Behind the support for redistributive politics: Social preferences or beliefs?

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Abstract

In this paper we explore how individual social preferences correlate with political support for redistribution. We ran an incentivized experiment with a large representative sample of the Spanish population. Our participants took six decisions that elicited their social preferences. Their choices could result in a different total surplus and different distributions of the surplus between the subject and an anonymous counterpart. In our sample, social preferences are unrelated to political support for distributive policies. The main correlates for support of redistribution are the beliefs concerning the importance of effort versus luck for success (*fairness*), the trust in government institutions (*effectiveness*) and the perceived importance of the poverty problem (*need*).

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1   Introduction

In this paper we elicit social preferences in distributional problems for a large representative sample. Our contribution is twofold. First, we characterize preferences on distributional issues, information that could be useful for the design of policies that aggregate individual preferences of citizens. Second, we test the hypothesis that these underlying social preferences are behind the political support for redistributive policies.

Political platforms usually contain economic proposals that affect the distribution of income, and citizens have preferences defined over these proposals that may be expressed at elections or in the political debate. It is not uncommon that economic policies face a trade-off between efficiency and equity. Policies that help reduce inequality may reduce efficiency. For example, more generous unemployment benefits may reduce incentives to work. Other policies could improve efficiency by reducing distortions (tax distortions, for instance), but are often bad for equity. Individuals may prefer policies that offer less inequality even though they are less efficient. Or they may prefer the opposite, more efficient policies at the cost of higher inequality. Social preferences (such as altruism or inequality aversion) may also lead individuals to prefer more progressive taxes even when it implies that their personal tax burden will be higher.

The main question we address in this paper is whether social preferences are the main driver of the support for redistribution. This may not be the case if, for example, the general opinion is that *people with less resources could improve their situation by putting in more effort.* Then, even with altruistic social preferences, they may not support redistribution because they perceive it as unfair. Another instance in which support for redistribution would be weak, even with altruistic social preferences, is when *citizens do not trust government institutions*, that is, they are not confident that the political process will be able to redistribute appropriately the collected

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taxes. Finally, distributive policies would not be supported if they are not needed, that is, if *people think poverty is not a problem*. In sum, support for redistribution would require not only social preferences but also *fairness*, *effectiveness*, and *need* of such policies.

We explore the main drivers of support by eliciting social preferences and other variables related to the fairness, effectiveness and need of distributive policies. The support for redistribution is measured in two ways. First, through the political attitude: left-wing is interpreted as more supportive of redistribution than right-wing. Second, the survey also elicits the support for government intervention in the economy to improve distribution. Specifically, the question is stated as: "The State should take measures to reduce differences in income levels."

In our experimental survey, the participants, who are representative of the Spanish population, take six incentivized decisions. Each time they have to decide between two alternative proposals: an equal and an unequal division. Each proposal may result in a different total surplus and also in a different distribution of the surplus between the subject and an anonymous counterpart. We use the individual choices to place the participants into one of four categories: altruistic, spiteful, egalitarian, and inequality-averse, derived from Fehr and Schmidt (1999)'s model. We also elicited the beliefs on *fairness* (importance of effort versus luck for success), *effectiveness* (trust in government institutions) and *need* (prevalence of poverty) of redistributive policies, to check whether these variables modulate the relationship between social preferences and support for redistribution.

We first look at individual characteristics, socio-demographic and other traits, in the population, to see whether they are associated to preferences for distributional issues. For instance, older generations may be more or less supportive for redistribution depending on how they are affected by such policies (social transfers, taxes) and their life experience concerning their effectiveness.

Second, we look at the relationship between social preferences, beliefs and the individual political attitudes. The support for redistribution requires not only social preferences, but also the belief that the institutions

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will be able to carry out redistribution effectively and that redistribution is needed and fair. We analyze in our sample the relative importance of social preferences and beliefs for the political attitude of subjects, which is an indirect measure of their support for redistribution, as well as their direct support for State intervention in distribution.

The hypothesis that the underlying social preferences of subjects are behind their support for redistributive policies is not supported by the data. Rather, we find that the main drivers for redistributive policy support are the beliefs concerning the effectiveness, fairness and need of such policies.

The paper is structured as follows. Section 2 contains the relevant literature and our contribution. Sections 3 and 4 describe the experimental design and the data. The results are presented in Section 5 and Section 6 offers some concluding remarks.

2   Related literature

There is some recent literature on the relationship between social preferences and political attitudes. In an online experiment on a large heterogeneous sample (German Internet Panel, GIP), Kerschbamer and Müller (2020) find that selfish subjects are less inclined to favor redistribution and more likely to vote for a right-wing party. They conclude that distributional preferences help to understand political outcomes. Müller and Renes (2021) conclude that individual characteristics matter for social preferences (females are more egalitarian and males more efficiency oriented) and that left-wing voters are more likely to be egalitarian while right-wing voters are more likely to be efficiency-seekers.

Fisman et al. (2017) also find a relationship between underlying preferences and political outcomes. In a US sample, they conclude that equality-focused subjects are more likely to have voted for Barack Obama in 2012, and to be affiliated with the Democratic Party. Fisman et al. (2023) document that the distributional preferences of Americans in 2013-2016 were stable in the period and that subjects who experienced an increase in income became more self-interested.

Using the results of several national plebiscites on redistributive policies in Switzerland, Fehr et al. (2022) find that social preferences (inequality aversion and altruism) are strongly related to support for redistribution particularly for affluent individuals.

We contribute to this literature with the idea that social preferences may be a necessary condition for the support to redistribution, but it is not sufficient: support also requires beliefs on the effectiveness, fairness and need of such policies. This is consistent with previous results in the literature; for example, Fehr et al. (2022) report that for selfish individuals, meritocratic beliefs are unrelated to support for redistribution, while these beliefs are highly relevant for altruistic and egalitarian individuals. We test this idea in a representative sample of the Spanish population. We do not find a clear-cut relationship between social preferences and political orientation. We conclude that social preferences are not sufficient for the support of redistributive policies, beliefs on the effectiveness, fairness and need of the policies are main drivers of their support.

3 Experimental Design

The experimental survey was run in June 2021.[1] In addition to the decisions about distribution, the participants were tested with standard measures to evaluate their risk attitudes and time preferences. They also answered a socioeconomic questionnaire that included questions on beliefs and political orientation.

3.1 Distributional preferences: Mini-DGs

Following Corgnet et al. (2015), in this study we elicit *social preferences* with 6 mini-dictator games. The decisions were incentivized and one of them was randomly selected for payment. After a brief introduction,[2] subjects made

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[1]This study was conducted jointly with Brañas-Garza et al. (2022), using the same sample.

[2]Instructions in English are provided at the end of this document.

the 6 decisions sequentially. In all decisions the recipient was anonymous and the 6 choices appeared in random order on the screen.

Figure 1 shows an example of a decision task.[3] In this case, the subject has to choose between A: (1€, 1€) and B: (0.8€, 1.6€). Note that option B is more efficient (the total amount is 2.4€), but also more unequal and the decision maker gets a lower amount. The remaining 5 decisions are similar, with the decision maker facing a different trade-off in each case.

Figure 1: Dictator game: Decision screen (example)

Table 1 contains all the decision tasks with the dictator and recipient's payoffs, x_d and x_r respectively, for each option. We also include envy/compassion parameters (see section 4.1) and, in the last three columns, distributional effects and variation of the total surplus.

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[3]Figure 1, translation from Spanish: Please, choose one of the two options (A or B):

- A: 1€ for you / 1€ for the other person
- B: 0.8€ for you / 1.6€ for the other person.

Table 1: Decisions and envy/compassion parameters

	Option A (x_d, x_r)	Envy/comp. parameters	Option B (x_d, x_r)	Envy/comp. parameters	$\triangle x_d$	$\triangle x_r$	$\triangle\ surplus$
Decision 1	(1, 1)	$\alpha > -0.25$	(0.8, 1.6)	$\alpha < -0.25$	-0.2	0.6	0.4
Decision 2	(1, 1)	$\beta > 0.25$	(1.2, 0.4)	$\beta < 0.25$	0.2	-0.6	-0.4
Decision 3	(1 ,1)	$\beta > 0$	(1, 0.6)	$\beta < 0$	0	-0.4	-0.4
Decision 4	(1, 1)	$\beta > 0.5$	(1.6, 0.4)	$\beta < 0.5$	0.6	-0.6	0
Decision 5	(1, 1)	$\alpha > 0$	(1, 1.8)	$\alpha < 0$	0	0.8	0.8
Decision 6	(1, 1)	$\alpha > 0.125$	(1.1, 1.9)	$\alpha < 0.125$	0.1	0.9	1.0

Individuals' choices will depend on how they solve the trade-offs involved in the different decisions, which in turn depends on their social preferences. Here is a list of their potential motivations:

- *Altruism*: decision maximizes the recipient's payoff.

- *Spitefulness*: decision minimizes the recipient's payoff.

- *Egalitarianism*: decision minimizes payoff inequality.

- *Inequality-seeking*: decision maximizes payoff inequality.

Each choice in the 6 decision tasks is consistent with one or more of these individual motivations. For example, in Decision 1 the participants had to decide between A:(1€, 1€) and B:(0.8€, 1.6€), that is, they chose whether or not to increase the recipient's payoff and total surplus at the expense of their own payoff. Choosing option B in Decision 1 is consistent with altruism, as well as with inequality seeking. In Table S3 in appendix A.2 we include the potential motivations to choose option B for the 6 decisions.

3.2 Additional tasks

We also elicited additional information of potential relevance (see Table S2 in appendix A.1 for more detail). In particular, the participants completed the following tasks:

- Cognitive Reflection Test (CRT), Frederick (2005). This test allows to distinguish between 2 types of subjects' cognitive styles: reflective and impulsive, which could affect decisions. Individuals respond to three questions with an impulsive-incorrect answer and with a reflective-correct answer. *CRT* variable is defined as the number of correct answers in the three questions.

- Non-incentivized time preferences test.[4] Patient people prefer larger rewards in the future to smaller ones closer in time. Patience is measured using a multiple price list with six items of two options. The first option is always the same "collect tomorrow 100 euros". In the second options the waiting time for collection is one month and the amount increases by 10 euros from the first item (100 euros) to the sixth one (150 euros). We define *Patience* as the number of times the respondent chooses to wait (option 2).

- Maths. Two questions about skills performing division calculations and interest rates are included in the questionnaire. We define *Math* variable as the number of correct answers on both questions.

3.3 Sociodemographics

In addition to the previous tasks, subjects completed a socio-demographic questionnaire. Among other questions, participants provided information about age, gender, education, marital status, number of children in the household, household income, profession, religion, political preferences, social attitudes, parental socioeconomic status, meritocratic beliefs (*fairness*), trust in government institutions (*effectiveness*), and prevalence of poverty (*need*). See Table S2 in appendix A.1 for more detail.

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[4]A recent study shows that monetary incentives do not affect elicited time preferences, see Brañas-Garza et al. (2023).

4   Data and sample

We ran a survey-experiment (conducted by ASU Research) in a sample of 1,500 individuals. It was a representative sample of the Spanish population On average subjects earned 5.16€.

Due to missing values in some of the variables used in the study, the total sample was reduced to 1,368 individuals.

4.1   Social preferences' categorization

If we assume that the utility derived by individual i from the payoff vector (x_i, x_j) follows the basic specification of the inequality-aversion model of Fehr and Schmidt (1999) for the two-person case, utility is given by

$$U_i(x_i, x_j) = x_i - \alpha_i max\{x_j - x_i, 0\} - \beta_i max\{x_i - x_j, 0\} \qquad (1)$$

where α_i is the envy parameter and measures individual i's aversion to disadvantageous inequality, while β_i is the compassion parameter and measures individual i's aversion to advantageous inequality.

Preferences, and therefore decisions, will depend on the sign and value of α_i and/or β_i. According to these parameters, individuals' motivations can be characterized as follows:

- *Altruism*: $\alpha_i \leq 0$ and $\beta_i \geq 0$ with at least one strict inequality.

- *Spitefulness*: $\alpha_i \geq 0$ and $\beta_i \leq 0$ with at least one strict inequality.

- *Egalitarianism*: $\alpha_i \geq 0$ and $\beta_i \geq 0$ with at least one strict inequality.

- *Inequality-seeking*: $\alpha_i \leq 0$ and $\beta_i \leq 0$ with at least one strict inequality.

Following Corgnet et al. (2015), we can infer the envy/compassion parameters associated to choices A and B in each of the six mini-dictator games (see Table 1). Individuals are then categorized according to all possible combinations of the envy (α) and compassion (β) parameters in Fehr and Schmidt (1999) model.

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Figure S1 (in appendix A.3) displays the number of subjects classified according to each combination of α (column) and β (row) and the corresponding social preferences.

To ensure the robustness of the results, individuals have been classified according to the parameters of envy and compassion independently. Table 2 provides this classification. Individuals classified as *inconsistent* are those with contradictory responses in terms of α and β.

Table 2: Distribution of α and β

α	Frequency	β	Frequency
Inconsistent	110 (8.0%)	Inconsistent	122 (8.9%)
$\alpha < -0.25$	73 (5.3%)	$\beta < 0$	85(6.2%)
$-0.25 < \alpha < 0$	245 (17.9%)	$0 < \beta < 0.25$	139 (10.2%
$0 < \alpha < 0.125$	130 (9.5%)	$0.25 < \beta < 0.5$	100 (7.3%)
$0.125 < \alpha$	810 (59.2%)	$0.5 < \beta$	922 (67.4%)
	1368 (100%)		1368 (100%)

5 Results

In this section we present our main results. Subsection 5.1 shows the relationship between social preferences and sociodemographic characteristics, subsection 5.2 explores support to redistribution and political orientation and subsection 5.3 focuses on beliefs. In Table S1 in appendix A.1, we report summary statistics of the variables used in our study; see also Table S2 for the definition of the variables.

Note that in all regression tables, *** corresponds to a p-value $p < 0.001$, ** to $p < 0.01$ and * to $p < 0.05$; results for $0.05 < p < 0.1$ are not reported.

5.1 Personal characteristics and social preferences

Table 3 shows the estimated regression for each behavioral type in our sample (*Egalitarianism*, *Altruism*, *Spite* and *Inequality-Seeking*) and for α and

β. In these last regressions inconsistent individuals have been removed (see Table 2).

The columns on the left of Table 3 focus on the four behavioral types. *Egalitarianism* is associated to individuals over the age of 65 ($p < 0.001$), impatient ($p < 0.001$), women ($p < 0.01$), couples ($p < 0.01$), and those with no managerial position or liberal profession ($p < 0.05$). *Altruism* is primarily found among reflective ($p < 0.001$) and patient individuals ($p < 0.001$), men ($p < 0.05$), individuals with mathematical skills ($p < 0.05$), managers or independent professionals ($p < 0.05$), and singles ($p < 0.05$). In the case of *Spite*, this type is less frequent among those over 45 ($p < 0.05$) or 65 ($p < 0.05$), or among reflective individuals ($p < 0.05$), but it does appear among the more religious ($p < 0.05$). Finally, *Inequality-Seeking* people are not proficient in mathematics ($p < 0.001$) and are predominantly men ($p < 0.05$).

The right columns of Table 3 focus on Envy, α, and Solidarity, β - see the utility function (1). *Envy* (α) is common among the impatient ($p < 0.001$), the impulsive ($p < 0.001$) and those over 65 ($p < 0.05$). It is less common among men ($p < 0.01$) and managers and independent professionals ($p < 0.05$).

Solidarity (β) is correlated with mathematical skills at the 5% level. It clearly increases with age ($p < 0.001$): young people have less solidarity, while those over 65 have more. Additionally, men have less solidarity than women ($p < 0.001$).

To conclude this section, it is worth noting some variables that surprisingly have nothing to do with social preferences. The most striking are undoubtedly income, having been raised in an affluent neighborhood and the level of education. Religion also plays a very marginal role. In sum, from the sociodemographic information it is not easy to predict who will be altruistic, egalitarian, inequity seeker or spiteful.

Table 3: Regression results on preference types

	Egalitarianism	Altruism	Spite	Ineq. Seeking	α	β
Age ≤ 25	Ref	Ref	Ref	Ref	Ref	Ref
(25-45]	0.278	-0.127	-0.502	-0.067	0.165	0.671**
	(0.209)	(0.227)	(0.341)	(0.410)	(0.219)	(0.237)
(45-65]	0.488*	-0.239	-0.750*	-0.247	0.409	1.105***
	(0.219)	(0.242)	(0.349)	(0.437)	(0.235)	(0.249)
> 65	1.008***	-0.558	-1.256*	-1.836	0.707*	1.066***
	(0.302)	(0.339)	(0.575)	(1.070)	(0.315)	(0.320)
Male	-0.349**	0.299*	-0.079	0.534*	-0.374**	-0.404**
	(0.124)	(0.140)	(0.232)	(0.269)	(0.137)	(0.155)
Education (above secondary)	-0.091	0.123	0.153	-0.185	0.094	-0.251
	(0.134)	(0.149)	(0.245)	(0.298)	(0.144)	(0.155)
Living as a couple	0.370**	-0.301*	-0.201	-0.286	0.087	0.093
	(0.137)	(0.152)	(0.257)	(0.305)	(0.151)	(0.168)
Children in household	-0.151	0.116	0.094	0.132	-0.099	-0.112
	(0.081)	(0.089)	(0.133)	(0.168)	(0.089)	(0.095)
Household income > 1400	-0.162	0.112	-0.013	0.377	0.099	-0.075
	(0.131)	(0.144)	(0.232)	(0.306)	(0.136)	(0.152)
Management/indep. professional	-0.330*	0.310*	0.239	-0.123	-0.400*	-0.110
	(0.145)	(0.156)	(0.243)	(0.361)	(0.156)	(0.174)
Religion	-0.136	-0.114	0.453*	0.385	0.191	0.197
	(0.123)	(0.138)	(0.218)	(0.264)	(0.138)	(0.156)
Rich neighborhood	0.011	-0.008	-0.061	0.064	0.011	-0.019
	(0.019)	(0.022)	(0.035)	(0.039)	(0.022)	(0.023)
CRT	-0.084	0.252***	-0.293*	-0.188	-0.332***	0.023
	(0.067)	(0.075)	(0.128)	(0.157)	(0.074)	(0.083)
Math	0.041	0.217*	-0.106	-0.865***	-0.079	0.241*
	(0.093)	(0.106)	(0.170)	(0.221)	(0.108)	(0.119)
Patience	-0.149***	0.153***	0.047	0.057	-0.150***	-0.057
	(0.028)	(0.032)	(0.054)	(0.052)	(0.031)	(0.034)
Observations	1368	1368	1368	1368	1159	1159

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Egalitarian-Ineq. seeker: Logit regression models

α, β: Ordered logit regression models

5.2 Who supports redistributive political platforms?

In this section we try to determine whether there is a relationship between social preferences and support for redistribution; the intuition is that more generous or more egalitarian subjects would be in favor of a redistribution from the rich to the poor. On the other hand, support for redistribution would require beliefs on the effectiveness, fairness and need of such policies.

Concerning beliefs, we hypothesize that individuals support political platforms with less redistribution (right-wing political parties) when they do not trust the institutions that are in charge of redistribution, or when they believe that the actual income distribution is due to personal effort and therefore it is not fair to correct it, or when they do not perceive poverty as a pressing problem. More precisely, this hypothesis states that support for redistribution is affected by the variables: meritocratic beliefs (*fairness*), trust in institutions (*effectiveness*) and poverty prevalence (*need*).

Fairness: People's beliefs may put more weight on the importance of family background, social contacts or simply luck; or, alternatively, they may consider that what matters most is hard work, education and professional worth. We measure these beliefs with a variable in a scale of 1 to 10, where 1 is mostly luck and 10 is mostly effort; the question is: *How much do you think personal effort influences the economic position achieved by people in Spain?*

The variable *effectiveness* measures the degree of trust in government institutions (central, regional and local governments).The variable is obtained as the sum of the answers to these three questions: *To what extent do you think you can trust local/autonomous/national government institutions?*, where 1 is very little and 10 is very much.

Lastly, the variable *need* shows the relevance of poverty as a social problem for the respondent. We use a dichotomous variable that is equal to 1 when the individual answers "Poverty, lack of food and drinking water" to this question: *In your opinion, which of the following do you consider to be the most serious problem currently facing the world as a whole?*

To explore whether the support for redistribution is related with the individual's beliefs concerning the redistribution process itself, we estimate

two complementary models. First, we look at how *Political Views* - right-wing or left-wing in a scale 1 to 10 - are related to beliefs. Then, we analyze the relation between the variable *Support for State Interventions* - specifically, the question asks the degree of agreement with the statement "the State should take measures to reduce differences in income levels"- and beliefs. Results are in table 4. The first two columns focus on *Political Views*. The last 2 columns focus on *State Intervention*. The first and third columns use the types defined before while the second and fourth ones use economic preferences, α and β.

About political views, the *Inequality Seeking* people – a small group with 66 subjects ($< 5\%$ of the sample) – tend to vote for the right while the other types are indistinguishable from the reference group (*Egalitarianism*). Neither envy, α, nor solidarity, β, correlate with political orientation. Therefore, excluding that small group of inequality seekers, the types or preferences do not predict the vote for the right.

However, beliefs are highly relevant. Support for the right is positively related to *Fairness* ($p < 0.001$). And, as expected, negatively related to *Effectiveness* in charge of redistribution ($p < 0.001$), and to *Need* ($p < 0.001$). In short, social preferences are not useful to predict political attitudes, but beliefs are. Subjects with meritocratic beliefs tend to vote right as do those with less trust on institutions and less aware of the importance of poverty.

Another very strong predictor of right-wing voting is religion, as both the first and second column models show that the effect of religion is highly positive and significant ($p < 0.001$). There are other strong predictors in both models as well, such as being male ($p < 0.01$). Having been raised in an affluent neighborhood also influences right-wing voting. Lastly, age seems to have a small negative impact (in the first column model it is significant at 5%). Neither CRT nor patience are related to support for the right.

Whether an individual supports right-wing politics is an indirect measure of support for less redistributive policies. A more direct measure is the variable *Support to State Intervention*, that, as already explained, collects the agreement of the subjects with the statement: "*The State should take measures to reduce differences in income levels*" (from 1 to 10).

Table 4 (last two columns) explores the determinants of *State Intervention Support*. Results clearly show that neither behavioural types (*Egalitarianism*, *Altruism*, *Spite* and *Inequality Seeking*) nor social preferences (α and β) correlate with support for intervention. However, beliefs matter. Citizens with meritocratic beliefs (*Fairness*) do not support intervention ($p < 0.01$ and $p < 0.001$, in the two regressions). On the contrary, those who trust government institutions (*Effectiveness*, $p < 0.01$) and care more about poverty (*Need*, $p < 0.001$ and $p < 0.01$) are more likely to support state intervention.

Interestingly, we observe that richer ($p < 0.001$) and more religious citizens ($p < 0.001$ and $p < 0.05$) are less supportive of redistribution. There is a positive effect of impatience ($p < 0.001$ and $p < 0.01$) and impulsivity ($p < 0.01$). We also find, although only for the first model and only at the 5% significance level, that older individuals, those living in couples, and those raised in affluent neighborhoods tend to vote for the right.

Therefore, we conclude that social preferences are essentially unrelated in the data to support for redistribution, whereas beliefs about the *Effectiveness*, *Fairness* and *Need* of redistribution matter a lot. A subject may be egalitarian or altruist but if she distrusts government institutions, holds meritocratic beliefs or does not think that poverty is a pressing problem, then we expect the subject to have right-wing political attitudes and not to support state intervention to reduce inequality (Table 4).

In sum, beliefs are more important to predict support for redistribution than the utility function parameters that measure social preferences. The logical next step is to analyze what determines people's beliefs about the *Effectiveness* (institutional trust), *Fairness* (meritocracy) and *Need* (prevalence of poverty). The following section examines this question.

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Table 4: Support for redistribution

	Political Views-Right		State Intervention	
Egalitarianism	Ref		Ref	
Altruism	0.093		-0.055	
	(0.140)		(0.133)	
Spite	0.091		0.288	
	(0.245)		(0.225)	
Inequality Seeking	1.334***		-0.181	
	(0.264)		(0.241)	
α		-0.105		0.005
		(0.068)		(0.067)
β		-0.141		0.136*
		(0.076)		(0.069)
Fairness	0.205***	0.206***	-0.091**	-0.112***
	(0.031)	(0.033)	(0.031)	(0.032)
Effectiveness	-0.047***	-0.053***	0.030**	0.028**
	(0.010)	(0.011)	(0.010)	(0.011)
Need	-0.443***	-0.455**	0.492***	0.446***
	(0.129)	(0.141)	(0.120)	(0.130)
Age	-0.009*	-0.009	0.092*	0.006
	(0.005)	(0.05)	(0.004)	(0.005)
Male	0.354**	0.400**	0.010	0.102
	(0.124)	(0.138)	(0.117)	(0.129)
Education (above secondary)	0.080	0.070	-0.210	-0.154
	(0.132)	(0.145)	(0.117)	(0.129)
Living as a couple	0.036	0.079	0.269*	0.239
	(0.137)	(0.151)	(0.129)	(0.141)
Children in household	0.109	0.117	0.001	-0.023
	(0.082)	(0.092)	(0.075)	(0.084)
Household income above 1400	-0.077	-0.080	-0.557***	-0.611***
	(0.130)	(0.143)	(0.120)	(0.130)

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Support for redistribution (continue)

	Political Views-Right		State Intervention	
Management/ind. professional	0.031	-0.081	0.112	0.113
	(0.145)	(0.160)	(0.131)	(0.144)
Religion	1.303***	1.331***	-0.461***	-0.330*
	(0.127)	(0.138)	(0.122)	(0.130)
Rich neighborhood	0.055*	0.053*	0.050*	0.030
	(0.022)	(0.023)	(0.022)	(0.023)
CRT	-0.031	-0.014	-0.195**	-0.192**
	(0.067)	(0.074)	(0.062)	(0.067)
Math	0.006	0.006	-0.126	-0.238*
	(0.094)	(0.103)	(0.085)	(0.093)
Patience	-0.033	-0.030	-0.096***	-0.081**
	(0.029)	(0.031)	(0.026)	(0.028)
Observations	1368	1159	1368	1159

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Ordinary Least Squares (OLS) regression models

5.3 What determines beliefs?

Table 5 shows the relationship between beliefs and sociodemographic variables as well as the behavioral types and social preferences parameters α and β.

Neither behavioral types nor social preferences have any relationship with *Fairness* (Table 5, columns 1-2). We find that religious people ($p < 0.001$) and those raised in an affluent neighbourhood ($p < 0.001$ and $p < 0.01$) tend to hold meritocratic beliefs, as well as those with higher earnings ($p < 0.01$ and $p < 0.05$) and those living in a couple ($p < 0.05$). There is a negative effect of *CRT* ($p < 0.05$ only on the first model) and *Maths* ($p < 0.05$ and $p < 0.01$). Interestingly, there is no connection with education.

Predicting why certain individuals trust government institutions (*Effec-*

tiveness) while others do not is not straightforward. Table 5 (columns 3-4) does not offer clear answers. Behavioural types have no impact – except *Inequality Seeking* people who strongly trust institutions ($p < 0.001$) – and the same holds for social preferences. Those who were raised in an affluent neighbourhood, more religious or with higher earnings, have more trust ($p < 0.001$, $p < 0.01$ and $p < 0.05$, respectively). Interestingly, reflective individuals are less likely to trust the government ($p < 0.01$ and $p < 0.05$).

Finally, Table 5 (columns 5-6) examines the beliefs on the *Need* for redistribution. As we can see, neither the behavioral types not the social preferences parameters are significant, although one could expect that *altruistic* or *compassionate* individuals (β) would consider poverty a priority. Among the sociodemographic variables, only the level of education is significant ($p < 0.05$). The model indicates that more educated individuals do not believe that poverty is the most serious problem.

6   Conclusions

We run an experiment on a representative sample to study the connection between social preferences, beliefs and the support for redistribution.

Although both Fisman et al. (2017) and Kerschbamer and Müller (2020) or Müller and Renes (2021) find that social preferences are connected with voting direction, our experiment does not find anything similar for Spain. Nor do we find the result of Fehr et al. (2022) that social preferences predict support for redistributive policies. In contrast to previous studies, our results indicate that beliefs matter and social preferences do not.

We find that social preferences are essentially unrelated to political attitudes or the support of state intervention toward redistribution. However, the beliefs on the fairness, the need and the effectiveness of redistribution are important determinants of the support for redistributive policies.

Table 5: What determine beliefs?

	Fairness		Effectiveness		Need	
Egalitarianism	Ref		Ref		Ref	
Altruism	-0.197		0.671		0.147	
	(0.129)		(0.405)		(0.147)	
Spite	-0.392		0.071		-0.312	
	(0.238)		(0.724)		(0.263)	
Inequality Seeking	-0.138		3.157***		-0.296	
	(0.247)		(0.801)		(0.319)	
α		0.050		-0.341		-0.089
		(0.065)		(0.215)		(0.072)
β		0.001		-0.210		0.098
		(0.069)		(0.223)		(0.078)
Age	0.011*	0.011*	0.012	0.013	0.002	0.003
	(0.004)	(0.005)	(0.014)	(0.016)	(0.005)	(0.005)
Male	0.118	0.094	0.523	0.323	-0.062	-0.038
	(0.121)	(0.135)	(0.368)	(0.409)	(0.134)	(0.146)
Education (above secondary)	-0.209	-0.214	0.504	0.602	-0.305*	-0.335*
	(0.125)	(0.139)	(0.388)	(0.422)	(0.139)	(0.151)
Living as a couple	0.327*	0.302*	-0.030	0.135	-0.166	-0.195
	(0.127)	(0.138)	(0.390)	(0.424)	(0.147)	(0.158)
Children in household	0.087	0.137	0.275	0.195	0.062	0.085
	(0.079)	(0.085)	(0.247)	(0.277)	(0.085)	(0.092)
Household income above 1400	0.326**	0.348*	0.872*	0.872*	0.005	0.022
	(0.124)	(0.137)	(0.386)	(0.420)	(0.142)	(0.154)
Management/ ind. professional	0.211	0.266	0.239	0.177	0.123	0.067
	(0.139)	(0.157)	(0.440)	(0.487)	(0.155)	(0.170)
Religion	0.729***	0.693***	1.057**	1.151**	-0.145	-0.180
	(0.120)	(0.134)	(0.370)	(0.410)	(0.135)	(0.147)
Rich neighborhood	0.076***	0.059**	0.306***	0.264***	-0.012	-0.005
	(0.021)	(0.022)	(0.063)	(0.069)	(0.020)	(0.022)

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	Fairness		Effectiveness		Need	
CRT	-0.137*	-0.115	-0.557**	-0.513*	-0.017	-0.003
	(0.066)	(0.074)	(0.193)	(0.215)	(0.072)	(0.079)
Math	-0.216*	-0.266**	-0.486	-0.215	0.012	-0.017
	(0.089)	(0.099)	(0.276)	(0.304)	(0.101)	(0.110)
Patience	0.039	0.032	0.074	0.060	-0.003	-0.004
	(0.028)	(0.030)	(0.086)	(0.091)	(0.030)	(0.032)
Observations	1368	1159	1368	1159	1368	1159

Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Effectiveness, Fairness: OLS regression models

Need: Logit regression models

Our analysis sheds light on the significance of beliefs, which could explain the divergence from previous findings in the literature. In our sample, social preferences appear to correlate with voting tendencies or support for redistribution among citizens who believe that *luck is more important than merit*, that *public institutions can be trusted* to spend taxpayers' money effectively, and consider *poverty a central issue*. However, only 1.8% of our subjects hold these specific beliefs -just 25 subjects simultaneously fall into the first quartile of the luck (vs. effort) distribution, trust in government and concern about poverty. Therefore, given the small size of this subsample, it is very difficult for the fundamentals to significantly impact voting direction or support for redistribution. While our results do not rule out the possibility that in other populations under different belief systems, social preferences show an effect on political views, they do suggest that that certain belief conditions are necessary for this connection there may be necessary conditions concerning beliefs, for social preferences to be connected with support for redistribution and when those necessary conditions do not hold, social preferences are irrelevant for voting direction. Further research is needed to clarify the intricate relationship between beliefs, social preferences, and political stances on redistribution.

Our approach leaves out some details that may be important in reality. For example, we overlook the specific framing of the political proposals with redistributive implications, to focus solely on the trade-offs involved. We concentrate on the reactions to proposals impacting income distribution and efficiency. It's important to note that our results apply specifically to these particular trade-offs, abstracting away from realistic complexities. Nonetheless, we believe our findings offer valuable insights that could be further complemented in future research.

Overall, we believe our results have policy relevance because beliefs on the fairness, necessity and effectiveness of redistribution may be more amenable to change than the underlying social preferences. This, in turn, paves the way for further research aimed at designing interventions to shift those beliefs.

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A   Appendix

A.1   Detailed information about the sample

Table S1: Summary statistics (n=1368)

	Mean	Std. Dev.	Min	Max
Egalitarian	0.619	0.486	0	1
Altruist	0.265	0.441	0	1
Spiteful	0.070	0.256	0	1
Inequality seeker	0.048	0.214	0	1
Political views-Right	4.933	2.316	1	10
State intervention	7.570	2.093	1	10
Meritocracy beliefs (*fairness*)	6.648	2.120	1	10
Trust in institutions (*effectiveness*)	14.091	6.400	3	30
Poverty prevalence (*need*)	0.268	0.443	0	1
Age				
≤ 25	0.103	0.304	0	1
(25-45]	0.480	0.500	0	1
(45-65]	0.336	0.473	0	1
>65	0.081	0.273	0	1
Male	0.484	0.500	0	1
Education (above secondary)	0.592	0.491	0	1
Living as a couple	0.648	0.478	0	1
Children in household	0.540	0.807	0	5
Household income above 1400	0.443	0.497	0	1
Management/independent professional	0.243	0.429	0	1
Religion	0.357	0.479	0	1
Rich neighborhood	11.929	3.061	2	20
CRT	1.591	0.968	0	3
Math	1.247	0.711	0	2
Patience	3.453	2.068	0	6

Table S2: Variable definitions

Variable	Definition
Political views-Right	When talking about politics, the expressions left and right are commonly used. Here is a series of boxes from left to right. In which box would you place yourself according to your political views? 1 (left)- 10 (right)
State intervention	To what extent you agree or disagree with the following statement: "The State should take measures to reduce differences in income levels". 1 (Strongly disagree)- 10 (Strongly agree)
Meritocracy belief (*fairness*)	Some people think that people's economic position depends almost exclusively on their family background, contacts or simply the luck of their effort, education and professional worth. Others think that what really matters is effort, education and professional worth. On a scale of 1 to 10, where 1 is luck (family and contacts) and 10 is effort (education and worth), how much do you think effort influences the economic position achieved by people in Spain?
Trust in institutions (*effectiveness*)	Sum of these three questions: To what extent do you think you can trust local government institutions? 1 (very little)-10 (very much) To what extent do you think you can trust the autonomous government institutions? 1 (very little)-10 (very much) To what extent do you think you can trust national government institutions? 1 (very little)-10 (very much)
Poverty prevalence (*need*)	Dummy marking people that answer "Poverty, lack of food and drinking water" to this question: In your opinion, which of the following do you consider to be the most serious problem current facing the world as a whole?
Age	Years old on your last birthday. Divide in several categories
Male	Dummy variable
Education (above secondary)	Dummy variable
Living as a couple	Dummy variable

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<div align="center">Variable definitions (continued)</div>

Variable	Definition
Children in household	How many Children (under 14 years of age) live with you?
Household income	Household income is a variable divide in categories.
above 1400	This dummy variable signs households with income above the median interval
Management/	Dummy variable
indep. professional	
Religion	Do you consider yourself a religious person? Dummy equals 1 if individual is a religious person
Rich neighborhood	Sum of these two variables: On a scale of 1 to 10, how would you rate your neighborhood when you were 8 years old? On a scale of 1 to 10, how would you rate your neighborhood when you were 15 years old? 1 means very poor, 10 means very rich
CRT	CRT is defined as the sum of correct answers in this three questions: (1) If you are running a race and you overtake the person in second place, what position are you in? (2) A farmer had 15 sheep and all but 8 died. How many sheep does he have left? (3) A new library is buying books for its collection. Each week the number of books in the library doubles. If it takes the library 36 weeks to complete the collection, how many weeks does it take to acquire half of the collection?
Math	$Math$ is defined as the sum of correct answers in this two questions: (1) If there are 5 people holding the winning lottery ticket and the prize to be shared is two million euros, how much money will each person receive? (2) Suppose you have 100€ in a savings account. The account accrues an interest rate of 10% per year. How much money would you have in your account after two years?

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Variable definitions (continued)

Variable	Definition
Patience	Patience is measured using a multiple price list with six items of two options. The first one is always the same "collect tomorrow 100 euros". In the second options the waiting time for collection is one month and the amount increases by 10 euros form the firs question (which is 100 euros) to the sixth one (150 euros). We define *Patience* as the sum of times the respondent chooses option 2.

A.2 Motivations to choose B

Table S3: Potential motivations to choose Option B vs. (1, 1)

	Option B	Efficiency	Altruism	Selfishness	Spitefulness	Egalitarism	Inequality seeking
D 1	(0.8, 1.6)	Yes	Yes	No	No	No	Yes
D 2	(1.2, 0.4)	No	No	Yes	Yes	No	Yes
D 3	(1, 0.6)	No	No		Yes	No	Yes
D 4	(1.6, 0.4)		No	Yes	Yes	No	Yes
D 5	(1, 1.8)	Yes	Yes		No	No	Yes
D 6	(1.1, 1.9)	Yes	Yes	Yes	No	No	Yes

A.3 Social preferences categorization

Figure S1: Social preferences categorization

	$\alpha \le -0.25$ (D1=1)	$-0.25 \le \alpha \le 0$ (D1=0, D5=1)	$0 \le \alpha \le 0.125$ (D1=0, D5=0, D6=1)	$\alpha \ge 0.125$ (D1=0, D5=0, D6=0)
	Inequality-seeking			Spitefulness
$\beta \le 0$ (D3=1)	41	25	16	80
$0 \le \beta \le 0.25$ (D3=0, D2=1)	15	76	29	64
$0.25 \le \beta \le 0.5$ (D3=0, D2=0, D4=1)	20	36	17	27
$\beta \ge 0.5$ (D3=0, D2=0, D4=0)	54	161	68	639
	Altruism			Egalitarianism

Note: Dj=1 if subject selects option B in decision j; Dj=0 if subject selects option A in that decision. Each entry corresponds to the number of subjects with a given combination of parameters α (column) and β (row), e.g. there are 639 subjects with $\alpha \ge 0.125$ and $\beta \ge 0.5$.

Figure S2: Social preferences categorization

	$\alpha \leq -0.25$ (D1=1)	$-0.25 \leq \alpha \leq 0$ (D1=0, D5=1)	$0 \leq \alpha \leq 0.125$ (D1=0, D5=0, D6=1)	$\alpha \geq 0.125$ (D1=0, D5=0, D6=0)
$\beta \leq 0$ (D3=1)	41	25	16	80
$0 \leq \beta \leq 0.25$ (D3=0, D2=1)	15	76	29	64
$0.25 \leq \beta \leq 0.5$ (D3=0, D2=0, D4=1)	20	36	17	27
$\beta \geq 0.5$ (D3=0, D2=0, D4=0)	54	161	68	639

Selfishness · Inequality-seeking · Spitefulness · Efficiency · Altruism · Egalitarianism