Other-regarding Preferences and Redistributive Politics

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Abstract

Increasing inequality and associated egalitarian sentiments have again put redistribution on the political agenda. Support for redistribution may also be affected by altruistic and egalitarian preferences, but knowledge about the distribution of these preferences in the broader population and how they relate to political support for redistributive policies is still scarce. In this paper, we take advantage of Swiss direct democracy, where people voted several times in national plebiscites on strongly redistributive policies, to study the link between other-regarding preferences and support for redistribution in a broad sample of the Swiss population. Based on a recently developed non-parametric clustering procedure, we identify three disjunct groups of individuals with fundamentally different other-regarding preferences: (i) a large share of inequality averse people, (ii) a somewhat smaller yet still large share of people with an altruistic concern for social welfare and the worse off, and (iii) a considerable minority of primarily selfish individuals. Controlling for a large number of determinants of support for redistribution, we document that inequality aversion and altruistic concerns play an important role for redistributive voting that is particularly pronounced for above-median income earners. However, the role of these motives differs depending on the nature of redistributive proposals. Inequality aversion has large and robust effects in plebiscites that demand income reductions for the rich, while altruistic concerns play no significant role in these plebiscites.

Key Words: Social Preferences, Altruism, Inequality Aversion, Preference Heterogeneity, Demand for Redistribution

JEL Codes: D31, D72, H23, H24

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1 Introduction

Rising income inequality and the extremely high and salient incomes of top executives have again put income redistribution on the political agenda. In the US, for example, almost all candidates in the democratic presidential primary for the 2020 elections propose plans that involve substantial changes in the distribution of income.[1] Likewise, left-leaning parties in Germany and the UK support various redistributive measures, and Switzerland held four radically redistributive national plebiscites[2] during the last 10 years. One of these plebiscites would have implemented – if supported by a majority – a law that constrains the maximal ratio between the lowest and the highest incomes in a company to 1:12, i.e., a CEO could not have earned more than 12 times the wage of, say, a janitor. Although this initiative did not pass, it was nevertheless supported by a non-negligible share (34.7%) of the voters.

What motivates citizens to support redistributive policy proposals? Clearly, households with low current and expected future incomes that may benefit economically from redistribution have a self-interested reason to support them, but affluent households often also support redistributive measures. This suggests that other-regarding (i.e., "social") preferences – the weight individuals put on other people's incomes – may also play a role. In this paper, we examine the extent and the ways in which other-regarding preferences support redistributive policy proposals. We are, in particular, also interested in how the fundamental properties of voters' other-regarding preferences (e.g., their concern for the worse off versus their concern for equality) inform us about the specific type of redistribution that they support. For example, voters whose social preferences are characterized by a concern for the worse off may show little support for proposals with the primary goal to tax the rich, while inequality averse voters may well support such a proposal.

Our study is motivated by experimental and field evidence suggesting that a non-negligible share of subjects displays a concern for social welfare and the worse off (e.g., Andreoni and Miller, 2002; Charness and Rabin, 2002; Engelmann and Strobel, 2004; Fisman et al., 2007, 2015; DellaVigna et al., 2012) or for equality (e.g. Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Dawes et al., 2007; Bellemare et al., 2008). To date, knowledge about the overall distribution of social preferences like inequality aversion and social welfare concerns in the adult population and the extent to which they are related to actual political support for redistributive proposals is still relatively rare (though see Fisman et al., 2017; Kerschbamer and Müller, 2020; Almås et al., 2019).

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[1]Almost all democratic candidates support a doubling of the federal minimum wage, a substantial increase in health care provision, and universal nationally paid family and medical leave programs. And a substantial number of them support new and/or considerably increased taxation of rich households.

[2]Plebiscites are also called "*popular initiatives*". We use the two terms interchangeably.

We measure social preferences in a sample of the Swiss population ($n \approx 800$) that is broadly representative for the German and French speaking part of Switzerland – which comprises 90% of the Swiss population – in terms of age, gender, geographical area, income, and education. We focus on Switzerland because, as we argue below, the direct democratic institutions of this country offer several advantages in studying the role of social preferences for redistributive policy. We elicit other-regarding preferences using a large set of incentivized choice situations where respondents have to decide how to allocate money between themselves and another participant of the study. Based on individuals' overall behavior, we identify a small number of distinct preference classes using a novel Bayesian non-parametric clustering method (Kulis and Jordan, 2012) that requires neither assumptions about pre-existing social preferences nor assumptions about the error (noise) structure.[3] This Bayesian procedure infers the prevailing social preference types in the population using only the subjects' overall behavioral patterns in the money allocation task, and endogenously assigns each individual to one of the identified types. We then link individuals' assignments to social preference types to their political support for four different redistributive plebiscites – the 1:12 initiative, an initiative to increase tax rates for rich citizens ("fair taxes initiative"), the minimum wage initiative and the initiative for an unconditional basic income. We measure political support in an online survey and our regressions linking social preferences to political support control for large number of socio-demographic characteristics and other determinants of policy preferences previously discussed in the literature (e.g., in Meltzer and Richard, 1981; Piketty, 1995; Benabou and Ok, 2001; Fong, 2001; Alesina and Angeletos, 2005; Alesina and La Ferrara, 2005; Kuziemko et al., 2015; Giuliano and Spilimbergo, 2013; Cruces et al., 2013; Karadja et al., 2017; Alesina et al., 2018).

The Swiss direct democratic set-up offers several advantages for studying voters' support for redistribution. First, it unbundles redistributive proposals from other policy goals that may confound the voters' support for redistribution. In a representative democracy, people do not vote on specific redistributive policy proposals. Instead, they can only vote for parties or candidates. However, parties and candidates always represent a bundle of different policy proposals. It is, therefore, not clear whether voters support a candidate because of her position on redistribution or because of other aspects in her program (e.g., foreign policy, religion, abortion, etc.). In contrast, every voter or civic organization under the Swiss direct democratic institutions can initiate a national plebiscite for a particular redistributive policy

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[3]While the advantages of being able to infer preference classes and individuals' assignment to classes without constraints on the structure of utility functions are transparent, the advantage of avoiding assumptions about the structure of error terms (i.e., utility noise) seem less obvious. However, it has been shown in the domain of risk preferences that assumptions about the utility noise in random utility models are not innocuous. For instance, Buschena and Zilberman (2000) showed that assuming homoscedastic errors for the same data set supports non-expected utility models, while expected utility models cannot be improved upon when heteroscedasticity is allowed.

if they can collect at least 100'000 signatures in support of it.[4]

Second, in a national plebiscite, voters can decide about a concrete amendment to the constitution such that – if a majority supports the proposal – the change becomes effective.[5] The voters thus know that exactly this change will be implemented if a majority supports it. In other words, once an initiative is up for vote, there is little opportunity for opaque backroom deals that involve unknown implicit promises between politicians that increase the overall cost of the redistributive policy.[6] This also means that general distrust of politics and the government is less likely to play a mitigating role in people's support for redistributive policies in Switzerland. This aspect is important in light of recent work showing that such mistrust reduces general support for redistributive policies (Kuziemko et al., 2015). In the presence of such mistrust, people with other-regarding preferences (e.g., a concern for the poor) may not support politically enforced redistribution.

Finally, the fact that we elicit individuals' support for redistributive proposals that are identical or very similar to previous national plebiscites allows us to validate the aggregate support for the policies expressed in our survey with the aggregate support that this policy actually received in previous plebiscites. For example, by correlating the actual support for a policy in the plebiscite across municipalities or geographic regions with the expressed support in the survey, we can assess the external validity of the survey responses. In addition, we also validate the survey responses by giving individuals the option to donate real money to organizations that support or oppose redistribution. Both validation exercises support the view that the survey responses provide us with valid information about individuals' political support for redistribution.

The application of the Bayesian non-parametric clustering approach to people's choices in the money allocation task indicates the existence of *three fundamentally different classes of other-regarding preferences* in our population. A large share of individuals ($\approx$ 50%) makes predominantly egalitarian choices, i.e., they indicate that they care about equality in addition to their self-interest. In the domain of advantageous inequality, i.e., when the available payoff allocations give them a higher payoff compared to the individual with whom they are paired, these subjects are willing to sacrifice some of their own payoff to increase equality. Likewise, in the domain of disadvantageous inequality, where the other individual has generally a higher payoff, they are willing to reduce the other individual's payoff at a cost to themselves if this leads to more equality. Thus, merely by inspecting the behavioral patterns of this group – and without making structural assumptions about utility functions and noise – these

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[4]For a more detailed description of Swiss direct democracy see Funk (2010), Funk and Gathmann (2011) or Funk and Gathmann (2011).

[5]The 12:1 initiative proposed, for example, an additional paragraph in the Swiss constitution that contained the following formulation: "The highest paid wage in a firm must not be higher than twelve times the lowest wage paid by this firm".

[6]In representative democracies, unrelated laws and spending bills are often linked during such negotiations, which lead to so called "Christmas tree legislation", "pork-barreling" and other forms of vote buying.

individuals can be classified as *inequality averse* in the sense of Fehr and Schmidt (1999) or Bolton and Ockenfels (2000).[7]

The second largest group, comprising roughly 35% of our sample, displays a strikingly different other-regarding pattern. These individuals are basically never willing to reduce the other player's payoff even if the other player receives much more. Moreover, these individuals are to a large degree willing to transfer money to the other player if the other player's monetary gain is higher than their own monetary cost, i.e., if the transfer increases the sum of payoffs – and they do so even if that increases inequality. In addition, many of these individuals are also willing to increase the other player's payoff in the domain of advantageous inequality even if this reduces the overall pie, thus showing a concern for the worse off. Their behavior is therefore very consistent with a concern for *social welfare and the worse off* as defined by Charness and Rabin (2002) as well as with *other-regarding CES-preferences* that incorporate an equity-efficiency trade-off as modelled by Fisman et al. (2007, 2015).[8] For simplicity, we label this type as motivated by *altruistic social welfare concerns*. Finally, the third type is characterized by *predominantly self-interested* individuals who generally do not care much about the others' payoffs. These individuals comprise roughly 15% of the sample.

To examine the role of inequality aversion and social welfare concerns in redistributive politics, we construct an aggregate index of support for redistribution by averaging an individual's support for redistribution over all four redistributive plebiscites. In addition, we elicited individuals' support for a placebo plebiscite – a national plebiscite that does not involve any redistributive issues[9]. Therefore, if our social preference measures are specific to issues of distribution, they should play no role in the placebo plebiscite.

Our results show that both inequality aversion and social welfare concerns play a substantial role in individuals' support for redistribution – even after controlling for a large battery of covariates. On average, inequality averse individuals are 11 percentage points more likely to vote in favor of redistribution compared to predominantly selfish individuals and individuals with social welfare concerns are 9 percentage points more likely to favor political redistribution. The magnitude of these effects is large when we compare it with the role

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[7]Two of the authors of this paper have also been involved in measuring individuals' social preferences, and assigning them into different preference types with the same Bayesian non-parametric procedure, in a large sample of the Danish population ($n \approx 4000$). The same three preference classes as identified in the Swiss population also show up in the Danish population although the size of the different preference classes is different. For example, the share of inequality averse individuals in the Danish sample is "only" roughly 35%.

[8]In the model of Charness and Rabin (2002), individuals care for their own payoff, the sum of payoffs, *and* the payoff of the worse-off individual (in the two-person case). The CES approach to other-regarding preferences (Fisman et al., 2007, 2015) is sufficiently general to incorporate Charness-Rabin preferences because it allows for (i) the extreme case where the individual cares only for his/her own payoff and the sum of payoffs, (ii) the extreme case where he/she only cares for equality (the "Rawlsian" case) in the sense that the individual is willing to give up resources to *increase* the other player's payoff, and (iii) any combination of (i) and (ii). Note, however, that other-regarding CES preferences do not capture inequality aversion because they rule out individuals that are willing to pay to *reduce* another's income for the sake of achieving equality.

[9]The placebo plebiscite intended to change how federal judges are selected.

played by other covariates. For example, individuals with an income *below* the median are about 7 percentage points more likely to support redistribution than individuals earning an income *above* the median. In contrast, social preferences do *not* affect support for the placebo plebiscite, suggesting that they specifically capture distributive concerns.

In a further step, we examine whether the role of social preferences is income-dependent. We hypothesize that the effect of other-regarding preferences might be diluted among individuals with lower incomes, as they typically have selfish reasons to favor redistribution. If self-interest already induces individuals with lower incomes to vote disproportionately strongly for redistribution, then other-regarding preferences may not add much to this decision. It might therefore be difficult to identify a differential effect of social preferences for low-income individuals. In contrast, selfish motives and other-regarding preferences make opposing predictions for affluent individuals: Since affluent individuals will most likely have to pay for redistribution, they have a selfish reason to oppose it. However, they might endorse more redistribution if they are sufficiently averse to inequality or have a concern for the worse off, even if this is costly for them. We show that this is indeed the case. While social preferences do not significantly predict political support for redistribution among individuals with an income below the median, they have a very strong effect among individuals with an income above the median. More specifically, affluent (i.e., above median income) individuals who are inequality averse are about 20 percentage points more supportive of redistribution than affluent individuals who are predominantly selfish. Likewise, affluent individuals with a concern for social welfare are 13 percentage points more supportive of redistribution than affluent individuals who are predominantly selfish.

Finally, our results also indicate how insights into the fundamental properties of social preferences can help us better understand the nature of the support for specific redistributive policy proposals. In particular, inequality concerns and social welfare concerns diverge sharply with regard to redistribution that is primarily perceived as being about reducing the income of the rich. We would thus expect inequality averse individuals to support national plebiscites that primarily aim at constraining the incomes of the rich, while those who are motivated by social welfare concerns have less reason to vote for them. In fact, this conjecture receives considerable support in our data.

Our paper contributes and is related to different bodies of research. It is, first, related to the large literature on social preferences mentioned above and, in particular, the literature on the structural estimation of the overall distribution of social preferences in broad population samples (e.g. Bellemare et al., 2008, 2011; Fisman et al., 2015), and the literature that relates social preferences to issues of political economy (e.g. Tyran and Sausgruber, 2006; Dawes et al., 2012; Durante et al., 2014; Fisman et al., 2017; Kerschbamer and Müller, 2020; Almås et al., 2019). However, none of these studies examined the role of social preferences on redistributive proposals that were actually up for voting in real referenda where subjects could express their

voting preferences with regard to widely discussed and specific redistributive proposals.[10]

We also differ from this literature by providing a parsimonious classification of individuals to endogenously determined behavioral types that enables a characterization of the distribution of social preferences in terms of individuals' assignment to a small number of disjunct preference groups. While the previous structural estimation literature made assumptions on pre-existing preferences such as inequity aversion (Bellemare et al., 2008), intention-based reciprocity (Bellemare et al., 2011), or other-regarding CES preferences (Fisman et al., 2015, 2017), the application of a non-parametric clustering method makes it possible to identify the fundamental behavioral patterns of disjunct preference groups without structural assumptions on preferences and noise. In this context, we also show that a good segregation into disjunct preference types can be achieved with a rather small number of choice problems. While our clustering results are based on 14 choice problems in the current study, we show in the appendix that 4-5 choice problems are already sufficient to achieve a good approximation of the distribution of social preferences. In fact, the role of social preferences in redistributive voting remains very similar if one applies the clustering method to a smaller number of choice problems. We therefore believe that the method we used can be applied productively in future research on social preferences in large population samples (where survey time and space is often tightly constrained). It may even be possible to extend it to determine the type distribution for other preference domains (e.g., risk and time preferences).

Second, our study contributes and is related to the growing body of research that examines the empirical determinants of demand for redistribution (see Alesina and Giuliano, 2011, for a review). This literature has proposed and identified a list of important factors in the demand for redistribution: individuals' current income as well as future income prospects (Alesina and La Ferrara, 2005), beliefs and biases regarding income mobility (Piketty, 1995; Benabou and Ok, 2001; Benabou and Tirole, 2006; Alesina et al., 2018), beliefs about whether luck or effort are primarily responsible for individual success (e.g. Fong, 2001; Alesina and Angeletos, 2005), a history of personal misfortune (Giuliano and Spilimbergo, 2013), mistrust in politicians and the government (Kuziemko et al., 2015), individuals' risk aversion (Gärtner et al., 2017), beliefs and biases about the prevailing income distribution and individuals' relative income standing (Cruces et al., 2013; Karadja et al., 2017), or belonging to demographic groups (such as the elderly and African-Americans in the US) that have become more averse

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[10]Tyran and Sausgruber (2006) and Durante et al. (2014) examine the role of social preferences on the demand for redistribution in laboratory voting games. Dawes et al. (2012) relate subjects' decisions in a single dictator game to their party preferences and their self-reported classification on a political left-right scale. Fisman et al. (2017) estimate individuals' social preferences under the assumption that other-regarding preferences are CES and relate these preferences to subjects' self-reported voting for Obama in the 2012 presidential election. Kerschbamer and Müller (2020) measure preferences with a method that generates 9 different social preference types. Then, they relate these preferences to subjects' answers to relatively general hypothetical questions such as "should the government mitigate income differences?". Almås et al. (2019) show that there are substantial differences in social preferences between Norwegians and US-Americans in a third-party redistribution game and relate these results to differences in redistributive policies across the two countries.

to redistribution over time (Ashok et al., 2015). However, none of these studies has measured and examined the role of inequality aversion and altruistic concerns for social welfare in the demand for redistribution. Thus, in view of the fact that these types of social preferences appear to play a significant role and are widely present in the population, we believe that our study contributes to this literature by providing an improved understanding of citizens' political demand for redistribution.[11]

2 Research design

2.1 Institutional setting

Switzerland is a confederation of 26 member states that are called cantons. A key element of the Swiss political system is direct democracy: adult Swiss citizens regularly vote on a variety of specific topics. Votes take place at the national, cantonal, and municipal levels and typically occur four times a year.[12] Votes tend to be extensively covered in the media, and debates about politics are very common between friends, family, and colleagues. Over a period of 3-4 months before a national plebiscite, for example, the benefits and costs of the proposed law change are widely discussed on TV, the newspapers, the social media, and the general population. Each voter also receives a booklet with his or her ballot that provides detailed information on the plebiscite, including the positions of the Swiss Federal Council, the parliament, and the group that initiated the plebiscite about one month before the vote. Therefore, voters are more likely to be informed about the benefits and the costs of the proposal and how to weigh them towards the end of this deliberation period than at the beginning because they have heard the various pros and cons multiple times.

The public discussion and deliberation that happens in the period before the vote also tends to affect the voters' support for the policy proposals. Very often, the aggregate opinion of the voters declines considerably during this period, in particular for "populist" proposals with high emotional appeal. This downward trend is often observed in national polls con-

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[11]Our study also corroborates several findings from the literature mentioned in this paragraph. We also find, for example, that individuals' incomes, a history of unemployment, or not being in the labor force matter for their political support for redistribution. In addition, individuals' views about the sources (i.e., luck versus effort) of success and mistrust in politicians have a sizeable influence on their support for political redistribution.

[12]There are two different types of votes: *plebiscites* (also called *popular initiatives*) and *referenda*. A plebiscite is a proposal to amend the constitution. Any member of the electorate can launch an initiative. For an initiative to be put to vote, it must first receive the support of 100,000 eligible voters (i.e. 100,000 signatures) within 18 months. In order to be accepted, a popular initiative needs to be accepted by a) the majority of the electorate and b) the majority of the cantons (the so-called *double majority*). Referenda are votes that (might) automatically take place when the parliament passes new laws. There are two type of referenda. An *optional referendum* can be launched by a member of the Swiss electorate to oppose any law passed by the parliament. For an optional referendum to be put to vote, it must first receive the support of 50,000 eligible voters (i.e. 50,000 signatures) within 100 days and to be accepted, it needs to receive the votes of the majority of the Swiss citizens. A *mandatory referendum* typically takes place when the parliament decides to amend the constitution. These modifications are automatically put to vote and must be accepted by a double majority in order to be implemented.

ducted with representative samples of swiss voters up to 2 months before the vote (see the 'SRG-Trend' surveys run by the institute gfs.bern). For example, the average support for the four proposals that we included in our study (for details, see below) decreased from 41.5% in the first representative survey of likely voters to 31% in the actual vote. In contrast, the average opposition increased from 47.8% in the first survey to 69% in the actual vote. This pattern suggests that the (perceived) cost of a redistributive policy may end up looming larger than its perceived benefits after a long public deliberation. In our study, we exploit this fact by reminding respondents of the previous plebiscites when we elicit their support for specific proposals. This reminder can be viewed as a priming device that is likely to trigger the pros and cons the individuals heard during the deliberation period, and move the elicited support for the proposal closer to what individuals would actually vote in the plebiscite.

2.2 The online survey

The primary goal of the online survey was the measurement of social preferences and political support for redistribution. In addition, we collect demographic information and measure other important determinants of support for redistribution that have been identified in the literature. We describe each of these measures separately below.

Measuring other-regarding preferences

We measured social preferences using a considerable number of money allocation tasks ("dictator games"). In each dictator game, the participant had to decide how to allocate experimental currency units (ECUs) between herself and an anonymous other participant of the study. One choice situation was randomly chosen for payment at the end of the online survey (with 100 ECUs = CHF 2.5). To make the trade-offs involved in a choice situation transparent, we represented the available choices numerically and graphically. Figure 1a provides an example of how we presented a choice situation to the subjects. Each available allocation consisted of a specific distribution of ECUs between the participant (bars labeled by "You receive") and the other person (bars labeled by "other person receives"). The figure shows that subjects could easily grasp the distributional and total payoff implications of the available choice options. There were always seven interpersonal allocations (labeled by 1 to 7) available per choice situation, and all of them were located on a budget line. Figure 1b plots the budget line corresponding to the example depicted in Figure 1a in the "self-payoff (w_{own}) – other's payoff (w_{other})" space. In this example, the slope of the budget line is -2, indicating that for every ECU the dictator gives up, the other player receives 2 ECUs. Perfect equality in payoffs can be achieved by choosing allocation 4.[13]

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[13]Since the average amount of ECU's at stake across all choice situations was roughly 750, the graphical representation scaled all ECU amounts relative to 750 (i.e. 750 represented 100%). For example, a payoff of 950 was represented by a (950/750) = 1.267 times larger bar than a payoff of 750.
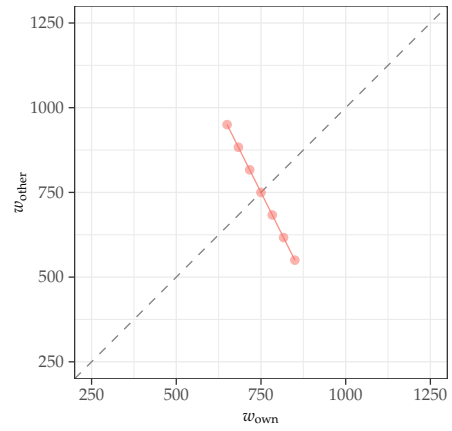
Figure 1: Example choice situation
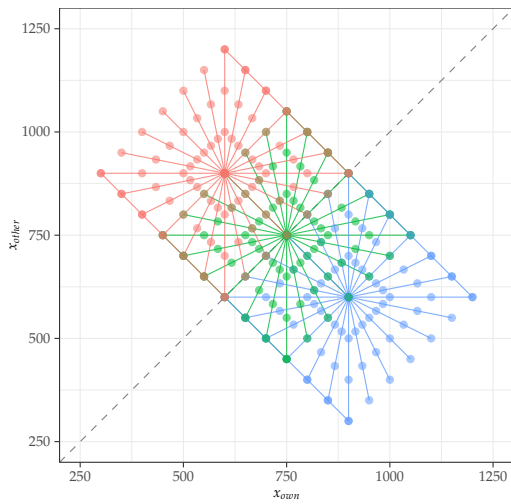
(a) Decision screen
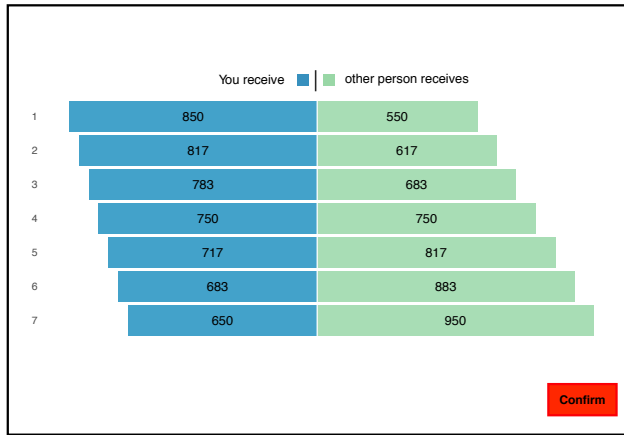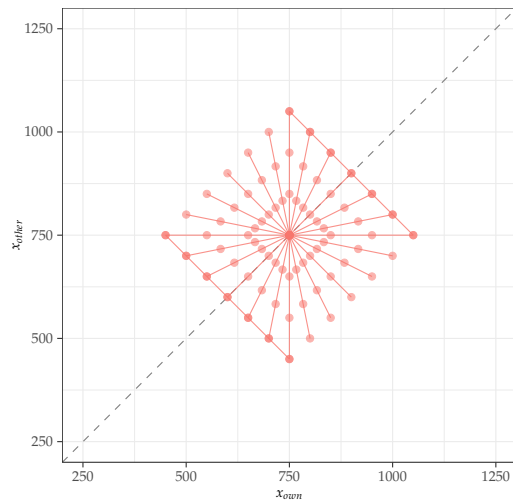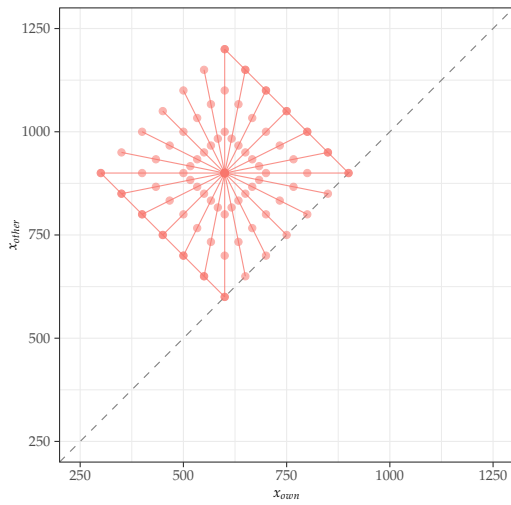

(b) Budget line

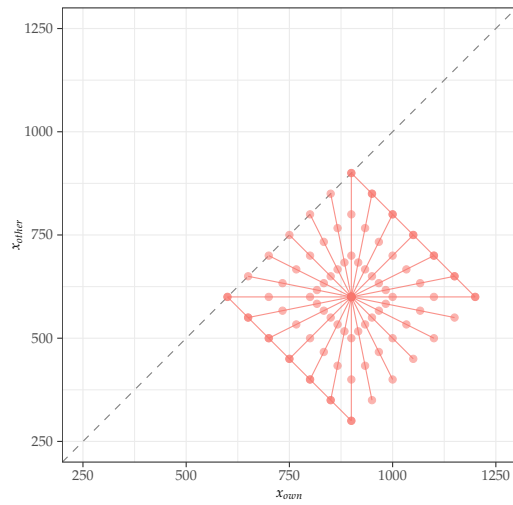Figure 2: Budget lines

(a) All Budgets

(b) Center Budgets

(c) North Budgets

(d) South Budgets

We used a subset of 14 dictator games to identify social preference types and the distribution of individuals across types. An additional set of dictator games were then used to assess the validity of the identified types with out-of-sample predictions. The set of budget lines used in the money allocation task is presented in Panel a of Figure 2. The budget lines associated with these choice situations varied both in location and in slope. Precise information on the different choice situations is given in Appendix A.1. The choice situations appeared in individualized random order on subjects' screens. It is noteworthy that some of the budget lines involved an equal allocation of payoffs (e.g. (750, 750)) as an option, while others did not. One key feature of the set of budget lines is that they have both positive and negative slopes. Negatively sloped budget lines with different slopes enable us to measure individuals' willingness to pay to increase the other's income, while positively sloped budget lines make it possible to measure subjects' willingness to pay to reduce others' income for the sake of, e.g., achieving a higher level of equality.

Another key feature of our design is that the set of budget lines comprises situations in which the decision-maker is always (weakly) worse off (Figure 2c, north bundle) and situations in which she is always (weakly) better off than the other person (Figure 2d, south bundle). The north bundle thus enables the measurement of social preferences in the domain of disadvantageous (from the decision maker's viewpoint) inequality, while the south bundle allows for the identification of preferences in the domain of advantageous inequality.

To identify the different preference types and individuals' assignments to types in our broad population sample, we use the 14 budget lines in the center bundle (Figure 2b). We focus on the center bundle for two reasons: First, by applying the Bayesian non-parametric clustering method to choices in the center bundle, we can use the resulting preference types to predict their behavior out-of-sample in the north and the south bundles. This prediction exercise allows us to validate our behavioral interpretation of the emerging types. For example, an inequality averse type who predominantly chooses the egalitarian allocation in the center bundle should predominantly implement allocations that minimize inequality in the south *and* the north bundles, even though this implies – for negatively sloped budget lines – that subjects have to minimize their own payoff in the south bundle while they have to maximize their own payoff in the north bundle. Likewise, a preference type with a concern for social welfare, i.e. one who does not care for equality but for the total payoff of both players, should show this concern not only in the center bundle but also in the north bundle, where disadvantageous inequality becomes very large.

Second, identifying the distribution of social preferences with a smaller set of choice situations (i.e., the center bundle) can benefit the adoption of our methodology to settings in which time is more constrained than in our study. The resulting preference types and individuals' assignment to types is most useful if behavior in the center bundle (or a subset of that bundle) is predictive of what individuals will do elsewhere, i.e. for their behavior

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in choice situations in which they are always (weakly) better or worse off than the other participant.

Measuring political support for redistributive proposals

We elicited respondents' political support for four different redistributive proposals. The precise wording of our political support questions is given in Appendix A.3. Two of the proposals presented to the subjects were precisely identical to those that were put to vote in earlier years, and two of them were very similar to earlier plebiscites, i.e., they differed only in one parameter. Below we first describe the original popular initiatives. Then we describe how two of our redistributive proposals differed relative to the original initiative.

The initiative for a fair tax code was put to vote in November 2010. The primary aim of this initiative was to increase the marginal taxes rates for the rich in Switzerland's "tax havens". In Switzerland, taxation occurs at three levels: federal, cantonal, and municipal. Some cantons and some municipalities try to attract rich residents by proposing very low marginal tax rates (both on income and on wealth) even for relatively rich people. The initiative proposed to put an end to this form of tax competition at the cantonal and municipal level by imposing a minimal marginal tax rate of 22% on *all* cantons and municipalities for taxable annual incomes exceeding CHF 250,000. In addition, the initiative demanded a minimal marginal tax rate of 0.5% on taxable wealth exceeding CHF 2 million. Thus, this popular initiative – if accepted – would have substantially increased taxation of the richest 1-2% of Switzerland's taxpayers who are residents of regional or local "tax havens."[14]

The 1 to 12 initiative was put to vote in November 2013. The aim of this initiative was to make sure that the highest salary a company pays does not exceed 12 times its lowest salary.[15] Throughout the campaign, this initiative was largely described by its proponents as an effective way of reducing the ("unfair") salaries the top earners receive. The public debate largely revolved around the salaries earned by the top managers, which are often perceived as abusive, in particular when companies pay them in difficult financial situations. In the official voting booklet edited by the government, the initiative committee motivated the need for the proposed change with the example of an investment banker who received CHF 26 million upon arrival at a large Swiss bank that reported a loss of CHF 2.5 billion at the time.[16]

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[14]At the time, all the municipalities of 8 cantons and some municipalities of 7 cantons had a marginal tax rate on incomes exceeding CHF 250,000 lower than 22%. The Swiss fiscal authorities, based on numbers from 2007, estimated that 32,000 taxpayers (i.e. 1% of the taxpayers) had a taxable income in excess of CHF 250,000. Similarly, in 2007 about 86,000 taxpayers had a wealth exceeding CHF 2 million. In some or all the municipalities of 16 cantons, marginal tax on wealth exceeding CHF 2 million is lower than 0.5%.

[15]The initiative defined income as being both the salary as well as any other payment (in cash, in goods, or in services) that are related to the work an employee does.

[16]"Last year, UBS lost CHF 2.5 billion. At the same time, bonuses exceeded CHF 2.5 billion. Investment banker

The initiative for a minimum wage was put to vote in May 2014. The aim of this initiative was to introduce a minimum wage of CHF 22 per hour worked, i.e. approximately CHF 4,000 per month (CHF 1 ≈ USD 1). This rather high minimum wage would have applied to all workers in Switzerland, and would have been adjusted to the price index over time.[17] The public debate largely focused on the *working poor*. In the media, the initiative committee regularly depicted the situation of workers who finished school and completed an apprenticeship but who nevertheless earn very little. The proponents described the initiative as an effective way to increase the salary of the poorest workers. In the official voting booklet, the initiative committee argues *"that 330,000 humans work hard to earn so little is disgraceful; a real shame in a rich country."* (official voting booklet, p. 33).

The initiative for an unconditional basic income was put to vote in June 2016. The initiative proposed the introduction of a universal basic income to be received by any Swiss citizen. The proponents of the initiative considered an unconditional basic monthly income of CHF 2'500 per adult and CHF 625 per child as an appropriate first step.

We measured respondents' attitudes towards these proposals by asking them to indicate whether they would support or oppose these initiatives, should they be put to vote "this weekend". We described the content of each of these initiatives using a wording very similar to that used in the official voting booklets distributed to every Swiss voter a few weeks before each vote. The respondents could provide one of five possible answers: "Support", "Rather Support", "Don't Know", "Rather Reject", "Reject". We use these answers as measures of political support for each of the four initiatives described above.

We slightly changed the content of the proposed law change for two of the redistributive popular initiatives – the 1:12 and the minimum wage initiative. Instead of eliciting subjects' response to the 1:12 proposal and a CHF 4000 per month minimum wage, we asked them for their response to a 1:20 proposal and a CHF 3000 per month minimum wage. The reason for this was twofold. First, the overall support for 1:12 and for the minimum wage initiative was not very high because they were perceived as very radical.[18] We therefore made the proposals less radical to increase the overall political support for redistribution. Second, by explicitly pointing out this change in the survey we hoped that individuals – while still priming their thoughts about the costs and benefits of the previous proposals – will reconsider

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Andrea Orcel alone received CHF 25 million upon arrival at the bank. The average Swiss worker would need to work 385 years to reach this amount." (p. 11, official voting booklet). The proponents and the opponents of popular initiatives can present their cases in the official voting booklet.

[17]At the time, it was estimated that approximately 330,000 individuals (close to 1 worker out of 10) earned less than CHF 4,000 per month. (official voting booklet, p.28)

[18]The 1:12 initiative was accepted by 34.7% of the voters, and the minimum wage initiative was accepted by 23.7% of the voters.

the costs/benefits ratio in such a way that they will not mechanically repeat their choices from the previous national plebiscites. For example, support for the 1:20 proposal was measured with the following question:

> *In November 2013, Switzerland voted on the 1:12 popular initiative. This initiative wanted to constrain the inequality of wages within firms. The initiative demanded that the highest wage paid in a company not exceed 12 times the lowest wage paid in the company. Suppose that another national plebiscite takes place next weekend, but this time it is a 1:20 initiative, which demands that the highest wage in a company may not exceed 20 times the lowest paid wage. Would you support or reject this initiative? [Answer Categories: Support, Rather Support, Don't Know, Rather Reject, Reject]*

Note that the four popular initiatives differ in terms of their primary goals. The 1:12 and the fair taxes initiative were primarily framed and publicly discussed in terms of reducing income inequality by either imposing higher taxes on the rich (fair taxes initiative) or by constraining the top incomes in companies (1:12 initiative). Hence, a *distaste for inequality* might explain support for these initiatives. Even individuals who must bear economic costs from redistribution might be willing to support these proposals, provided their distaste for inequality is large enough. This focus on taking away money from the rich was basically absent in the minimum wage initiative. The public discourse on the initiative for the unconditional basic income was, however, also strongly focused on the implications for the public budget and the necessary tax increases. Because voters' perceptions about the primary goal of the initiatives is likely to matter for their decisions, we also measured these perceptions in a follow-up survey (see Section 4.5).

Measuring other determinants of political support for redistribution

Throughout the survey, we also collected a large set of additional covariates. Many of them have been mentioned in the previous literature on the political demand for redistribution. As the purpose of our study is to isolate the role played by social preferences, we use these measures as controls in our empirical analyses. However, they also provide further insights about the role of these factors in a political setting that provides ideal conditions for studying the demand for redistribution. The questions used to measure these covariates were distributed throughout the survey, and we also used them to separate the money allocation task from the different questions that measured individuals' political support for the national plebiscites. Details on the measurement of the different covariates can be found in Appendix A.3.

Socio-demographics. We collected data on respondents' age, gender, income, marital status, education, occupation, history of unemployment, and municipality of residence.

Economic preferences and trust in people. We gathered data on four key economic preferences—risk aversion, impatience, and positive and negative reciprocity— as well as a measure of general trust in other people, using the experimentally validated survey questions by Falk et al. (2016). We control for these preferences because some of them may be correlated with distributional preferences (e.g., negative reciprocity with inequality aversion or positive reciprocity with altruism), while others may have an independent role in the demand for redistribution. The results of Gärtner et al. (2017) suggest, for example, that individuals' risk aversion may be relevant for their demand for redistribution.

Beliefs about the determinants of success. A considerable literature suggests that these beliefs are important for individuals' support for redistribution (e.g. Fong, 2001; Alesina and La Ferrara, 2005; Alesina and Giuliano, 2011). Following Fong (2001), we asked respondents the extent to which they believe that a) the willingness to take risks, b) inheritance, c) hard work and initiative, d) luck, and e) having the right education are important reasons why some people get ahead and succeed in life while others do not. For each item, individuals had to indicate on a five-point scale whether they believe the respective factor is not at all important (1) or extremely important (5). Note that the willingness to take risks as well as hard work, initiative, and educational effort can be viewed as factors that are at least partially under the individual's control, while inheritance and luck are not. Based on this consideration, we create two indices: one index measures the extent to which subjects believe that factors under an individual's control are important determinants of success (consisting of answers to item a, c and e), and one index measures the extent to which they believe that factors outside individuals' control are important determinants of success (consisting of answers to item b and d).

Position in the income scale. Several papers reported that people's beliefs about their relative income may affect their demand for redistribution (Cruces et al., 2013; Karadja et al., 2017). We therefore measured respondents' beliefs about their relative income by asking them to assess whether they think they earn a) more than the average, b) approximately the average, or c) less than the average income of people of their own age. The answers to this question also enable us to estimate the extent to which social preferences play a different role for people who locate themselves in different relative positions of the income distribution.

Beliefs about past and expected future mobility. Beliefs about expected future income and the future life situation may also play a role, as those individuals who expect improvements may have a self-interested reason to oppose redistribution (Benabou and Ok, 2001). Therefore, we used a proxy – taken from (Fong, 2001) – for perceived past improvements as well as beliefs about future improvements by asking respondents to picture a ladder whose top

step (step 10) represents the best possible life outcome and 0 represents the worst possible life outcome for the respondent. Respondents were then asked on which step they feel they currently stand, where they stood five years ago, and where they think they will stand in 5 years from now. It is well known that income within a society is substantially correlated with subjective well-being, suggesting that the question above also provides a reasonable proxy for future expected income.[19] We construct a dummy for future upwards mobility, which equals one if the individual believes he will be upwardly mobile in the next five years. We also construct a dummy for perceived past upward mobility, which equals one if the individual reports having been upwardly mobile in the past five years. Our results do not change if, instead of dummies, we use continuous measures for expected future and past upward mobility.

Of course, the degree to which individuals may support redistribution may also depend on their perceptions of the prevalence of inequality and poverty. Therefore, we also elicited individuals' perception of the current level of inequality and poverty.

Perceived inequality. In order to assess respondents' beliefs about inequality, we asked them to indicate a) what they think is the share of the total income that the 10% of the households with the *highest* income receive in Switzerland, and b) what they think is the share of the total income that the 10% of the households with the *lowest* income receive in Switzerland. We then define perceived inequality as "perceived income share of the top 10%" divided by the "perceived income share of the bottom 10%."

Perception of the prevalence of poverty. We measured respondents' beliefs about the extent of poverty in Switzerland by asking them to estimate how many people lived below the poverty line in 2014. We then create a dummy that indicates whether a respondent's belief about poverty is above the median. Our results are also robust to using people's "continuous" estimates as a covariate.

Mistrust in politicians. We elicit mistrust in politicians by asking respondents how much (on a four-point scale) they believe that Swiss politicians work to enrich themselves and the lobbies they support instead of working for the benefit of the majority of the citizens. This measure may be viewed as a proxy for people's mistrust in political institutions (e.g.

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[19]In fact, Fong (2006) – using the National Survey of Midlife Development in the U.S. – shows that her measure of expected future well-being correlates quite strongly with individuals' expected future financial situation (controlling for current financial situation). In addition, we validated the "income-proxy interpretation" of Fong's measure in a follow-up survey with the following question: "Compared to today, I expect my annual income in 5 years to have decreased a lot (-2), decreased a little bit (-1), stayed roughly the same (0), increased a little bit (+1), increased a lot (+2). The Spearman rank correlation of this measure with Fong's measure is 0.4, suggesting that the latter captures changes in expected income reasonably well.

the parliamentary institutions) including the government because politicians are the visible "face" of these institutions.

General political attitude. Subjects were also asked to locate themselves on the left-right political spectrum where one indicated "being far left" and ten indicated "being far right".

Attention checks. In order to check for data quality, we added 2 attention checks to the survey (one in the first half and one at the later part of the survey). Attention checks are questions that measure whether participants read survey items carefully before answering them (Berinsky et al., 2014). In our sample, data quality is remarkably high: 76% of the subjects correctly answered both attention checks, and only 11% failed to pass both checks.[20] The attention checks enable us to examine whether our results regarding the role of other-regarding preferences for redistributive politics are robust to the exclusion of those who do not pass the screeners

2.3 Data collection and sample

Implementation

The survey was conducted by the LINK Institute, a leading company for market research in Switzerland, in March and April 2017. Because we are primarily interested in studying the link between social preferences and political support for redistribution, we restricted our attention to individuals who are eligible to vote, i.e. citizens who hold a Swiss passport and are older than 18. While Switzerland has four official languages (French, German, Italian and Romansh), we focus only on Swiss citizens from the French and German language area, who make up more than 90% of the Swiss population. The LINK Institute reached out to participants per email by sending them an invitation (in their corresponding languages) which contained an URL to our online survey. All the instructions were displayed on participants' screens. In order to mitigate spillovers between the money allocation task and the measures of policy preferences, some policy preferences were elicited before the money allocation task, while others were measured after it. In addition, we always had several other survey questions that were used as filler questions between these measures. For their participation in the study, respondents were paid a show-up fee of CHF 15.[21] In addition, we incentivized respondents' choices in the money allocation task by implementing one of their decisions. The exchange rate between points in the money allocation task and Swiss Francs was 100 points

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[20]The proportion of respondents who do not correctly answer attention checks can be extremely high in some online samples. For example, Berinsky et al. (2014) show that between a third and a half of their sample fails to properly answer their attention checks.

[21]At the time the survey took place, the exchange rate between Swiss Francs and USD was approximately equal to CHF 1 = USD 1.

= CHF 2.5. Median time to complete the survey was 62 minutes, for which respondents were paid CHF 26 (incl. the show-up fee) on average, provided they completed the survey fully.

Sample characteristics

Our sample comprises data on 815 participants spanning 24 of the 26 cantons. Descriptive statistics on participants' socio-demographic characteristics can be found in Table A.2 in Appendix A.2. Overall, our sample is broadly representative of the Swiss voting population in the German and the French language areas with respect to age, gender, geographical area, income, and education (see Table A.3 in Appendix A.2).

Follow-up study

Two years after the main survey, we conducted a follow-up study (again with the LINK institute) with the same respondents to collect three additional pieces of information. We could survey 70% of the original subjects, which is remarkably high given that 2 years passed between the two waves. Subjects were also not aware that we contacted them again. In Appendix A.2, we show that the respondents of the follow-up are not significantly different (in terms of their observable characteristics) from our original sample. Importantly, we also show that attrition is orthogonal to social preferences (see Appendix A.4). We measured participants' beliefs about the primary goals and implications of the different popular initiatives. As we mentioned above, the 1:12 initiative and the fair taxes initiative were predominantly framed and publicly discussed in terms of "decreasing or constraining the income of the rich". In contrast, the minimum wage initiative and the initiative for an unconditional basis income (UBI) were predominantly framed and discussed in terms of "helping those with low incomes", but the public discussion during the UBI campaign also brought the cost of the initiative in terms of probable higher taxes into focus. Although we could have taken the initiatives stated goals at face value, we wanted to measure how our respondents perceived them.

In addition, we measured support for redistribution in the follow-up study using three donation tasks with *real* monetary stakes that were presented to the subjects in a random order. In each of these tasks, subjects received an endowment of CHF 20 and had to decide how much of the CHF 20 to keep for themselves and how much to donate to civic groups that differed in the type of redistributive policies they support/oppose (for further details, see Appendix A.5). In one donation task, the civic groups are predominantly concerned about helping those with low incomes. In another task, the civic groups primarily support measures that ensure that richer citizens contribute more to tax revenues or that high salaries are limited. In a third donation task, the civic groups support lower taxes for people with high incomes, and oppose limits to salaries or bonuses for high earners. These donation tasks

provide us with behavioral measures of support for redistribution that we use as additional validation checks for our survey measures of political support for redistribution collected two years earlier. In other words, we check whether those who voted for (opposed) redistributive policies in the main survey are also more likely to donate real money two years later to civic groups that politically favor (oppose) redistribution.

Third, we measure political support for a placebo initiative that is unrelated to redistribution. This initiative intended to constrain the influence of political parties on the selection of federal judges by proposing that they be selected using a random draw from a pool of skilled applicants. Support for this initiative is elicited in the same way as support for the four redistributive proposals from wave 1. Because this proposal is unrelated to issues of income distribution, it helps us assess the specificity of social preferences, i.e., whether they specifically capture concerns about distributional – but not other – issues. We refer to this proposal as the *placebo initiative* below.

As in the main survey, we added a large set of unrelated filler questions between these measures in order to minimize the desire for consistency and to limit spillovers across the different measures. Respondents received a baseline payment of CHF 15 for their participation in the follow-up study. In addition, we incentivized respondents' choices in three donation tasks by randomly paying one of their decisions.

3 The distribution of other-regarding preferences

The main goal of this section is to identify the distribution of the various types of social preferences on the basis of subjects' behavior in the money allocation task. Previous evidence (e.g. Andreoni and Miller, 2002; Bellemare et al., 2008; Fisman et al., 2015, 2017; Kerschbamer and Müller, 2020; Bruhin et al., 2018; Cappelen et al., 2007) suggests that there is strong heterogeneity in social preferences. Here, we are interested in a parsimonious characterization of the distribution of preferences. We aim at identifying a small number of preference types that differ in a fundamental way. Parsimony is important because tractability constraints in applied contexts typically impose serious limits on the degree of complexity that theories can afford at the individual level. In addition, parsimony has the advantage of simplicity and ease of interpretability.

3.1 Identifying preference types and the distribution of individuals to types: the method

To characterize preference heterogeneity along key dimensions, we adopt a Dirichlet Process (DP) means clustering algorithm – a functional representation of the algorithm introduced by Kulis and Jordan (2012). DP-means constitutes a Bayesian nonparametric approach to

group observations into clusters according to similarities between them. In our application, an *observation* is an individual's budget allocation in *all* choice situations taken as an input for clustering. The *clusters* we aim to identify in budget allocation space are social preference types, while *similarity* refers to how "close" individuals are with respect to their allocation behavior. An important peculiarity of the DP-means approach is that it enables identification of preference types without committing to a pre-specified number of different preference types in the population. Moreover, our approach does neither require ex-ante specification or parameterization of types, nor of preferences and error structure. This means it remains ex-ante agnostic about key distributional assumptions, and it does not constrain heterogeneity to lie within a predetermined set of models or parameter space. In this regard, our approach differs from previous work (e.g., Bellemare et al., 2008; Fisman et al., 2015, 2017; Bruhin et al., 2018) that characterized preference heterogeneity on the basis of structural assumptions on preferences and error terms.

The DP-means algorithm assigns a distribution to all possible type distributions that may exist in the population. Intuitively, DP-means thus encompasses all possible type partitions of the data spanning from a representative agent (i.e. a single data-generating process) up to as many types as there are individuals in the population (i.e. n data-generating processes). Put differently, both the actual number of types and their characterization are not assumed ex-ante, but emerge endogenously with convergence to the algorithm.[22]

The clustering algorithm requires two inputs: First, the individual allocation profiles, and, second, a penalization parameter λ. In our setting, a preference type is characterized by the average allocation profile of all individuals belonging to this type (also called the centroid). An individual's allocation profile is the set of all budget choices that serve as an input for clustering. Thus, an individual is conveniently represented as a single data point in an m-dimensional space, where m refers to the number of budget choices under consideration, and the location in each of the m dimensions represents the allocation choice on the respective budget line.

We take all 14 budget choices in the center bundle as a primary input to determine the types and the assignment of individuals to types. The preference characteristics of the identified types and the distribution of individuals to types implies out-of-sample predictions for each type in the north and the south bundles. For example, if there is a behavioral type that predominantly chooses the central allocation in the center bundle, one may infer that this type has preferences for equal payoff allocations. In the north bundle, however, equal payoff allocations coincide with the own-payoff *maximizing* allocation for all negatively sloped budget lines, while they coincide with the own-payoff *minimizing* allocation in the

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[22]The fact that the number of types adapts to the data has important benefits (see Kulis and Jordan, 2012). Most notably, as previous work has shown (see Comiter et al., 2016), this feature of the algorithm yields higher quality type-separation than methods that specify the number of types prior to clustering (such as *k*-means).

south bundle. Thus, subjects classified as those with a preference for equality (on the basis of their choices in the center bundle) should choose the own-payoff maximizing allocation on negatively sloped budget lines in the north bundle but the own-payoff minimizing allocation in the south bundle. If they fail to do so, the interpretation of this behavioral type in terms of a preference for equality would be questionable. The out-of-sample predictions for the north and south bundle therefore help us validate the preference interpretation of the types identified in the center bundle.

In addition to the allocation profiles, the DP-algorithm requires specification of a penalization parameter λ, which can intuitively be interpreted as the cost of letting the model grow by an additional type. In a nutshell, this approach works as follows (see Appendix B.1 for a slightly more technical exposition): We define the algorithm recursively and initialize it with a single social preference type – the representative agent with the population's mean allocation profile as its centroid. Each recursion step involves assigning each individual to the type closest in allocation space, where closeness is defined by the squared distance to the type's centroid (i.e. the mean vector of its allocation profile). We then check whether the squared distance between an individual's allocation profile and the closest centroid is larger than the penalization (cost) parameter λ. If this is the case, an additional preference type is introduced to the model. Convergence of the algorithm is a fixed point of the series of recursions. In words, at the limit of this series, an additional recursion stage has no effect on the type assignment, and, thus, convergence is established.

The description above of the algorithm also makes clear that the number of types that emerge depends, in principle, on the chosen penalization parameter λ. There are methods to endogenize this parameter, but one convention is to choose the number of types for which larger variations of the penalization parameter leaves the number of types unchanged. In addition, we apply two further considerations for choosing the penalization parameter. First, we examine what happens if we decrease λ and thus potentially increase the number of types. In particular, we check whether fundamentally new types emerge or whether existing preference types simply split into subgroups of an already existing type. If no fundamentally new type emerges, there is little additional insight generated by a lower level of λ, and thus little reason to reduce λ. Second, we examine whether the types that emerge for a given λ yield qualitative predictions for the south and the north bundle that are consistent with the types' behavioral patterns in these bundles.

3.2 Identifying preference types and the distribution of individuals to types: overall result

The application of the DP-algorithm to the center bundle of the money allocation task suggests the existence of three fundamentally different behavioral types. We illustrate the ag-
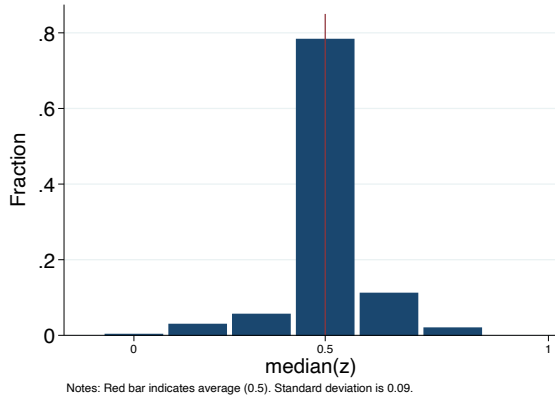
gregate behavior of each of the three types in Figure 3. Roughly half of the subjects (50.8%) are assigned to Type 1, around one-third (34.36%) to Type 2, and the remainder (14.85%) to Type 3. The three types differ substantially in terms of their behavior in the center bundle. A careful examination of the decisions of these types permits us to assign them a label with a clear behavioral interpretation.

For this purpose, we look at each individual's median choice across the negatively sloped and across the positively sloped budget lines of the center bundle. We focus on the median because it is less susceptible to random, outlier generating, influences. For each budget line, we label the own-payoff maximizing allocation by $z = 1$, the own-payoff-minimizing allocation by $z = 0$, and the payoff-equalizing allocation by $z = 0.5$. The other four available allocations on each budget line are equidistantly placed between 0-0.5 and 0.5-1, respectively. Figure 3 shows that the vast majority of individuals in type 1 makes median choices that are payoff-equalizing – and they do so for both the negatively sloped budget lines (Figure 3a) and the positively sloped budget lines (Figure 3b). They thus exhibit a willingness to pay (i) for reducing inequality when this involves increasing the other player's payoff (i.e., for negative slopes) and (ii) when it involves decreasing the other player's payoff (i.e., for positive slopes). For this reason, we assign the label "inequality averse" to type 1 – which comprises 50.8% of our sample.

This pattern contrasts sharply with the individuals assigned to type 2 and type 3. Individuals assigned to type 3, in particular deviate sharply from the inequality averse type because their median choice is the own-payoff maximizing allocation in the vast majority of the cases. These 14.8% of individuals can therefore be classified as predominantly selfish. Finally, individuals assigned to the type 2 cluster differ sharply from the inequality averse type for positively sloped budget lines where the own-payoff (and simultaneously other-payoff) maximizing allocation is basically their median choice in 100% of the cases. However, the behavior of type 2 individuals for the negatively sloped budget lines resembles that of the inequality averse individuals because the egalitarian allocation is their median choice in roughly 70% of the cases. Thus, these individuals appear to care about equality when more equality can be achieved by *increasing* the other player's payoff, but they completely disregard equality when more equality would imply a *reduction* in the other player's payoff. We therefore label individuals belonging to this type, 34.4% of our population, as subjects with an altruistic concern for social welfare – a label that will become even clearer when we look deeper into this type's behavior.

Figure 3: Distribution of individuals' median choices for each preference type.

Type 1 : Inequality averse (50.8%)

Notes: Red bar indicates average (0.5). Standard deviation is 0.09.

(a) Negatively sloped budget lines

Note: Red bar indicates average (0.56). Standard deviation is 0.19.
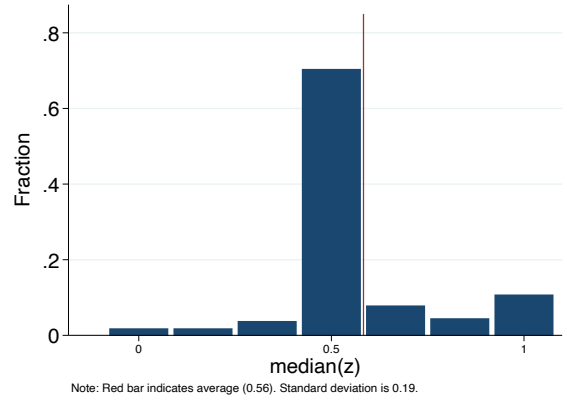
(b) Positively sloped budget lines

Type 2 : Concern for social welfare (34.4%)

Note: Red bar indicates average (0.58). Standard deviation is 0.19.

(c) Negatively sloped budget lines

Note: Red bar indicates average (0.99). Standard deviation is 0.04.
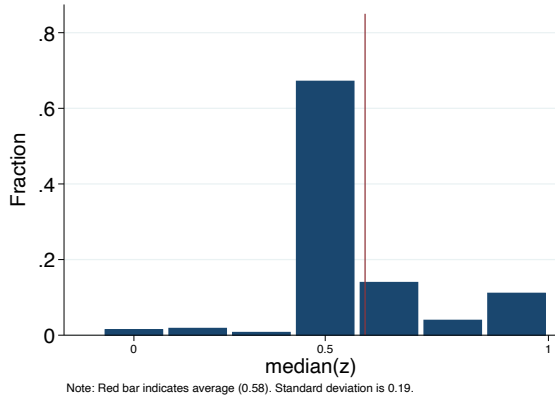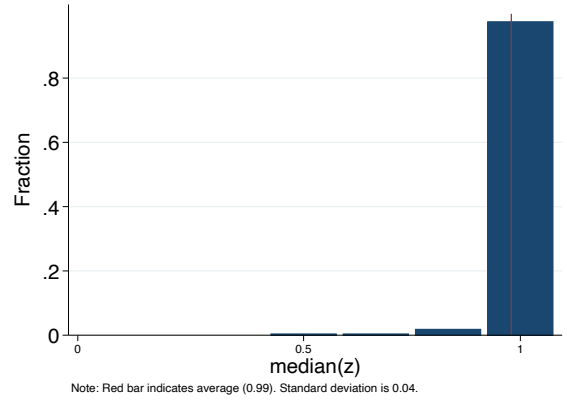
(d) Positively sloped budget lines

Type 3 : Predominantly selfish (14.8%)

Note: Red bar indicates average (0.96). Standard deviation is 0.10.

(e) Negatively sloped budget lines

Note: Red bar indicates average (0.82). Standard deviation is 0.29.
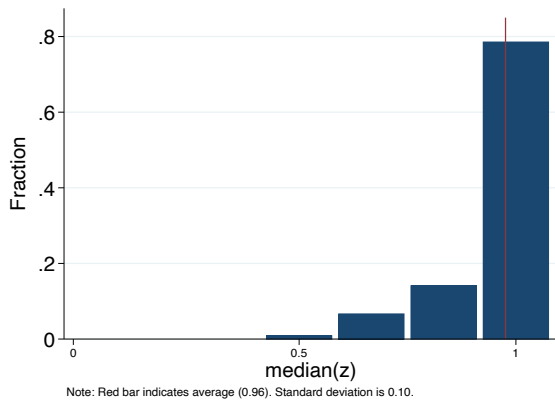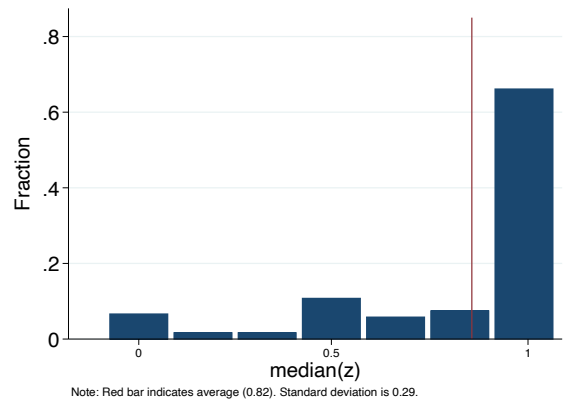
(f) Positively sloped budget lines

Note: In all figures, $z = 0$ ($z=1$) denotes the allocation that minimizes (maximizes) own payoff.

Another remarkable aspect of Figure 3 is that there is generally very little within type variation, as indicated by the low standard deviation associated with each of the graphs shown in the figure. This low within-type variation provides a further justification for speaking of different types of preferences; and the fact that the typical choices of the three types sharply differ justifies the notion that the preference differences across types are of a fundamental nature.

3.3 A deeper look into the properties of different preference types

In this section, we provide a deeper analysis of the behaviors of the preference types by examining their typical choice patterns for individual budget lines in the center bundle. As we will see, this yields further useful information about the behavioral nature of each of the three distinct types. In Figure 4 below, we depict the distribution of choices for each of the various budget lines in the center bundle and order the budget lines according to the cost of increasing the other participant's payoff by one unit (i.e., according to their slopes)[23]. The figure shows the distribution of choices for each of the three types. For simplicity, we group a type's allocation choices for each budget line (slope) into three behavioral categories: The first category is labeled "*minimize own payoff*" and refers to the two allocations that yield the lowest payoffs for the decision maker on that budget line (indicated by the color green in Figure 4). For negatively sloped budget lines, "minimize own payoff" is also tantamount to the maximization of the other player's payoff. The second category is labeled by "*central allocation*" and refers to the three allocations closest to the center of the budget line (indicated by the color blue in Figure 4). The central allocations in Figure 4 are also those who are closest to payoff-equality. The third category is labeled "*maximize own payoff*" and refers to the two allocations that yield the highest payoffs for the decision-maker on that budget line (indicated by the color dark red in Figure 4).[24] Note that this grouping of the choices into three categories does not lead to much information loss because the subjects usually select either one of the far ends of a budget line or they choose the strictly egalitarian allocation. For example, subjects chose the *strictly* payoff-equalizing allocation for the "blue" choices in 84% of all cases.

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[23]The cost of increasing the other's payoff by one unit is given by –(1/slope). For example, it costs 20 cents to increase the other's payoff by CHF1 for a slope of -5.

[24]This labeling of choices in terms of minimizing/maximizing own payoff and central allocation choices makes sense for all budget lines except for the vertical one (with slope $-\infty$) which does not allow for any variation in the decision-maker's own payoff. The green color in this budget line indicates the choice of one of the two most generous allocations while the red color labels the choice of one of the two least generous allocations.

Figure 4: Behavioral types in the center bundle

Type 1: Inequality averse - 50.8%

Type 2: Social welfare concerns - 34.36%

Type 3: Predominantly selfish - 14.85%

Budgets

choice
◆ minimize own payoff
● central allocation
▲ maximize own payoff

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and total payoff-minimizing) allocations.

Figure 4 confirms that the individuals belonging to the inequality averse type typically prefer allocations that equalize payoffs between themselves and the other participant. In fact, the degree of inequality aversion among these subjects is so strong that they predominantly choose one of the central allocations even for those negatively sloped budget lines for which

altruistic behavior is very cheap (slopes -inf, -5 and -2) and the other-payoff maximizing allocation also maximizes the joint payoff. This type predominantly picks the payoff-equalizing allocation even when increasing the other person's payoff comes at no cost (slope -inf). Moreover, this type also shows a strong distaste for disadvantageous inequality. For instance, when the slope of the budget line is +.5, she generally implements the equal allocation, implying that she is willing to pay CHF 2 to reduce the other's income by CHF 1 if this brings her closer to equality.

In sharp contrast to the inequality averse type, the altruistic social welfare type is often willing to minimize her own payoff for negatively sloped budget lines (i.e., maximize the other's payoff) if that leads to the highest joint payoff, even if it implies that the other player earns much more. For example, roughly 50% of these subjects choose the joint payoff maximizing allocation (green area) for the budget line with slope -5, and almost 90% of them maximize joint payoffs for the vertical budget line (slope -inf). In addition, the social welfare type chooses the joint payoff maximizing allocation in the vast majority (> 90%) of cases for the positively sloped budget lines (red areas). Moreover, they do so even in those cases in which this implies a considerable amount of disadvantageous inequality (slopes 2 and 5). Thus, these subjects display generally no aversion against disadvantageous inequality. Finally, however, the social welfare type predominantly chooses egalitarian allocations for budget lines with slopes between -2 and -.5, i.e. they are willing to give up own payoff to avoid advantageous inequality. Taken together, these regularities strongly suggest that this type of subject cares for both joint payoffs and the payoff of the worse off player in case of advantageous inequality. They are therefore consistent with social welfare types as described in Charness and Rabin (2002) and with CES preferences (which capture concerns for joint payoffs and equality in a general way but rule out aversion to disadvantageous inequality) assumed in Fisman et al. (2015, 2017).

Finally, Type 3 predominantly maximizes her own payoff. For the large majority of budget lines, from slope -5 to slope +1, these subjects prefer the own-payoff maximizing allocation (dark red) in the vast majority (> 75%) of the cases. But some of them also show a touch of envy or spitefulness as indicated by the roughly 25% of this type that chooses the "green" allocations for slopes +2 and +5, implying that they minimize their own payoff to decrease the other's payoff. Thus, these subjects can be characterized as predominantly selfish with a minority of them displaying envious choices in some cases.

If our preference interpretation of the behavioral types is correct and stable across budget bundles, the different types should display characteristic behavioral patterns in the north and the south bundles. In other words, the inequality averse type should also display a preference for equality in these bundles even if that implies strong deviations from the allocations that lie in the middle of the budget line. Likewise, the social welfare type should display a strong tendency to choose joint payoff maximizing allocations. We illustrate this below for the south

bundle (see Figure 5) for each of the three types. We refer the reader to Appendix B.2 for the north bundle.

In the south bundle, equality is maximized by the own-payoff *minimizing* allocation for all budget lines with slopes ranging from -inf to +.5. This means the inequality averse type should make primarily own-payoff minimizing ("green") choices for these budgets, which is exactly what we observe. Even for the budget line with slope +.5, where choosing the payoff-equalizing allocation is quite costly, roughly 60% of these subjects do so. In contrast, equality is maximized for budget lines with slope +2 and +5 by choosing the own-payoff *maximizing* ("red") allocation, which is what happens in the vast majority of the cases. Thus, the behavioral pattern of type 1 players in the south bundle is very consistent with the notion of inequality aversion.

Similar conclusions hold for the social welfare type and the predominantly selfish type. Figure 5 shows that the latter type also makes own-payoff maximizing ("red") choices in the south bundle in the vast majority of cases. To see that the social welfare type also behaves very consistently across the center and the south bundle, recall that the joint payoff as well as the payoff of the other participant is maximized for budgets with slope -5 and -2 by the own-payoff *minimizing* ("green") allocations in the south bundle. Thus, the concern for joint payoffs and the concern for the worse off in the domain of advantageous inequality should induce the social welfare type to choose the own payoff-minimizing allocations, which indeed happens in the vast majority (> 80%) of cases. Joint payoff maximization implies choosing the own-payoff maximizing ("red") allocations for all positively sloped budget lines, which again happens in more than 80% of the cases. Taken together, the behavior of all three types in the south bundle validates our preference interpretation of the three behavioral types derived from subjects' choices in the center bundle. We show that the same holds for the north bundle in Appendix B.2.

What would happen if we chose a high enough penalization parameter λ in the DP algorithm such that the number of types is restricted to two? In that case, the predominantly selfish type vanishes and is merged with the other two types: roughly 60% of them are submerged to the inequity averse type and 40% to the social welfare type. However, in view of the fundamentally different behavioral patterns the predominantly selfish type displays across all three budget bundles, a two-type distribution would clearly not do justice to the actually existing fundamental heterogeneity of preferences in our population.

No fundamentally new types emerge if we lower the penalization parameter λ in the DP algorithm. Rather, when λ is chosen low enough so that a four-type distribution emerges, the social welfare type divides into two subtypes – a moderate and a strong social welfare type that differ in their degree of other-regardingness: the strong type displays a higher willingness to pay to increase the other player's payoff when bestowing an altruistic benefit to the other player is expensive (see Appendix B.4). If we further lower the penalization parameter so

that 5 or 6 types emerge, the fifth and the sixth types comprise only a few individuals (1.4% and 0.1% of the population, respectively), implying again that no fundamentally new types emerge.

Figure 5: Behavior of types in the south bundle

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and total payoff-minimizing) allocations.

Thus, taken together, the DP algorithm suggests the existence of three fundamentally different social preference types: an inequity averse type, an altruistic social welfare type, and a predominantly selfish type. Allowing for a higher number of types merely divides the social welfare type into two subtypes (moderate and strong) or adds statistically negligible types (that are hard to interpret). For this reason, and for the sake of parsimony, we mainly use the three-type distribution for the analysis of the role of social preferences in redistributive voting. However, we will also address the issue of within-type heterogeneity for the social welfare type by showing how the voting behavior of the two sub-types of the social welfare type relates to their social preferences.

4 The role of social preferences in political support for redistribution

4.1 Measuring political support for redistribution

For each of the 4 initiatives described in Section 2.2, respondents were asked to indicate the extent to which they supported the initiative by answering either "Reject", "Rather Reject", "Don't Know", "Rather Accept" or "Accept". We define individual i's support for initiative j as follows:

$$S_{i,j} = \begin{cases} 1 & \text{if \{Support, Rather support\}} \\ 0 & \text{if \{Rather reject, Reject\}} \end{cases} \tag{1}$$

We thus use a binary variable in our preferred specification that indicates whether a respondent supports a particular initiative or not. Because we want to focus on individuals who have well-defined preferences over these initiatives, we code "I don't know" as missing. Based on individuals' responses to the four initiatives, we construct an individual-level aggregate measure of political support for redistribution (AS_i for aggregate support of individual i) by averaging support for those initiatives for which the respondent reveals well-defined preferences:

$$AS_i = \frac{1}{n_i} \sum_{j=1}^{n_i} S_{i,j} \tag{2}$$

where $n_i \in [0,4]$ corresponds to the number of initiatives which subject i has a well-defined preference, i.e. for which she did not answer "I don't know". We depict the distribution of AS in Figure 6. The distribution is skewed to the left, with an average AS of 0.65 (standard deviation=0.31). This means that, on average, subjects support between 2 and 3 initiatives out of four. 33% of the subjects support all the initiatives for which they have well-defined preferences, and slightly less than 25% of the subjects reject all the initiatives for

which they have well-defined preferences.[25] Intuitively, AS_i captures the average probability with which a subject supports or rather supports those redistributive proposals for which he/she has a well-defined preference.

Figure 6: Distribution of aggregate political support for redistribution
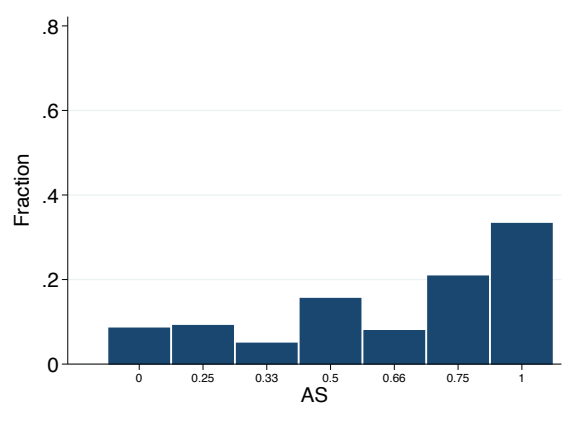
4.2 Validation of our measure of political support for redistribution

As in other countries, there are sizeable regional differences in support for redistribution in Switzerland, e.g., across cantons. The percentage of people supporting redistribution is rather low in some cantons, while it is relatively high in others. Thus, if our measure of political support for redistribution contains relevant information about participants' real preferences for politically enforced redistribution, we should observe a correlation between the share of individuals supporting redistribution in our sample and the actual vote share in favor of redistribution observed using administrative data. In addition, individuals who support redistribution in our online survey should also display a higher (lower) willingness to donate money to civic groups that support (oppose) redistribution.

Correlation with real voting outcomes

The Spearman correlation between the canton-level share of individuals that support redistribution in our sample and the cantonal share of support in the actual plebiscite is positive ($\rho = 0.36$) if we average the shares over all four referenda. Note, however, that we modified the content of two initiatives in order to make them less extreme and more appealing to our respondents, which naturally weakens the behavioral connection between our online survey and the actual votes. If we only average the shares over the two referenda that we did not modify at all, the correlation becomes stronger ($\rho = 0.54$).

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[25]Overall, subjects did not respond with 'don't know' very often: approximately 70% of the individuals never answered "I don't know", and about 20% of the individuals answered "I don't know" only once, i.e. less than 10% of the respondents answered "I don't know" at least twice.

Predicting donations to groups favoring or opposing redistribution

We further validate our measure of aggregate political support for redistribution with several donation tasks in a follow-up study. Recall that participants were endowed with CHF 20 in a given donation task. They could keep any of the CHF 20 for themselves or donate it to civic organizations that support political redistribution (in two of the donation tasks) or that oppose political redistribution (in one donation task). Because the follow-up study took place two years after the initial study, a strong positive (negative) correlation between subjects' aggregate support for redistribution in our online survey and their donations to civic organizations that support (oppose) redistribution would also indicate that political preferences for redistribution are rather stable across time.

Table 1: Predicting donations to civic organizations with diverging views on redistributive policies

	Donation to groups supporting redistribution (z)			Donation to groups opposing redistribution (z)		
	(1)	(2)	(3)	(4)	(5)	(6)
Aggregate Support (AS_i)	0.863***	0.783***	0.812***	-0.345**	-0.345**	-0.324**
	(0.126)	(0.127)	(0.128)	(0.137)	(0.140)	(0.144)
Male		-0.307***	-0.388***		0.001	-0.018
		(0.079)	(0.091)		(0.086)	(0.103)
Age		0.000	-0.015		-0.004	-0.019
		(0.015)	(0.020)		(0.017)	(0.020)
Income: above-median			0.012			0.002
			(0.104)			(0.101)
Income: Undisclosed			-0.048			0.024
			(0.144)			(0.177)
Constant	-0.574***	-0.637*	-0.201	0.230**	0.315	0.597
	(0.093)	(0.342)	(0.410)	(0.104)	(0.379)	(0.453)
Other socio-demographics	No	Yes	Yes	No	Yes	Yes
Education	No	No	Yes	No	No	Yes
Occupation	No	No	Yes	No	No	Yes
R^2	0.076	0.149	0.159	0.012	0.028	0.033
Observations	571	571	571	571	571	571

Notes: OLS regression. The dependent variable is subjects' z-scored (mean = zero, standard deviation = 1) donation to organizations that support (column 1-3) or oppose (column 4-6) redistribution. Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, and a dummy indicating whether the respondent is married. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

In Table 1, we regress the z-scored donations to the different types of organizations on respondents' aggregate political support for redistribution. In columns 1-3 the dependent variable is the z-scored average donation to civic organizations that support redistribution via helping those with low incomes or via taxing the rich. In column 4-6 the dependent variable is the z-scored donation to organizations that oppose redistribution. Columns 1 to 3 indicate that respondents who display a stronger political support for redistribution donate significantly more to organizations that support redistribution ($p < 0.01$); an increase in AS from zero to one increases donation to civic groups that support redistribution by more than 80% of a standard deviation. This large impact of AS on donations thus provides strong evidence for the behavioral relevance of our measure of political support for redistribution. Columns 4-6 in Table 1 also shows that individuals with a stronger aggregate support for redistribution donate considerably less to organizations that oppose redistribution.[26]

4.3 Other-regarding preferences and political support for redistribution

In this section, we link subjects' other-regarding preferences to their political support for redistribution. We do so by regressing the aggregate support for redistribution of individual i in canton c, AS_{ic}, on our social preference measures and the set of control variable described in section 2. We start by estimating the baseline specification

$$AS_{ic} = \beta_0 + \beta_1 SW_i + \beta_2 IA_i + \Gamma' X_i + \phi_c + \varepsilon_{ic} \tag{3}$$

where SW_i is a dummy that equals 1 if individual i is assigned to the social welfare type and IA_i is a dummy that equals 1 if the individual is assigned to the inequality averse type. The omitted category in this regression are individuals who are assigned to the predominantly selfish type. We capture the role of social preferences with dummy variables in view of the fundamental differences in preferences between the different types and because of the surprisingly low individual-level variation within types (see Figure 3 above). In addition, we show that our results are robust to allowing for within-type heterogeneity below (and in Appendix C.3). In equation (3), X_i is a vector of individual-specific controls which includes age, age squared, gender, dummy variables indicating whether the respondent is married, whether s/he speaks french, and a dummy variable taking the value 1 if the individual earns an income larger than the median income in our sample. In addition, we include a dummy variable indicating the roughly 10% of respondents who did not reveal their income. We also include education dummies that indicate whether a respondent's highest educational achievement is a) compulsory school (omitted category), b) vocational training, c) high school, d) university, or e) other. The regression also includes occupation dummies

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[26]The smaller coefficient for AS_i in regressions 4-6 (relative to regression 1-3) is due to the fact that donations to civic groups that tend to oppose redistribution are generally rather small and heavily censored from below, while donations to groups that support redistribution are mostly in the interior of the donations space.

that indicate whether the individual currently a) has a full-time job (omitted category), b) has a part-time job, c) is unemployed or d) is not in the labor force. Finally, ϕ_c denotes canton fixed-effects and ε_{ic} represents error terms. We report the results from this estimation in column 1 of Table 2.[27]

The role of social preferences

In all the specifications, the two dummies for social preferences strongly predict aggregate support for redistribution. Compared to respondents who are assigned to the predominantly selfish type, those who display an altruistic social welfare concern are about 9 percentage points more likely to support redistribution ($p < 0.05$). Similarly, inequality averse respondents are about 11 percentage points more likely to support redistribution than predominantly selfish respondents ($p < 0.01$). While inequality averse individuals are slightly more supportive of redistribution than those with a concern for social welfare, the two coefficients are not significantly different from each other. These effects also survive the inclusion of a host of controls that the previous literature has listed as potentially important factors in the support for redistribution. Columns 2 to 4 of Table 2 indicate that the size and significance of the social preference variables remains basically unaffected by these controls.

The magnitude of the social preference effect is quite large; the effect size of inequality aversion is, for example, 17% of the average level of support for redistribution in our sample. This effect, and that for social welfare concerns, is even larger than the absolute effect of income, although the difference between the social preference and the income effects is not significant: On average, individuals who report an income above the median are about 7 percentage points less likely to support redistribution than individuals who earn the median income or less ($p < 0.05$), which corresponds to a decrease of approximately 10.5% relative to the average level of political support for redistribution that prevails in our sample.[28] The negative effect of income is consistent with the view that selfish motives are relevant for the demand for redistribution – which makes sense because poorer individuals are likely to benefit, while richer individuals will likely have to bear the costs of redistribution. However, our results also suggest that other-regarding motives are at least as important.

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[27]Throughout the paper, we report the results from the estimation of linear probability models. However, we show in Appendix C.2 that our findings are robust to the application of multinomial logit regressions.

[28]If we use income as a continuous variable in the regressions, an increase of CHF 1000 in monthly income is associated with a 1.3 percentage point reduction in support for redistribution.

Table 2: Social preferences and aggregate political support for redistribution

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.094**	0.089**	0.090**	0.087**
	(0.039)	(0.038)	(0.039)	(0.039)
Inequality averse	0.114***	0.110***	0.110***	0.111***
	(0.036)	(0.036)	(0.036)	(0.036)
Income: above-median	-0.068**	-0.072***	-0.071**	-0.069**
	(0.028)	(0.028)	(0.028)	(0.028)
Male	-0.004	0.000	0.001	-0.012
	(0.026)	(0.027)	(0.027)	(0.027)
Age	0.008	0.007	0.008	0.003
	(0.006)	(0.006)	(0.006)	(0.006)
Have been unemployed in past	0.055**	0.055**	0.054**	0.038
	(0.025)	(0.025)	(0.026)	(0.026)
Beliefs about future mobility: upwardly mobile (dummy)			0.027	0.037
			(0.027)	(0.026)
Perceived past mobility: upwardly mobile (dummy)			0.000	0.009
			(0.024)	(0.023)
Perceived inequality (share top/share bottom, z)				0.006
				(0.013)
Mistrust in politicians (1-4)				0.032*
				(0.018)
Success under individuals' control (risk, effort, education)				-0.077***
				(0.022)
Success determined by external factors (luck, inheritance)				0.049***
				(0.016)
Above-median estimation of absolute number of poor in CH				0.016
				(0.023)
Constant	0.321**	0.325**	0.301**	0.409**
	(0.140)	(0.142)	(0.144)	(0.186)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.085	0.096	0.097	0.132
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$,**$p < 0.05$,***$p < 0.01$

Table 2 above includes all the subjects, including those who did not pass one or both of the attention checks. We show in Appendix C.1 that if we rule our individuals who do not pass one or both of the attention checks the influence of other-regarding preferences and income becomes even larger. For example, if we consider only those subjects who pass both attention checks (Table C.1), inequality aversion is associated with a 15 percentage points higher support for redistribution (while in Table 2 it is 11 percentage points), and concerns for social welfare are associated with a 12 percentage points (as opposed to 9 percentage points in Table 2) higher support. To remain on the conservative side, however, we decided to keep all subjects in our standard analyses.

The role of other economic preferences and general trust

Previous studies have suggested that risk aversion might play a role in individuals' demand for redistribution (e.g. Gärtner et al., 2017). Since redistributive policies also function as an insurance against negative income shocks, more risk averse individuals may be more supportive of these policies. We therefore add individual-specific controls for risk aversion in Columns 2 to 4 of Table 2. We also include measures of positive and negative reciprocity, impatience, and general trust in people. The coefficients for these measures are omitted from Table 2. Among all these measures, only general trust significantly predicts support for redistribution. A one standard deviation increase in general trust in other people leads to an increase in support for redistribution of about 3.5 percentage points ($p < 0.01$). The coefficients of all the other measures – risk aversion, impatience, positive and negative reciprocity – are close to zero and not significantly associated with support for redistribution.

Controlling for beliefs

In columns 3 and 4 of Table 2, we also add controls for perceived past and expected future mobility, perceived inequality, mistrust in politicians/government, beliefs about the prevalence of poverty in Swiss society, as well as beliefs about whether individual success is due to external factors or under people's control. Interestingly, adding these covariates affects neither the association between other-regarding preferences and support for redistribution nor that between income and demand for redistribution.

However, several of these variables are independent predictors of support for redistribution. In line with previous studies (e.g. Fong, 2001; Alesina and La Ferrara, 2005; Alesina and Giuliano, 2011), we find that respondents' beliefs about the sources of individual success significantly predict their support for redistribution. On average, people who more strongly believe that factors beyond individuals' control – such as inheritance and luck – are important determinants of success are significantly more likely to support redistribution ($p < 0.01$), while individuals who more strongly believe that factors under individuals' control (willingness to

take risks, hard work, and education) are important determinants of success are significantly less likely to support redistribution ($p < 0.01$).

In our sample, individuals who more strongly believe that Swiss politicians work to enrich themselves are *more* likely to support redistribution: a one point increase of mistrust in politicians (on a four point scale) increases support for redistribution by 3.2 percentage points – a quite substantial effect that is, however, only marginally significant ($p = 0.076$). In view of previous results (Kuziemko et al., 2015), this finding might seem surprising, but it makes sense in the Swiss institutional context because direct democracy constrains – and is also widely perceived to do so – politicians' space for non-transparent back-office deals. These constraints may well be perceived as limiting "hidden costs" of redistribution and release support in national plebiscites that *force* "corrupt politicians" to implement redistributive proposals, if supported by a majority.

Other controls for respondents' beliefs do not significantly predict aggregate support for redistribution. For example, beliefs about future upward mobility do not predict aggregate political support for redistribution. Furthermore, a respondent's belief that she was upwardly mobile in the past does not significantly predict her demand for redistribution. Finally, beliefs about the extent of poverty and respondents' perception of the degree of income inequality in Switzerland are also not associated with support for redistribution.

The role of other socio-demographic factors

Several studies have investigated the role of socio-demographic factors in explaining support for redistribution (Alesina and Giuliano, 2011). Particular attention has been paid to gender, race, religion, unemployment, and history of unemployment, amongst others. Like Giuliano and Spilimbergo (2013), we also find that a history of unemployment ("past unemployment") is quite strongly associated with increased support for redistribution, but the significance of this association vanishes if we control for beliefs about the sources of individual success and trust in politicians. Occupational variables (such as part-time work or current unemployment) as well as educational variables are not significantly associated with support for redistribution except for respondents who are currently not in the labor force: they are between 8 and 9 percentage points more likely to support redistribution ($p < 0.05$). In our sample, these individuals are largely retired (50% of the individuals indicating that they are not in the labor force are aged 60 or more). The remaining socio-demographic variables such as age, gender, or marriage status are all insignificant.

Table 3: Social preferences and political support for a placebo initiative

	Support for placebo initiative			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.070	0.051	0.052	0.050
	(0.074)	(0.074)	(0.074)	(0.074)
Inequality averse	0.050	0.020	0.018	0.033
	(0.071)	(0.070)	(0.069)	(0.069)
Income: above-median	-0.051	-0.077	-0.078	-0.077
	(0.059)	(0.056)	(0.056)	(0.055)
Male	0.018	0.026	0.024	0.002
	(0.051)	(0.051)	(0.052)	(0.052)
Age	-0.003	-0.005	-0.006	-0.009
	(0.011)	(0.010)	(0.010)	(0.011)
Have been unemployed in past	0.076	0.060	0.059	0.045
	(0.049)	(0.050)	(0.050)	(0.051)
Beliefs about future mobility: upwardly mobile (dummy)			-0.034	-0.020
			(0.053)	(0.053)
Perceived past mobility: upwardly mobile (dummy)			0.043	0.054
			(0.048)	(0.048)
Perceived inequality (share top/share bottom, z)				0.035
				(0.026)
Mistrust in politicians (1-4)				0.042
				(0.031)
Success under individuals' control (risk, effort, education)				-0.017
				(0.044)
Success determined by external factors (luck, inheritance)				0.046
				(0.028)
Above-median estimation of absolute number of poor in CH				0.020
				(0.045)
Constant	0.519**	0.488*	0.502*	0.351
	(0.257)	(0.258)	(0.261)	(0.337)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.101	0.154	0.156	0.172
Observations	453	452	452	452

Notes: OLS regression. The dependent variable is the support for placebo initiative (0={Rather Against, Against} 1={Rather In favor, In favor}). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: $*p < 0.1, **p < 0.05, ***p < 0.01$

Do other-regarding preferences predict support for the placebo initiative?

Ideally, the other-regarding preference types measured in our money allocation task are specifically relevant for (re)distributive policies. They should, however, not be a general proxy for political activism or other political concerns. Therefore, they should *not* predict support for a proposal that is unrelated to redistribution.[29] Table 3 provides compelling evidence that, no matter the specification, this is indeed the case. Similarly, income, which played an important role in predicting support for redistribution, does also not explain political support for the placebo initiative.

What is the role of within-type heterogeneity?

Our method of clustering individuals into types has the advantage of parsimony and of directing the attention to the key qualitative differences across preference types. We show in section 3 and in Appendix B.4 that allowing further differentiation by decreasing the penalty parameter λ in the DP-means algorithm does not yield additional insights into the existence of basic preference types. Instead, this merely divides up the roughly 35% of individuals belonging to the social welfare type into a moderate ($\approx 14\%$) and a strong social welfare type ($\approx 21\%$), suggesting that there is some meaningful within-type variation in the strength of social welfare preferences that might be relevant for the political support for redistribution. We address this issue in two ways. First, we allow for four types that include the moderate and the strong social welfare type when applying the regression models of Table 2. Second, we explicitly measure *individual* behavioral variation within the social welfare and the inequality averse type by measuring individuals' deviations from the average type, and relate these deviations to their support for redistribution.

We show how the existence of moderate and strong social welfare types affects the aggregate support for redistribution in the regression table C.5 of Appendix C.3. The table replicates Table 2 of the main text, but allows for four preference types. Table C.5 shows that individuals with strong social welfare preferences are roughly 11 percentage points more likely to support redistribution, which is basically the same effect size as for inequality aversion, while the moderate social welfare types increase their support for redistribution relative to the predominantly selfish types only by 5-6 percentage points – an effect that is not significantly different from the political support of the predominantly selfish individuals. All other coefficients in the regressions remain basically unchanged when we allow for four types. Thus, the overall conclusions derived from the three-type preference distribution remain valid, except that a minority of moderate social welfare type individuals are not significantly different from the predominantly selfish types in their support for redistribution.

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[29]Note that the number of observations in Table 3 is smaller than in the main table (Table 2) because i) fewer respondents took part to the follow-up survey, and ii) some respondents did not have a well-defined opinion about this initiative (i.e. they answered "I don't know") and are thus "missing" from the regressions.

To acquire further insights into the relevance of within type heterogeneity we also constructed an *individual-level* measure of behavioral deviations from a type's typical behavior in the money allocation task. For this purpose, we compute the deviation Δ_i of each individual's median choice in the center bundle, denoted by z_i, from the average over all z_i's of the type (denoted by Z) to which the individual belongs. Recall that $z_i = 0$ means that the individual's median choice minimizes the own payoff, while $z_i = 1$ maximizes the own payoff and $z_i = 0.5$ equalizes payoffs. This deviation measure for the social welfare type is thus $\Delta_{i,SW} \equiv -(z_i - Z_{SW})$, where the subscript *SW* denotes the type. We only compute this measure for the negatively sloped budget lines for the SW-type because there is basically no individual variation for the positively sloped budget lines (see Figure 3). On negatively slope budget lines, $\Delta_{i,SW}$ becomes positive if the individual deviates in the altruistic direction from this type's typical behavior and negative if the individual deviates in the selfish direction. The distribution of individual z_i's (together with Z_{SW}) is shown in Figure 3.

We computed an analogous deviation measure from that type's typical behavior for the predominantly selfish type across *all* budget lines because selfish individuals' median choice z_i equals 1 in most cases (see Figure 2). We computed analogous deviation measures for both the negatively and the positively sloped budget lines for the inequality averse individuals.

These individual deviation measures enable us to control for individual-level heterogeneity by interacting them with the social preference dummies. Thus, the 'pure' dummies still measure the main effect of type and the interactions tell us whether deviations from a type's typical behavior matter for the political support for redistribution. The regression results are displayed in Table C.6 of Appendix C.3. They show that within-type variation matters neither for the selfish type nor for the inequality averse type because the interaction terms are clearly insignificant. Individuals with a concern for social welfare who are more altruistic tend to be more supportive of redistribution. An increase in $\Delta_{i,SW}$ by one standard deviation increases support for redistribution by $2 - 2.5$ percentage points, but the significance of the individual within-type variation vanishes if we control for the other determinants of redistribution. However, the strong relationship between a type's *typical* other-regarding preference (captured by the 'pure' preference dummies) and their support for redistributions remains unchanged and robust: the typical inequality averse individual is 11 percentage points and the typical social welfare type is 9 percentage points more likely to support redistribution than the typical selfish type.

Other-regarding preferences and political identity

In principle, other-regarding preferences may be a determinant of the degree to which people feel affiliated with political parties. For example, people with a strong egalitarian preference may feel a stronger affiliation with the Democratic Party in the US, as this party is typically

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more in favor of reducing inequality. In fact, Fisman et al. (2017) report that individuals who put more weight on equality relative to efficiency were more likely to vote for Obama in 2012 and Dawes et al. (2012) report that individuals who are more generous in a single dictator game tend to be more left leaning.

However, political affiliation or the degree to which individuals perceive themselves on a left-right political scale may also be an independent factor in the support for redistribution. For this reason, we collected individuals' self-reported political "identity" on a scale from 1 to 10 and included this measure as a control variable in the regressions reported in Appendix C.4. We were particularly interested in the question whether the substantial role of other-regarding preferences remains robust to controlling for political identity.

Table C.7 shows the results of our basic specification with 3 different preference types and Table C.8 displays the results with 4 types (i.e., with moderate and strong social welfare types). In both sets of regressions, political identity plays a significant role: individuals who are one unit more to the left on the left-right scale (1 standard deviation ≈ 2 units) are 6-7 percentage points more likely to support redistribution. Interestingly, however, inequality aversion also remains a significant predictor of support for redistribution, with inequality averse individuals being 9 percentage points more likely to support redistribution. The picture is somewhat more differentiated for the social welfare types. While the social welfare dummy loses its significance in the specification with 3 preference types (Table C.7), individuals with a *strong* concern for social welfare (i.e., allowing for four types) are still significantly (8 percentage points) more likely to vote for redistribution (Table C.8). Thus, taken together, other-regarding preferences in the form of inequality aversion and strong social welfare concerns remain robust and significant predictors of support for redistribution even when we control for political identity.

4.4 Is the role of other-regarding preferences income-dependent?

We have shown in the previous sections that other-regarding preferences are at least as important as income as predictors of aggregate political support for redistribution. Even after controlling for a host of individual-level characteristics, individuals who are inequality averse or show a concern for social welfare are substantially more likely to support redistribution than predominantly selfish individuals.

While informative, these results might mask an important source of heterogeneity, i. e., social preferences may empirically play a more important role for affluent individuals' support for redistribution than for poorer people's support. The reason for this heterogeneity is the following. From a theoretical viewpoint, both selfish motives *and* social preferences predict increased political support for redistribution for low-income individuals. Because low-income individuals are the primary beneficiaries of (most) redistributive policies, it is in

their economic self-interest to support these policies, leaving less room for social preferences to play a role. In other words, the self-interest component may move low-income individuals already so strongly towards support for redistribution that it may be difficult to identify an additional role for other-regarding preferences.

On the other hand, social preferences and self-interest make opposing predictions for high-income earners because they will most likely have to pay for redistribution. Therefore, they have a selfish reason to oppose it. However, a high-income earner who is sufficiently averse to inequality, for example, might endorse redistribution even if this is costly to her because she values an increase in equality more than a loss in her own payoff. We examine whether such heterogeneity in behavior is present in our data by estimating equation (3) with the same (full set of) covariates as in column 4 of Table 2 but separately for individuals earning an income below and above the median. We report the results in Table 4 below.

Column 1 displays the results for individuals with an income *below* the median. Interestingly, and consistent with the above argument, the coefficients on the two dummies for social preferences are much smaller than in Table 2 – indicating only an effect between three and five percentage points. In addition, the social preference coefficients are clearly insignificant, i.e., inequality aversion and a concern for social welfare play no major role in the support for redistribution among these individuals.

This contrasts sharply with the results for individuals with an income *above* the median that is reported in column 2 of Table 4. Their social preference coefficients are considerably larger than in Table 2 and significantly different from zero: affluent inequality averse individuals are roughly 20 percentage points more likely to support redistribution ($p < 0.01$) and those with a concern for social welfare are 12.6 percentage points more likely ($p = 0.047$) to support redistribution than predominantly selfish individuals.

We further corroborate these results in columns 3-5 by estimating the same model but splitting the sample into three different subsamples on the basis of individuals' beliefs about their relative income position. Individuals were assigned to these categories based on their answer to the question "How does your wage compare to the wage earned by people of your age?" with the answer categories: I earn less than the average, I earn approximately the same, and I earn more than the average. Column 3 shows the regression results for people who believe they earn less than the average, column 4 shows the results for those who believe they earn the same as the average, and column 5 for people who believe they earn more than the average.

The results are similar to those in columns 1-2. Social preferences are only weakly and insignificantly associated with support for redistribution for respondents who think they earn less than the average (column 3), but the association becomes large and significant for those who believe they earn the average (column 4) or more than the average (column 5). In fact, among individuals who believe they earn more than the average, inequality averse individuals

are 29 percentage points more likely to support redistribution than predominantly selfish individuals ($p < 0.01$), and those with a concern for social welfare are 20 percentage points more likely to support redistribution than predominantly selfish respondents ($p = 0.041$).

Table 4: Social preferences and political support for redistribution (heterogeneity analysis by income level)

	Income		Relative income		
	Below (1)	Above (2)	Less (3)	Same (4)	More (5)
Social welfare concerns	0.053 (0.054)	0.126** (0.063)	0.037 (0.076)	0.130** (0.056)	0.200** (0.097)
Inequality averse	0.027 (0.052)	0.199*** (0.059)	0.037 (0.074)	0.144*** (0.050)	0.293*** (0.097)
Have been unemployed in past	0.025 (0.036)	0.013 (0.043)	0.001 (0.048)	0.043 (0.036)	0.045 (0.077)
Beliefs about future mobility: upwardly mobile (dummy)	-0.007 (0.037)	0.033 (0.042)	0.038 (0.049)	0.065* (0.036)	-0.050 (0.081)
Perceived past mobility: upwardly mobile (dummy)	0.036 (0.034)	0.003 (0.039)	0.040 (0.052)	0.002 (0.032)	0.012 (0.068)
Perceived inequality (share top/share bottom, z)	-0.004 (0.016)	0.011 (0.023)	0.014 (0.025)	-0.007 (0.017)	0.072 (0.049)
Misrust in politicians (1-4)	0.047* (0.025)	0.029 (0.032)	0.023 (0.037)	0.028 (0.025)	0.100* (0.053)
Success under individuals' control (risk, effort, education)	-0.082*** (0.027)	-0.076* (0.040)	-0.035 (0.042)	-0.091*** (0.030)	-0.050 (0.068)
Success determined by external factors (luck, inheritance)	0.066*** (0.023)	0.030 (0.027)	0.108*** (0.031)	0.009 (0.023)	0.061 (0.047)
Above-median estimation of absolute number of poor in CH	-0.007 (0.033)	0.007 (0.039)	0.017 (0.050)	0.027 (0.031)	-0.029 (0.071)
Constant	0.626** (0.256)	0.071 (0.344)	0.426 (0.352)	0.442* (0.250)	0.568 (0.615)
Other socio-demographics	Yes	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Other preference measures and general trust	Yes	Yes	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes	Yes
R^2	0.194	0.185	0.265	0.167	0.370
Observations	363	366	204	454	149

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Column 1 (2) show the results for below-median (above-median) income earners. Individuals in column 3 (4,5) report that they believe they earn less (the same, more) than the average income of individuals of a similar age. Other socio-demographics include gender, age, age squared, a dummy variable indicating whether the respondent's native language is french, and a dummy indicating whether the respondent is married. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Other preference measures and general trust include controls for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Finally, note that the belief that individual success is due to external sources plays no role for above-median or above-average income earners, but appears to be an important determinant of support for redistribution for those below the median or the average.

4.5 Does the nature of other-regarding preferences matter?

Our previous results show that *both* inequality aversion and an altruistic concern for social welfare are substantially associated with the aggregate support for redistribution. Aggregating across various redistributive proposals has the advantage of smoothing the inevitable randomness in respondents' answers, but it has the disadvantage of hiding that the two types of other-regarding preferences may play a heterogeneous role across the different policy proposals. In fact, inequality aversion and a concern for social welfare differ fundamentally from each other with regard to the willingness to incur cost to reduce the income of the rich for the sake of achieving equality.

Two of "our" national plebiscites have a strong egalitarian flavor – the 1:20 and the fair taxes initiatives. Their initiators framed both of these initiatives in terms of rectifying the unjust distribution of income and the unfairly low taxes that rich people pay in a fair number of Swiss cantons. We also asked the participants of our follow up study how they perceived these initiatives in terms of redistributive consequences. With regard to the 1:20 plebiscite, we asked whether the initiative will primarily "increase the income of those who earn little" or "decrease the income of those earning a lot" on a five-point scale. With regard to the fair taxes plebiscite, we asked whether participants believe that this initiative will primarily "reduce the taxes of those with low incomes" or "increase the taxes of those with high incomes". Figure 7 shows that the vast majority of the people perceived these initiatives as decreasing the incomes of the rich and only a tiny minority perceived them as increasing the incomes of those who earn little. These initiatives might therefore be particularly appealing to individuals who are generally inequality averse, while people with a concern for social welfare may find them less appealing.

Are the above conjectures regarding the differential role of inequality aversion and concerns for social welfare borne out by the data? Table 5 shows how these preferences are associated with political support for the 1:20 and the fair taxes initiative. In addition to showing the results for the two individual initiatives (columns 2-3 in Table 5), we also constructed an index of aggregate support for these two "reduce incomes of the rich" initiatives in column 1 of Table 5. The table shows that inequality aversion is always associated with a substantial increase in the political support for redistribution, while concerns for social welfare play a much smaller role.[30] On average, inequality averse individuals are 15.4 percentage points

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[30]This conclusion is robust to differentiating between individuals with a strong and a moderate concern for social welfare. Even those with a strong concern for social welfare do not exhibit significantly increased support for the 1:20 and the fair taxes initiative compared to the predominantly selfish individuals (see Table C.9 in

($p < 0.01$) more likely to support the "reduce incomes of the rich" initiatives. In contrast, individuals with a concern for social welfare are only 8.6 percentage points more likely to support these proposals ($p = 0.064$). This difference in the role of inequality aversion and concerns for social welfare is significant ($p = 0.034$). Another interesting finding in Table 5 is that the role of income is quite large for the "reduce incomes of the rich" initiatives: above-median income earners are 11 percentage points more likely to *oppose* these proposals. However, the coefficient for inequality aversion is still considerably higher than the income coefficient; in fact, the coefficient for inequality aversion for the fair taxes initiative is more than twice as large as the above-median income coefficient.

Figure 7: Perceived distributive consequences of the different initiatives

(a) 1 to 20

(b) Fair taxes

(c) UBI

(d) Min Wage
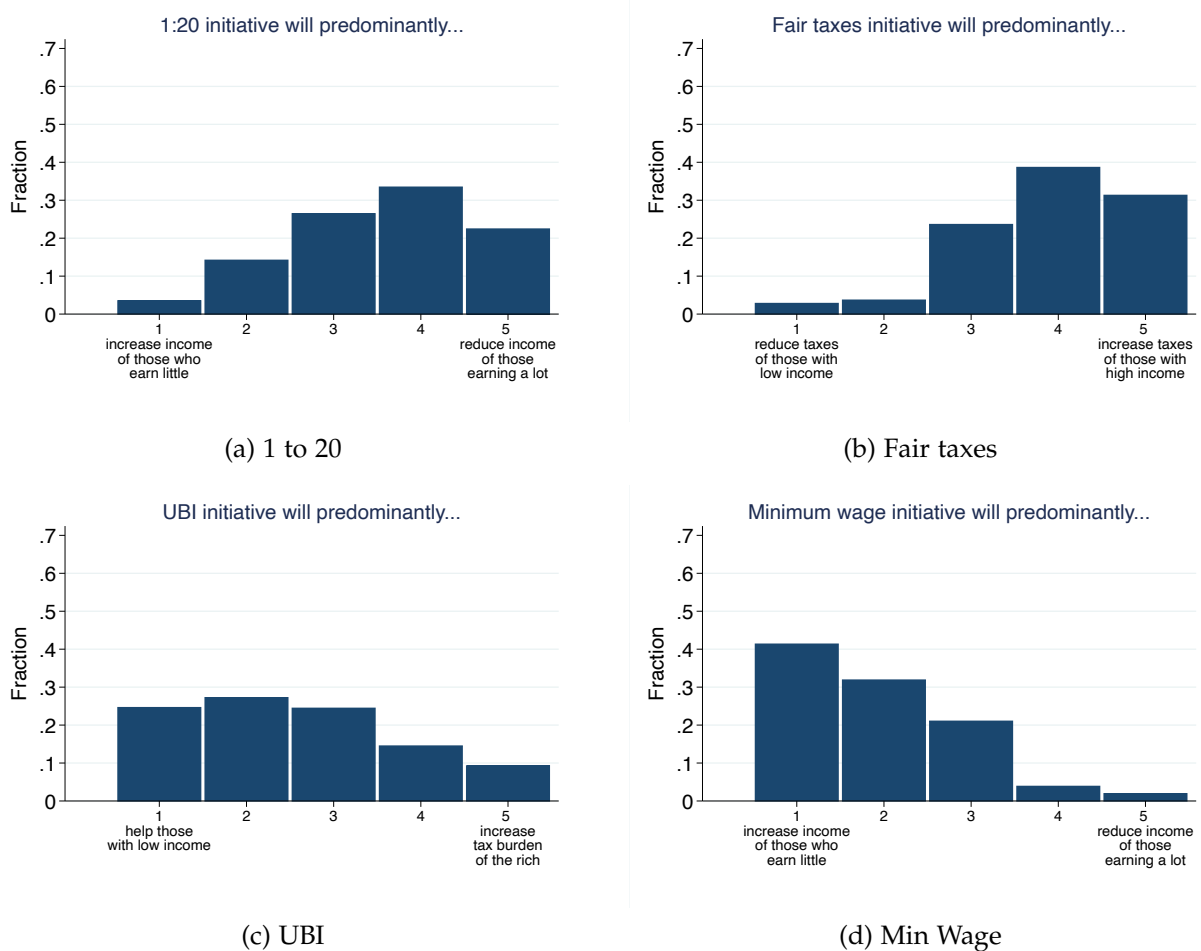
Which role do the two different social preference types play in the other two plebiscites? If we just focus on the primary goal of the unconditional basic income (UBI) initiative and the minimum wage initiative, theoretical considerations do not predict differences because both initiatives are about supporting worse off individuals – a behavior that both types have shown

Appendix C.5).

in the money-allocation task. Thus, a priori both social preference types appear equally relevant. However, the public discussion with regard to the UBI initiative also concentrated a lot on the financing of the proposal through higher taxes which – in the presence of a progressive income tax system like in Switzerland – means disproportionately higher tax payments for the richer individuals. We asked the participants in the follow-up study about whether the UBI initiative will primarily "help those with low incomes" or will primarily lead to a "higher tax burden for the rich" (on a five-point scale) and a considerable share of the people thought that it will primarily lead to higher taxes for the rich (see Figure 7). This perception might make the UBI differentially more attractive for inequality averse individuals and less attractive for affluent individuals. The data in Table 5 (column 6) appear consistent with this perception because inequality averse individuals are significantly more likely to support the UBI initiative relative to the predominantly selfish individuals, while the coefficient for those with a concern for social welfare is not statistically significant although it is still fairly high. In addition, those with an above-median income show a strong opposition to the UBI, being 11 percentage points less likely to support it.

The perceptions are quite different for the minimum wage initiative, where our participants clearly share the view that it primarily increases the incomes of those who earn little. This makes sense because the question who finally pays for the wage increase (consumers or firms) is complicated and remains opaque for most voters. For this initiative, the coefficient for inequality aversion is basically zero while the "concern for social welfare" coefficient is again fairly high, although it again fails to reach the 5 percent significance level. However, if we focus on those with a strong concern for social welfare, i.e., on those among the social welfare types who put a relatively larger weight on equality compared to "efficiency", we find a significant association. We report these results in appendix C.8. Finally, it is interesting that the coefficient for above-median income is also close to zero for the minimum wage initiative, which is consistent with the idea that affluent people do not perceive higher minimum wages as costly for themselves.

Taken together, these results suggest that inequality aversion appears to play a prominent role whenever income reductions for the rich – whether they come in the form of higher taxes or as direct constraints on rich people's earnings capacity like in the 1:20 initiative – are involved, while altruistic concerns for social welfare seem to play a smaller role in these initiatives. In contrast, and somewhat surprisingly, inequality aversion plays no role in the minimum wage initiative where income reductions for the rich are no theme and the perceived consequence is "merely" an income increase for those who earn little. This contrasts with the role played by strong social welfare concerns, which are significantly associated with increased political support for initiatives that "help the worse off".

Table 5: The role of social preferences in initiatives that "reduce the income of the rich" ("1:20 initiative" and "Fair taxes initiative") and in initiatives that "help the worse off" ("Minimum wage initiative" and "UBI initiative")

	Reduce income of the rich	1:20	Fair Taxes	Help the worse off	Minimum Wage	UBI
	(1)	(2)	(3)	(4)	(5)	(6)
Social welfare concerns	0.088*	0.086	0.061	0.085*	0.092	0.078
	(0.047)	(0.054)	(0.058)	(0.046)	(0.056)	(0.057)
Inequality averse	0.154***	0.123**	0.172***	0.064	0.025	0.107**
	(0.044)	(0.051)	(0.054)	(0.044)	(0.055)	(0.055)
Have been unemployed in past	0.034	0.064*	0.011	0.041	0.020	0.057
	(0.031)	(0.037)	(0.040)	(0.032)	(0.038)	(0.045)
Income: above-median	-0.110***	-0.118***	-0.079*	-0.044	-0.005	-0.110**
	(0.032)	(0.039)	(0.042)	(0.037)	(0.042)	(0.047)
Beliefs about future mobility: upwardly mobile (dummy)	0.063**	0.066*	0.082**	0.027	0.013	0.038
	(0.031)	(0.036)	(0.041)	(0.033)	(0.039)	(0.044)
Perceived past mobility: upwardly mobile (dummy)	0.030	0.021	0.044	-0.013	-0.035	0.011
	(0.028)	(0.033)	(0.037)	(0.029)	(0.035)	(0.039)
Perceived inequality (share top/share bottom, z)	0.009	0.016	-0.002	0.004	0.004	0.018
	(0.014)	(0.018)	(0.018)	(0.016)	(0.018)	(0.022)
Mistrust in politicians (1-4)	0.017	0.015	0.022	0.039*	0.022	0.060**
	(0.020)	(0.024)	(0.026)	(0.023)	(0.026)	(0.027)
Success under individuals' control (risk, effort, education)	-0.063**	-0.039	-0.073**	-0.093***	-0.070**	-0.113***
	(0.028)	(0.033)	(0.035)	(0.027)	(0.034)	(0.034)
Success determined by external factors (luck, inheritance)	0.058***	0.029	0.101***	0.051***	0.029	0.071***
	(0.019)	(0.023)	(0.024)	(0.019)	(0.023)	(0.025)
Above-median estimation of absolute number of poor in CH	-0.011	-0.022	0.022	0.028	0.052	0.020
	(0.028)	(0.033)	(0.036)	(0.030)	(0.035)	(0.039)
Constant	0.373*	0.744***	-0.150	0.431*	0.676**	0.138
	(0.226)	(0.250)	(0.290)	(0.225)	(0.271)	(0.286)
Other socio-demographics	Yes	Yes	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes	Yes
Other preference measures and general trust	Yes	Yes	Yes	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.131	0.100	0.156	0.114	0.088	0.131
Observations	793	759	683	798	769	721

Notes: OLS regression. In columns 1 (4), the dependent variable is the aggregate support, i.e. the average, for two initiatives aimed at reducing the income of the rich (helping the worse off). In all the other columns, the dependent variable equals 1 if the individual supports or "rather supports" the initiative and equals 0 if the individual is against or "rather against" the initiative. Other socio-demographics include gender, age, age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Other preference measures and general trust include controls for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

5   Summary and conclusions

Rising inequality in advanced capitalist countries has again put the issue of redistribution on the political agenda. In this paper, we examined the role of other-regarding preferences for individuals' support for redistribution – a question that has so far received relatively scarce attention in the political economy literature. To answer this question, we took advantage of Swiss direct democracy where 4 radically redistributive proposals were put to vote in national plebiscites during the last 10 years. This enabled us to measure people's support for policy proposals that were actually put to vote instead of using more general hypothetical questions related to demand for redistribution.

Previous research suggests that other-regarding preference may have multiple facets – i.e., individuals may not simply differ in their degree of "other-regardingness", but that there may be qualitatively distinct, and in some sense fundamentally incompatible, types of other-regarding preferences. In our context, this incompatibility concerns, for example, the extent to which other-regarding individuals are willing to sacrifice their own payoff for the sake of achieving equality by reducing richer people's income. Therefore, the first task is to identify which fundamentally distinct social preference types exist in the broader population and to assess their quantitative importance.

For this purpose, we designed an experiment that enables us to identify the existence of distinct social preference types and their quantitative importance in a broad sample of the Swiss population. Applying a novel Bayesian non-parametric clustering method to the data of this experiment, we uncover three fundamentally distinct social preference types with a clear behavioral interpretation: inequality averse individuals (comprising $\approx$ 50% of our population), individuals with altruistic concerns about social welfare and those worse off ($\approx$ 35%) and predominantly selfish individuals ($\approx$15%). Interestingly, the individual-level behavioral variation within types is generally relatively low but within the social welfare type there are two meaningful subgroups – a strong type that puts more weight on helping those who are worse off, and a moderate type that puts more weight on joint payoffs.

We link individuals' type of social preference with their political support for redistribution and show that both types of other-regarding preference are associated with a significantly higher support for redistribution compared to the predominantly selfish type. This association is robust to controlling for additional covariates which includes a large battery of socio-demographic variables and other important determinants of demand for redistribution that were previously discussed in the literature. Even after controlling for individuals' political identity, other-regarding preferences remain strongly associated with political support for redistribution. In addition, we also show that social preferences are particularly strong predictors of support for redistribution among individuals with an income above the median. Inequality averse above-median income earners are 20 percentage points more likely

to support redistribution than predominantly selfish individuals. Similarly, above-median income earners with a social welfare concern are 13 percentage points more likely to support redistribution compared to predominantly selfish individuals. In contrast, for below-median income earners the discernible effect of social preferences is strongly diluted. Finally, the identification of two quantitatively important social preference types enables us to examine their potentially differential role for different types of redistributive policies. It turns out that inequality averse individuals are substantially more likely to support policies that "reduce the income of the rich" than those with an altruistic concern for social welfare, while the latter appear to be (slightly) more supportive of policies that "help the worse off".

Altogether, these results suggest that one can gain interesting new insights into the political economy of support for redistribution by taking other-regarding preferences – and the variety thereof – into account. We therefore believe that the future research in this domain would benefit from routinely measuring other-regarding preferences like inequality aversion and concerns for social welfare. To make this possible, we provide a simplified version of our experimental tool which allows the identification of the different social preference types with only 5 different budget lines. We hope that this simplified tool will facilitate the application of the methods used in this paper to examine the distribution of other-regarding preferences in many more contexts including other cultures, countries and other types of redistributive policies.

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Appendix

Table of Contents

A Background information on experimental tasks, survey measures and population sample

A.1 Choice situations

The following Table A.1 shows the choice situations in the money allocation task that were used to identify subjects' other-regarding preferences. We used the 14 choice situations in the center bundle to identify the different types of other-regarding preferences and the distribution of individuals across types while the 14 choices in the north bundle and the 14 choices in the south bundle were used to validate the behavioral interpretation of the type distribution identified in the center bundle.

The meaning of the list of variables in Table A.1 is as follows:

- 'choiceId': the unique identifier for each choice situation.

- $(own1, other1)$: represents the payoff combination at the lower end of the budget line (in points).

- $(own2, other2)$: represents the payoff combination at the upper end of the budget line (in points).

- 'bundle': indicates to which bundle the respective choice situation belongs to.

- 'slope': the slope of the budget line in the "own payoff – other payoff" space.

Table A.1: Choice situations in the money allocation task

choiceId	own1	own2	other1	other2	bundle	slope
1	450	750	750	450	center	-1.0
2	750	1050	1050	750	center	-1.0
3	450	1050	750	750	center	0.0
4	500	1000	800	700	center	-0.2
5	550	950	850	650	center	-0.5
6	600	900	900	600	center	-1.0
7	650	850	950	550	center	-2.0
8	700	800	1000	500	center	-5.0
9	750	750	1050	450	center	-Inf
10	700	800	500	1000	center	5.0
11	650	850	550	950	center	2.0
12	600	900	600	900	center	1.0
13	550	950	650	850	center	0.5
14	500	1000	700	800	center	0.2
15	300	600	900	600	north	-1.0
16	600	900	1200	900	north	-1.0
17	300	900	900	900	north	0.0
18	350	850	950	850	north	-0.2
19	400	800	1000	800	north	-0.5
20	450	750	1050	750	north	-1.0
21	500	700	1100	700	north	-2.0
22	550	650	1150	650	north	-5.0
23	600	600	1200	600	north	-Inf
24	550	650	650	1150	north	5.0
25	500	700	700	1100	north	2.0
26	450	750	750	1050	north	1.0
27	400	800	800	1000	north	0.5
28	350	850	850	950	north	0.2
29	600	900	600	300	south	-1.0
30	900	1200	900	600	south	-1.0
31	600	1200	600	600	south	0.0
32	650	1150	650	550	south	-0.2
33	700	1100	700	500	south	-0.5
34	750	1050	750	450	south	-1.0
35	800	1000	800	400	south	-2.0
36	850	950	850	350	south	-5.0
37	900	900	900	300	south	-Inf
38	850	950	350	850	south	5.0
39	800	1000	400	800	south	2.0
40	750	1050	450	750	south	1.0
41	700	1100	500	700	south	0.5
42	650	1150	550	650	south	0.2

A.2 Demographic characteristics of sample population

In Table A.2 below we describe the main socio-demographic characteristics of the population in our main study and the follow-up study. In Table A.3, we compare our sample population from the main study with the overall population of Swiss voters for key demographic characteristics.

Table A.2: Socio-demographic characteristics of sample population

	Main study		Follow-up	
	Mean	S.D.	Mean	S.D.
Male	0.55	0.50	0.56	0.50
18-25 y.o.	0.11	0.31	0.10	0.29
26-35 y.o.	0.13	0.34	0.12	0.32
36-45 y.o.	0.25	0.43	0.24	0.43
46-55 y.o.	0.22	0.42	0.23	0.42
56-65 y.o.	0.16	0.37	0.18	0.39
> 65 y.o.	0.12	0.33	0.13	0.34
Have been unemployed in past	0.32	0.47	0.34	0.47
Married	0.53	0.50	0.53	0.50
Occupation: Full-time job	0.44	0.50	0.43	0.50
Occupation: Part-time job	0.27	0.45	0.26	0.44
Occupation: Currently unemployed	0.03	0.17	0.03	0.17
Occupation: Not in labor force	0.26	0.44	0.28	0.45
Education: Obligatory school (up to 14 y.o.)	0.04	0.20	0.04	0.19
Education: Vocational training	0.37	0.48	0.38	0.49
Education: High school	0.13	0.34	0.15	0.36
Education: University	0.34	0.47	0.33	0.47
Education: Other	0.11	0.31	0.10	0.30
Income bracket: ≤ CHF 4000	0.25	0.43	0.24	0.43
Income bracket: CHF 4001-6000	0.20	0.40	0.21	0.41
Income bracket: CHF 6001-8000	0.20	0.40	0.20	0.40
Income bracket: CHF 8001-10000	0.14	0.35	0.14	0.35
Income bracket: CHF 10001-15000	0.09	0.29	0.09	0.29
Income bracket: > CHF 15000	0.02	0.13	0.02	0.13
Income bracket: NA	0.10	0.30	0.10	0.29
French speaking	0.23	0.42	0.20	0.40
Observations	815		573	

Table A.3: Comparison of sample population with the population of Swiss voters

	Sample	Population
Age	46.48	51.08
Male	0.55	0.48
Education : Obligatory school	0.04	0.11
Education : Vocational training	0.37	0.42
Education : High school	0.13	0.10
Education : University	0.34	0.35
Education : Other	0.10	-
Income bracket : ≤ CHF 4000	0.25	0.28
Income bracket : CHF 4001-6000	0.20	0.26
Income bracket : CHF 6001-8000	0.20	0.22
Income bracket : CHF 8001-10000	0.14	0.12
Income bracket : CHF 10001-15000	0.09	0.09
Income bracket : ≥ CHF 15000	0.02	0.03
Income bracket : NA	0.10	-
Unemployed	0.03	0.03

Notes: The table displays descriptive statistics (mean) for the main socio-demographics of the main sample and for the Swiss population. The population data were obtained from the Swiss Federal Bureau of Statistics (2018) and are restricted to the adult Swiss population (i.e. individuals holding a swiss passport who are at least 18 years old).

A.3 Details on the measurement of political support for redistribution and other covariates

Political support for redistribution

The concrete wording of the 1:20 initiative in our online survey is given in the main text. Below, we provide the concrete wording for the other three redistributive proposals.

Fair taxes initiative Suppose that a vote takes place next weekend. The goal of this vote is to subject higher incomes to a minimum level of taxation. In particular, the law provides the following two points :

- Municipalities and cantons are required to tax any income exceeding CHF 250,000 per year at a minimum rate of 22%. This means that, above the threshold of CHF 250'000, each additionally earned franc is taxed at a rate of at least 22%. For example, if a person has an income of CHF 300,000, then that person is taxed on the first CHF 250,000 at a rate that can be freely set by the cantons and the municipalities, but the remaining CHF 50,000 must taxed at a rate of at least 22%.

- Municipalities and cantons are obliged to tax any wealth exceeding CHF 2'000'000 at a rate of at least 0.5%. This means that, above the threshold of CHF 2 million, every additional Swiss franc of wealth is taxed at a rate of at least 0.5% (i.e. at 0.5 centimes per franc). For example, if a person owns a fortune of CHF 4 million, the first CHF 2 million will be taxed at a rate that can be freely set by the cantons and the municipalities, but must be taxed at a rate of at least 0.5% on the remaining CHF 2 millions

Would you support or reject this initiative? [Answer categories: Support, Rather support, Don't Know, Rather reject, Reject]

Minimum wage initiative   In May 2014, Switzerland voted on the introduction of a legal minimum wage of CHF 22 per hour, i.e. approximately CHF 4,000 per month (before taxes). The initiative wanted to constrain the companies to pay each worker at least CHF 22 per hour worked. Suppose that next weekend another plebiscite takes place, but that this time the initiative is about a legal minimum wage of CHF 16.50 per hour, i.e. around CHF 3,000 per month (before taxes). Would you support or reject this initiative? [Answer categories: Support, Rather support, Don't Know, Rather reject, Reject]

Unconditional basic income (UBI) initiative   Suppose that a vote on the introduction of an unconditional basic income takes place next weekend. If this initiative is accepted, the federal government automatically pays the basic income to every citizen in Switzerland. Would you support or reject this initiative? [Answer categories: Support, Rather support, Don't Know, Rather reject, Reject]

Socio-demographics, other preference measures and trust

In addition, we collected information on age, gender, marital status, the highest achieved level of education (compulsory school, vocational training, high school, university, other), occupational status (full time job, part-time job, currently unemployed, not in the labor force), whether the individual has experienced unemployment in the past, municipality of residence and income. In addition, we measured risk preferences, patience, negative reciprocity and positive reciprocity as well as subjects general trust in people with the experimentally validated survey questions of Falk et al. (2016).

We also elicited individuals' beliefs that are potentially relevant for their voting behavior such as their beliefs about the chances to improve one's life over the next few years ('mobility'), perceived inequality, trust in politicians and the sources of individuals' success in life. We describe the details of these measures below.

Role of internal (controllable) sources of individual success

Individuals are asked the following questions (taken from Fong 2001 and Gallup): "Below are several reasons why some people get ahead and succeed in life and others do not. Using a 1-5 scale, where 1 means not at all important and 5 means extremely important, please tell us how important each of the following items is as a reason for a person's success. You can choose any number from one to five. How important is:

- Willingness to take risks (risk)

- Hard work and initiative (hardwork)

- Have the right education and training (education)

We then create an index denoted as "Success under individual's control" which is given by (risk+hardwork+ education)/3.

Role of external (uncontrollable) sources of individual success

Individuals are asked the following questions (taken from Fong 2001 and Gallup): "Below are several reasons why some people get ahead and succeed in life and others do not. Using a 1-5 scale, where 1 means not at all important and 5 means extremely important, please tell us how important ieach of the following items is as a reason for a person's success. You can choose any number from one to five. How important is:

- Inheritance (inheritance)

- Luck, being at the right time at the right place (luck)

We then create an index denoted as "Success determined by external factors" which is given by (inheritance + luck)/2.

Mistrust in politicians

What do you think about the following statement? "Swiss politicians work to enrich themselves and the lobbies that they support instead of working for the benefit of the majority of the citizens. [1. Disagree, 2. Rather disagree, 3. Rather agree, 4. Agree]

Mobility

Two mobility measures are constructed from the following three questions (based on Fong 2001 and Gallup):

1. Think of a picture of a ladder. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom represents the worst possible life for you. If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time? [current step]

2. On which step would you say you stood five years ago? [past step]

3. Just your best guess, on which step do you think you will stand in the future, say about five years from now? [future step]

Based on the answers we create the following measures:

- Beliefs about future mobility = future step - current step. This variable ranges from -10 to +10.

- Perceived past mobility = current step – past step. This variable ranges from -10 to +10.

  We then construct two dummies for [expected future/perceived past] mobility:

- 'Beliefs about future mobility: upwardly mobile' = 1 if beliefs about future mobility > 0

- 'Perceived past mobility: upwardly mobile' = 1 if perceived past mobility > 0.

Perceived inequality

Subjects are presented the following text: "For the next questions, we define income as the total salary received by an individual for his work. We refer to gross income as the income received by an individual prior to any tax, pension and social insurance deduction. The total income of a country corresponds to the sum of incomes that all households in the country receive. Consider the two most extreme examples:

- In a country with nearly the maximum level of income inequality, the 10% of the households with the highest earnings receive 100% of the total income. The remaining 90% of the households receive 0% of the total income.

- In a country with nearly the minimum level of income inequality, the 10% of the households with the highest earnings receive 10% of the total income. The 10% of the households with the lowest earnings receive 10% of the total income

What do you think is the share of the total income that the 10% of households with the highest income receives in Switzerland? [perceived top share] The 10% of households with the highest income earn the following share of the total income: ...

What do you think is the share of the total income that the 10% of households with the lowest income receives in Switzerland? [perceived bottom share] The 10% of households

with the lowest income earn the following share of the total income: ...

We then construct the following index of perceived inequality (and we z-score it): Perceived Inequality = (Perceived top share - Perceived bottom share)/100.

A.4 Attrition

The Table A.4 below shows that participation in wave 2 is orthogonal to social preferences, and to most of the covariates.

Table A.4: Attrition

	Participated in follow up	
	(1)	(2)
Social welfare concerns	-0.025	0.002
	(0.048)	(0.052)
Inequality averse	-0.047	-0.016
	(0.046)	(0.050)
Income: above-median		-0.019
		(0.041)
Male		0.045
		(0.039)
Age		0.024***
		(0.008)
Age squared		-0.000***
		(0.000)
French speaking		-0.113
		(0.175)
Have been unemployed in past		0.084**
		(0.037)
Married		-0.018
		(0.038)
Standardized values of (riskaversion)		0.014
		(0.017)
Pos Rec 1 : return favor (z)		-0.007
		(0.017)
Pos Rec 2 : reciprocate help (z)		0.005
		(0.017)
Neg Rec 1 : Revenge injustice (z)		0.013
		(0.021)
Neg Rec 2 : reciprocate bad position (z)		0.009
		(0.022)
Standardized values of (impatience)		-0.006
		(0.017)
Standardized values of (trustnaef)		-0.003
		(0.017)
Income: Undisclosed		-0.061
		(0.061)
Education: Vocational training		-0.112
		(0.087)
Education: High school		0.026
		(0.092)
Education: University		-0.136
		(0.089)
Education: Other		-0.208**
		(0.101)
Occupation: Part-time job		0.001
		(0.045)
Occupation: Currently unemployed		0.034
		(0.104)
Occupation: Not in labor force		0.070
		(0.048)
Beliefs about future mobility: upwardly mobile (dummy)		-0.009
		(0.039)
Perceived past mobility: upwardly mobile (dummy)		-0.050
		(0.035)
Perceived inequality (share top/share bottom, z)		0.019
		(0.018)
Mistrust in politicians (1-4)		0.010
		(0.024)
Success under individuals' control (risk, effort, education)		0.037
		(0.032)
Success determined by external factors (luck, inheritance)		0.009
		(0.023)
Above-median estimation of absolute number of poor in CH		0.009
		(0.034)
Constant	0.736***	-0.044
	(0.040)	(0.257)
Canton FE	No	Yes
R^2	0.001	0.085
Observations	815	813

Notes: OLS regression. The dependent variable measures participation in wave 2. It is a dummy which equals 1 if the subject did participate in the follow-up study, and zero otherwise. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

A.5   Description of the follow-up study

Two years after the main study, we contacted the same respondents again in order to collect three additional pieces of information: a) their beliefs about the perceived distributional consequences of the different initiatives, b) their willingness to donate *real* money to civic organizations that either support or oppose redistribution, and c) their support for a placebo initiative that is unrelated to redistribution. In this section, we describe how these different measures were elicited.

Perceived distributional consequences of the different initiatives

We measured respondent's beliefs about the primary goals and implications of the four initiatives by asking respondents to indicate whether a particular initiative would primarily affect those with low income, or those with high income. For each initiative, we described the proposal in a similar way as in the main study. For example, we elicited respondents beliefs about the perceived distributional consequences of the 1:20 initiative as follows:

"Suppose that a vote on an initiative aimed at limiting pay inequality within companies takes place next weekend. This initiative demands that the highest salary paid by a company must not exceed twenty times (20 times) the lowest salary paid by that same company. In your opinion, what will be the primary effect of this initiative? Do you think this initiative will primarily increase the income of the employees who earn only little, or do you think that it will primarily reduce the income of the employees at the top of companies who earn a lot? Please indicate your answer on a scale from 1 to 5, where 1 means you think this initiative will "primarily increase the income of those who earn only little" and 5 means you think this initiative will "primarily reduce the income of those earning very much"."

Beliefs about the perceived distributional consequences of the other initiatives were elicited in a similar way.

Donation tasks

We measured support for and opposition to redistribution using three donation tasks with *real* monetary stakes using the following questions.

"In recent years, international competition, globalization and technological progress have put the issue of inequality in our societies at the center of the discussion. Some people feel that inequality has increased too much while others do not see this as a big problem. There are, in principle, several ways to reduce inequality in a country.

- *One way to reduce inequality is to improve the economic situation of those who have low incomes. This can be achieved, for example, through raising wages (via a minimum wage initiative that ensures that companies cannot pay wages below the minimum) or by giving those with low incomes financial support (for example by offering them Child allowances, discounted health insurance premiums, discounted kindergarten tariffs or subsidies to cover their housing costs).*

- *Another way to reduce inequality is by reducing the income or the wealth of the rich. This can be achieved, for example, by ensuring that they pay more taxes or by putting a limit on the maximum salary or bonus they can be paid.*

Various political and social groups are currently supporting different measures intended to reduce inequality in Switzerland. Some groups are primarily concerned with helping those with lower incomes, while others primarily support measures that would ensure that the rich contribute more to tax revenues or that very high salaries and bonuses are limited. Examples of such groups include non-profit organizations (e.g. CARITAS), unions and political parties. In contrast, other political and social groups want lower taxes for people with high incomes, and do not want to limit the salaries and the bonuses of top managers.

In the following task, your will have to take three decisions. Each decision will involve splitting CHF 20 (that you receive from us) between yourself and a political or a civic group. In each of the three decisions, the policies supported by the group will be different. At the end of the study, the computer will randomly select one of your decisions and implement it. This means that one of these groups will really receive your donation, and you will keep the remaining money. The money that you decide to keep for yourself will be transferred directly to your bank account by LINK at the end of this survey. The university of Zurich will transfer your donation to the civic group shortly after the end of the survey."

For each decision, we then told subjects that they received CHF 20 from us, and asked them to decide how to spend these 20 francs. For example, we asked:

"For this decision we give you CHF 20. You can use this money to help a group or an organization that supports political measures that increase the contribution of the rich to tax revenue. The money that you do not give to such a civic group can be kept by yourself. How much of the CHF 20 do you want to give to a group or an organization that supports political measures that improve the tax and income situation of those with lower incomes? Please indicate how much you want to donate. You can choose any number between 0 and 20."

The two other decisions were asked in a similar way.

Support for a placebo initiative

We elicited support for the placebo initiative using the exact same methodology as for the four redistributive initiatives from the main study. Specifically, we asked:

"Suppose that next weekend a referendum on the designation of federal judges takes place. The initiative wants to constrain the influence of political parties on the selection of federal judges by proposing that they are elected via a random draw. A specialized commission makes sure that the candidates that can be drawn as judges have the appropriate professional and personal skills to be eligible to become a federal judge. The members of the specialized commission are elected by the Federal Council and can serve for a maximum of 12 years. Would you accept this initiative, or would you reject it?"

The answer categories are: Accept, Rather accept, I don't know, Rather reject, Reject.

B Material related to the identification of the type distribution of other-regarding preferences

B.1 Details on the method for identifying the distribution of preference types

This appendix provides a slightly more technical description of the clustering algorithm used to identify the preference types and their distribution in the population. We first briefly compare the Dirichlet process (DP) means algorithm used in this paper to the widely used k-means algorithm. We then outline our implementation.

The k-means algorithm (originally proposed by Lloyd (1957/1982) and Forgy (1965)) can be derived as a limiting case of the Expectation-Maximization (EM) algorithm for a Gaussian mixture (see, e.g., Bruhin, Epper and Fehr-Duda (2010) and Burghart, Epper and Fehr (2017) for applications of the EM algorithm). More specifically, when letting the posterior probabilities of being assigned to one of k clusters (where the number of clusters is fixed ex-ante) converge towards certainty or impossibility we obtain a hard clustering corresponding to k-means clustering. The same can be done in a Bayesian setting: Starting with a Gibbs sampler of the Dirichlet process (DP) mixture one obtains DP-means as an asymptotic result (see Kulis and Jordan (2012)). There are several key differences between the k-means and the DP-means algorithm. First, for k-means the statistician has to ex-ante define the number of clusters she wants the observations to be assigned to. For DP-means, she has to set only a cluster penalty parameter that we denote by λ and that penalizes the addition of new clusters.[31] Once λ is fixed, the number of clusters emerge endogenously. For example, by setting $\lambda = 3.75$ we obtain three types, for $\lambda = 4$ there are two types, and $\lambda = 3.5$ leads to four types (see also Appendix B.4).

Our implementation of the algorithm is based on an iterative refinement. We first span an m-dimensional space, with m denoting the number of budget lines used for the clustering algorithm, and then map individuals' choices for the m budget lines into it. Consequently, each individual's choices are represented by a single point in the m-dimensional space. We then ask how subjects populate this space. Specifically, we are interested in the number of clusters (i.e. types) that emerge and individuals' assignment to clusters. A cluster is characterized by the set of the individuals assigned to the cluster and the associated mean vector of observations (the "centroid"), which – in our case – represents the mean (cluster-representative) behavior of the individuals in m-dimensional space that belong to the cluster.

We initialize the algorithm with a single centroid specified as the global mean vector. At this stage, all data points are assigned to this single centroid. We then refine by iterating over the following two steps: First, we sequentially go through the list of data points in m-dimensional space (i.e. subjects), and check for each subject whether any of the squared

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[31]There exist extensions of this DP-means algorithm that endogenize this step (see e.g. Comiter et al. (2016)). This comes at much more complexity, however, and does not provide further insights for our application.

Euclidean distances to the centroid exceeds the cluster penalty parameter λ. If this is the case, we open up a new cluster with the actual data point's location vector as the centroid. Otherwise, we assign the data point to its nearest cluster. Second, we collect the subjects assigned to the same clusters and update the centroids by computing the mean vector for each cluster. These two steps are repeated until convergence is reached, i.e. until there is no change in subjects' assignments.[32]

As Kulis and Jordan (2012) demonstrate, this iterative procedure is equivalent to minimizing the objective

$$\min_{\{g_c\}_{c=1}^k} \sum_{c=1}^k \sum_{x \in g_c} \|x - \mu_c\|^2 + \lambda k,$$

where x denotes the vector of observations, μ the vector of centroids, and g the cluster partitioning of x. It is straightforward to see that this objective is equivalent to the k-means objective except for the additional penalty term λk.

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[32]In principle, the clustering could depend on the ordering of observations in the data. To check whether this poses an issue in our case, we shuffled the observations and re-ran the clustering for each permutation. Our conclusions and, in particular, the types that emerge from our data and the individuals' assignments are not affected by this exercise.

B.2 Validating the behavioral types with the north bundle

In Section 3.3 and Figure 5 we have shown that the preferences of the three fundamentally distinct types of other-regarding preferences are well validated by individuals' behavior in the south bundle of budget lines. Here we extend this validation exercise to the north bundle in which the decision-maker is always at least weakly better off than the other participant.

For *budget lines with a negative slope* (from -inf to -0.2), the egalitarian allocation coincides in the north bundle with the own-payoff maximizing allocation. Thus, individuals that are inequality averse should predominantly chose the own payoff maximizing allocation for these budget lines which is indeed what we observe (see Figure B.1 below). Individuals belonging to the predominantly selfish type should also chose the own-payoff maximizing allocation for these budget lines, which is also borne out by the data show in Figure B.1 below. Finally, individuals belonging to the social welfare type will deviate from the own-payoff maximizing choice if the negative budget lines are very steep, i.e., if they can increase the total payoff by sacrificing own money. And indeed, for the budget lines with slope -inf, -5 and -2, which enable increases in total payoff by making altruistic choices, these individuals deviate very frequently in the altruistic direction thus validating that they are concerned about the total payoff. This concern for total payoffs is further supported by the fact that for those negative budget lines for which altruistic behavior does not generate total payoff increases (slopes -1, -0.5 and -0.1) these subjects predominantly chose the own-payoff maximizing allocation.

Figure B.1: Behavior of types in the north bundle

choice

◆ minimize own payoff
● central allocation
▲ maximize own payoff

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and equality-maximizing) allocations.

For *budget lines with non-negative slopes* (from 0 to +5) those concerned with social welfare should always choose the own-payoff maximizing allocation regardless of the consequences for the payoff distribution. Again, the vast majority of individuals assigned to the social welfare type exactly behaves in this way. For the inequality averse individuals, the situation is more complicated because for budget lines with slope +2 and +5 the own payoff-minimizing

("green") allocation coincides with the allocation that comes closest to equality. Therefore, these subjects should show deviations from own-payoff-maximizing behavior; in fact, the vast majority chooses either the central or the own-payoff minimizing allocation for these budget lines. In contrast, for the budget lines with a zero or moderate slope (0, +0.2, +0.5) the own-payoff maximizing allocation coincides with the allocation that comes closest to payoff equality. Therefore, here the inequality averse subjects should choose the own-payoff maximizing allocation which indeed is the case for the vast majority of inequality averse individuals. The predominantly selfish types should also choose the own-payoff maximizing allocation for these budget lines and most of them indeed do so.

B.3   Validating the behavioral types with the displaced north bundle and the displaced south bundle

In the north bundle and the south bundle a large number of budget lines include allocations that perfectly equalize the payoffs of both players. To rule out that the existence of these perfectly payoff equalizing allocations affect our validation exercises we had also included a so-called "displaced" north and a "displaced" south bundle in the money allocation task. These budget lines are described in Table B.1 and in Figure B.2. They are displaced in the sense that the fully payoff equalizing allocation is not feasible in most cases.

Figures B.3 and B.4 indicate that the feasibility of a perfectly payoff-equalizing allocation does not matter much because the behavioral patterns of the 3 types in the displaced bundles is very similar to the patterns observed in the non-displaced bundles, i.e. Figure B.3 looks very much like Figure B.1 and Figure B.4 looks very much like Figure 5 in the main text.

Table B.1: Choice situations in the money allocation task in the displaced north bundle and the displaced south bundle

choiceId	own1	own2	other1	other2	bundle	slope
43	250	850	950	950	northDisplaced	0.0
44	300	800	1000	900	northDisplaced	-0.2
45	350	750	1050	850	northDisplaced	-0.5
46	400	700	1100	800	northDisplaced	-1.0
47	450	650	1150	750	northDisplaced	-2.0
48	500	600	1200	700	northDisplaced	-5.0
49	550	550	1250	650	northDisplaced	-Inf
50	600	700	600	1100	northDisplaced	5.0
51	600	800	600	1000	northDisplaced	2.0
52	500	900	700	900	northDisplaced	0.5
53	400	900	800	900	northDisplaced	0.2
54	650	1250	550	550	southDisplaced	0.0
55	700	1200	600	500	southDisplaced	-0.2
56	750	1150	650	450	southDisplaced	-0.5
57	800	1100	700	400	southDisplaced	-1.0
58	850	1050	750	350	southDisplaced	-2.0
59	900	1000	800	300	southDisplaced	-5.0
60	950	950	850	250	southDisplaced	-Inf
61	600	1100	600	700	southDisplaced	0.2
62	600	1000	600	800	southDisplaced	0.5
63	700	900	500	900	southDisplaced	2.0
64	800	900	400	900	southDisplaced	5.0

Figure B.2: Budgets lines in the displaced north bundle and the displaced south bundle

(a) North Displaced Bundle

(b) South Displaced Bundle
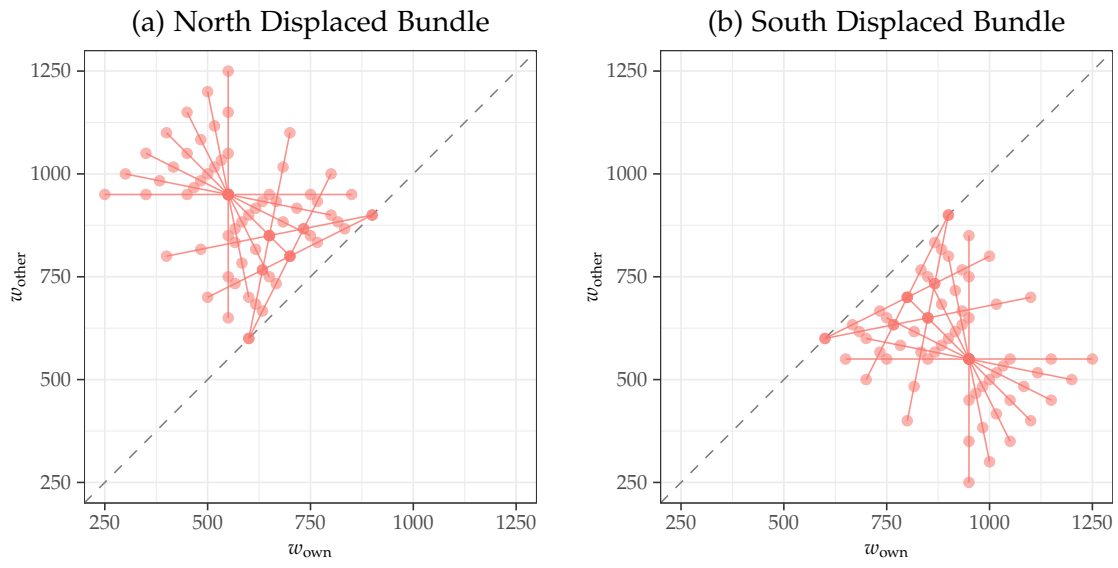
Figure B.3: Behavior of types in the displaced north bundle

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and equality-maximizing) allocations.

Figure B.4: Behavior of types in the displaced south bundle

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and equality-maximizing) allocations while the red color labels the choice of one of the two least generous (and total payoff-minimizing) allocations.

B.4 Allowing for four and more types

In Sections 3.2 and 3.3 of the paper we show that there are three fundamentally different social preference types and we validate our preference interpretation of the behavioral patterns by demonstrating that the different types behave rather consistently across different budget line bundles (Appendix B.2 and B.3). Because these three types show qualitatively very different behavioral patterns, key differences in preferences would be hidden with a lower number of types. It is, however, still interesting to see what happens if we reduce the penalty parameter λ in the DP-means algorithm such that more than three types emerge. If we reduce λ such that four types emerge, the different types are characterized by the behavioral patterns displayed in Figure B.5 below.

In the case of four types we find again an inequality averse type and a predominantly selfish type but the social welfare type is divided up in a moderate and a strong social welfare type. It is important to keep in mind that we assign these preference labels ex-post, i.e., after we have seen the four behavioral clusters because the DP-means algorithm is agnostic with regard to the preference labels and only "cares" about the creation of behavioral clusters and the assignment of each individual to the nearest behavioral cluster such that each individual is "sufficiently close" to the cluster's mean vector. However, a comparison with the behavioral patterns in case of three types (see Figure 4) quickly reveals that the type that we label "inequality averse" in case of $k = 3$ behaves almost identical to the type we label "inequality averse" in case of $k = 4$. The same holds for the predominantly selfish type. In addition, 49.9% of the people are assigned to the inequality averse type and 13.74% to the predominantly selfish type which is very similar to the 50.8% and the 14.85% in case of three types.

With $k = 4$ the social welfare type is now divided up into two types – a moderate (14.6% of the population) and a strong social welfare type (21.7% of the population). It is justified to label both of them social welfare types because both almost always choose the selfish (and total) payoff maximizing allocation for positively sloped budget lines, implying that they have no willingness to pay to reduce the rich player's income for the sake of equality. And both almost always choose the total payoff-maximizing allocation for the vertical budget line (slope -inf). Yet for the negatively sloped budget lines we see a difference between the moderate and the strong type. In particular, when altruistic behavior is relatively costly (for slopes -.2, -.5) the strong type is much more willing to behave altruistically by choosing the central allocation in the majority of the cases, which justifies the label "strong" for this type. In contrast, the moderate type chooses the selfish allocation in the vast majority of the cases for these budget lines. Interestingly, however, when it is very cheap to behave altruistically (for slopes -2 and -5) the strong type still prefers the central allocation in most of the cases while the moderate type maximizes the total payoff. Thus, the difference between the strong and the moderate

Figure B.5: Type-specific behavioral patterns in case of four types (center bundle)

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and total payoff-minimizing) allocations.

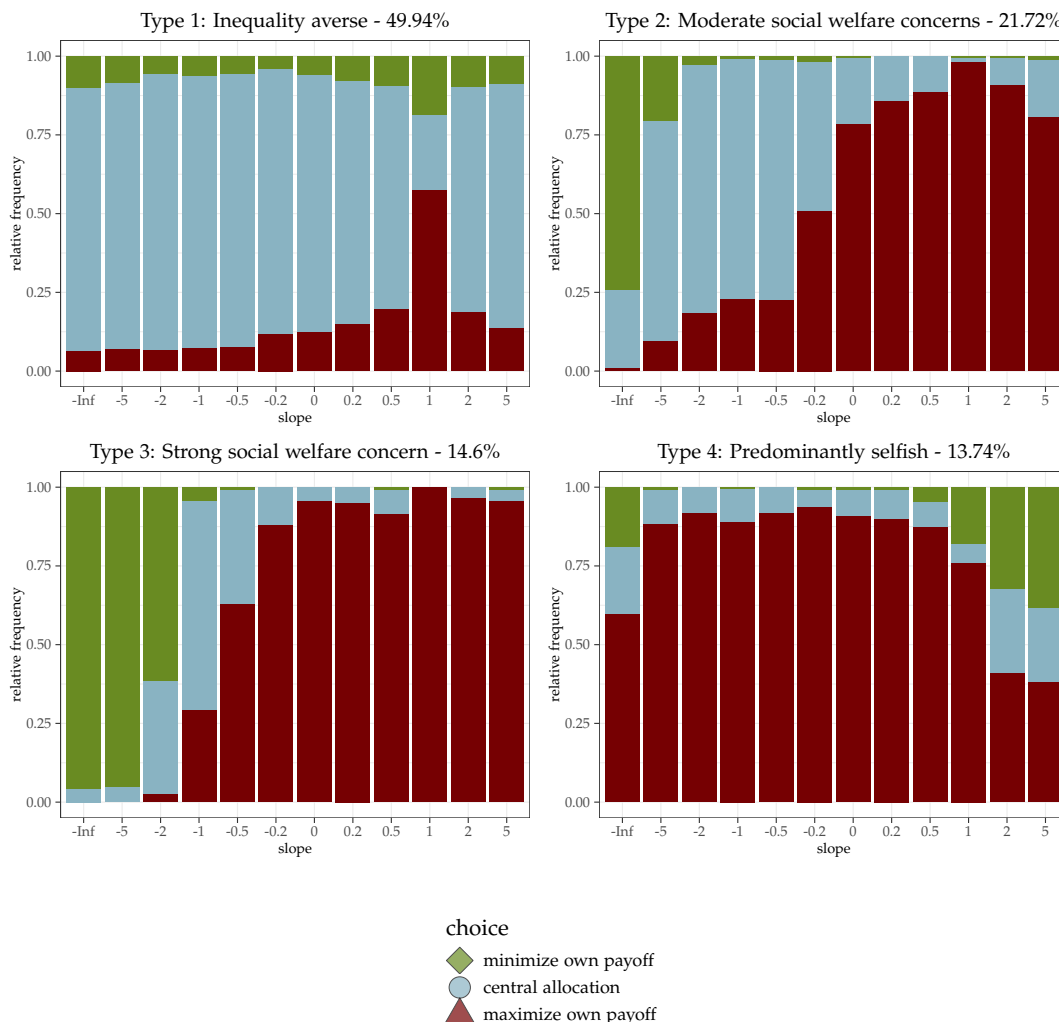type partly also relates to the relative weights of equality versus "efficiency" (i.e., total payoff) in their social preferences.

Finally, to document explicitly that in case of $k = 4$ the social welfare type is divided up we show the transition matrix for the three and the four-type case in the table below. The table indicates that almost all individuals assigned to the inequality averse cluster for $k = 3$ remain in that cluster, and almost all predominantly selfish individuals also remain in "their" cluster when $k = 4$. Moreover, each of the individuals in the social welfare cluster in case of $k = 3$ remains in one of the two social welfare clusters in case of $k = 4$.

Table B.2: Transition of individuals between types

| | | k = 4 types | | | | |
		Inequality averse	Strong social welfare concern	Moderate social welfare concern	Predominantly selfish	Total (%)
k=3	Inequality averse	406	7	1	0	414 (50.8%)
types	Social welfare concern	0	162	118	0	280 (34.4%)
	Predominantly selfish	1	8	0	112	121 (14.8%)
	Total (%)	407 (49.9%)	177 (21.7%)	119 (14.6%)	112 (13.8%)	815 (100%)

If we decrease the penalty parameter λ further such that 5 types emerge we basically get again 4 types that are very similar to those illustrated in Figure B.5 above and they comprise 98.65% of the population, i.e., the fifth type only attracts 1.35% of the population. Similar remarks apply when we allow for $k = 6$ types. The fifth and the sixth type only comprise 1.47% of the population. Thus, taken together, the emerging clusters and their associated be-havioral patterns together with our validation exercises suggest that there are 3 qualitatively fundamentally distinct social preference types – and these three types basically comprise the whole population. However, there is some meaningful and interesting heterogeneity among the social welfare types that justifies that we look deeper into the behavior of this type when we study certain aspects of the relation between other-regarding preferences and support for political redistribution.

B.5 Approximating the type distribution of other-regarding preferences with a small number of budget lines

We used the 14 budget lines of the center bundle to identify the different preference types and the distribution of individuals to the types. Is it possible to achieve a reasonably good approximation of this type classification with a smaller number of budget lines? An affirmative answer could be very useful for future research because the smaller the number of decision problems necessary for identifying the type distribution the easier it is to integrate the money allocation game into surveys. Therefore, we have examined the extent to which subjects are mis-assigned relative to clustering results with the 14 center budget lines when we restrict the application of the DP-means algorithm to 2, 3, 4 or 5 budget lines. For example, for the case of only two budget lines we ask which two among the 14 budget lines yield the smallest misclassification relative to the full set of 14 budget lines. We quantify the misclassification by the relative share of people in the overall sample that is assigned to a different type relative to the type assignment achieved with the 14 budget lines.

When we restrict attention to only 2 budget lines, the two budget lines providing the smallest error relative to all 14 budget lines are associated with 17.6% of misclassified subjects. For three, four and five budget lines the error-minimizing subset of budget lines is associated with misclassification shares of 13.6%, 10.3% and 7.9%, respectively. These number indicate that a lot of information about individuals' preferences is already contained in a relatively small set of budget lines.

The best subset of budget lines when we restrict attention to only 5 budget lines is illustrated in Figure B.6 below. Interestingly, the vertical and the horizontal budget line are included in this subset along with two negatively slope and one positively sloped budget line. Intuitively, the flat and the positively sloped budget line help us to separate the inequality averse from the other subjects because the inequality averse subjects will tend to choose the central allocation for these budget lines. And the steep negatively sloped budget lines help us to separate those with an altruistic concern for social welfare from the other individuals because those with a concern for social welfare will to a large extent choose the own-payoff minimizing (i.e., total payoff maximizing) allocation for these budget lines. Finally, the predominantly selfish individuals are separated from the others with the help of both the negatively and the positively sloped budget lines because they will deviate from the inequality averse type for the positively sloped and from both other social preference types for the negatively sloped budget lines.

Figure B.6 also illustrates the behavioral patterns of the three types derived on the basis of the decisions for the five selected budget lines. The type-specific behavioral patterns in this figure are remarkably similar to the types' behavior in Figure 4 in the main paper (where the types are identified on the basis of 14 budget lines).

In some sense, this is not surprising given that we have only 7.9% of mis-assigned subjects. We show the pattern of mis-assignment in Table B.3 below. The table shows a remarkably good approximation of type assignment and an equally remarkable stability in the population shares of the three types. In total, only 64 of the 815 individuals in our sample are assigned to a different group and the population share of the inequality averse type remains the same under the clustering with 5 budget lines; the population share of the social welfare type is slightly smaller and the share of the predominantly selfish type is slightly larger with 5 budget lines. In Appendix C.5 we will also show that the association between social preferences and political support for redistribution is also quite robust to the substantial reduction of budget lines from 14 to 5.

Table B.3: Transition of individuals between types

| | | Clustering based on 5 budget lines | | | |
		Inequality averse	Social welfare concern	Predominantly selfish	Total (%)
Clustering based on 14 budget lines	Inequality averse	385	21	8	414 (50.8%)
	Social welfare concern	23	252	5	280 (34.4%)
	Predominantly selfish	6	1	114	121 (14.8%)
	Total (%)	414 (50.8%)	274 (33.6%)	127 (15.6%)	815 (100%)

Figure B.6: Type-specific behavioral pattern when clustering is based on the 5 most informative budget lines

Notes: The horizontal axis indicates the cost of increasing the other participant's payoff (i.e., the slope of the budget line). For negatively sloped budget lines these costs are positive and increasing (when moving to the right along the axis). For positively sloped budget lines these costs are negative (i.e., benefits) and the benefits of increasing the other participant's payoff by one unit are decreasing (when moving to the right along the axis). For all budget lines except the vertical one (with slope –infinity) the green colored part of a bar indicates the relative frequency with which the subjects choose one of the two allocations with the lowest payoffs for the decision-maker while the red colored part indicates the relative frequency with which subjects choose one of the two allocations with the highest payoffs for the decision-maker. Blue indicates the relative frequency of one of the three central allocations. For the vertical budget line (with slope -infinity), the green color indicates the choice of one of the two most generous (and total payoff-maximizing) allocations while the red color labels the choice of one of the two least generous (and total payoff-minimizing) allocations.

C Material related to the role of other-regarding preferences in the political support for redistribution

C.1 Assessing the role of other-regarding preferences when restricting the subjects pool to individuals who successfully passed either both or at least one attention check

In order to examine the subjects' attentiveness in the online survey, we added 2 attention checks to the survey (one in the first half and one at the later part of the survey). In our sample, data quality is remarkably high: 76% of the subjects correctly answered both attention checks, and only 11% failed to pass both checks. A comparison of Tables C.1 and C.2 with Table 2 in the paper shows that, if anything, other-regarding preferences play an even stronger role if we exclude individuals who did not pass one or both attention checks.

Table C.1: Social preferences and aggregate political support for redistribution amongst individuals that successfully passed both attention checks

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.130***	0.124***	0.124***	0.117***
	(0.044)	(0.044)	(0.044)	(0.045)
Inequality averse	0.149***	0.145***	0.146***	0.148***
	(0.042)	(0.041)	(0.042)	(0.042)
Income: above-median	-0.077**	-0.083**	-0.081**	-0.081**
	(0.033)	(0.033)	(0.033)	(0.033)
Male	-0.012	-0.004	-0.004	-0.018
	(0.030)	(0.031)	(0.031)	(0.031)
Age	0.007	0.006	0.006	0.002
	(0.007)	(0.007)	(0.007)	(0.007)
Have been unemployed in past	0.043	0.041	0.043	0.024
	(0.030)	(0.030)	(0.030)	(0.030)
Beliefs about future mobility: upwardly mobile (dummy)			0.019	0.034
			(0.030)	(0.030)
Perceived past mobility: upwardly mobile (dummy)			-0.021	-0.008
			(0.027)	(0.027)
Perceived inequality (share top/share bottom, z)				0.013
				(0.015)
Mistrust in politicians (1-4)				0.036*
				(0.021)
Success under individuals' control (risk, effort, education)				-0.066**
				(0.027)
Success determined by external factors (luck, inheritance)				0.063***
				(0.018)
Above-median estimation of absolute number of poor in CH				0.009
				(0.026)
Constant	0.307*	0.312*	0.316*	0.331
	(0.161)	(0.165)	(0.168)	(0.215)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.121	0.133	0.135	0.174
Observations	619	617	617	617

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table C.2: Social preferences and aggregate political support for redistribution amongst individuals that successfully passed at least one attention check

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.113***	0.109***	0.109***	0.108***
	(0.040)	(0.040)	(0.041)	(0.041)
Inequality averse	0.116***	0.111***	0.112***	0.117***
	(0.038)	(0.038)	(0.039)	(0.039)
Income: above-median	-0.080***	-0.085***	-0.083***	-0.080***
	(0.031)	(0.030)	(0.030)	(0.030)
Male	-0.003	0.003	0.003	-0.011
	(0.028)	(0.029)	(0.029)	(0.028)
Age	0.007	0.007	0.007	0.003
	(0.006)	(0.006)	(0.006)	(0.006)
Have been unemployed in past	0.052*	0.052*	0.053*	0.036
	(0.027)	(0.027)	(0.027)	(0.027)
Beliefs about future mobility: upwardly mobile (dummy)			0.026	0.036
			(0.028)	(0.028)
Perceived past mobility: upwardly mobile (dummy)			-0.013	-0.002
			(0.025)	(0.025)
Perceived inequality (share top/share bottom, z)				0.011
				(0.014)
Mistrust in politicians (1-4)				0.027
				(0.020)
Success under individuals' control (risk, effort, education)				-0.079***
				(0.024)
Success determined by external factors (luck, inheritance)				0.060***
				(0.017)
Above-median estimation of absolute number of poor in CH				0.011
				(0.025)
Constant	0.332**	0.330**	0.322**	0.412**
	(0.149)	(0.151)	(0.154)	(0.194)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.100	0.111	0.112	0.154
Observations	717	715	715	715

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: $*p < 0.1, **p < 0.05, ***p < 0.01$

C.2 Assessing the role of other-regarding preferences with multinomial logit estimates

In this section, we document the results of the estimation of equation (3) using an ordered logistic regression. In the tables and the figures below, we display the marginal effects of inequality aversion and social welfare concerns as well as important socio-demographic covariates on an individual's aggregate support for redistribution, where AS can take seven possible values ranging from 0 (did not support any redistributive policy for which the individual had well-defined preferences) to 1 (supported all the redistributive policies for which the individual had well-defined preferences). The estimated model includes the full set of controls (i.e. it corresponds to regression (4) in Table 2).

Table C.3 and Figure C.1 indicate that, compared to predominantly selfish individuals, inequality averse individuals and those with a concern for social welfare are *less* likely to show low support for redistribution ($AS \leq 0.66$), but are *more* likely to be highly supportive of redistribution (AS=0.75 or AS=1). Table C.4 and Figure C.2 confirms that the effect of other-regarding preferences predominantly shows up among individuals with an income above the median.

Table C.3: Marginal effects of other-regarding preferences and main covariates in an ordered logistic regression

	(1) AS=0	(2) AS=0.25	(3) AS=0.33	(4) AS=0.5	(5) AS=0.66	(6) AS=0.75	(7) AS=1
Social welfare concerns	-0.029**	-0.029**	-0.014**	-0.033**	-0.008*	0.011**	0.103**
	(0.014)	(0.014)	(0.007)	(0.017)	(0.005)	(0.005)	(0.052)
Inequality averse	-0.041***	-0.041***	-0.019***	-0.043***	-0.009***	0.020**	0.134***
	(0.016)	(0.015)	(0.007)	(0.015)	(0.003)	(0.008)	(0.046)
Male	0.001	0.001	0.000	0.001	0.000	-0.000	-0.003
	(0.011)	(0.011)	(0.005)	(0.012)	(0.003)	(0.005)	(0.036)
Have been unemployed in past	-0.013	-0.013	-0.007	-0.015	-0.003	0.006	0.046
	(0.010)	(0.010)	(0.005)	(0.011)	(0.003)	(0.004)	(0.034)
Income: above-median	0.029**	0.029**	0.014**	0.030***	0.006**	-0.015**	-0.092***
	(0.012)	(0.012)	(0.006)	(0.011)	(0.003)	(0.007)	(0.035)
Observations	810	810	810	810	810	810	810

Notes: Standard errors in parentheses. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Figure C.1: Marginal effects of other-regarding preferences (CSW = concern for social welfare, IA = Inequality aversion) on aggregate support for redistribution.

Table C.4: Marginal effects of other-regarding preferences and main covariates in an ordered logistic regression, depending on income level. AM (BM) indicate estimates for subjects with above-median (below-median) income.

	(1) AS=0	(2) AS=0.25	(3) AS=0.33	(4) AS=0.5	(5) AS=0.66	(6) AS=0.75	(7) AS=1
Social welfare concerns [AM]	-0.058**	-0.059**	-0.017*	-0.051*	-0.006	0.035**	0.156**
	(0.028)	(0.028)	(0.009)	(0.026)	(0.005)	(0.016)	(0.077)
Social welfare concerns [BM]	-0.008	-0.011	-0.008	-0.023	-0.012	0.001	0.060
	(0.012)	(0.015)	(0.012)	(0.032)	(0.017)	(0.003)	(0.088)
Inequality averse [AM]	-0.091***	-0.089***	-0.025***	-0.068***	-0.006	0.057***	0.223***
	(0.032)	(0.029)	(0.009)	(0.022)	(0.004)	(0.021)	(0.067)
Inequality averse [BM]	-0.005	-0.006	-0.005	-0.013	-0.007	0.001	0.035
	(0.012)	(0.015)	(0.012)	(0.031)	(0.015)	(0.004)	(0.081)
Male [AM]	0.002	0.003	0.001	0.002	0.000	-0.002	-0.006
	(0.022)	(0.022)	(0.006)	(0.018)	(0.002)	(0.016)	(0.054)
Male [BM]	-0.002	-0.002	-0.002	-0.005	-0.002	0.000	0.013
	(0.008)	(0.011)	(0.008)	(0.022)	(0.011)	(0.002)	(0.059)
Have been unemployed in past [AM]	-0.002	-0.002	-0.000	-0.001	-0.000	0.001	0.004
	(0.021)	(0.022)	(0.006)	(0.017)	(0.002)	(0.016)	(0.053)
Have been unemployed in past [BM]	-0.006	-0.008	-0.006	-0.017	-0.009	0.001	0.045
	(0.008)	(0.010)	(0.008)	(0.021)	(0.011)	(0.002)	(0.057)
Observations below-median income [BM]	363	363	363	363	363	363	363
Observations above-median income [AM]	366	366	366	366	366	366	366

Notes: Standard errors in parentheses. Levels of significance: $*p < 0.1, **p < 0.05, ***p < 0.01$.

Figure C.2: Marginal effects of other-regarding preferences (CSW = concern for social welfare, IA = Inequality aversion) on aggregate support for redistribution.
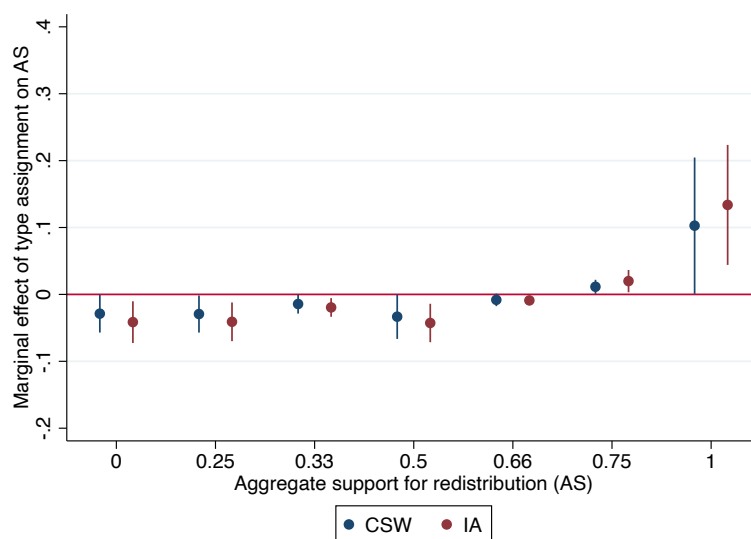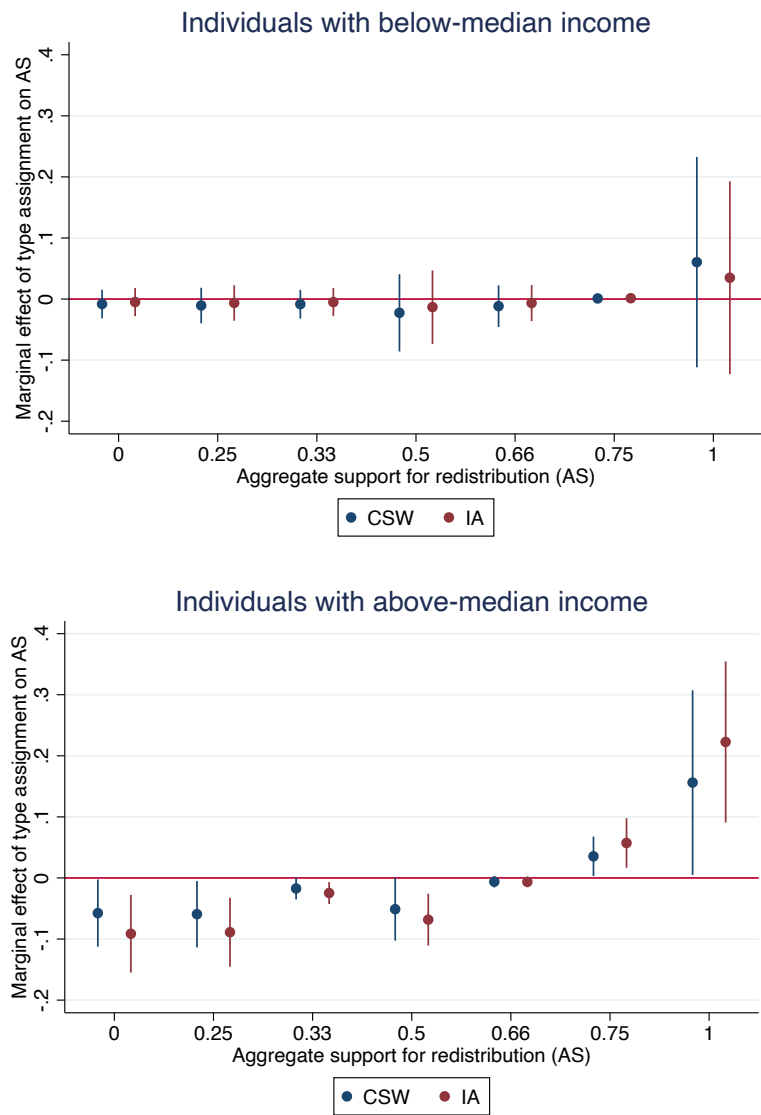
C.3 The role of other-regarding preferences under within-type heterogeneity

Table C.5 below shows how other-regarding preferences are related to the aggregate political support for redistribution when there are 4 preference types (as discussed in Appendix B.4), i.e., when the social welfare type, which comprises roughly 36% of our population is split up in those who are strongly concerned about social welfare (≈21%) and those with a moderate social welfare concern (≈15%). The table shows that in all specifications the strong type is significantly more likely to support redistribution while the moderate type is not significantly different from the predominantly selfish type in terms of support for redistribution.

Table C.6 examines the role of within-type preference variations at the *individual* level. For this purpose, we construct – for each preference type – a variable that measures the behavioral deviation of individuals from the type's typical behavior in the money allocation task. We have described the construction of these deviation measures in Section 4.3 of the paper. Recall that they are based on the extent to which each subject's median choice deviates from the mean of all median choices of the type to which the subject belongs.

Table C.5: Main regressions when allowing for 4 preferences types

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Strong social welfare concerns	0.113***	0.106***	0.108***	0.104**
	(0.041)	(0.041)	(0.041)	(0.041)
Moderate social welfare concerns	0.066	0.059	0.060	0.059
	(0.047)	(0.047)	(0.047)	(0.047)
Inequality averse	0.113***	0.108***	0.109***	0.109***
	(0.037)	(0.037)	(0.037)	(0.037)
Income: above-median	-0.070**	-0.074***	-0.073***	-0.071**
	(0.028)	(0.028)	(0.028)	(0.028)
Male	-0.003	0.001	0.002	-0.011
	(0.027)	(0.027)	(0.027)	(0.027)
Age	0.008	0.008	0.008	0.004
	(0.006)	(0.006)	(0.006)	(0.006)
Have been unemployed in past	0.055**	0.055**	0.054**	0.038
	(0.025)	(0.025)	(0.026)	(0.026)
Beliefs about future mobility: upwardly mobile (dummy)			0.027	0.038
			(0.027)	(0.026)
Perceived past mobility: upwardly mobile (dummy)			0.001	0.009
			(0.024)	(0.023)
Perceived inequality (share top/share bottom, z)				0.007
				(0.013)
Mistrust in politicians (1-4)				0.031*
				(0.018)
Success under individuals' control (risk, effort, education)				-0.076***
				(0.022)
Success determined by external factors (luck, inheritance)				0.049***
				(0.016)
Above-median estimation of absolute number of poor in CH				0.017
				(0.023)
Constant	0.323**	0.328**	0.304**	0.408**
	(0.140)	(0.141)	(0.144)	(0.185)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.085	0.097	0.098	0.133
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

In Table C.6 we use these individual-level deviation measures as additional regressors to study the role of within-type preference deviations for the political support for redistribution by interacting the deviation measures with the dummies of their respective types. Table C.6 below reports the results of these regressions. They show that neither for the selfish type nor for the inequality averse type within type variation matters because the interaction terms are clearly insignificant. Individuals with a concern for social welfare who are more altruistic tend to be more in support of redistribution. An increase in $\Delta_{i,SW}$ by one standard deviation increases support for redistribution by 2-2.5 percentage points but the significance of the individual within-type variation vanishes if we control for the other determinants of redistribution.[33]

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[33]The standard deviation of $\Delta_{i,SW}$ equals 0.11. The coefficient of $\Delta_{i,SW}$ in Table C.6 measures the effect of moving the variable from 0 to 1. Thus, taking the coefficient of column (4), an increase of $\Delta_{i,SW}$ by 0.11 increases support for political redistribution by $(0.11)(0.192) = 0.021$.

Table C.6: Main regression when controlling for individual-level within-type heterogeneity

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.094**	0.089**	0.090**	0.087**
	(0.039)	(0.038)	(0.039)	(0.039)
Inequality averse	0.114***	0.110***	0.110***	0.111***
	(0.036)	(0.036)	(0.036)	(0.036)
Income: above-median	-0.068**	-0.072***	-0.071**	-0.069**
	(0.028)	(0.028)	(0.028)	(0.028)
Male	-0.004	0.000	0.001	-0.012
	(0.026)	(0.027)	(0.027)	(0.027)
Age	0.008	0.007	0.008	0.003
	(0.006)	(0.006)	(0.006)	(0.006)
Have been unemployed in past	0.055**	0.055**	0.054**	0.038
	(0.025)	(0.025)	(0.026)	(0.026)
Beliefs about future mobility: upwardly mobile (dummy)			0.027	0.037
			(0.027)	(0.026)
Perceived past mobility: upwardly mobile (dummy)			0.000	0.009
			(0.024)	(0.023)
Perceived inequality (share top/share bottom, z)				0.006
				(0.013)
Mistrust in politicians (1-4)				0.032*
				(0.018)
Success under individuals' control (risk, effort, education)				-0.077***
				(0.022)
Success determined by external factors (luck, inheritance)				0.049***
				(0.016)
Above-median estimation of absolute number of poor in CH				0.016
				(0.023)
Constant	0.321**	0.325**	0.301**	0.409**
	(0.140)	(0.142)	(0.144)	(0.186)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.085	0.096	0.097	0.132
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

C.4 The role of other-regarding preferences when controlling for political attitudes

In this appendix we regress aggregate political support on the same list of variables as in Table 2 of the main text but we control, in addition, for individuals' political identity which is measured on a scale from 1 to 10 where 1 means far left and 10 means far right. The standard deviation of this measure is 2.02. Table C.7 shows the regressions based on 3 different preference types. Table C.8 has still 3 fundamentally different preference types but the social welfare type is divided up in a moderate and a strong version of that type. Individuals who are one standard deviation further to the left are roughly 13 percentage points more likely to support redistribution. However, both inequality aversion (as indicated by both tables) and strong social welfare concerns (as indicated by Table C.8) still remain robust predictors of support for redistribution when we control for political identity.

Table C.7: Main regression with 3 types when controlling for political attitude

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Social welfare concerns	0.046	0.047	0.047	0.049
	(0.036)	(0.036)	(0.036)	(0.036)
Inequality averse	0.087**	0.092***	0.092***	0.092***
	(0.034)	(0.034)	(0.034)	(0.034)
Income: above-median	-0.065**	-0.070***	-0.070***	-0.070***
	(0.027)	(0.026)	(0.026)	(0.026)
Political spectrum (1. Left, 10. Right)	-0.065***	-0.068***	-0.068***	-0.065***
	(0.005)	(0.005)	(0.005)	(0.005)
Male	0.037	0.032	0.033	0.024
	(0.024)	(0.025)	(0.025)	(0.025)
Age	0.010*	0.011**	0.011**	0.009
	(0.005)	(0.005)	(0.005)	(0.005)
Have been unemployed in past	0.037	0.027	0.024	0.018
	(0.024)	(0.024)	(0.024)	(0.024)
Beliefs about future mobility: upwardly mobile (dummy)			0.021	0.029
			(0.025)	(0.025)
Perceived past mobility: upwardly mobile (dummy)			0.021	0.023
			(0.022)	(0.022)
Perceived inequality (share top/share bottom, z)				-0.003
				(0.012)
Mistrust in politicians (1-4)				0.036**
				(0.016)
Success under individuals' control (risk, effort, education)				-0.037*
				(0.021)
Success determined by external factors (luck, inheritance)				0.029**
				(0.014)
Above-median estimation of absolute number of poor in CH				0.003
				(0.022)
Constant	0.693***	0.688***	0.658***	0.628***
	(0.134)	(0.136)	(0.137)	(0.169)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.235	0.247	0.249	0.263
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table C.8: Main regression with 4 types when controlling for political attitude

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Strong social welfare concerns	0.079**	0.078**	0.079**	0.079**
	(0.038)	(0.038)	(0.038)	(0.038)
Moderate social welfare concerns	0.009	0.011	0.012	0.016
	(0.043)	(0.043)	(0.043)	(0.044)
Inequality averse	0.088**	0.093***	0.093***	0.094***
	(0.035)	(0.035)	(0.035)	(0.035)
Income: above-median	-0.068**	-0.073***	-0.073***	-0.072***
	(0.027)	(0.026)	(0.026)	(0.026)
Political spectrum (1. Left, 10. Right)	-0.065***	-0.068***	-0.069***	-0.066***
	(0.005)	(0.005)	(0.005)	(0.005)
Male	0.038	0.033	0.034	0.025
	(0.024)	(0.025)	(0.025)	(0.025)
Age	0.010*	0.011**	0.011**	0.009
	(0.005)	(0.005)	(0.005)	(0.005)
Have been unemployed in past	0.036	0.027	0.024	0.018
	(0.024)	(0.024)	(0.024)	(0.024)
Beliefs about future mobility: upwardly mobile (dummy)			0.022	0.029
			(0.025)	(0.025)
Perceived past mobility: upwardly mobile (dummy)			0.021	0.023
			(0.022)	(0.022)
Perceived inequality (share top/share bottom, z)				-0.002
				(0.012)
Mistrust in politicians (1-4)				0.035**
				(0.016)
Success under individuals' control (risk, effort, education)				-0.035*
				(0.021)
Success determined by external factors (luck, inheritance)				0.029**
				(0.014)
Above-median estimation of absolute number of poor in CH				0.004
				(0.022)
Constant	0.699***	0.694***	0.663***	0.630***
	(0.134)	(0.135)	(0.137)	(0.169)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.239	0.250	0.252	0.266
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

C.5 The role of other-regarding preferences in different individual initiatives when we allow for two social welfare types

In the main paper, we have shown in Table 5 how social preferences are associated with political support for redistribution in "reduce income of the rich" and "help the worse off" initiatives when there are 3 types. As shown in Appendix B.4 above there is some meaningful heterogeneity within the social welfare type – the strong social welfare type is more concerned about equality while the moderate social welfare type is more concerned about the total pay-off. When examining the role of social preferences for individual initiatives it may therefore be insightful if we distinguish between these two variants of a concern for social welfare. We do this in Table C.9 below. The table shows, in particular, that those with a strong concern for social welfare are significantly more supportive of initiatives that help those worse off (see column 4).

Table C.9: The role of social preferences in initiatives that "reduce the income of the rich" ("1:20 initiative" and "Fair taxes initiative") and in initiatives that "help the worse off" ("Minimum wage initiative" and "UBI initiative")

	Reduce income of the rich	1:20	Fair Taxes	Help the worse off	Minimum Wage	UBI
	(1)	(2)	(3)	(4)	(5)	(6)
Strong social welfare concerns	0.093*	0.081	0.070	0.104**	0.110*	0.076
	(0.051)	(0.058)	(0.063)	(0.050)	(0.060)	(0.064)
Moderate social welfare concerns	0.034	0.041	-0.001	0.063	0.055	0.090
	(0.058)	(0.066)	(0.069)	(0.055)	(0.066)	(0.068)
Inequality averse	0.139***	0.108**	0.153***	0.067	0.010	0.123**
	(0.046)	(0.053)	(0.054)	(0.046)	(0.056)	(0.056)
Have been unemployed in past	0.034	0.064*	0.010	0.040	0.020	0.058
	(0.031)	(0.037)	(0.040)	(0.032)	(0.038)	(0.045)
Income: above-median	-0.112***	-0.119***	-0.081*	-0.045	-0.007	-0.109**
	(0.032)	(0.039)	(0.042)	(0.037)	(0.043)	(0.047)
Beliefs about future mobility: upwardly mobile (dummy)	0.063**	0.066*	0.080**	0.027	0.013	0.038
	(0.031)	(0.036)	(0.041)	(0.033)	(0.039)	(0.044)
Perceived past mobility: upwardly mobile (dummy)	0.031	0.021	0.044	-0.013	-0.035	0.012
	(0.029)	(0.034)	(0.037)	(0.029)	(0.035)	(0.039)
Perceived inequality (share top/share bottom, z)	0.009	0.016	-0.001	0.004	0.004	0.018
	(0.014)	(0.018)	(0.018)	(0.016)	(0.018)	(0.022)
Mistrust in politicians (1-4)	0.017	0.015	0.021	0.038*	0.021	0.060**
	(0.020)	(0.024)	(0.026)	(0.023)	(0.026)	(0.028)
Success under individuals' control (risk, effort, education)	-0.061**	-0.037	-0.072**	-0.093***	-0.071**	-0.110***
	(0.029)	(0.033)	(0.036)	(0.027)	(0.034)	(0.035)
Success determined by external factors (luck, inheritance)	0.058***	0.029	0.101***	0.051***	0.029	0.073***
	(0.019)	(0.022)	(0.024)	(0.019)	(0.023)	(0.025)
Above-median estimation of absolute number of poor in CH	-0.008	-0.020	0.024	0.029	0.054	0.020
	(0.028)	(0.033)	(0.036)	(0.030)	(0.035)	(0.039)
Constant	0.383*	0.754***	-0.132	0.428*	0.699**	0.108
	(0.227)	(0.251)	(0.290)	(0.225)	(0.271)	(0.286)
Other socio-demographics	Yes	Yes	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes	Yes
Other preference measures and general trust	Yes	Yes	Yes	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.130	0.099	0.155	0.115	0.091	0.133
Observations	793	759	683	798	769	721

Notes: OLS regression. In columns 1 (4), the dependent variable is the aggregate support, i.e. the average, for two initiatives aimed at reducing the income of the rich (helping the worse off). In all the other columns, the dependent variable equals 1 if the individual supports or "rather supports" the initiative and equals 0 if the individual is against or "rather against" the initiative. Other socio-demographics include gender, age, age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Other preference measures and general trust include controls for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people. Levels of significance: *$p < 0.1$,**$p < 0.05$,***$p < 0.01$

C.6 The predictive power of other-regarding preferences identified with only 5 budget lines

In section B.5 we have shown that 5 budget lines give us the same three fundamentally distinct preferences types (compared to when we use 14 budget lines) and enable a remarkably good approximation of individuals' assignments to the different types. In this appendix we use the type distribution identified in the section B.5 to assess the role of social preferences for political redistribution. For this purpose, we replicate Tables 2, 4, and 5 of the paper in which the aggregate political support for redistribution or the support for individual initiatives is the dependent variable and we include dummies for inequality aversion and concern for social welfare based on individuals' type assignment in Section B.5 (along with all the other covariates). The results are shown in Tables C.10 – C.12 below. The tables show that the role of inequality aversion for aggregate political support for redistribution is rather robust with regard to the reduction of budget lines (see Table C.10). Although the coefficients for inequality aversion are slightly (by roughly 1-1.5 percentage points) lower compared to Table 2 in the paper they are still substantial and significant at the one percent level. and the significance of inequality aversion is basically quite similar to the results achieved with 14 budget lines. The coefficients for social welfare concerns are also somewhat lower (again by 1-1.5 percentage points) relative to Table 2 but still significant in most cases. These results indicate that the distribution of individuals to the three types based on the information contained in the 5 budget lines shown in Appendix B.5 can be usefully applied and yields very similar results. At the same time, however, the results also suggest that the type distribution based on all 14 budget lines yields a sharper and perhaps less noisy separation between the predominantly selfish individuals and the two other-regarding preference types.

Table C.10: The predictive power of social preferences derived from five budget lines for aggregate political support for redistribution

	Aggregate support for redistribution			
	(1)	(2)	(3)	(4)
Concern for those worse off	0.083**	0.075**	0.075**	0.072*
	(0.038)	(0.038)	(0.038)	(0.038)
Inequality averse	0.094***	0.094***	0.096***	0.099***
	(0.035)	(0.035)	(0.035)	(0.036)
Income: above-median	-0.067**	-0.071**	-0.070**	-0.068**
	(0.028)	(0.028)	(0.028)	(0.027)
Have been unemployed in past	0.055**	0.055**	0.053**	0.037
	(0.025)	(0.025)	(0.026)	(0.026)
Beliefs about future mobility: upwardly mobile (dummy)			0.028	0.038
			(0.027)	(0.027)
Perceived past mobility: upwardly mobile (dummy)			0.003	0.011
			(0.024)	(0.023)
Perceived inequality (share top/share bottom, z)				0.007
				(0.013)
Mistrust in politicians (1-4)				0.032*
				(0.018)
Success under individuals' control (risk, effort, education)				-0.079***
				(0.022)
Success determined by external factors (luck, inheritance)				0.048***
				(0.016)
Above-median estimation of absolute number of poor in CH				0.016
				(0.023)
Constant	0.333**	0.333**	0.307**	0.421**
	(0.140)	(0.141)	(0.144)	(0.185)
Other socio-demographics	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes
Other preference measures and general trust	No	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes
R^2	0.081	0.094	0.095	0.130
Observations	812	810	810	810

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Other socio-demographics include age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. In addition, regressions 2-4 also control for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people ("other preference measures and general trust"). Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table C.11: The predictive power of social preferences derived from five budget lines for aggregate political support for redistribution (heterogeneity analysis by income level)

	Income		Relative income		
	(1)	(2)	(3)	(4)	(5)
Concern for those worse off	0.076	0.100	0.036	0.124**	0.122
	(0.054)	(0.062)	(0.074)	(0.054)	(0.100)
Inequality averse	0.051	0.185***	0.021	0.154***	0.232**
	(0.053)	(0.056)	(0.074)	(0.048)	(0.104)
Have been unemployed in past	0.025	0.012	0.004	0.042	0.046
	(0.036)	(0.043)	(0.048)	(0.035)	(0.078)
Beliefs about future mobility: upwardly mobile (dummy)	-0.009	0.032	0.040	0.067*	-0.040
	(0.038)	(0.042)	(0.048)	(0.037)	(0.080)
Perceived past mobility: upwardly mobile (dummy)	0.036	0.007	0.040	0.008	0.005
	(0.034)	(0.039)	(0.052)	(0.032)	(0.069)
Perceived inequality (share top/share bottom, z)	-0.003	0.015	0.012	-0.004	0.062
	(0.016)	(0.023)	(0.025)	(0.016)	(0.050)
Mistrust in politicians (1-4)	0.046*	0.036	0.024	0.029	0.105*
	(0.024)	(0.032)	(0.037)	(0.025)	(0.055)
Success under individuals' control (risk, effort, education)	-0.083***	-0.079**	-0.036	-0.094***	-0.051
	(0.027)	(0.040)	(0.042)	(0.030)	(0.069)
Success determined by external factors (luck, inheritance)	0.067***	0.031	0.105***	0.008	0.060
	(0.023)	(0.027)	(0.032)	(0.022)	(0.048)
Above-median estimation of absolute number of poor in CH	-0.008	0.009	0.020	0.027	-0.024
	(0.033)	(0.039)	(0.050)	(0.031)	(0.071)
Constant	0.611**	0.059	0.459	0.443*	0.666
	(0.254)	(0.341)	(0.347)	(0.246)	(0.615)
Other socio-demographics	Yes	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes
Other preference measures and general trust	Yes	Yes	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes	Yes
R^2	0.196	0.184	0.264	0.171	0.353
Observations	363	366	204	454	149

Notes: OLS regression. The dependent variable is the aggregate support for redistribution (AS_i). Column 1 (2) show the results for below-median (above-median) income earners. Individuals in column 3 (4,5) report that they believe they earn less (the same, more) than the average income of individuals of a similar age. Other socio-demographics include gender, age, age squared, a dummy variable indicating whether the respondent's native language is french, and a dummy indicating whether the respondent is married. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Other preference measures and general trust include controls for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$

Table C.12: The role of other-regarding preferences derived from five budget lines in initiatives that "reduce the income of the rich" and in initiatives that "help the worse off"

	Reduce income of the rich	1:20	Fair Taxes	Help the worse off	Minimum Wage	UBI
	(1)	(2)	(3)	(4)	(5)	(6)
Concern for those worse off	0.074	0.067	0.046	0.072	0.053	0.086
	(0.047)	(0.053)	(0.057)	(0.046)	(0.056)	(0.056)
Inequality averse	0.138***	0.106**	0.133**	0.061	0.033	0.091*
	(0.043)	(0.049)	(0.053)	(0.044)	(0.054)	(0.054)
Have been unemployed in past	0.032	0.062*	0.008	0.039	0.018	0.056
	(0.031)	(0.037)	(0.040)	(0.032)	(0.038)	(0.045)
Income: above-median	-0.109***	-0.117***	-0.080*	-0.043	-0.003	-0.110**
	(0.032)	(0.039)	(0.042)	(0.037)	(0.043)	(0.047)
Beliefs about future mobility: upwardly mobile (dummy)	0.065**	0.068*	0.085**	0.027	0.013	0.039
	(0.031)	(0.036)	(0.041)	(0.033)	(0.039)	(0.044)
Perceived past mobility: upwardly mobile (dummy)	0.034	0.024	0.048	-0.012	-0.034	0.013
	(0.029)	(0.034)	(0.037)	(0.029)	(0.035)	(0.039)
Perceived inequality (share top/share bottom, z)	0.009	0.016	-0.004	0.005	0.007	0.017
	(0.014)	(0.018)	(0.018)	(0.016)	(0.018)	(0.022)
Mistrust in politicians (1-4)	0.018	0.016	0.024	0.039*	0.021	0.061**
	(0.020)	(0.024)	(0.026)	(0.023)	(0.026)	(0.027)
Success under individuals' control (risk, effort, education)	-0.066**	-0.041	-0.080**	-0.093***	-0.067*	-0.116***
	(0.028)	(0.033)	(0.035)	(0.027)	(0.034)	(0.034)
Success determined by external factors (luck, inheritance)	0.057***	0.028	0.098***	0.051***	0.033	0.068***
	(0.019)	(0.022)	(0.024)	(0.019)	(0.023)	(0.025)
Above-median estimation of absolute number of poor in CH	-0.011	-0.022	0.021	0.029	0.053	0.020
	(0.028)	(0.033)	(0.036)	(0.030)	(0.036)	(0.039)
Constant	0.393*	0.762***	-0.085	0.430*	0.652**	0.161
	(0.225)	(0.248)	(0.290)	(0.224)	(0.269)	(0.285)
Other socio-demographics	Yes	Yes	Yes	Yes	Yes	Yes
Education	Yes	Yes	Yes	Yes	Yes	Yes
Occupation	Yes	Yes	Yes	Yes	Yes	Yes
Other preference measures and general trust	Yes	Yes	Yes	Yes	Yes	Yes
Canton FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.129	0.098	0.149	0.113	0.085	0.131
Observations	793	759	683	798	769	721

Notes: OLS regression. In columns 1 (4), the dependent variable is the aggregate support, i.e. the average, for two initiatives aimed at reducing the income of the rich (helping the worse off). In all the other columns, the dependent variable equals 1 if the individual supports or "rather supports" the initiative and equals 0 if the individual is against or "rather against" the initiative. Other socio-demographics include gender, age, age squared, a dummy variable indicating whether the respondent's native language is french, a dummy indicating whether the respondent is married, and a dummy indicating whether the respondent did not disclose his/her income. Education includes dummies indicating a respondent's highest educational achievement (compulsory school, vocational training, high school, university or other), and occupation includes dummies indicating whether the individual currently has a full-time job, a part-time job, is unemployed or is not in the labor force. Other preference measures and general trust include controls for subjects' risk aversion, patience, negative and positive reciprocity and general trust in people. Levels of significance: *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$