This is in line with OECD survey evidence showing that 6 out of 10 OECD citizens state that they believe their government should do more to reduce income differences between rich and poor (9). Our focus is on how this support for redistribution relates to the underlying inequality aversion of people. We also asked respondents about their views on the underlying cause of inequality, which is well known to be a strong predictor of demand for redistribution (39), and therefore a potential confounder.

We link the experimental data to various administrative records of the individuals using social security numbers. This includes information on charitable donations from the Danish Tax Agency. This information is third-party reported by government-approved charitable organization, that receive the

donations and the information cannot be changed by the taxpayers on their tax returns (see *SI Appendix, SI Text* for more details). 21% of the sample donate to charity. This is in line with survey responses in the European Social Survey where about 25% of Danes in this age group report having donated to charity, which places Denmark in the upper-middle group of European countries (*SI Appendix, Fig. S2*). To best capture altruistic private redistribution of people, we focus on their donations to humanitarian aid in our main analysis, but the conclusions are similar if considering all charitable donations (*SI Appendix, SI Text and Table S4*). The administrative records also provide detailed third-party reported background information on the individuals, for example, about their income, wealth, and education, which enable us to control for a rich set of potential confounders (more details are provided in *SI Appendix, SI Text*). *SI Appendix, Table S2* shows summary statistics for those who participated in the experiment and the random sample of people invited to participate. Similar to other studies inviting a random sample to participate (8, 32, 33), the participants have somewhat more education and higher incomes compared to nonparticipants. The conclusions from our analysis are unchanged if we reweight our sample to be representative of the general population using propensity scores estimated on observable characteristics (*SI Appendix, Table S3*, columns 2 and 7).

Empirical Results

Fig. 2 provides nonparametric evidence on the bivariate relationships between each of the two types of inequality aversion and each of the two types of support for redistribution. The horizontal axes in the graphs show the percentile positions of the individuals in the distribution of elicited inequality aversion of their cohort. We do this separately for advantageous inequality aversion, used on the horizontal axis in panels A and B, and disadvantageous inequality aversion, used on the horizontal axis in panels C and D. The outcome in panels A and C is the indicator for supporting public redistribution, while the outcome in panels B and D is the indicator of private redistribution, i.e., that the individual donated to humanitarian aid. All four diagrams show a strong and almost linear relationship with a statistically significant slope ($P < 1\%$). Moving from the bottom to the top in the distribution of advantageous inequality aversion is associated with a 13.9 percentage point increase in the support for public redistribution and an 8.9 percentage point increase in private redistribution. Similarly, going from the bottom to the top in the distribution of disadvantageous inequality aversion is associated with an increase

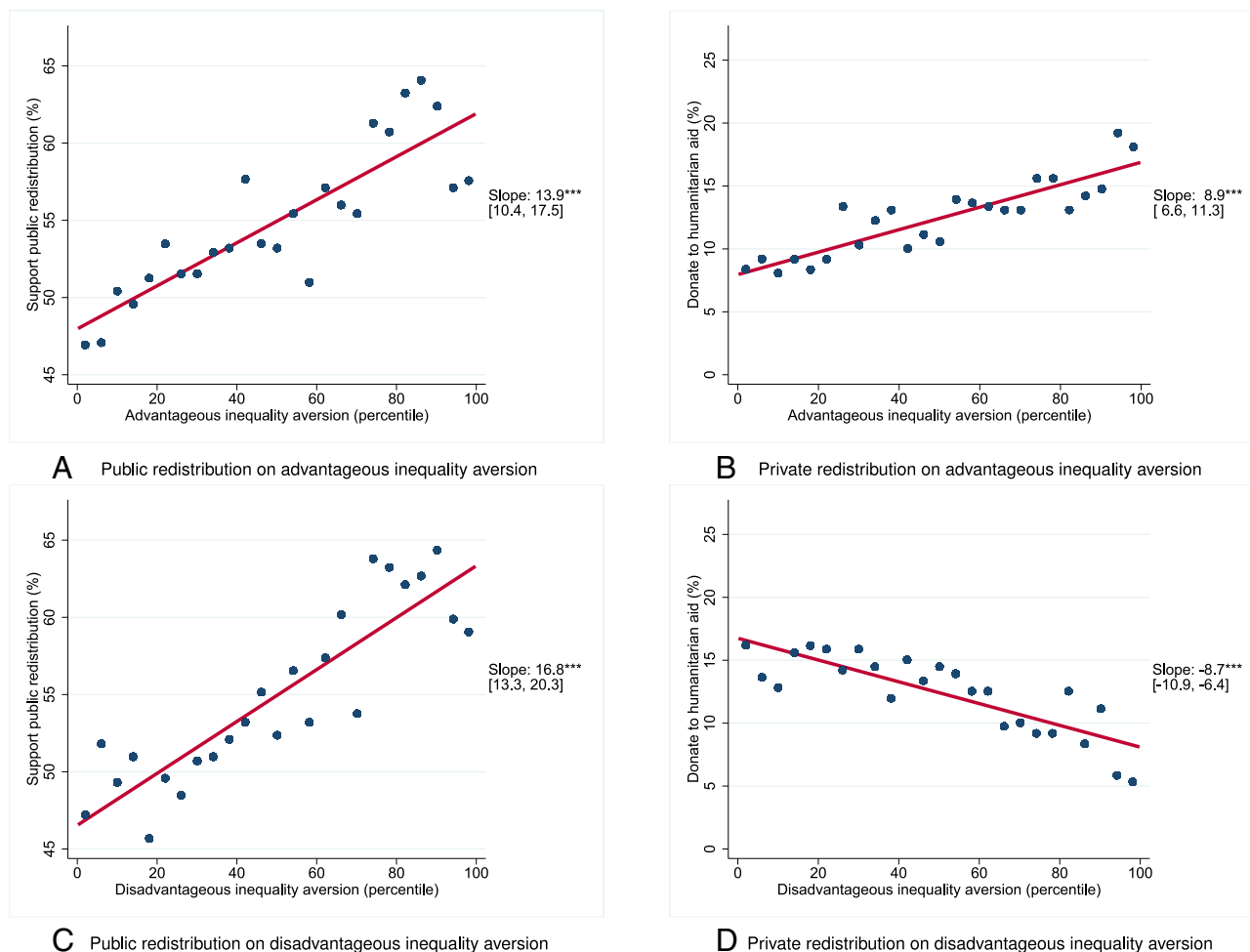


Fig. 2. Association between inequality aversion and support for redistribution. Panels *A* and *B* show the effect of advantageous inequality aversion. Panels *C* and *D* indicate the effects of disadvantageous inequality aversion. Each panel shows a binned scatter plot (blue dots) where the bins on the horizontal axis are divided into 25 equally sized groups with approx. 360 observations in each bin and the position on the vertical axis is the average outcome within the bin. A regression line estimated on the microdata is overlaid (red). 95% CIs are based on robust SEs. * $(P < 0.10)$, ** $(P < 0.05)$, *** $(P < 0.01)$.

in the support for public redistribution of 16.8 percentage points. However, the association between disadvantageous inequality aversion and private redistribution has the opposite sign, as predicted by theory. This association is negative with an 8.7 percentage point decline in private redistribution when going from the bottom to the top in the distribution of disadvantageous inequality aversion.

Individuals who are averse to advantageous inequality tend to also be averse to disadvantageous inequality (see *SI Appendix, Fig. S3*, which also shows correlations with other explanatory variables). This makes it important to account for both preferences at the same time. Therefore, we turn to multivariate regression analysis. Table 1 reports the results from estimations of multivariate probit models. Each coefficient reflects the estimated marginal effects of a change in a variable for given values of the other independent variables. Columns (1) and (5) show that both types of inequality preferences continue to be strongly associated with support for public and private redistribution when going from the bivariate analysis to the multivariate analysis and with marginal effects that are of the same magnitude as the slopes in Fig. 2. In columns (2) and (6), we include the income position of the individual in the regressions. According to standard theory, where preferences only depend on own outcomes, demand for public redistribution is decreasing in people's income position relative to others (41, 42), which has received strong empirical support (8, 27, 28). This

is also the case in column (2) showing that the support for public redistribution decreases by 30.8 percentage points when moving from the bottom to the top in the income distribution. More importantly, the coefficients on the inequality preference parameters are still strongly significant and large: they are about 1/3 of the coefficient on income position. Column (6) shows that private donations are increasing in income in line with previous findings (43). The inclusion of income has only small effects on the inequality aversion coefficients, which are not statistically different in magnitude from the income coefficient. In columns (3) and (7), we further control for socioeconomic status and cognitive abilities by including wealth, education length, and school GPA. This has almost no impact on the coefficients on inequality preferences in the prediction of public redistribution where the coefficients are still 1/3 of the income coefficient. The inequality preference coefficients decrease somewhat in magnitude in the regressions of private redistribution, but not relative to the magnitude of the income coefficient. In columns (4) and (8), we add survey evidence on people's beliefs about the causes of income inequality, known to be important for the demand for redistribution (39). We also add elicited values of standard economic preference parameters known to be important in other contexts (32, 33). Finally, we include demographic controls (age, gender, immigrant status, marital status, and family size) and municipality fixed effects. Including all these controls reduces the two coefficients of interest a little in the prediction of

public redistribution and has nearly no impact in the prediction of private redistribution. Across all specifications, the inequality preference coefficients are around 1/3 of the income coefficient when it comes to demand for public redistribution and of similar magnitude as the income coefficient when it comes to private redistribution.

Sensitivity Analyses and Robustness Checks. In *SI Appendix, Table S3*, we report the results from making various changes to the probit regression analysis in Table 1. We focus on changes to the baseline specifications in columns (4) and (8) of Table 1 that include the full set of controls. Columns (1) and (6) of *SI Appendix, Table S3* show the results from estimating a linear probability model instead of a probit model. In the analysis of public redistribution (column 1), the coefficients on advantageous and disadvantageous inequality aversion fall a bit, but so do the other coefficients in the regression implying that the inequality aversion coefficients are still more than 1/3 the coefficient on income. For private redistribution (column 6), the coefficients are still of similar magnitude as the coefficient on income. The results in columns (2) and (7) of *SI Appendix, Table S3* show that the coefficients of interest only change a little when we control for selection into the experiment by accounting for observable differences between participants and nonparticipants using propensity score weighted regressions. We also observe only small changes to the coefficients of interest when we use a structural model to estimate the inequality aversion parameters of the respondents instead of using the simple nonparametric measures (columns 3 and 8). Columns (4) and (9) report the results from changing all variables that measure rank percentile position relative to others, including the variables of interest, to z-scores. This changes the magnitudes of the coefficients, but

the relative magnitudes are more or less unchanged. The same conclusion applies when we change the two outcome variables from dummy indicators to the respondents' position relative to others in support for public and private redistribution (columns 5 and 10).

In *SI Appendix, Table S4*, we analyze how much individuals donate to charity, conditional on giving (the intensive margin). The table also shows results for both extensive and intensive margins when we include all charitable giving, instead of only to humanitarian aid. In all these analyses, the two inequality aversion coefficients are significant with the expected signs and with the same order of magnitude as the income coefficient. In *SI Appendix, Table S5*, we include information about socioeconomic status of parents (education, income, and wealth) among the control variables. We only have parental information for individuals up to age 55. Therefore, we first estimate the main specification for the subsample of individuals up to age 55 (columns 1 and 3). Adding the parental information has almost no effect on the coefficients of interest (columns 2 and 4).

In *SI Appendix, Table S6*, we split the sample into three equally sized income groups (low, middle, and high) and estimate the main specification for each income group for both public and private redistribution. All coefficients are significant and of the expected sign. We do not detect any systematic variation across the income groups. While our focus is on the support for public redistribution and private redistribution in the form of charitable giving, for completeness, *SI Appendix, Table S7* shows results for related attitudes elicited in the survey: whether the government should do more for specific groups such as the poor, the unemployed, the disabled, and those in financial trouble. People who dislike advantageous inequality are, ceteris paribus, more supportive of such public policies, while the coefficients on

Table 1. Estimates of the relationship between inequality aversion and support for redistribution

| | Public redistribution | | | | Private redistribution | | | |
|---|-----------------------|-------------------|-------------------|-------------------|------------------------|------------------|------------------|------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Advantageous inequality aversion | 12.3*** (1.8) | 12.3*** (1.9) | 11.9*** (1.9) | 9.8*** (1.9) | 10.0*** (1.2) | 10.1*** (1.2) | 9.1*** (1.2) | 7.9*** (1.1) |
| Disadvantageous inequality aversion | 15.5*** (1.8) | 11.0*** (1.9) | 12.0*** (1.9) | 9.6*** (2.0) | -9.9*** (1.2) | -8.7*** (1.2) | -5.7*** (1.2) | -5.6*** (1.2) |
| Income | | -30.8*** (1.9) | -33.4*** (2.0) | -25.2*** (2.1) | | 7.3*** (1.2) | 3.1** (1.2) | 4.5*** (1.2) |
| Wealth | | | -5.6*** (1.9) | -5.0** (2.0) | | | -0.2 (1.2) | -0.1 (1.1) |
| Education length | | | 10.3*** (2.0) | 5.5** (2.1) | | | 10.0*** (1.3) | 6.7*** (1.2) |
| School GPA | | | 0.5 (1.9) | -1.5 (2.0) | | | 9.1*** (1.2) | 7.1*** (1.2) |
| Belief about cause of income inequality | | | | -41.6*** (2.0) | | | | -7.3*** (1.2) |
| Patience | | | | 1.4 (1.9) | | | | -0.1 (1.1) |
| Risk aversion | | | | -0.1 (1.9) | | | | -1.6 (1.1) |
| Demographic controls | No | No | No | Yes | No | No | No | Yes |
| Municipality FE | No | No | No | Yes | No | No | No | Yes |
| Observations | 8,952 | 8,952 | 8,952 | 8,952 | 8,952 | 8,952 | 8,952 | 8,848 |

Note: The outcome in columns (1)–(4) is an indicator that equals one if the respondent was in support of more income redistribution. The baseline is 54.9%. In column (5)–(8), the outcome is an indicator that equals one if the individual donated to humanitarian aid in 2017. The baseline for donations is 12.4%. The coefficients show marginal effects. The coefficients are interpreted as the percentage point change in support for redistribution or donations to humanitarian aid when moving from the bottom to the top percentile in the distribution for each independent variable. Demographic controls include age, a dummy for gender, a dummy for being an immigrant, a dummy for marital status, and a dummy for having dependent children. Robust standard errors are shown in parentheses. * $(P < 0.10)$, ** $(P < 0.05)$, *** $(P < 0.01)$.

disadvantageous inequality aversion are statistically insignificant in most cases.

Concluding Remarks

Standard theory on support for redistribution and, more broadly, political economy assumes that individuals are motivated only by their own outcomes (41, 42, 44). Our empirical results show that it is possible to get better predictions of the support for redistribution by also accounting for inequality aversion of people (14). These results contribute to a nascent experimental and empirical literature providing evidence in favor of political economy theories that incorporate social preferences of citizens (8, 11–13, 22, 28).

Data, Materials, and Software Availability. The micro data set used in the paper combines experimental data and register data merged together by Statistics Denmark using social security numbers. Data and programs used for the analysis are securely stored at Statistics Denmark with Project No. 704856. We conducted the analysis using Stata/MP 16.1 and R 3.6.2 through the secure internet interface of Statistics Denmark. The project received approval from the Danish Data Protection Agency (Agreement 2015-57-0125-0008), Statistics

Denmark, and the Internal Review Board at the Department of Economics, University of Copenhagen. The use and storage of individual-level data adhere to the European Union's General Data Protection Regulation. Further, due to privacy rules, the data may not be transferred to computers outside Statistics Denmark. Researchers seeking access to this data must apply through Statistics Denmark, either as affiliated with a Danish institution approved by Statistics Denmark or in collaboration with researchers affiliated with such Danish institutions. We are ready to assist with this process in any way possible.

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PNAS



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2 **Supporting Information for**

3 **Inequality Aversion Predicts Support for Public and Private Redistribution**

4 **Thomas F. Epper, Ernst Fehr, Claus T. Kreiner, Søren Leth-Petersen, Isabel S. Olufsen and Peer E. Skov**

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6 **This PDF file includes:**

7 Supporting text

8 Figs. S1 to S5

9 Tables S1 to S7

10 SI References

11 Supporting Information Text

12 **Theory.** Here, we provide a simple theoretical model of support for public and private redistribution, which illustrates the role
 13 played by inequality aversion. Our starting point is a simple version of the standard model of demand for public redistribution
 14 in a country (1, 2), where citizens have selfish preferences, which we extend with Fehr-Schmidt inequality aversion preferences
 15 (3). We include a warm-glow motive (4) for private donations to charity, which we assume is distributed to people outside the
 16 country, reflecting that donations are predominantly for humanitarian aid in poor regions in the world.

17 We consider n individuals, indexed by i , where y_i denotes individual income. Public redistribution takes the form of a
 18 proportional income tax t , which finances a lump sum transfer b . The budget constraint of individual i equals

$$19 \quad c_i + d_i \leq (1 - t) y_i + b, \quad [1]$$

20 where c_i denotes consumption and d_i denotes donations. The right hand side is the net income of the individual. The
 21 government budget constraint implies that the benefit level is given by

$$22 \quad b = t\bar{y} - \frac{1}{2}t^2\bar{y}, \quad \bar{y} = \frac{1}{n} \sum_i y_i, \quad [2]$$

23 where the first term on the right hand side is average tax revenue per individual, while the second term represents tax distortions
 24 and costs of tax enforcement modeled as a simple quadratic cost function (2). The utility function equals

$$25 \quad u_i = c_i - \alpha_i E[c_j - c_i \mid c_j > c_i] - \beta_i E[c_i - c_j \mid c_j < c_i] + v(d_i). \quad [3]$$

26 The second and third term represent Fehr-Schmidt inequality aversion, where the preference parameters α_i and β_i capture how
 27 much the individual dislikes disadvantageous inequality and advantageous inequality. The last term captures utility from giving
 28 where $v(\cdot)$ is a strictly concave function. Individual i maximizes utility with respect to demand for public redistribution (t, b)
 29 and private redistribution d_i subject to the private and public budget constraints (1) and (2). Assuming an interior solution,
 30 this solution is characterized by the first order conditions, which gives

$$31 \quad t_i^* = \frac{\bar{y} - y_i}{\bar{y}} + \alpha_i \frac{\bar{y}^h - y_i}{\bar{y}} + \beta_i \frac{y_i - \bar{y}^l}{\bar{y}}, \quad [4]$$

$$32 \quad v'(d_i^*) = 1 + \alpha_i - \beta_i, \quad [5]$$

33 where $\bar{y}^h \equiv E[y_j \mid y_j > y_i]$ is the average income for people with higher income than individual i , $\bar{y}^l = E[y_j \mid y_j < y_i]$ is the
 34 average income for people with lower income than i , and $v'(d_i^*)$ denotes the marginal utility of donating one more dollar, which
 35 is decreasing in the amount already donated. The following result follows directly from these equations:

36 **Proposition 1.** *An interior solution has the following properties: (a) Demand for public redistribution, t_i^* , is increasing*
 37 *in both disadvantageous inequality aversion, α_i , and advantageous inequality aversion, β_i . (b) Private redistribution d_i^* is*
 38 *decreasing in disadvantageous inequality aversion, α_i , and increasing in advantageous inequality aversion, β_i .*

39 The above proposition focuses only on intensive margin responses and interior solutions of charitable giving, in which case
 40 $k \equiv v'(0) > 1 + \alpha_i - \beta_i$. The model can be extended to also explain differences in giving behavior along the extensive margin
 41 by assuming that the marginal utility of the first dollar spend equals $v'(0) + x$, where x represents a fixed utility gain ($x > 0$)
 42 or nuisance cost ($x < 0$) of starting to donate, and where x is drawn from a cumulative distribution function $F(x)$ with domain
 43 $(-\infty, \infty)$. In this case, individuals with $x \geq 1 + \alpha_i - \beta_i - k$ donate to charity (extensive margin) and equation (5) shows
 44 the amount donated of these individuals (intensive margin). The propensity to give equals $1 - F(1 + \alpha_i - \beta_i - k)$, which is
 45 decreasing in disadvantageous inequality aversion, α_i , and increasing in advantageous inequality aversion, β_i .

46 **Administrative data.** From Statistics Denmark, we use the population register (BEF) to identify participants' gender, year of
 47 birth, immigrant and descendant status, municipality of residence and marital status. We use `civst*` to identify whether
 48 individuals are married or in a partnership. Individuals are defined as being single if they are neither married nor in a
 49 partnership in 2017. We use `antboernf` from the family register (FAM) to identify whether individuals have dependent
 50 children.[†] `Antboernf` indicates the number of children between ages 0 and 24 years old that are the child of at least one of the
 51 adults in the family and live at the same address as the adults.

52 We use the income register (IND) to compute individuals' average income and wealth in 2017 prices across 2015, 2016 and
 53 2017. We use `PERINDKIALT_13` as our income measure, which includes wage income, transfers and capital income. We use
 54 `FORMREST_NY05` as our measure of net wealth. This excludes pension wealth, which is partially or fully illiquid until retirement.
 55 We use the education register (UDDA) to compute individuals' years of completed education. The years of education are
 56 computed based on the standard study time assigned to each degree.

57 From the Danish Tax Authorities (SKAT), we use information on participants' charitable donations in 2017. SKAT collects
 58 information on charitable donations and preprints this line-item deduction information on taxpayers' annual tax return.
 59 Charitable donations are third-party reported by charitable organizations rather than self-reported by the taxpayers, and as
 60 such, are much less susceptible to misreporting (5). Furthermore, tax filing in Denmark is done at the individual level, and the
 61 subsidy rate (26.9% in 2017) is independent of the taxpayer's marginal tax rate, thus providing no incentive to manipulate
 62 donations between spouses for tax purposes (6).

63 To retain their tax-preferred status, charities must annually report information about location, assets, income, membership,
 64 donors, gifts, and expenditures to SKAT, who maintains an updated list of all approved charitable organizations on their
 65 website.[‡] The reporting requirements differ between altruistic and religious organizations, which we can identify in the data
 66 using the variable `KATEGORI`. We use `YDET_GAVE_BLB>0` and `KATEGORI` to identify whether an individual donated to an altruistic
 67 charitable organization. The group of altruistic charity organizations has 14 sub-groups. In our main analysis, we focus on
 68 donations to Humanitarian Aid (in Danish "Humanitær Bistand"). Arguably, this is the best category to capture altruistic
 69 private redistribution compared to, e.g., donations to health organizations that can reflect other motives related to family
 70 health experiences. Humanitarian Aid is by far the largest category with 55% of the donations going to this group for our
 71 sample of individuals (both for participants in the experiment and for those invited to participate). We obtain the same
 72 conclusions, if we include all donations to charities in our analysis as shown in Table S4 panel B.

73 For each participant, we predict the probability of participating in the online experiment, i.e., the propensity score, based on
 74 a probit model, where we include information from the administrative data available for both participants and non-participants
 75 as explanatory variables. We include gender, age, immigrant status, income, wealth, years of education, marital status,
 76 dependent children and municipality dummies to predict the likelihood of participating. We use the likelihood of participating
 77 for propensity score weighting in Table S3, columns (2) and (7).

78 **Experimental data.** Table S1 and Fig. S1 present the complete set of choice tasks implemented in the experiment.[§] Each
 79 choice task corresponds to a budget line located in the (w^s, w^o) -space, where w^s and w^o represent the payoff for *self* (the
 80 participant making the decision) and the *other* person, respectively. The 20 budget lines vary in terms of both slope and
 81 location in the (w^s, w^o) -space. Within each task, j , participants were given the choice of one out of eleven possible payoff
 82 distributions $k \in \{1, 2, \dots, 11\}$ (see the row numbers in Figure 1b of the main text). These payoff distributions are defined as
 83 linear combinations of the two endpoints of the respective budget line, (x_{j0}^s, x_{j0}^o) and (x_{j1}^s, x_{j1}^o) . The allocation for alternative
 84 k in choice task j is given by:

$$(w_{jk}^s, w_{jk}^o) = ((1 - z_k)x_{j0}^s + z_kx_{j1}^s, (1 - z_k)x_{j0}^o + z_kx_{j1}^o),$$

85 where $z_k = \frac{k-1}{10} \in \{0, \frac{1}{10}, \frac{2}{10}, \dots, \frac{9}{10}, 1\}$. Fig. S1 graphically displays the choice task within the payoff space.

*Names written with mono-spaced typeface refer to variable names. For the data from Statistics Denmark the variable names are those used by Statistics Denmark, where the variable definitions can be found at <https://www.dst.dk/da/Statistik/dokumentation/Times>.

[†]Note, the FAM register is no longer available but now part of BEF.

[‡]List of organizations can be found here (last visited on 25/04/2024): <https://info.skat.dk/data.aspx?oid=2061734>.

[§]The task displayed in Fig. 1b of the main text corresponds to task $j = 14$. Note that the amounts displayed on the bars were rounded down to the nearest integer.

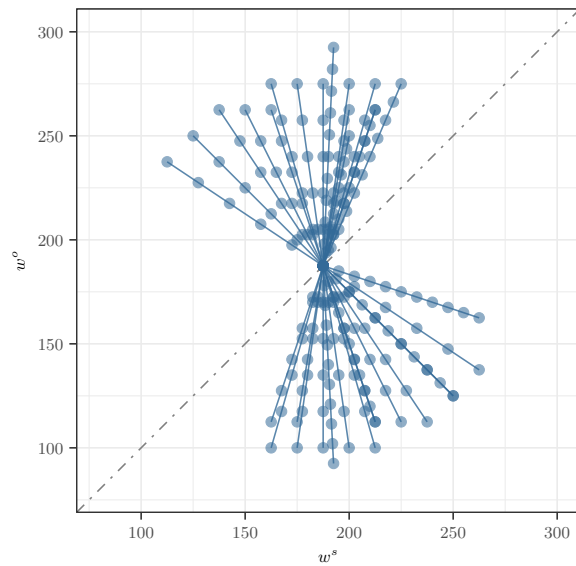


Fig. S1. The 20 budget lines from the experiment.

Note: On the x-axis is the participant's payoff and on the y-axis is the unknown participant's payoff. Each point on the budget line represents each of the allocations presented to the participant in the experiment, as shown in Fig.1b.

Table S1. The 20 choice tasks from the experiment

| task j | x_{j0}^s | x_{j0}^o | x_{j1}^s | x_{j1}^o | cost of giving |
|----------|------------|------------|------------|------------|----------------|
| 1 | 262.5 | 137.5 | 112.5 | 237.5 | 1.500 |
| 2 | 250.0 | 125.0 | 125.0 | 250.0 | 1.000 |
| 3 | 237.5 | 112.5 | 137.5 | 262.5 | 0.667 |
| 4 | 225.0 | 112.5 | 150.0 | 262.5 | 0.500 |
| 5 | 212.5 | 112.5 | 162.5 | 262.5 | 0.333 |
| 6 | 212.5 | 100.0 | 162.5 | 275.0 | 0.286 |
| 7 | 200.0 | 100.0 | 175.0 | 275.0 | 0.143 |
| 8 | 187.5 | 100.0 | 187.5 | 275.0 | 0.000 |
| 9 | 175.0 | 100.0 | 200.0 | 275.0 | -0.143 |
| 10 | 175.0 | 112.5 | 200.0 | 262.5 | -0.167 |
| 11 | 162.5 | 100.0 | 212.5 | 275.0 | -0.286 |
| 12 | 162.5 | 112.5 | 212.5 | 262.5 | -0.333 |
| 13 | 187.5 | 187.5 | 200.0 | 250.0 | -0.200 |
| 14 | 212.5 | 112.5 | 187.5 | 187.5 | 0.333 |
| 15 | 187.5 | 187.5 | 212.5 | 262.5 | -0.333 |
| 16 | 250.0 | 125.0 | 187.5 | 187.5 | 1.000 |
| 17 | 187.5 | 187.5 | 225.0 | 275.0 | -0.429 |
| 18 | 262.5 | 162.5 | 187.5 | 187.5 | 3.000 |
| 19 | 187.5 | 187.5 | 192.5 | 292.5 | -0.048 |
| 20 | 192.5 | 92.5 | 187.5 | 187.5 | 0.053 |

Note: x_{j0}^s , x_{j0}^o , x_{j1}^s and x_{j1}^o are reported in DKK.

86 **Estimation of structural preference parameters.** Our main results are based on a simple, non-parametric measure of inequality
87 aversion based on the data from the experiment as described in the Materials and Methods section in the main text. Table S3
88 shows that we obtain similar results if we instead use a structural approach to quantify inequality aversion. Here, we outline
89 the procedure to structurally estimate the individual-level preference parameters. In the following, we first describe the choice
90 environment and the response data that serve as input for our model. We then elaborate on the key assumptions and specify
91 our econometric model. Finally, we provide details on the estimation procedure.

92 The choice environment consists of 20 discrete convex budget allocations ("budget lines") depicted in Table S1 and Figure S1.
93 The set of all possible allocations in a choice task j (i.e., a budget line defined by its two endpoints $(x_{j0}^s; x_{j0}^o)$ and (x_{j1}^s, x_{j1}^o))
94 determines the list of the alternatives from which the participant selects one. It is assumed that individuals aim to maximize
95 their utility. Let k_{ij}^* denote the allocation choice of individual i in choice task j . Each of the eleven possible allocations in a
96 choice task j , $\{k_j\}$, yields a different payoff distribution between self and the other person, (w_{jk}^s, w_{jk}^o) .

97 Our behavioral model formalizes disadvantageous and advantageous inequality aversion (3). The model assigns the value V_i
98 to each payoff distribution, (w_j^s, w_j^o) , such that

$$99 \quad V_i(w_{jk}^s, w_{jk}^o) = w_{jk}^s - \alpha_i \max\{w_{jk}^o - w_{jk}^s, 0\} - \beta_i \max\{w_{jk}^s - w_{jk}^o, 0\}. \quad [6]$$

100 Here, α_i and β_i denote disadvantageous inequality aversion and advantageous inequality aversion, respectively. We do not
101 impose parameter restrictions on α_i and β_i . The model captures selfish behavior when others' payoffs are ignored, i.e. if
102 $\alpha_i = \beta_i = 0$.

103 Since the behavioral model of inequality aversion explains only deterministic choice, we have to make explicit how we
104 account for errors and mistakes that subjects make when choosing payoff distributions in the choice tasks. We address this by
105 assuming random utility (7). With this specification, an idiosyncratic error parameter $\lambda_i > 0$ is estimated. The value of a
106 payoff distribution (w_{jk}^s, w_{jk}^o) thus depends on the two preference parameters, α_i and β_i , and the error parameter, λ_i . The
107 choice probability for each k can be written as:

$$P_{ijk} = \frac{e^{\lambda_i V_i(w_{jk}^s, w_{jk}^o)}}{\sum_{m=1}^{11} e^{\lambda_i V_i(w_{jm}^s, w_{jm}^o)}}.$$

108 The probability of observing a vector of allocations $k_i^* = (k_{i1}^*, k_{i2}^*, \dots)$ for individual i , conditional on parameters α_i , β_i and λ_i
109 is:

$$L(\alpha_i, \beta_i, \lambda_i) = \prod_{j=1}^{20} \prod_{k=1}^{11} P_{ijk}^{\mathbb{1}[k_{ij}^* = k]}$$

110 The likelihood *not conditional* on the individual parameters is the integral of L over all parameters, i.e.

$$L^* = \int \int \int L(\alpha_i, \beta_i, e^{\xi_i}) f(\alpha_i, \beta_i, \xi_i) d\alpha_i d\beta_i d\xi_i,$$

111 where $f(\alpha_i, \beta_i, \xi_i) \sim \mathcal{N}(\mu, \Sigma)$ is the multivariate normal density at the point $(\alpha_i, \beta_i, \xi_i)$ with mean vector μ and covariance
112 matrix Σ . Note that we estimate ξ_i and set $\lambda_i = e^{\xi_i}$ to ensure that λ_i is strictly positive.

113 The posterior distribution of the parameters given the data D is then

$$Q(\alpha_i, \beta_i, \xi_i | D) \propto L(\alpha_i, \beta_i, e^{\xi_i}; D) f(\alpha_i, \beta_i, \xi_i).$$

114 We follow a hierarchical Bayesian modeling approach to estimate the individual-level parameters of the choice model. The
115 detailed procedure is described thoroughly in (8). We chose a non-informative prior parameter distribution due to the absence
116 of compelling reasons for specific assumptions, allowing the data to predominantly speak for itself in our model. To estimate
117 the model parameters, we employ a Metropolis-Hastings algorithm.

118 **Survey data.** Participants in the experiment completed a short survey, which followed the experimental tasks. Respondents
119 were asked about their gender and year of birth. We verify the self-reported gender and year of birth against the information
120 in the administrative data to check that the person invited to participate in the experiment is also the person who participated
121 in the experiment. 172 individuals are dropped because their self-reported information does not match the administrative
122 information. Our measure of participants' support for public redistribution is obtained from the participants' responses to
123 "Do you agree or disagree with the following statements? The government should do more to reduce differences in income
124 levels." The distribution of responses are shown in Fig. S4a, where 1 refers to strongly disagree and 7 refers to strongly agree.
125 Using the responses, we create a dummy variable for support for redistribution which is equal to one if participants respond 4
126 or higher to the question. In Table S3 column (5), we show that the results also hold if we rank individuals within cohort
127 by their response to the question instead of using a dummy as the outcome. In our regressions, we control for participants'
128 beliefs about the causes of income inequality, which are obtained from participants' responses to "In the following, we ask

129 *about labor income. By labor income, we mean the amount that you earn by working. What do you think are the main reasons*
130 *why there are differences in people's labor incomes in Denmark?", where answer options ranged from "0-Differences in factors*
131 *that people do not themselves influence" to "10-Differences in factors that people themselves influence". Fig. S4b plots the*
132 *cumulative distribution function for responses to the question. The majority of participants lean towards differences in income*
133 *being attributable to factors that people themselves influence. When including their response as an independent variable in the*
134 *regression, we rank individuals, within cohort, from 0 to 100 by their response. The survey included a few other questions about*
135 *whether the government should do more for specific groups, which are studied in Table S7. The note to the table describes the*
136 *questions.*

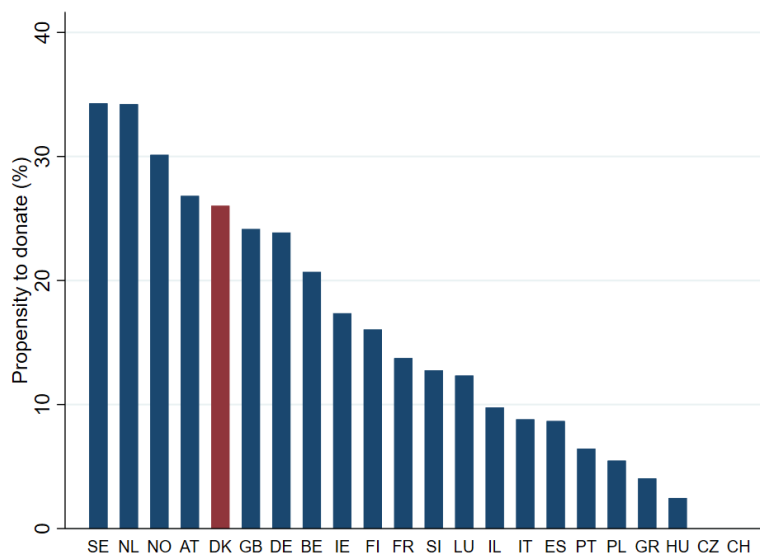
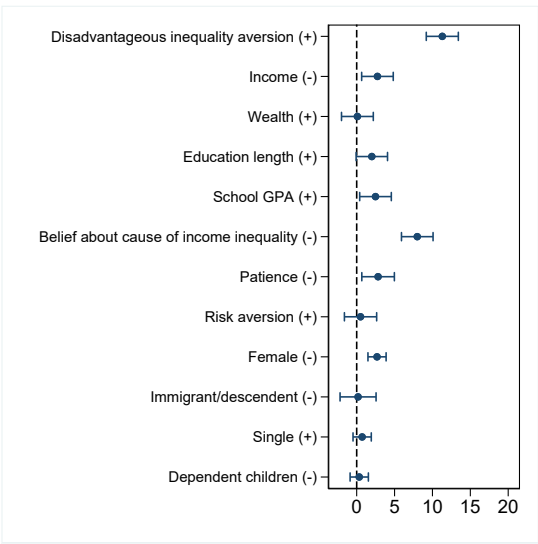
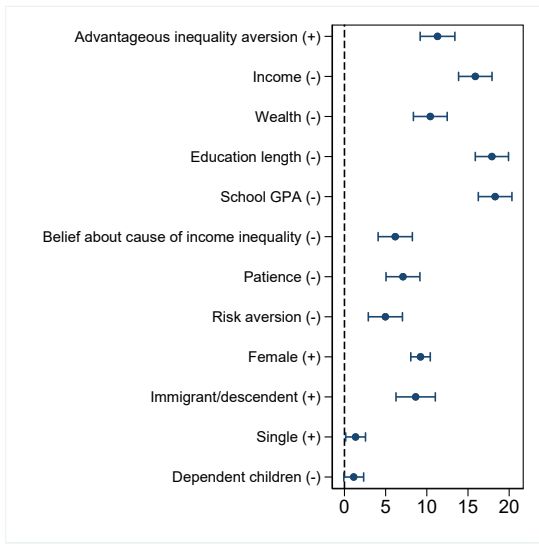


Fig. S2. Propensity to donate to charity across EU countries

Note: The figure shows the propensity to donate to charity across European countries. Data is taken from the first round of the European Social Survey. Participants were asked "For each of the voluntary organizations I will now mention, please use this card to tell me whether any of these things [member, participated, donated money, voluntary work or none] apply to you now or in the last 12 months, and, if so, which." The figure shows the share of participants between 20 and 64 years old who responded that they donated money to organizations supporting humanitarian aid, human rights, minorities, immigrants, environmental protection, peace, animal rights, cultural activities or hobby activities. We exclude other types of voluntary organizations to make the measure comparable to charitable donations included in the administrative data. The European Social Survey asks a representative sample of residents in each country biannually. The first round was conducted in 2002. The question about charitable giving has not been included in later surveys. More information about the European Social Survey can be found here: <https://www.europeansocialsurvey.org/about-ess>.



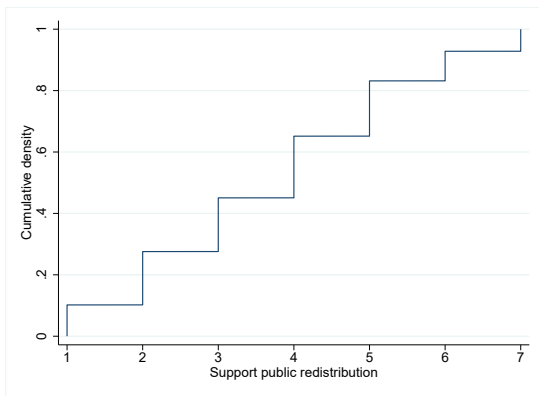
(a) Correlation with advantageous inequality aversion



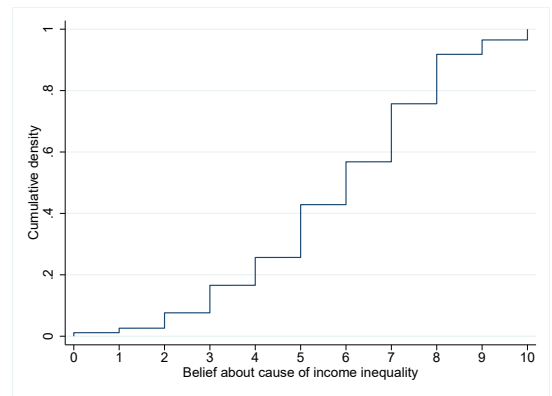
(b) Correlation with disadvantageous inequality aversion

Fig. S3. Correlation between advantageous and disadvantageous inequality aversion and control variables

Note: Figure (a) shows the coefficient and 95% confidence interval when regressing advantageous inequality aversion rank on the variables mentioned in the figure. Figure (b) shows the coefficient and 95% confidence interval when regressing disadvantageous inequality aversion rank on the variables mentioned in the figure. The coefficients are interpreted as the percentile change in the advantageous or disadvantageous inequality aversion distribution, respectively, when moving from the bottom to the top percentile in the distribution for each independent variable. Female, immigrant/descendant, single, and dependent children are dummies equal to one when the criteria is fulfilled.



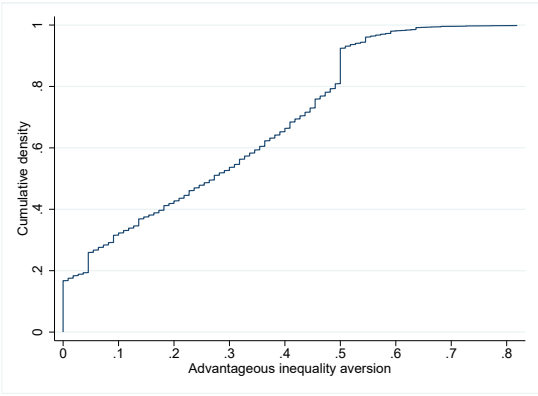
(a) Support public redistribution



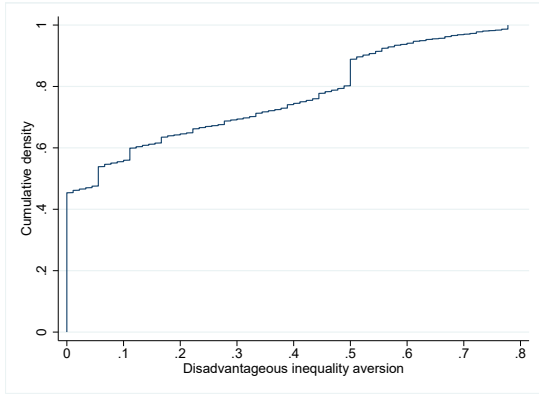
(b) Beliefs about cause of income inequality

Fig. S4. Cumulative distribution function for main survey questions

Note: Figure (a) plots the cumulative distribution function for responses to the question "Do you agree or disagree with the following statements? The government should do more to reduce differences in income levels.". 1 refers to strongly disagree and 7 refers to strongly agree. Figure (b) plots the cumulative distribution function for responses to the question "In the following, we ask about labor income. By labor income, we mean the amount that you earn by working. What do you think are the main reasons why there are differences in people's labor incomes in Denmark?", where answer options ranged from "0-Differences in factors that people do not themselves influence" to "10-Differences in factors that people themselves influence".



(a) Advantageous inequality aversion



(b) Disadvantageous inequality aversion

Fig. S5. Cumulative distribution function for inequality aversion

Note: Figure (a) plots the cumulative distribution function for advantageous inequality aversion. Figure (b) plots the cumulative distribution function for disadvantageous inequality aversion.

Table S2. Summary statistics based on administrative data

| | Sample (1) | Invited (2) | Difference (1) - (2) (3) | <i>p</i> -value (4) |
|--------------------------------|---------------|----------------|-----------------------------|------------------------|
| Donate to humanitarian aid (d) | 0.12 | 0.10 | 0.03 | 0.00 |
| Donate to charity (d) | 0.21 | 0.16 | 0.04 | 0.00 |
| Income | 373,785 | 350,340 | 23,445 | 0.00 |
| Wealth | 183,393 | 174,514 | 8,879 | 0.42 |
| Education length | 14.45 | 13.98 | 0.48 | 0.00 |
| Age | 41.17 | 42.47 | -1.31 | 0.00 |
| Female (d) | 0.52 | 0.50 | 0.02 | 0.00 |
| Immigrant/descendant (d) | 0.06 | 0.14 | -0.07 | 0.00 |
| Single (d) | 0.56 | 0.56 | -0.01 | 0.16 |
| Dependent children (d) | 0.43 | 0.42 | 0.01 | 0.00 |
| Observations | 8,952 | 39,798 | | |

Note: Column (1) shows the mean of variables from the administrative data for the sample. The sample includes all participants who completed the experiment and the survey and are used in the analysis. Column (2) shows the mean for the individuals invited to participate in the experiment. The invitations were sent out to a random sample between 20 and 64 years old. Column (3) shows the difference between the mean for the sample and the mean for the invited. Column (4) shows the *p*-values for the differences in column (3). The *p*-values are calculated using partially overlapping t-test with Welch's degrees of freedom (9, 10). Income (wealth) are an average of income (wealth) across 2015, 2016 and 2017 in 2017-prices. Variables labeled with (d) are dummy variables, which are equal to one when the statement is fulfilled.

Table S3. Alternative specifications of main regressions in Table 1, columns (4) and (8)

| | Public redistribution | | | | | Private redistribution | | | | |
|---|-----------------------|-------------------|---------------------|-------------------|--------------------|------------------------|------------------|---------------------|------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | LPM | Weighted | Structural measures | Z-score | Continuous outcome | LPM | Weighted | Structural measures | Z-score | Continuous outcome |
| Advantageous inequality aversion | 8.7*** (1.7) | 8.5*** (2.1) | 7.3*** (2.1) | 2.7*** (0.6) | 6.2*** (1.0) | 8.2*** (1.2) | 7.0*** (1.1) | 9.7*** (1.3) | 2.2*** (0.3) | 3.3*** (1.1) |
| Disadvantageous inequality aversion | 8.8*** (1.8) | 11.9*** (2.2) | 8.0*** (2.2) | 3.0*** (0.6) | 4.0*** (1.1) | -5.8*** (1.2) | -4.3*** (1.2) | -6.8*** (1.3) | -1.9*** (0.4) | -2.8** (1.1) |
| Income | -23.1*** (1.9) | -25.3*** (2.3) | -25.2*** (2.1) | -7.3*** (0.7) | -14.3*** (1.1) | 5.0*** (1.3) | 4.9*** (1.3) | 4.5*** (1.2) | 0.8** (0.3) | 2.2* (1.2) |
| Wealth | -4.5** (1.8) | -4.9** (2.1) | -5.2*** (2.0) | -0.9 (0.6) | -2.9*** (1.0) | -0.4 (1.2) | 0.5 (1.1) | 0.0 (1.1) | -0.3 (0.3) | 1.2 (1.1) |
| Education length | 4.9** (1.9) | 4.9** (2.3) | 5.1** (2.1) | 0.7 (0.6) | 3.7*** (1.1) | 7.5*** (1.3) | 5.6*** (1.2) | 6.9*** (1.2) | 2.3*** (0.4) | 4.0*** (1.2) |
| School GPA | -1.5 (1.8) | -1.0 (2.2) | -1.9 (2.0) | -0.7 (0.6) | 0.9 (1.1) | 7.3*** (1.2) | 7.1*** (1.2) | 7.4*** (1.2) | 2.2*** (0.3) | 4.5*** (1.1) |
| Belief about cause of income inequality | -38.5*** (1.8) | -38.4*** (2.1) | -41.7*** (2.0) | -12.3*** (0.6) | -27.2*** (1.1) | -8.0*** (1.2) | -6.8*** (1.2) | -7.3*** (1.2) | -2.1*** (0.3) | -2.7** (1.1) |
| Patience | 1.3 (1.7) | 1.6 (2.1) | -1.2 (1.9) | 0.2 (0.6) | 0.6 (1.0) | 0.2 (1.2) | -0.0 (1.2) | 1.0 (1.1) | -0.1 (0.3) | -0.8 (1.1) |
| Risk aversion | -0.1 (1.7) | -0.0 (2.1) | 0.4 (1.9) | 0.0 (0.6) | -0.5 (1.0) | -1.8 (1.2) | -1.2 (1.1) | -1.0 (1.1) | -0.5 (0.3) | -1.4 (1.1) |
| Demographic controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 8952 | 8952 | 8952 | 8952 | 8952 | 8952 | 8848 | 8848 | 8848 | 8952 |

Note: The regressand in columns (1)-(4) is a dummy equal to one if the individual supports public redistribution. The regressand in column (5) is the individual's agreement with "The government should do more to reduce differences in income." ranked within cohort. The regressand in columns (6)-(9) is a dummy equal to one if the individual donated to humanitarian aid. The regressand in column (10) is individual's within cohort rank in the distribution of donations to humanitarian aid (i.e., the relative amount they donated to humanitarian aid). In column (1) and (6), the estimates are from a linear probability model instead of a probit model. In column (2) and (7), the estimates are weighted by individuals' probability of participating in the experiment predicted by gender, age, immigration status, income, wealth, years of education, relationship status, dependent children and municipality dummies. In column (3) and (8), the preference measures are replaced by parametric estimates of preferences based on individuals' decisions in the experiment (this is explained in *SI text*, Estimation of structural preference parameters). In column (4) and (9), the control variables are standardized within cohort instead of ranked within cohort. In columns (1)-(3) and (6)-(9), the estimates are the percentage point change in the likelihood of supporting public redistribution and donating to humanitarian aid, respectively, when moving from the bottom to the top of the independent variable's distribution. In columns (4) and (9), the estimates are the percentage point change in support for public redistribution and donations to humanitarian aid, respectively, from increasing the independent variable by one standard deviation. In columns (5) and (10), the estimates are the percentile increase in the support for public redistribution distribution and amount donated to humanitarian aid distribution, respectively, when moving from the bottom to the top of the independent variable's distribution. The demographic controls include age, dummy for being female, a dummy for being an immigrant, a dummy for being single and a dummy for having dependent children. Robust standard errors in parentheses. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table S4. Regressions on the extensive and intensive margin of private redistribution

| | A. Donate to humanitarian aid | | | | B. Donate to any charity | | | |
|---|-------------------------------|------------------|----------------------|---------------------|--------------------------|------------------|----------------------|----------------------|
| | Extensive margin | | Intensive margin | | Extensive margin | | Intensive margin | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Advantageous inequality aversion | 10.1*** (1.2) | 7.9*** (1.1) | 40845** (19290) | 38130* (19537) | 10.5*** (1.5) | 9.0*** (1.5) | 43660*** (15122) | 41194*** (15342) |
| Disadvantageous inequality aversion | -8.7*** (1.2) | -5.6*** (1.2) | -60847*** (18258) | -48162** (18981) | -6.8*** (1.5) | -4.4*** (1.5) | -62033*** (14173) | -51880*** (14132) |
| Income | 7.3*** (1.2) | 4.5*** (1.2) | 74176*** (18007) | 57898*** (19278) | 8.4*** (1.5) | 6.5*** (1.6) | 70901*** (13944) | 59414*** (14597) |
| Wealth | | -0.1 (1.1) | | 40096** (17785) | | -1.1 (1.5) | | 39322*** (13871) |
| Education length | | 6.7*** (1.2) | | -25999 (19194) | | 6.9*** (1.6) | | -2298 (14962) |
| School GPA | | 7.1*** (1.2) | | 32656 (20154) | | 7.0*** (1.5) | | 35913** (15059) |
| Belief about cause of income inequality | | -7.3*** (1.2) | | -31613* (17802) | | -8.8*** (1.5) | | -54167*** (13646) |
| Patience | | -0.1 (1.1) | | -7709 (18210) | | 0.6 (1.5) | | -12837 (13817) |
| Risk aversion | | -1.6 (1.1) | | -7439 (17511) | | 0.0 (1.5) | | -9057 (13470) |
| Demographic controls | No | Yes | No | Yes | No | Yes | No | Yes |
| Municipality FE | No | Yes | No | Yes | No | Yes | No | Yes |
| Observations | 8952 | 8848 | 1112 | 1112 | 8952 | 8952 | 1844 | 1844 |

Note: In columns (1)-(2), the regressand is a dummy equal to one for individuals, who donated to humanitarian aid in 2017. The baseline is 12%. In columns (3)-(4), the regressand is the amount donated to humanitarian aid in 2017 in DKK. The estimation is restricted to individuals who donated to humanitarian aid in 2017. The average amount donated conditional on donating is DKK 1524. In columns (5)-(6), the regressand is a dummy equal to one for individuals, who donated to any charity excluding religious organizations in 2017. The baseline is 21%. In columns (7)-(8), the regressand is the amount donated to charity in 2017 in DKK. The sample is restricted to individuals who donated to charities in 2017. The average amount donated conditional on donating is DKK 1384. The independent variables are ranked within cohort from 1 to 100. The coefficients in columns (1)-(2) and (5)-(6) show marginal effects and reflect the percentage point change in the likelihood of donating to humanitarian aid and charity, respectively, when moving from the bottom to the top of the independent variable's distribution. The estimates in columns (3)-(4) and (7)-(8) are the increase in amount donated in DKK when moving from the bottom to the top of the independent variable's distribution. The demographic controls include age, dummy for being female, a dummy for being an immigrant, a dummy for being single and a dummy for having dependent children. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table S5. Main regressions when including socioeconomic status of parents

| | Public redistribution | | Private redistribution | |
|---|-----------------------|-------------------|------------------------|------------------|
| | (1) | (2) | (3) | (4) |
| Advantageous inequality aversion | 10.8*** (2.2) | 10.7*** (2.2) | 8.0*** (1.3) | 7.8*** (1.3) |
| Disadvantageous inequality aversion | 8.3*** (2.3) | 8.2*** (2.3) | -5.9*** (1.3) | -5.4*** (1.3) |
| Income | -26.9*** (2.4) | -26.4*** (2.4) | 3.2** (1.4) | 3.4** (1.4) |
| Wealth | -4.3* (2.2) | -3.9* (2.3) | 0.1 (1.3) | -0.3 (1.3) |
| Education length | 3.8 (2.4) | 4.3* (2.5) | 6.8*** (1.4) | 5.7*** (1.4) |
| School GPA | -2.6 (2.3) | -2.2 (2.4) | 8.5*** (1.4) | 7.4*** (1.4) |
| Belief about cause of income inequality | -44.6*** (2.3) | -44.3*** (2.3) | -6.4*** (1.3) | -6.4*** (1.3) |
| Patience | 1.3 (2.2) | 1.2 (2.2) | -0.3 (1.3) | -0.5 (1.3) |
| Risk aversion | -1.3 (2.2) | -1.4 (2.2) | -1.0 (1.3) | -1.1 (1.3) |
| Parent income | | -11.1*** (2.6) | | -0.8 (1.5) |
| Parent wealth | | -0.7 (2.3) | | 0.2 (1.3) |
| Parent education | | 6.6*** (2.5) | | 7.1*** (1.5) |
| Demographic controls | Yes | Yes | Yes | Yes |
| Municipality FE | Yes | Yes | Yes | Yes |
| Observations | 7088 | 7088 | 6748 | 6748 |

Note: The sample is restricted to individuals not older than 55 yrs for whom parental information exists. The regressand in columns (1) and (2) is a dummy equal to one if the individual supports public redistribution. The baseline is 54%. The regressand in columns (3) and (4) is a dummy equal to one if the individual donated to humanitarian aid. The baseline is 12.1%. The coefficients show marginal effects. The independent variables are ranked within cohort from 1 to 100. The estimates are the percentage point change in the likelihood of supporting public redistribution and donating to humanitarian aid, respectively, when moving from the bottom to the top of the independent variable's distribution. The demographic controls include age, dummy for being female, a dummy for being an immigrant, a dummy for being single and a dummy for having dependent children. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table S6. Main regressions by income groups

| | Public redistribution | | | Private redistribution | | |
|-------------------------------------|-----------------------|----------------------|--------------------|------------------------|----------------------|--------------------|
| | (1) Low income | (2) Middle income | (3) High income | (4) Low income | (5) Middle income | (6) High income |
| <i>Panel A: Without controls</i> | | | | | | |
| Advantageous inequality aversion | 10.8*** (3.1) | 15.1*** (3.2) | 10.0*** (3.1) | 9.4*** (1.9) | 12.1*** (2.1) | 8.7*** (2.2) |
| Disadvantageous inequality aversion | 12.1*** (3.1) | 8.6*** (3.2) | 9.8*** (3.3) | -7.6*** (1.8) | -6.6*** (2.1) | -12.5*** (2.3) |
| Income | -8.2 (9.2) | -21.3** (9.5) | -71.2*** (9.6) | 6.5 (5.4) | 1.6 (6.2) | 10.2 (6.6) |
| <i>Panel B: With controls</i> | | | | | | |
| Advantageous inequality aversion | 9.9*** (3.3) | 11.8*** (3.4) | 7.4** (3.3) | 8.7*** (1.9) | 10.1*** (2.2) | 7.8*** (2.2) |
| Disadvantageous inequality aversion | 10.7*** (3.4) | 6.6* (3.4) | 9.5*** (3.7) | -6.0*** (1.9) | -4.9** (2.2) | -7.2*** (2.4) |
| Income | -3.0 (9.6) | -19.4* (10.0) | -55.6*** (10.4) | 4.6 (5.5) | -2.6 (6.3) | 12.3* (6.8) |
| Observations | 2983 | 2986 | 2983 | 2983 | 2986 | 2983 |

Note: The regressions are estimated by income groups. Individuals below the 33rd percentile in the income distribution of their cohort are in the low income group, individuals between the 33rd and 66th percentile are in the middle income group, and individuals with income above the 66th percentile are in the high income group. In columns (1)-(3), the regressand is a dummy equal to one if the individual supports public redistribution. 64% support redistribution among the low income, 58% among the middle income, and 43% among the high income. In columns (4)-(6), the regressand is a dummy equal to one if the individual donated to humanitarian aid in 2017. 9% donated to humanitarian aid among the low income, 13% among the middle income, and 15% among the high income. Panel A shows estimates from regressions without any controls and panel B shows estimates from regressions with controls. The controls are wealth, education length, school GPA, belief about the causes of income inequality, patience, risk aversion, age, dummy for being female, a dummy for being an immigrant, a dummy for being single, a dummy for having dependent children, and municipality fixed effects. The independent variables are ranked within cohort from 1 to 100. The coefficients show marginal effects and reflect the percentage point change in the likelihood of supporting public redistribution and donating to humanitarian aid, respectively, when moving from the bottom to the top of the independent variable's distribution. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table S7. Regressions on alternative outcomes

| | (1) Help poor | (2) Help unemployed | (3) Help disabled | (4) Help those in financial trouble |
|---|-------------------|------------------------|----------------------|--|
| Advantageous inequality aversion | 14.7*** (1.9) | 5.1*** (1.5) | 3.5*** (1.0) | 3.5*** (0.8) |
| Disadvantageous inequality aversion | -8.1*** (2.0) | 2.3 (1.6) | 0.2 (1.0) | -0.4 (0.8) |
| Income | -18.4*** (2.1) | -10.9*** (1.7) | -1.5 (1.1) | -4.4*** (0.8) |
| Wealth | -14.1*** (1.9) | -5.2*** (1.6) | -0.7 (1.0) | -2.1*** (0.8) |
| Education length | 8.7*** (2.1) | 5.2*** (1.7) | -0.3 (1.1) | 1.6* (0.8) |
| School GPA | 4.4** (2.0) | -3.4** (1.6) | -2.2** (1.1) | 1.5* (0.8) |
| Belief about cause of income inequality | -37.8*** (2.0) | -17.5*** (1.6) | -2.6** (1.0) | -7.4*** (0.8) |
| Patience | -4.1** (1.9) | -1.7 (1.6) | -1.3 (1.0) | -1.0 (0.8) |
| Risk aversion | 1.4 (1.9) | 1.8 (1.6) | 1.1 (1.0) | -0.8 (0.8) |
| Demographic controls | Yes | Yes | Yes | Yes |
| Municipality FE | Yes | Yes | Yes | Yes |
| Observations | 8952 | 8946 | 8878 | 8778 |

Note: In column (1), the regressand is a dummy equal to one if individuals responded 1 or 2 to the question "Some people think that the public sector should do everything it can to raise the standard of living for those who are poor. Other people think that it is not a public responsibility, and that the individual should fend for himself/herself. What is your opinion?", where answer options ranged from "1-The public sector should do everything it can to raise the standard of living for those who are poor." to "5-The individual should fend for himself/herself." The baseline is 41.1%. In column (2), the regressand is a dummy equal to one if the individual agreed with the statement "The government should do more to help people who become unemployed." The responses were given on a scale from 1 (strongly disagree) to 7 (strongly agree). Responses from 4 to 7 are assumed to agree with the statement. The baseline is 77.4%. In column (3), the regressand is a dummy equal to one if the individual agreed with the statement "The government should do more to help people who get sick or become disabled or otherwise lose their ability to work." Responses are given on a scale from 1 to 7 and responses from 4 to 7 are assumed to be in agreement with the statement. The baseline is 91.6%. In column (4), the regressand is a dummy equal to one if individual responded 4 or 5 to the question "People who are impulsive can end up in debt or with no pensions savings. Some people think that it is their own responsibility, some people think that the government should help them? What do you think?", where answer options ranged from "1-own responsibility" to "5-responsibility of government". The baseline is 5.9%. The coefficients show marginal effects. The independent variables are ranked within cohort from 1 to 100. The estimates are the percentage point change in the likelihood of supporting public redistribution when moving from the bottom to the top of the independent variable's distribution. The demographic controls include age, dummy for being female, a dummy for being an immigrant, a dummy for being single and a dummy for having dependent children. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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