# Who Should Get Money? Estimating Welfare Weights in the U.S.*

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**Abstract**

Evaluating the desirability of a reform typically involves weighing the gains of the winners against the losses of the losers using welfare weights. Welfare weights measure the value that society assigns to a $1 gain in consumption to individuals. They can capture various normative ideals like utilitarianism and equality of opportunity. Which welfare weights should society use to evaluate reforms? We develop a portable method to elicit welfare weights from general population samples and validate it using two experiments. We find that the general population weights are more progressive than the weights implied by tax and transfer policies in the U.S., indicating that the general population desires additional redistribution. The general population weights are less progressive than those frequently used in the literature. We explore the implications of these weights for optimal income taxes.

**Keywords**: Welfare Weights, Policy Views, Income Taxation
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# 1 Introduction

Most policy reforms result in winners and losers. Evaluating the desirability of such reforms commonly involves weighing the gains of the winners against the losses of the losers using welfare weights. Welfare weights measure the value that society assigns to a $1 gain in consumption to individuals. An open question in the literature is: Which welfare weights should society use to evaluate reforms?[1]

While previous studies in the literature typically assume welfare weights, our paper adopts an empirical approach: We elicit the welfare weights assigned by the general population of the U.S. to individuals in society. This tells us how the general population thinks about the tradeoffs involved in implementing reforms. It is also useful for democratic governments seeking to implement socially acceptable reforms.

We develop a portable method to elicit welfare weights from general population samples. We validate this method using two online experiments with large samples of the U.S. general population ($N \approx 4000$). In the experiments, participants in the role of "Social Architects" face participants in the role of "Recipients." The Recipients' disposable incomes span the income distribution of the U.S. A Social Architect makes a number of real-stakes redistributive decisions, which are used to identify the welfare weights they assign to the Recipients. Our controlled experimental approach allows us to elicit welfare weights unconfounded by views about the government and taxation.

In our framework, a reform is conditioned only on Recipients' incomes. In the experiment, a Social Architect assigns welfare weights based on Recipients' incomes. Thus, knowing a Social Architect's welfare weights in the experiment is sufficient to learn their assessment of the welfare implications of a reform and, by extension, its desirability. A Social Architect's welfare weights can be guided by various underlying normative ideals, such as equality of opportunity or poverty alleviation (Saez & Stantcheva 2016). However, our approach allows for policy evaluation without the need to specify and uncover the underlying ideals. This "sufficient statistics" approach is powerful because uncovering underlying ideals can be challenging when Social Architects are guided by a wide array of normative ideals.

We find that the welfare weights across all Social Architects are "progressive" on average, meaning that they are decreasing with Recipients' incomes. We find similar results when we estimate the median progressivity of the welfare weights. Since the welfare weights were elicited given the Recipients' disposable income resulting from the current

[1] As documented in the literature, this question is important because it has implications for the progressivity of policies (e.g., Saez 2002) and government spending (Hendren & Sprung-Keyser 2020), which in turn have implications for inequality (e.g., Hendren 2020) and growth (e.g., Hendren 2020).

tax and transfer system, our finding indicates that the general population wants additional redistribution beyond that achieved by the current system. To estimate the progressivity of the welfare weights, we estimate the elasticity of Social Architects' welfare weights with respect to Recipients' incomes. Our elasticity estimate implies that if a Social Architect assigns a weight of 1 to a Recipient, they will assign a weight of 66 cents to a Recipient earning twice as much. This means that for every dollar that a Social Architect gives to a Recipient, they are willing to take $1.5 from a Recipient earning twice as much. We compare our elasticity estimate to the benchmark categories proposed in the literature (e.g., Saez 2002, Allcott et al. 2019). This comparison indicates that the general population weights are characterized by "weak" to "strong" redistributive tastes.

While the aggregate general population weights are progressive, there is considerable heterogeneity. This heterogeneity is predicted by Social Architects' background characteristics. Republicans assign less progressive welfare weights relative to Democrats and Independents. Social Architects with above median incomes assign less progressive weights. These results suggest that welfare weights can explain a part of the partisan gap in support for government redistribution (e.g., Stantcheva 2021) and the income gap in support for government redistribution (e.g., Singhal 2008, Cohn et al. 2019).

Is the observed heterogeneity in welfare weights due to heterogeneous underlying normative ideals? We present two results to support the hypothesis that Social Architects' welfare weights are driven by their underlying ideals. First, we included two questions to test whether welfare weights broadly capture "non-welfarist" ideals in addition to the traditional "welfarist" ideals. In the welfarist approach, welfare weights depend on characteristics affecting Recipients (e.g., disability status). In the non-welfarist approach, welfare weights depend on characteristics not affecting Recipients (e.g., parental income). The non-welfarist approach includes a broader range of ideals. If the heterogeneity in welfare weights is driven by underlying ideals, we should expect welfare weights to capture non-welfarist ideals. Our results suggest that Social Architects' welfare weights do capture non-welfarist ideals. Second, we include a question designed to capture an important non-welfarist ideal documented in the literature: inequalities that arise due to effort are acceptable, but those due to luck are unacceptable. We find that Social Architects' responses to this question predict their welfare weights. These two results provide suggestive evidence that the heterogeneity in welfare weight is likely driven by the heterogeneity in underlying ideals.

How do the general population weights compare to the weights implied by the income tax schedule and transfer policies in the U.S.? The weights implied by the tax schedule and transfer policies can be represented as politicians' aggregation of societal welfare weights, potentially influenced by political economy considerations. We obtain the weights implied by the tax schedule from Hendren (2020) and transfer policies from Hendren & Sprung-Keyser (2020). Our elasticity estimates imply that the general population weights are 3 to 6 times more progressive than those implied by the tax schedule and 1.1 to 2.2 times more progressive than those implied by transfer policies. We explore one reason why the general population weights are more progressive than the weights implied by the tax schedule: the latter places a higher "aggregation weight" on high-income individuals when aggregating societal welfare weights. We find that the aggregation weight that can rationalize the gap between the two sets of weights is indeed higher for high-income individuals. These aggregation weights account for 44% to 58% of the overall gap between the two sets of weights. This explanation is consistent with the evidence in the literature suggesting that implemented policies are often more likely to reflect the interests of high-income individuals (e.g., Gilens & Page 2014, Karabarbounis 2011).

How do the general population weights compare to the weights used in the optimal policy literature? One frequently used estimate of welfare weights is inversely proportional to Recipients' disposable incomes or consumption (e.g., Saez 2001), which we refer to as "inverse-consumption" weights. These weights can be derived by assuming log utilities or constant relative risk aversion (CRRA) utilities in consumption with a coefficient of relative risk aversion of 1. We find that inverse-consumption weights are 1.7 to 3.3 times more progressive than the general population weights. To better align policy recommendations with the general population's views, the optimal policy literature could use the estimates of welfare weights provided in our paper. These estimates can be implemented by using CRRA utilities with a coefficient of relative risk aversion ranging from 0.3 to 0.6.

We explore the implications of the estimated welfare weights by calibrating the optimal non-linear labor income taxes. The optimal marginal tax rates depend on (i) the shape of the ability distribution, (ii) the elasticity of taxable income, and (iii) welfare weights. We find that the optimal marginal tax rates calibrated with the general population weights are 13-25 percentage points higher, on average, than the current tax rates in the U.S.

To understand whether the general population weights can be used to identify socially acceptable government policies, we explore the empirical link between these weights and support for government redistribution, measured using a survey question. We find that welfare weights predict support for government redistribution. A benchmarking exercise shows that Social Architects' welfare weights predict their support for government redistribution as accurately as their stated political affiliation.

We also explore whether the share of Social Architects with progressive welfare weights is similar to the share supporting additional government redistribution in the survey measure. We find that 65% of the Social Architects have progressive welfare weights. Since these welfare weights were elicited given the current tax and transfer system, Social Architects with progressive welfare weights will, all else equal, desire additional redistribution. In the survey measure of support for government redistribution, 67% of the Social Architects support additional redistribution. These results provide further evidence that calibrating optimal policy formulas with the general population weights would likely lead to socially acceptable policies.

In our sufficient statistics approach, Social Architects assign welfare weights based on their perceptions about the tax system and society. Their welfare weights may not be normatively appealing if their perceptions are inaccurate. However, there are two reasons why the presence of inaccurate perceptions may not be problematic. First, Social Architects may have misperceptions at various margins, but their assigned welfare weights may not be sensitive to their misperceptions. We show that Social Architects' welfare weights are not sensitive to misperceptions about income mobility, the share of low-income individuals, and the level of taxes paid by individuals. Second, the aggregate welfare weights of Social Architects may be unaffected by misperceptions if the misperceptions across Social Architects cancel out in the aggregate.

Our paper is related to four strands of literature. The first is the experimental literature that aims to identify the ideals that guide people's welfare weights and, consequently, their support for redistribution (e.g., Drenik & Perez-Truglia 2018, Almås et al. 2020). These papers do not directly elicit welfare weights. In our paper, we elicit the welfare weights of the general population of the U.S., which can be guided by various underlying ideals.

The second strand of literature aims to directly elicit people's welfare weights using experiments. The closest paper to ours is by Saez & Stantcheva (2016). Their paper estimates welfare weights as a function of disposable incomes and taxes and uses these welfare weights to calibrate the optimal linear income taxes with no behavioral responses.[2] In our paper, we estimate welfare weights as a function of disposable incomes. This approach allows our welfare weights to be applicable to a wide range of policies, including the optimal non-linear income taxes allowing for behavioral responses. There are also two important methodological differences between their paper and ours. First, our pa-

[2] In their experiment, participants recruited from the online labor market Amazon Mechanical Turk face pairs of hypothetical families with different disposable incomes and taxes and are asked which family in each pair is more deserving of a $1,000 tax break. They estimate the slope of the social indifference curves in the disposable income-taxes space.

per uses samples that are broadly representative of the general population, while their paper uses a non-representative sample. Second, their paper uses hypothetical decisions, while our paper uses decisions with real stakes. Moreover, our paper explores whether the general population weights can be used to obtain socially acceptable policies, explores the predictors of the weights, and compares these weights to the weights implied by tax and transfer policies in the U.S. and the weights frequently used in the optimal policy literature.

The third strand of literature identifies the welfare weights implied by the tax schedule (e.g., Hendren 2020, Lockwood & Weinzierl 2016, Zoutman et al. 2013, Bourguignon & Spadaro 2012) or by transfer policies (Hendren & Sprung-Keyser 2020). These "inverse-optimum weights" represent politicians' (implied) aggregation of societal welfare weights, potentially influenced by their political economy considerations. There are several limitations to using these weights to evaluate other policies (see Lockwood & Weinzierl (2016), Stantcheva (2016)). First, they may not reflect societal preferences if the policies do not adapt to changing societal preferences (Freitas-Groff 2023) or if politicians are influenced by political economy considerations, such as lobbying. Second, they can sometimes be negative, in which case, they cannot be used in standard policy formulas that require positive welfare weights. Third, they are sensitive to the assumptions about the elasticity of taxable income.

The fourth strand of literature aims to incorporate normative ideals in optimal policy formulas by modifying individuals' utilities or the objective function (e.g., Weinzierl 2018, 2014, Fleurbaey & Maniquet 2006). A key limitation of this approach is the difficulty in incorporating multiple ideals. In our paper, we elicit the welfare weights of the general population, which can capture various underlying ideals, and use these weights to evaluate "standard" optimal policy formulas. Our approach is supported by our results, which suggest that Social Architects' welfare weights are likely guided by heterogeneous underlying ideals.

The structure of our paper is as follows. In Section 2, we present the theoretical framework based on the framework of Saez & Stantcheva (2016). This section provides a mapping from the theory of optimal taxation to the experimental design. Section 3 presents the experimental design. Section 4 presents the results on the general population weights. Section 5 compares the general population weights to the weights implied by tax and transfer policies and the weights used in the optimal policy literature. Finally, Section 6 discusses and concludes.

# 2 Theoretical Framework

Our theoretical framework is based on the framework by Saez & Stantcheva (2016). It describes the mapping from the theory of optimal taxation to the experimental design described in the next section.

### 2.1 Recipients' Utilities

Consider a population of *N Recipients* indexed by $j$. A Recipient $j$'s indirect utility function is given by $U_j = z_j - T_j(z_j) - v(z_j, \alpha_j)$ where $z_j$ denotes Recipient $j$'s optimal income (implicitly based on their optimal choice of labor) given the tax schedule, $T_j$ denotes the taxes paid by Recipient $j$ given their optimal income, and $v$ represents Recipients' disutility of work, which is a function of their optimal income and various personal characteristics $\alpha_j$ (e.g., disability status).[3]

### 2.2 Welfare Weights

A *Social Architect* assigns *generalized social marginal welfare weights* (henceforth *welfare weights*) to the Recipients. The welfare weight $g_j$ measures how much the Social Architect values a \$1 increase in consumption for Recipient $j$ relative to other Recipients and is given by $g_j = g(c_j, \theta_j)$. Welfare weights are a function of Recipients' consumption $c_j = z_j - T_j(z_j)$ and Recipients' characteristics contained in the vector $\theta_j$.[4] Some characteristics in $\theta_j$ may also be included in $\alpha_j$ (e.g., disability status), while others may not (e.g., parental income). The welfare weights are relative and thus defined up to a multiplicative constant.

A Social Architect's welfare weights can be guided by various ideals, such as equality of opportunity, utilitarianism, distribution based on the source of income, and poverty alleviation.[5] For example, a utilitarian Social Architect would assign welfare weights proportional to Recipients' marginal utility of consumption (captured by $c_j$). A Social Architect guided by equality of opportunity would assign higher welfare weights to Recipients from disadvantaged backgrounds (captured by $\theta_j$) compared to those from more advantageous backgrounds.

### 2.3 Evaluating Reforms

We consider reforms that are conditioned only on Recipients' incomes. However, a Social Architect's welfare weights $g_j$ are at a more disaggregated level—they may assign

[3]There is no common concave transformation of the utilities, implying that all the utility gains and losses are expressed in dollar terms. However, the assumption about Recipients' utilities does not affect the estimation of the welfare weights.

[4]In the empirical exercise of Saez & Stantcheva (2016), the welfare weights also depend on taxes ($T_j$). We assume that $T_j$ is contained in $\theta_j$.

[5]See Saez & Stantcheva (2016) for an overview of the ideals that can be incorporated by this approach.

different welfare weights to Recipients earning the same income. To evaluate a reform, the welfare weights have to be aggregated up to the level of the reform.[6] We assume that a Social Architect facing Recipient $j$ reports their mean welfare weights $\bar{g}_j$ given by

$$\bar{g}_j = \frac{\sum_{j:z_j=z} g_j}{h(z)} \tag{1}$$

where $h(z)$ is the number of Recipients with earnings $z$. A set of mean welfare weights can be consistent with multiple underlying ideals. For example, utilitarianism and equality of opportunity may lead to the same mean weights. A utilitarian Social Architect would assign welfare weights proportional to Recipients' marginal utility of consumption. Since the marginal utility of consumption decreases with income, mean welfare weights also decrease with income. A Social Architect guided by equality of opportunity would assign higher welfare weights to Recipients from disadvantaged backgrounds. Since the share of Recipients from disadvantaged backgrounds decreases with income, mean welfare weights also decrease with income. There exists a distribution of Recipients from disadvantaged backgrounds that makes the mean welfare weights corresponding to these two ideals identical.

Consider a setting in which a Social Architect faces two Recipients with incomes $z_l$ and $z_h$, such that $z_h > z_l$. Each Recipient earning $z$ is selected from the set of all Recipients earning $z$. We consider a "small" (marginal) budget-neutral reform. The reform $\epsilon R = (\epsilon r_l, -\epsilon r_h)$ with $r_h = r_l$ changes the Recipients' disposable incomes by taking the monetary amount $\epsilon r_h$ from the higher-income Recipient and giving the amount $\epsilon r_l$ to the lower-income Recipient.[7] A Social Architect maximizes a utilitarian social welfare function given by

$$\begin{aligned} W &= \bar{g}_l \cdot U_l + \bar{g}_h \cdot U_h \\ &= \bar{g}_l \cdot (z_l - T_l(z_l) + \epsilon r_l - v(z_l, \alpha_l)) + \bar{g}_h \cdot (z_h - T_h(z_h) - \epsilon r_h - v(z_h, \alpha_h)). \end{aligned} \tag{2}$$

Taking the first derivative of Equation (2) with respect to $\epsilon$, we get

[6] There are two approaches to evaluating reforms that are conditioned jointly on incomes and other observable characteristics ("tags"). The first approach involves aggregating the weights up to the level of the reform, i.e., jointly on incomes and other observable characteristics. The second approach is to ignore the tags and aggregate the welfare weights up to Recipients' incomes. The latter approach is described in Hendren & Sprung-Keyser (2020).

[7] Since the Recipients are optimizing, the marginal reform does not affect their choice of labor and, consequently, their optimal pre-tax income $z$ due to the envelope condition.

$$\Delta W = \bar{g}_l \cdot r_l + \bar{g}_h \cdot (-r_h). \tag{3}$$

Equation (3) shows that the weighted reform amounts, weighted by the mean welfare weights, has a first-order effect on Recipients' welfare. The reform $R = (r_l, -r_h)$ is defined as being desirable if $\Delta W > 0$. Saez & Stantcheva (2016) derive the necessary conditions for a tax system to be at a local optimum: If a tax system is at a local optimum, then for any small budget-neutral reform $R$, $\Delta W = 0$.

### 2.4 Identifying Welfare Weights

To identify the mean welfare weights $\bar{g}_l$ and $\bar{g}_h$, we identify a non-budget-neutral reform $R' = (r_l, -r_h)$ with $r_l \neq r_h$ that makes the Social Architect indifferent between the reform $R'$ and the budget-neutral reform $R = (r_l, -r_h)$ with $r_l = r_h$. Setting $\Delta W(R) = \Delta W(R')$ allows to recover the welfare weights $\bar{g}_l$ and $\bar{g}_h$.[8]

In our framework, knowing a Social Architect's mean welfare weights is sufficient to learn their assessment of the welfare implications of a reform ($\Delta W$) and, by extension, its desirability. We do not need to specify or uncover the underlying ideals that guide the Social Architects. Even though a set of mean welfare weights may be consistent with multiple underlying ideals (e.g., utilitarianism or equality of opportunity), these ideals have the same welfare implications. This sufficient statistics approach is powerful because uncovering the underlying normative ideals can be challenging when Social Architects are guided by a wide array of ideals. In the following section, we discuss how we identify Social Architects' mean welfare weights.

# 3 Experimental Design

### 3.1 Eliciting Welfare Weights

**Decisions**

Participants in our experiment assume the role of either a "Social Architect" or a "Recipient." Each Social Architect faces a pair of Recipients. The Social Architect learns the Recipients' real-world disposable incomes accrued from the current tax and transfer system. The Recipients receive a $1500 endowment. The Social Architect makes several choices between monetary amounts that resemble policy reforms. These monetary choices involve a tradeoff between equity and efficiency. The amounts are added to or subtracted from the Recipients' endowment. A Social Architect's choices are used to identify the

[8] A special case of the budget-neutral reform is $R = (0, 0)$.

welfare weights assigned to the Recipients. These welfare weights reflect the Social Architect's assessment of the value of consumption to the Recipients, given the current tax and transfer system. The Recipients are passive subjects who receive money based on the Social Architect's decisions.

As described in Section 2.4, to identify the welfare weights, we need to identify a non-budget neutral reform $R'$ that makes a Social Architect indifferent between $R'$ and a budget-neutral reform $R$. A Social Architect is asked to choose between a "Balanced Reform" $R = (\$500, -\$500)$ and various "Unbalanced Reforms" of the type $R' = (\$rt, -\$t)$; the reforms $(\$rt, -\$t)$ take $\$t$ from the higher-income Recipient and give $\$rt$ to the lower-income Recipient. Our goal is to identify the reform $(\$rt, -\$t)$ that makes a Social Architect indifferent between $(\$rt, -\$t)$ and $(\$500, -\$500)$.[9] Setting $\Delta W((\$500, -\$500)) = \Delta W((\$rt, -\$t))$ in Equation (3), we get

$$\tilde{g} = \frac{\bar{g}_h}{\bar{g}_l} = \frac{rt - 500}{t - 500}. \tag{4}$$

Equation (4) shows that $\tilde{g}$, the welfare weight assigned to the higher-income Recipient relative to the lower-income Recipient, is an increasing function of the parameter $r$.

If $r < 1$ in Equation (4), the welfare weight assigned to the higher-income Recipient is lower than that assigned to the lower-income Recipient ($\tilde{g} < 1, \bar{g}_h < \bar{g}_l$), which corresponds to "progressive" welfare weights. For example, suppose a Social Architect is indifferent between $(\$500, -\$500)$ and $(\$625, -\$1375)$. If a Social Architect wants to give \$125 more to the lower-income Recipient in the Unbalanced Reform relative to the Balanced Reform, then she would be willing to take away \$875 more from the higher-income Recipient in the Unbalanced Reform relative to the Balanced Reform.

Analogously, if $r > 1$, the welfare weight assigned to the higher-income Recipient is higher than that assigned to the lower-income Recipient ($\tilde{g} > 1, \bar{g}_h > \bar{g}_l$), which corresponds to "regressive" welfare weights. For example, suppose a Social Architect is indifferent between $(\$500, -\$500)$ and $(\$1375, -\$625)$. If a Social Architect has to take away \$125 more from the higher-income Recipient in the Unbalanced Reform relative to the Balanced Reform, then she would have to give \$875 more to the lower-income Recipient in the Unbalanced Reform relative to the Balanced Reform.

Finally, $r = 1$ implies equal weights to both Recipients ($\tilde{g} = 1, \bar{g}_h = \bar{g}_l$). A Social Architect is indifferent between $(\$500, -\$500)$ and $(\$1000, -\$1000)$.

[9] In principle, we can identify the reform $(\$rt, -\$t)$ that makes a Social Architect indifferent between $(\$rt, -\$t)$ and $(\$0, \$0)$. However, we avoided this approach to minimize the Social Architect's susceptibility to status-quo bias, which entails choosing the status-quo $(\$0, \$0)$.

Table 1 presents fifteen Unbalanced Reforms that are used to elicit welfare weights. The reforms are selected such that the expected total amount paid to Recipients (\$2000) is similar to the amount disbursed in the recent COVID-19 stimulus checks in the U.S. In Row 8, the Unbalanced Reform (\$1000, −\$1000) corresponds to $r = 1$. Unbalanced Reforms above Row 8 correspond to $r < 1$, while those below Row 8 correspond to $r > 1$. Lower row numbers include Unbalanced Reforms with smaller values of $r$, which are more progressive reforms. The maximum amount that can be taken from the higher-income Recipient corresponds to the initial endowment of \$1500. The minimum possible amount that can be taken from the higher-income Recipient corresponds to the \$500 in the Balanced Reform. The amount given to the lower-income Recipient is chosen such that the sum of the absolute value of the reform amounts for both Recipients is \$2000.

Table 1: Set of Reforms

| Row | Balanced Reform | Unbalanced Reform | $r$ |
|---|---|---|---|
| 1 | (\$500, −\$500) | (\$550, −\$1450) | 0.38 |
| 2 | (\$500, −\$500) | (\$625, −\$1375) | 0.45 |
| 3 | (\$500, −\$500) | (\$700, −\$1300) | 0.54 |
| 4 | (\$500, −\$500) | (\$750, −\$1250) | 0.60 |
| 5 | (\$500, −\$500) | (\$800, −\$1200) | 0.67 |
| 6 | (\$500, −\$500) | (\$875, −\$1125) | 0.78 |
| 7 | (\$500, −\$500) | (\$950, −\$1050) | 0.90 |
| 8 | (\$500, −\$500) | (\$1000, −\$1000) | 1.00 |
| 9 | (\$500, −\$500) | (\$1050, −\$950) | 1.11 |
| 10 | (\$500, −\$500) | (\$1125, −\$875) | 1.29 |
| 11 | (\$500, −\$500) | (\$1200, −\$800) | 1.50 |
| 12 | (\$500, −\$500) | (\$1250, −\$750) | 1.67 |
| 13 | (\$500, −\$500) | (\$1300, −\$700) | 1.86 |
| 14 | (\$500, −\$500) | (\$1375, −\$625) | 2.20 |
| 15 | (\$500, −\$500) | (\$1450, −\$550) | 2.64 |

*Notes:* The table presents fifteen Unbalanced Reforms. An Unbalanced Reform ($\$rt, -\$t$) takes $\$t$ from the higher-income Recipient in the pair and gives $\$rt$ to the lower-income Recipient.

Unbalanced Reforms ($\$rt, -\$t$) with larger values of $r$ are less progressive. However, they are more efficient since they lead to a larger pie ($rt + t$). Our setting is characteristic of real-world settings in which there is a tradeoff between the equity and efficiency of reforms. It is unavoidable to vary the progressivity of the reforms while keeping their efficiency constant. Eliciting the progressivity of the welfare weights is akin to asking how much efficiency loss the Social Architect is willing to accept. Nevertheless, evidence in the literature suggests that efficiency concerns are not an important factor driving people's redistributive decisions (Stantcheva 2021, Almås et al. 2020).

Our theory predicts that a Social Architect would choose a Balanced Reform starting from Row 1 in Table 1 before switching to an Unbalanced Reform. We calculate the mid-point of the Unbalanced Reform that a Social Architect switches to and the Unbalanced Reform in the previous row. A Social Architect is indifferent between the Unbalanced Reform given by the mid-point and a Balanced Reform. If a Social Architect switches in the first (last) row, we calculate the mid-point of the Unbalanced Reform in the first (last) row and the bound on possible reforms.[10] Plugging the mid-point of the Unbalanced Reforms into Equation (4) allows us to estimate $\tilde{g}$.[11]

To identify a Social Architect's switch-point in Table 1, we use the "staircase method" and present them with four decisions. The first decision, indicated in Row 8, asks a Social Architect to choose between the reforms ($500, −$500) and ($1000, −$1000). The second, third, and fourth decisions are selected adaptively, i.e., they depend on the choices of the Social Architect in the first, second, and third decisions, respectively.[12] Figure A2 in Appendix Section C.1 presents a graphical representation of the selection of the four decisions. The staircase method enforces that a Social Architect has a unique switch-point and can only switch from a Balanced Reform to an Unbalanced Reform. It also ensures that a Social Architect is presented with decisions from only the top half of the table if they select a (progressive) Unbalanced Reform in the first decision and only the bottom half if they select a (regressive) Balanced Reform in the first decision. Thus, a Social Architect's response to the first decision determines if their welfare weights are progressive or regressive. This feature ensures that if a Social Architect's choice in the first decision is free from measurement error, the qualitative assessment of their welfare weights (whether progressive or regressive) is free from measurement error.

[10] If a Social Architect always chooses the Unbalanced Reform (switches in the first row), we take the mid-point of ($550, −$1450) and ($500, −$1500). The reform ($500, −$1500) takes the maximum possible amount from the higher-income Recipient, corresponding to their entire initial endowment. The reform ($500, −$1500) corresponds to $\tilde{g} = 0$. If a Social Architect always chooses the Balanced Reform (never switches), we take the mid-point of ($1450, −$550) and ($1500, −$500). The reform ($1500, −$500) takes the minimum possible amount from the higher-income Recipient, corresponding to the amount in the Balanced Reform. The reform ($1500, −$500) corresponds to an undefined $\tilde{g}$.

[11] For example, if a Social Architect prefers a Balanced Reform in Rows 1-6 and switches to the Unbalanced Reform in Row 7, they are indifferent between ($500, −$500) and ($912.5, −$1087.5), where the latter is the mid-point of ($875, −$1125) and ($950, −$1050). Plugging these reforms into Equation (4), we get $\tilde{g} = \frac{\tilde{g}_h}{\tilde{g}_l} = \frac{rt-500}{t-500} = \frac{912.5-500}{1087.5-500} = 0.702$.

[12] The staircase method has several advantages. First, it is easy to explain to participants. Falk et al. (2018) use the staircase method in nationally representative samples across the world, highlighting its simplicity. Second, it allows us to get more accurate weights with fewer decisions than a typical multiple-price list because it adaptively selects a few questions from a list.

**Decision Screens**

Social Architects face a pair of Recipients in each "decision screen." Table 2 displays the incomes of the Recipients in each decision screen. For half the Social Architects, the order of the decision screens is reversed. The Recipients' incomes span the income distribution of the U.S., roughly covering the various tax brackets. Figure 1 plots the incomes of the seven Recipients (dots) against the disposable income distribution (line) in the U.S.

Table 2: Pairs of Recipients in Decision Screens

| | Decision Screen | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Recipient $l$ | \$8,000 | \$35,000 | \$70,000 | \$70,000 | \$70,000 | \$70,000 |
| Recipient $h$ | \$70,000 | \$70,000 | \$100,000 | \$170,000 | \$250,000 | \$500,000 |

A Social Architect is presented with four decisions in each decision screen. Their choices are used to estimate $\tilde{g}$, the welfare weight assigned to the higher-income Recipient relative to the lower-income Recipient, in each decision screen. Since the Recipient earning \$70,000 is common across the six decision screens, a Social Architect's choices across the six decision screens are used to identify the relative welfare weights assigned to the seven Recipients.[13] We re-normalize the weights so that their sum is 1. The weight assigned to a Recipient can be interpreted as the share of the total weight.

**Incentives**

We informed the Social Architects that one of them will be randomly selected in the study. For the selected Social Architect, one randomly selected choice in one randomly selected decision screen will be implemented. Thus, at the end of the study, two Recipients would receive $(\$1500 + \$rt, \$1500 - \$t)$ or $(\$1500 + \$500, \$1500 - \$500)$, depending on the choice of the selected Social Architect. We included a sentence at the top of each decision that reminded Social Architects of the incentives. We present a screenshot of one of the decisions in the experiment in Appendix Section F.

**Information about Recipients**

A Social Architect learns that they will face seven real Recipients who will be randomly selected from a survey panel and will not participate in the same survey as them. They learn that the Recipients are above the age of 18 and are U.S. citizens. They view the

[13] A simple example can illustrate the calculation. Consider three Recipients: R1 (lowest income), R2, and R3 (highest income). A Social Architect has $\tilde{g}$ = 0.25 when facing R1 and R3 and $\tilde{g}$ = 0.5 when facing R2 and R3. Set the welfare weight assigned to R3 as 1. The implied welfare weight on R1 is $\frac{1}{0.25} = 2$, and R2 is $\frac{1}{0.5} = 4$. Re-normalizing these weights to sum to 1 gives us the welfare weights assigned to R1, R2, and R3, as $\frac{2}{7}$, $\frac{4}{7}$, and $\frac{1}{7}$.

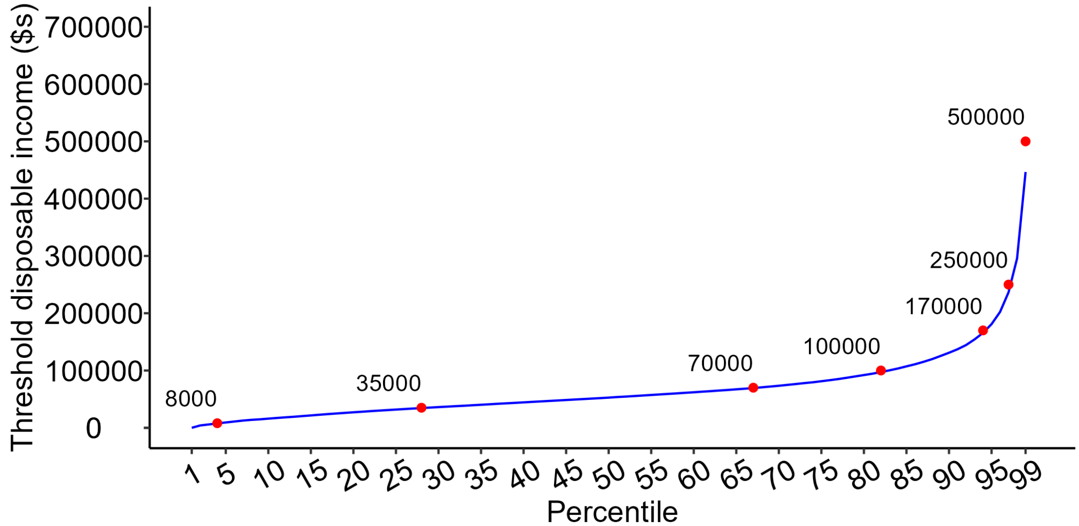


Figure 1: Disposable Incomes of the Seven Recipients

*Notes:* The figure plots the incomes of the seven Recipients (dots) against the disposable income distribution (line) in the U.S. in 2019. The horizontal axis indicates the percentiles and the vertical axis indicates the threshold annual disposable incomes corresponding to the percentiles. Data on income is obtained from the World Inequality Database (WID). Details on the construction of the figure can be found in Appendix Section E.1.

disposable incomes of the seven Recipients. Finally, we inform them about the incentives described in the previous section. We refer to the Social Architects as "Participants" and the Recipients as "Persons." We refer to the annual disposable incomes of the Recipients as "After-tax annual income."

### 3.2 Treatments and Waves

We collected data in two waves. In Wave 1, we recruited 1965 participants in the role of Social Architects. These participants were randomly assigned to one of four treatments designed to test the robustness of the elicited welfare weights with respect to changes in the experimental design. In Wave 2, we recruited 1992 participants in the role of Social Architects. We implemented four treatments in Wave 2 to further test the robustness of the elicited welfare weights.

In Wave 1, Social Architects are randomly assigned to one of four treatments in a $2 \times 2$ design. The first dimension tests if Social Architects' welfare weights are sensitive to the framing of the reforms. While Treatments Loss involve taking money away from the higher-income Recipient and giving money to the lower-income Recipient, Treatments Gain involve giving money to both Recipients in the pair. In Treatments Loss, each Recipient is given an initial endowment of \$1500, and a Social Architect decides between the reforms $(\$rt, -\$t)$ and $(\$500, -\$500)$. In Treatments Gain, the endowment is included in the reform amounts: a Social Architect decides between $(\$1500 + \$rt, \$1500 - \$t)$ and $(\$2000, \$1000)$. The experimental design described in the previous sections corresponds to Treatments Loss. The framing of the reform should not affect a Social Architect's assigned welfare weights since the welfare weights depend on Recipients' consumption, which is the same in the two treatments. However, if a Social Architect is influenced by loss aversion, then, in Treatments Loss, they will choose Unbalanced Reforms with smaller values of $t$, which are less progressive reforms.

The second dimension tests if Social Architects' welfare weights are sensitive to the income of the Recipient common across the decision screens. In Treatments 70K, the Recipient common across the decision screens has an income of \$70,000. In contrast, in Treatments 500K, the Recipient common across the decisions screens has an income of \$500,000. The experimental design described in the previous sections corresponds to Treatments 70K. We test whether the welfare weights elicitation is sensitive to the choice of the Recipient common across the decision screens.

In Wave 2 of data collection, Social Architects are randomly assigned to one of four treatments. The first two treatments test whether Social Architects' welfare weights are sensitive to the existence of real stakes. In Treatment Real, Social Architects make real decisions regarding real Recipients, while in Treatment Hypothetical, Social Architects make hypothetical decisions regarding hypothetical Recipients. If the welfare weights from the two treatments are similar, then future research can use hypothetical decisions. These are cheaper and easier to implement. However, if the welfare weights from the two treatments differ, then we defer to Treatment Real since the presence of real stakes is likely to lead to more reliable welfare weights. Both treatments are similar to Treatments Loss $\times$ 70K in structure.[14]

In the above treatments, Social Architects assume the role of impartial spectators, with self-interest motives playing a minimal role. However, in reality, people are often impacted by reforms. To examine the role of self-interest motives, we included Treatments No Self-Interest and Self-Interest. In the former, Social Architects act as impartial spectators, while in the latter, Social Architects can potentially be affected by their own choices, meaning that one of them could potentially receive a payment in the study.[15] In these two treatments, unlike in Treatment Real, the Social Architects view the income brackets of the Recipients instead of their exact incomes. This feature allows us to assign every Social Ar-

[14]The only difference between these treatments is that while we referred to the incomes of the Recipients as "after-tax" in all treatments in Wave 1, in Treatment Real and Hypothetical, we additionally mentioned that the after-tax incomes of the Recipients were "accrued after all taxes and transfers."

[15]We did not inform the Social Architects in this Treatment whether they could potentially receive a payment based on the decision of another selected Social Architect.

chitect to one of the seven distinct income brackets that span the income distribution. In Treatment Self-Interest, each Social Architect replaces the Recipient whose income bracket contains their own income. For example, if a Social Architect earns $400,000, they would replace the Recipient whose income bracket is "$375,000 and above." Thus, each Social Architect can potentially be affected by their own choices. In Treatment No Self-Interest, Social Architects cannot be affected by their own choices.

Table 3: Overview of Treatments

| Wave 1 | | |
|---|---|---|
| Treatment | Framing of Reforms | Income of Common Recipient |
| Loss × 70K | Loss | 70K |
| Gain × 70K | Gain | 70K |
| Loss × 500K | Loss | 500K |
| Gain × 500K | Gain | 500K |
| **Wave 2** | | |
| Treatment | Framing of Reforms | Income of Common Recipient |
| Real | Loss | 70K |
| Hypothetical | Loss | 70K |
| No Self-Interest | Loss | 70K |
| Self-Interest | Loss | 70K |

### 3.3 Additional Questions

We present an overview of the additional questions that Social Architects are asked to answer. More details on some of these questions can be found in Appendix Section A.

**Wave 1**

We elicit Social Architects' support for government redistribution by asking them (i) their views on the taxes levied on those in the top-income tax category and (ii) whether the government should reduce income differences between the rich and the poor. We use these two questions to test whether Social Architects' welfare weights predict their support for government redistribution.

**Wave 2**

We elicit Social Architects' support for government redistribution using a question with two key features. First, it asks Social Architects to consider the current incomes of individuals in society after all taxes and transfers, thereby fixing Social Architects' beliefs about the status quo beyond which redistribution should occur. Second, it allows redistribution from high-income individuals to low-/middle-income individuals as well as redistribution from low-/middle-income individuals to high-income individuals. The latter is useful to capture ideals such as libertarianism.

To explore the predictors of Social Architects' support for redistribution, we elicit their misperceptions about taxation and society and views about taxation and government.

To understand whether Social Architects' welfare weights reflect their underlying ideals, we present them with three sets of questions. First, we elicit Social Architects' confidence in their decisions. We use this question to test whether the heterogeneity in Social Architects' welfare weights is likely due to their underlying ideals rather than mistakes. Second, we elicit Social Architects' beliefs about whether high-income and low-income individuals need and deserve their current incomes. We use these questions to test whether Social Architects' welfare weights capture ideals related to Recipients' needs or ideals unrelated to Recipients' needs. The latter set of ideals includes a broader set of normative ideals. Third, we elicit Social Architects' beliefs about the source of income. We use this question to test whether Social Architects' welfare weights capture an important ideal documented in the literature: redistribution based on the source of income.

### 3.4 Data Collection

In Wave 1 of data collection, we recruited participants in the role of Social Architects from the data collection provider Lucid.[16] The collected sample includes participants from the general population of the U.S. Participants first answer questions about their demographics and political affiliation. We define quotas for recruitment based on gender, age, education, individual income, and region. The quotas are designed to match the sample to the population of the U.S. Next, participants answer a question that serves as an attention check. Participants who fail the attention check are dropped from the study. Participants who pass the attention check are randomly assigned to one of the four treatments. After being assigned to the treatments, participants view the instructions and are asked to answer two questions that test their comprehension of the instructions. Participants who answer either of the two questions incorrectly are dropped from the study. We implemented the survey using Qualtrics. The data collection for Wave 1 began on 8 December 2021 and lasted approximately two weeks. Our final sample includes 1965 participants.[17]

[16] Lucid is commonly used in the literature (e.g., Haaland & Roth 2023, Haaland et al. 2023).

[17] We recruited 6,735 participants in Wave 1. After dropping participants with multiple survey responses (0.09%), who did not consent to participate in the study (2.5%), who did not fit into one of the demographic quotas or did not reside in the U.S. (28.1%), who dropped out before the attention check (6.4%), who failed the attention check (28.2%), who dropped out before the comprehension check (16.5%), who failed the comprehension check (21.3%), who dropped out after passing the comprehension check (5.8%), we are left with 1965 participants. The share of participants that passed the attention check but dropped out before the comprehension check is not different across the four treatments ($F = 0.5228$, $p = 0.66$). The share of participants

In Wave 2 of data collection, we recruited participants in the role of Social Architects from the data collection provider Prolific.[18] The recruitment procedure is similar to the procedure used in Wave 1, except that in Wave 2, we did not implement any quotas during the recruitment. We implemented the survey using oTree (Chen et al. 2016). The data collection for Wave 2 began on 14 December 2022 and lasted eight days. Our final sample includes 1992 participants.[19]

### 3.5 Summary Statistics

Table 4 presents the average characteristics of our sample and the population of the U.S. in 2019. The sample characteristics in Wave 1 closely match the population characteristics because we implemented quotas while recruiting participants.[20] The sample characteristics in Wave 2 also broadly match the population characteristics.[21] In the following sections, we report analyses that are weighted using sampling weights that ensure that the sample averages match the population averages.

Table A1 and Table A2 in Appendix Section C.2 presents the average characteristics of the sample across the four treatments in Wave 1 and Wave 2, respectively. We find statistically significant differences for several characteristics across treatments, but the magnitude of the differences for most of these characteristics is small. When we explore the welfare weights across treatments, we account for these imbalances by weighting each treatment using sampling weights such that the sample averages in each treatment match the population averages.

### 3.6 Pre-registration

We pre-registered the design as well as the analyses. There are a few deviations from the pre-registration in the implementation of the experiment and the analyses. The deviations are discussed in Appendix Section B.

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that passed the comprehension checks is not different across the four treatments ($F = 1.763, p = 0.1522$).

[18] Prolific has been used in several recent studies (e.g., Bursztyn et al. 2023, Enke et al. 2023). In Wave 2, we used Prolific instead of Lucid because Prolific allows us to pay participants a bonus, a feature required in Treatment Self-Interest. This feature is not available in Lucid.

[19] We recruited 2,313 participants in Wave 2. After dropping participants with multiple survey responses (0.3%), who did not consent to participate in the study (0.04%), who dropped out before the attention check (1.7%), who failed the attention check (2%), who dropped out before the comprehension check (3.1%), who failed the comprehension check (5.9%), who dropped out after passing the comprehension check (1.6%), we are left with 1992 participants. The share of participants that passed the attention check but dropped out before the comprehension check is not different across the four treatments ($F = 0.7024, p = 0.5506$). The share of participants that passed the comprehension check is not different across the four treatments ($F = 0.168, p = 0.918$).

[20] Because we relaxed the quotas towards the end of the study to expedite reaching our target sample size, our sample has a higher share of people with education up to high school compared to the population.

[21] Our sample has a lower share of individuals with incomes below $30,000, a lower share of individuals above the age of 64, a lower share of individuals who have studied up to high school, a higher share of individuals with a bachelor's degree, and a lower share of Republicans.

Table 4: Summary Statistics

| | Population | Wave 1 | Wave 2 |
|---|---|---|---|
| Income: $<$ 30,000 | 0.51 | 0.53 | 0.38 |
| Income: 30-59,999 | 0.26 | 0.26 | 0.29 |
| Income: 60-99,999 | 0.14 | 0.13 | 0.22 |
| Income: 100-149,999 | 0.06 | 0.05 | 0.09 |
| Income: $>$ 149,999 | 0.04 | 0.03 | 0.04 |
| Age: 18-34 | 0.30 | 0.29 | 0.37 |
| Age: 35-44 | 0.16 | 0.17 | 0.22 |
| Age: 45-54 | 0.16 | 0.17 | 0.15 |
| Age: 55-64 | 0.17 | 0.17 | 0.16 |
| Age: $>$ 64 | 0.21 | 0.19 | 0.10 |
| Edu: Up to Highschool | 0.39 | 0.46 | 0.14 |
| Edu: Some college | 0.22 | 0.20 | 0.20 |
| Edu: Bachelor or Associate | 0.28 | 0.24 | 0.49 |
| Edu: Masters or above | 0.11 | 0.10 | 0.16 |
| Region: West | 0.24 | 0.21 | 0.18 |
| Region: North-east | 0.17 | 0.18 | 0.20 |
| Region: South | 0.38 | 0.40 | 0.43 |
| Region: Mid-west | 0.21 | 0.21 | 0.20 |
| Male | 0.49 | 0.46 | 0.50 |
| Republican | 0.28 | 0.32 | 0.19 |

*Notes:* The population average demographics are computed using the 2019 American Community Survey (ACS) 1-year estimates. The ACS sample only includes individuals above the age of 18. The population share of Republicans is obtained as the average share of people identifying as Republican over multiple surveys fielded in 2019 by the Gallup poll (https://news.gallup.com/poll/15370/party-affiliation.aspx). The sample means from Wave 1 are computed using the 1965 Social Architects recruited from Lucid. The sample means from Wave 2 are computed using the 1992 Social Architects recruited from Prolific.

# 4 Welfare Weights of the General Population

## 4.1 Data Description

We explore the distribution of $\tilde{g}$, the welfare weight assigned to the higher-income Recipient relative to the lower-income Recipient, across the six pairs of Recipients in the six decision screens. The parameter $\tilde{g}$ is calculated using Equation (4).

Figure 2 presents the results, each sub-figure relating to a pair of Recipients. Each of the sixteen bars in the figure corresponds to a unique value of $\tilde{g}$, which is derived from the unique row in Table 1 where the Social Architects switch from a Balanced Reform to an Unbalanced Reform. The last bar corresponds to those who never switch to an Unbalanced Reform. The figure uses the data of Social Architects in all treatments and waves where the Recipient common across the pairs of Recipients has an income of $70,000.

We observe considerable heterogeneity in $\tilde{g}$ across the pairs of Recipients, comprising both progressive welfare weights ($\tilde{g} < 1$) and regressive welfare weights ($\tilde{g} > 1$).[22] This heterogeneity also extends within these two groups. The distribution of $\tilde{g}$ across the pairs of Recipients is skewed towards progressivity (towards $\tilde{g} = 0$), suggesting that the welfare weights assigned to the seven Recipients are progressive on average. We discuss the heterogeneity in the welfare weights assigned to the seven Recipients in Section 4.3.

We observe bunching across the six pairs of Recipients at three values: $\tilde{g} = 0.03$, representing the most progressive weights; $\tilde{g} = 0.9$, representing the least progressive among the progressive weights; and $\tilde{g} = 39$, representing the most regressive weights.[23]

We observe a similar shift in the distribution of $\tilde{g}$ towards progressivity and similar bunching in the treatments where the Recipient common across the pairs of Recipients has an income of $500,000. The results are presented in Figure A1 in Appendix Section C.1.

### 4.2 Progressivity of Welfare Weights

Social Architects' decisions across the six pairs of Recipients are used to estimate $g(R_1) \dots g(R_7)$, the relative welfare weights assigned to the seven Recipients. We explore the progressivity of Social Architects' assigned welfare weights.

In this section, we consider the average progressivity of the welfare weights since it is easy to interpret. In Section 5, when we compare the general population weights to the weights implied by tax and transfer policies, the aggregation of welfare weights is more relevant. We consider the median progressivity of the welfare weights in Section 5. Assuming that a democratic government aggregates societal welfare weights, the aggregate weights under the median voter theorem correspond to the median welfare weights.

We present the distribution of welfare weights across the Recipients in Figure A3 in Appendix Section C.1. To estimate the progressivity of the welfare weights, we identify the parameter $\nu$ that makes the function $c^{\nu}$ a best fit of the welfare weights, where $c$ is the disposable incomes (or consumption) of the Recipients, and $\nu$ is a parameter that governs the progressivity of the weights. The parameter $\nu$ can be interpreted as the elasticity of the weights with respect to Recipients' incomes. A value $\nu < 0$ indicates progressive weights, while a value $\nu > 0$ indicates regressive weights.

[22] A value $\tilde{g} < 1$ corresponds to a lower weight assigned to the higher-income Recipient, which implies that the welfare weights assigned to the two Recipients are progressive. A value $\tilde{g} > 1$ corresponds to a higher weight assigned to the higher-income Recipient, which implies regressive weights.

[23] The value $\tilde{g} = 0.03$ and $\tilde{g} = 39$ are observed when a Social Architect selects the Unbalanced Reform and Balanced Reform, respectively, in all four decisions. The value $\tilde{g} = 0.9$ is observed when a Social Architect selects the Unbalanced Reform in the first decision and the Balanced Reform in the subsequent three decisions.

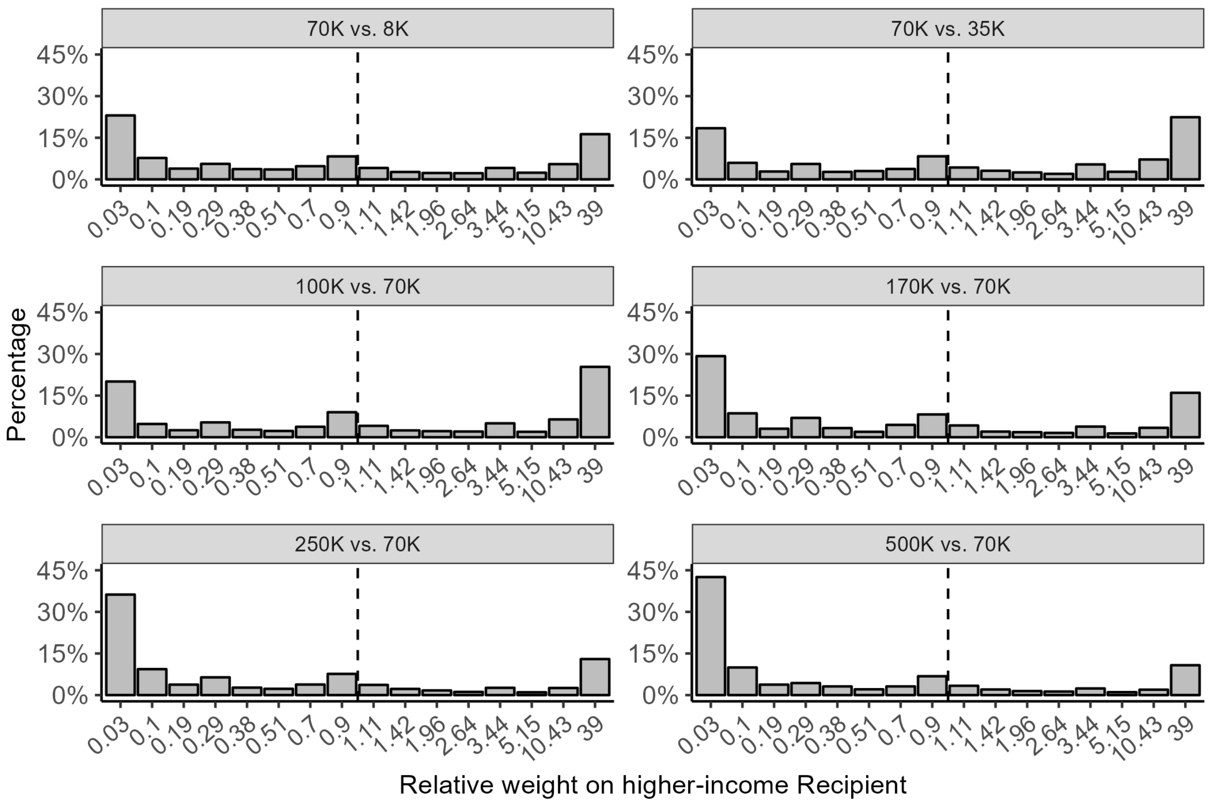


Figure 2: Distribution of $\tilde{g}$ Across Recipient Pairs

*Notes:* The figure presents the distribution of $\tilde{g}$, the welfare weight assigned to the higher-income Recipient relative to the lower-income Recipient, across the six pairs of Recipients in the six decision screens. The parameter $\tilde{g}$ is calculated using Equation (4). The sample includes Social Architects in all treatments in both waves where the Recipient common across the pairs of Recipients has an income of $70,000.

Using this simple parametric function, which is commonly used in the literature (e.g., Saez 2002, Allcott et al. 2019), allows the estimated weights to be portable to other contexts. Optimal policy formulas based on Recipients' incomes can use the function $c^{\nu}$ to characterize welfare weights. Optimal policy formulas based on Recipients' utilities can characterize welfare weights using constant relative risk aversion (CRRA) utilities with a coefficient of relative risk aversion given by $-\nu$ (see Section 5.2).

To estimate the parameter $\nu$, we estimate the following linear regression.

$$log(g(R_j)_i) = \beta_0 + \nu log(recipient\ income_j) + \epsilon_{ij} \tag{5}$$

where $log(g(R_j)_i)$ is the natural logarithm of the welfare weight assigned by Social Architect $i$ to Recipient $j$ and $recipient\ income_j$ is the disposable income of Recipient $j$. We estimate the regression using Social Architects from all the treatments in both waves. We weight this regression using sampling weights constructed such that the average sample characteristics match the population characteristics.[24]

We find that the estimated value of $\nu$ is $-0.34$, implying progressive welfare weights on average. Our elasticity estimate implies that if a Social Architect assigns a weight of 1 to a Recipient, they would assign a weight of 66 cents to a Recipient earning twice as much. This means that for every dollar that a Social Architect gives to a Recipient, they are willing to take \$1.5 from a Recipient earning twice as much.[25] The median progressivity of the welfare weights is $-0.33$, which is very close to the average progressivity.[26] This leads to the following result.

**Result 1.** *The aggregate general population weights are progressive.*

A value $\nu = 0$ would imply an indifference between giving a dollar to the rich and to the poor, indicating that the general population is satisfied with the redistribution achieved by the current tax and transfer system. Our finding of $\nu < 0$ suggests that, on average, the general population wants additional redistribution beyond that achieved by the current tax and transfer system.

We compare our elasticity estimate to the benchmarks proposed in the literature: $\nu = |0.25|$ corresponds to "weak" redistributive tastes, $\nu = |1|$ corresponds to "fairly strong" redistributive tastes, and $\nu = |4|$ corresponds to "extremely strong" redistributive tastes (Saez 2002, Allcott et al. 2019). Based on our experimental design, the range of the possible values of $\nu$ is $[-2.25, 2.25]$. Since only 15% of the Social Architects make choices that imply the most regressive or most progressive weights, the limited range of $\nu$ does not severely affect our inferences. Comparing our estimate of $\nu = -0.34$ to the benchmarks proposed in the literature suggests that the general population weights are characterized by weak to strong redistributive tastes.

### 4.3 Individual Heterogeneity in Welfare Weights

In this section, we explore the individual-level heterogeneity in the progressivity of the welfare weights. We estimate the elasticity of the weights with respect to Recipients' incomes ($\nu$) for each Social Architect using the following regression.[27]

[24] The average population characteristics are taken from Column (1) in Table 4.

[25] The social welfare gain of $1 * \$1$ equals the social welfare loss of $0.66 * \$1.5$.

[26] We compute the individual-level elasticity of the weights ($\nu$) using Equation 6. We then compute the median value of $\nu$, weighting the sample by sampling weights.

[27] We estimate the elasticity of Social Architects' welfare weights instead of exploring the share of participants with weakly monotonic weights, i.e., weights that are weakly increasing or decreasing with the incomes of the Recipients, because only 25% of the participants in our study have weakly monotonic weights. Non-monotonic weights do not necessarily imply measurement error in the weights. Instead, they can be

$$log(g(R_j)) = \beta_0 + \nu log(recipient\ income_j) + \epsilon_j \tag{6}$$

where $g(R_j)$ is the welfare weight assigned by a Social Architect to Recipient $j$ and *recipient income*$_j$ is the disposable income of Recipient $j$.

We find 65% of the Social Architects have progressive welfare weights ($\nu < 0$), while the remaining 35% have regressive welfare weights ($\nu > 0$). A share of the Social Architects with regressive weights may be libertarians, advocating for no additional redistribution. They may be assigning regressive welfare weights to undo the redistribution accrued due to the current tax and transfer system. Our results align with findings from Almås et al. (2020), who find, in a different setting, that 30% of the participants sampled from a nationally representative population of the U.S. are libertarians. Furthermore, we find that the share of participants with regressive weights is very similar to the share of participants who do not want additional government redistribution (see Section 4.7).

Only about 15% of the Social Architects make choices that imply the most regressive (5%) or most progressive (10%) welfare weights, which suggests that there is limited polarization in Social Architects' welfare weights.

There is considerable heterogeneity in the estimated values of $\nu$, which can be seen in the cumulative distribution function presented in Figure A4 in Appendix Section C.1. We compare the estimates of $\nu$ with the benchmarks proposed in the literature in Table A3 in Appendix Section C.2.

### 4.4 Welfare Weights and Background Characteristics

We explore the role of Social Architects' background characteristics in explaining the observed heterogeneity in welfare weights, focusing on two important characteristics highlighted in the literature: income and political affiliation. We estimate the following regression.

$$\begin{gathered} log(g(R_j)_i) = \beta_0 + \nu_0 log(recipient\ income_j) + \beta_1 x_i^1 + \dots \beta_n x_i^n + \\ \nu_1 x_i^1 * log(recipient\ income_j) + \dots + \nu_n x_i^n * log(recipient\ income_j) + \epsilon_{ij} \end{gathered} \tag{7}$$

where $log(g(R_j)_i)$ is the natural logarithm of the welfare weight assigned by Social Architect $i$ to Recipient $j$ and *recipient income*$_j$ is the disposable income of Recipient $j$. The

consistent with various underlying ideals. For example, Social Architects may have progressive weights with a downward spike in the weight assigned to very low-income individuals, who they believe are "lazy" (Drenik & Perez-Truglia 2018).

variables $x^1, \ldots, x^n$ (shortened to $X$) include a set of treatment dummies from Wave 1 and Wave 2 and Social Architects' background characteristics including *Republican* (=1 if Republican), *High Income* (= 1 if above median income), *Male* (=1 if male), *High Education* (=1 if above median education), and *High Age* (=1 if above median age).

Figure 3 presents the coefficient estimates. Except for the main effect of the log of the incomes of the Recipients, we do not present the main effects of the other variables. We also do not present the coefficient estimates related to the treatment dummies. The coefficient estimate of $log(recipient\ income_j)$ indicates the estimated elasticity of the weights in the base category or base characteristic. The coefficient estimates of $log(recipient\ income) \times$ *Characteristic* can be interpreted as the change in the estimated elasticity in the given characteristic relative to the elasticity in the base characteristic.

We find that Republicans assign less progressive weights relative to Democrats and Independents ($|\Delta\nu| = 0.24$). This suggests that a part of the partisan gap in support for real-world government redistribution documented in the literature (e.g., Stantcheva 2021) is likely driven by the partisan gap in welfare weights. Our decomposition analysis in Appendix Section D.6 suggests that Social Architects' welfare weights explain 8% of the partisan gap in support for redistribution. While Republicans assign less progressive weights, their assigned weights are progressive on average, indicating that, on average, Republicans also want additional redistribution at the margin.

Social Architects with higher incomes, i.e., above median incomes ($32,700), have less progressive weights ($|\Delta\nu| = 0.16$). This suggests that a part of the gap in support for redistribution between low-income and high-income individuals documented in the literature (e.g., Singhal 2008, Cohn et al. 2019) is likely due to the gap in welfare weights. We have the following result.

**Result 2.** *Social Architects with higher incomes and those identifying as Republicans assign less progressive welfare weights.*

To further understand the role of income, we test whether Social Architects assign a higher weight to Recipients with incomes similar to their own relative to other Recipients. We find that Social Architects assign a higher weight to Recipients with incomes similar to their own relative to other Recipients. This effect is larger for Social Architects with lower incomes. We present the results in Appendix Section D.2.

### 4.5 Welfare Weights and Ideals

Is the heterogeneity in welfare weights due to heterogeneous underlying ideals? We present three results to support the hypothesis that Social Architects' welfare weights are driven by their underlying ideals.

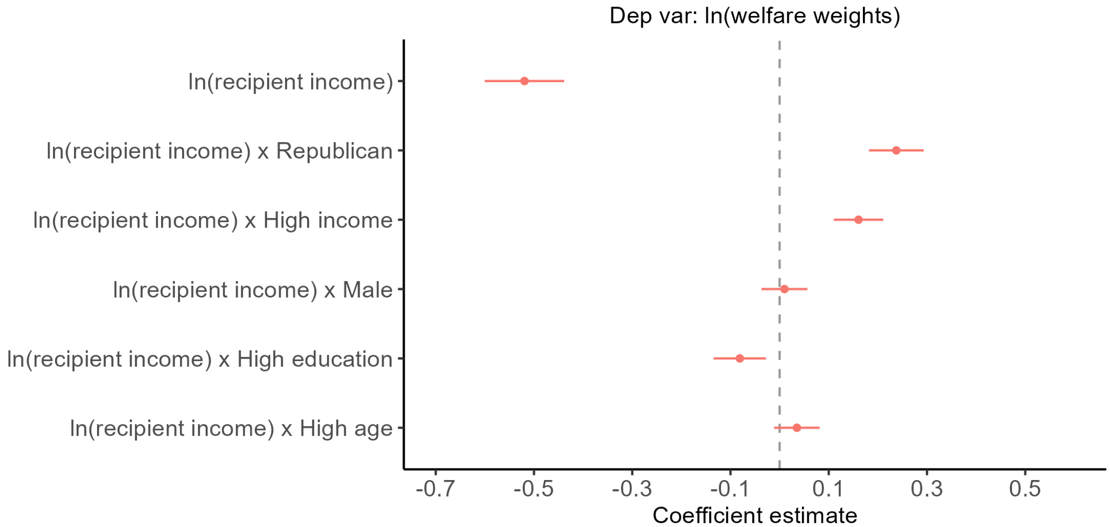


Figure 3: Social Architects' Welfare Weights and Characteristics

*Notes:* The figure presents coefficient estimates. The dependent variable is the log of the welfare weights assigned by Social Architects. The explanatory variables are the log of the incomes of the Recipients, a set of treatment dummies, and Social Architects' characteristics including *Republican* (=1 if Republican), *High Income* (= 1 if above median income), *Male* (=1 if male), *High Education* (=1 if above median education), and *High Age* (=1 if above median age), and the interaction terms of the log of the incomes of the Recipients with all the other variables. Except for the main effect of the log of the incomes of the Recipients, we do not present the main effects of the other variables. We also do not present the coefficient estimates related to the treatment dummies. The regressions are weighted using sampling weights. Error bars are computed using HC3 standard errors.

First, we assess Social Architects' confidence in their decisions. In Wave 2, we elicited Social Architects' confidence in their decisions. Their responses to this question could range from "1: Not confident at all" to "5: Completely confident." We hypothesized that Social Architects who made mistakes, either because of a "trembling-hand" mistake or a poor understanding of the task, would report lower confidence levels. We find that 84% of the Social Architects report a confidence level of 4 or 5, which suggests that the heterogeneity in Social Architects' welfare weights is likely due to their underlying ideals rather than mistakes.[28] Furthermore, we include comprehension checks and attention checks to reduce the role of inattention and mistakes.

Second, we test whether Social Architects' welfare weights broadly capture "non-welfarist" ideals. In the traditional "welfarist" approach, welfare weights depend on characteristics that enter Recipients' utilities (e.g., Recipients' disability status). On the other hand, in the non-welfarist approach, welfare weights do not enter Recipients' util-

[28]We find no evidence that Social Architects with high confidence (above median confidence) assign different welfare weights relative to those with low confidence, suggesting that the welfare weights are unlikely to be severely biased by the presence of Social Architects with low confidence levels.

ities (e.g., Recipients' parental income). Non-welfarist ideals include a broader range of normative ideals, such as equality of opportunity or distribution based on the source of income, relative to welfarist ideals. Thus, since the welfare weights are heterogeneous, we should expect them to broadly capture non-welfarist ideals. In Wave 2, we elicited Social Architects' beliefs regarding whether high-income and low-income individuals deserve and need their current income. The word "need" captures an important class of welfarist ideals in which welfare weights depend on the needs of the Recipients. The word "deserve" captures all non-welfarist ideals. Our results suggest that the Social Architects' welfare weights capture non-welfarist ideals in addition to welfarist ideals. The results are presented in Appendix Section D.1.

Third, we test whether Social Architects' welfare weights capture an important non-welfarist ideal documented in the literature: redistribution based on the source of income. Several studies have documented that people are willing to accept inequalities when incomes are earned due to effort but not if they are earned due to luck (e.g., Almås et al. 2020). In Wave 2, we asked Social Architects their beliefs about whether high-income individuals are rich due to luck or effort. We find that Social Architects who believe that high-income individuals earn their income through effort assign less progressive welfare weights than those attributing their incomes to luck.

Overall, these three results provide suggestive evidence that the heterogeneity in Social Architects' welfare weights is likely due to the heterogeneous underlying ideals. This supports our general sufficient-statistics approach to eliciting welfare weights that can allow Social Architects to be guided by various welfarist and non-welfarist ideals.

### 4.6 Treatment Effects

We implemented four treatments in Wave 1 and four treatments in Wave 2 to test whether the welfare weights are robust to changes in the experimental design. In this section, we compare the progressivity of Social Architects' welfare weights across treatments. We estimate the regression specified in Equation (5) separately for each treatment. We present unweighted and weighted regressions but focus on the weighted regressions. The weighted regressions use sampling weights constructed such that the average characteristics in each treatment match the average population characteristics. Table 5 presents the results.

*Role of Framing of the Reforms:* To test whether Social Architects' welfare weights are sensitive to the framing of the reforms, we compare Treatments Loss $\times$ 70K and Gain $\times$ 70K. In Treatment Loss $\times$ 70K, participants face reforms that take money away from the higher-income Recipient and give money to the lower-income Recipient. In contrast, in Treatment Gain $\times$ 70K, the reforms are framed as a gain to both Recipients. We find that

Social Architects have more progressive welfare weights in Treatment Gain $\times$ 70K relative to Treatment Loss $\times$ 70K ($|\Delta\nu| = 0.14$), and this effect is statistically significant.[29] In Treatments Loss, Social Architects may be reluctant to take money away from the higher-income Recipients due to loss-aversion (Charité et al. 2022); their choices would lead to less progressive welfare weights.

We also test the role of gain framing by comparing Treatment Loss $\times$ 500K to Treatment Gain $\times$ 500K. We find that Social Architects have more progressive welfare weights in Treatment Gain $\times$ 500K relative to Treatment Loss $\times$ 500K ($|\Delta\nu| = 0.04$). This effect is smaller than the effect we found above. Furthermore, this effect is not statistically significant.

Table 5: Elasticity of the Weights by Treatments

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Case | mean | se | mean | se |
| All | -0.35 | 0.01 | -0.34 | 0.01 |
| Loss x 70K | -0.36 | 0.03 | -0.37 | 0.03 |
| Gain x 70K | -0.49 | 0.03 | -0.51 | 0.04 |
| Loss x 500K | -0.09 | 0.03 | -0.1 | 0.03 |
| Gain x 500K | -0.13 | 0.02 | -0.14 | 0.02 |
| Real | -0.58 | 0.03 | -0.53 | 0.05 |
| Hypothetical | -0.67 | 0.03 | -0.76 | 0.04 |
| No Self-Interest | -0.14 | 0.03 | -0.07 | 0.05 |
| Self-Interest | -0.38 | 0.03 | -0.46 | 0.04 |
| Weighted? | No | No | Yes | Yes |

*Notes:* The table presents the coefficient estimates ($\nu$) and the standard errors of Social Architects' elasticity of the welfare weights with respect to Recipients' incomes. Each row presents regression estimates obtained by estimating Equation (5) using the subset of Social Architects indicated in the column "Case." In the first row, we pool Social Architects across all eight treatments. Columns (1) and (2) report the estimates from an unweighted regression, while Columns (3) and (4) report the estimates from a weighted regression using sampling weights. In the first row, the sampling weights are constructed such that the characteristics in the full sample match the population characteristics. In other rows, the sampling weights are constructed such that the characteristics in each treatment match the population characteristics.

*Role of the Common Recipient:* To test whether Social Architects' welfare weights are sensitive to the income of the Recipient common across the decision screens, we compare

[29] To check whether the progressivity of the welfare weights is statistically significantly different between treatments, we estimate a version of Equation (7) in which the vector $X$ includes a set of treatment dummies. The results can be found in Figure A5 in Appendix Section C.1.

Treatments Loss $\times$ 70K and Loss $\times$ 500K. In the former, the Recipient common across the decision screens has an income of \$70,000, while in the latter, the Recipient common across the decision screens has an income of \$500,000. We find that Social Architects have less progressive welfare weights in Treatment Loss $\times$ 500K relative to Loss $\times$ 70K ($|\Delta\nu| = 0.27|$). A part of the treatment difference is a mechanical effect. In Treatment Loss $\times$ 500K, always choosing the Unbalanced Reform would imply equal weights for Recipients one through six because the first six Recipients are compared to the seventh Recipient and because there is a bound on the welfare weights. This results in a mechanical flattening of the welfare weights.[30] If Social Architects choose the Unbalanced Reform in every decision in every decision screen, the elasticity of the weights in Treatment Loss $\times$ 70K is $-2.25$, while it is $-0.567$ in Treatment Loss $\times$ 500K, highlighting the flattening of the welfare weights in the latter treatment. However, a part of the treatment difference may also be due to a behavioral effect that may result from the different reference points in the two treatments.

We find a similar effect when we compare Social Architects in Treatment Gain $\times$ 70K to those in Treatment Gain $\times$ 500K ($|\Delta\nu| = 0.36$).

*Comparing Treatments Across Waves*: Treatment Loss $\times$ 70K was implemented in Wave 1 of data collection, while Treatment Real was implemented in Wave 2 of data collection. These two treatments are similar in structure. We find that Social Architects are more progressive ($|\Delta\nu = 0.15|$) in Treatment Real relative to Treatment Loss $\times$ 70K. The difference is not due to differences in observables since we weight each treatment to match the population characteristics. However, participants in the two waves may differ by unobservables. The patterns in the welfare weights across the two treatments are presented in Table A4 in Appendix Section C.2.

*Role of Stakes*: We examine whether the presence of real stakes affects Social Architects' welfare weights. In Treatment Real, Social Architects make real decisions regarding real Recipients, while in Treatment Hypothetical, Social Architects make hypothetical decisions regarding hypothetical Recipients. We find that Social Architects' welfare weights are more progressive in Treatment Hypothetical relative to Treatment Real ($|\Delta\nu|$ = 0.23). We do not find evidence that participants in Treatment Hypothetical have more progressive welfare weights because they are less attentive in the survey. The results are presented in Appendix Section D.3.

*Role of Self-Interest Motives*: We explore the role of self-interest motives. In Treatment

[30] Although there is also a mechanical flattening of the weights in Treatment Loss $\times$ 70K, the extent of the flattening is lower because the welfare weights assigned to the Recipients earning less than \$70,000 can be different from the welfare weights assigned to those earning more than \$70,000.

Self-Interest, Social Architects can potentially be affected by their own choices, while in Treatment No Self-Interest, Social Architects are in the role of impartial spectators. We find that participants in Treatment Self-Interest have more progressive weights than participants in Treatment No Self-Interest, indicating that Social Architects' welfare weights are guided by self-interest motives. We explore the role of self-interest separately for each income group in Appendix Section D.3.

*Discussion*: We find that framing the reforms as gains leads Social Architects to assign more progressive welfare weights, likely due to loss aversion. Social Architects assign less progressive weights when the Recipient common across the decision screens has a high income. This effect is partly a mechanical effect and partly a behavioral effect. Social Architects assign more progressive welfare weights in Wave 2 relative to Wave 1, likely because the pool of participants in Wave 2 is different on unobservables. Finally, we find that self-interest motives affect Social Architects' welfare weights. We compare Treatments Real and No Self-Interest in Appendix Section D.3.

The above results suggest that the general population weights are characterized by a range of estimates. The range of policies that can be obtained using the general population weights is much narrower than that obtained using the full range of welfare weights estimates in the experiment $\nu \in [-2.25, +2.25]$ and the range of estimates that are sometimes used in the literature $\nu \in [-4, 0]$ (e.g., Saez 2002).

### 4.7 Welfare Weights and Support for Government Redistribution

#### 4.7.1 Do Welfare Weights Predict Support for Redistribution?

Social Architects' support for real-world government redistribution could depend on their welfare weights and other factors, such as beliefs about the behavioral responses to taxation. In this section, we explore the empirical link between Social Architects' welfare weights and their support for government redistribution. This exercise highlights the value of using the welfare weights of the general population to identify policies that would broadly receive societal support, i.e., those that are "socially acceptable."

In Wave 2, we elicited Social Architects' support for government redistribution using a survey measure. The question asks Social Architects if they want additional redistribution beyond that achieved by the current tax and transfer system. Their responses can range from -2 to +2, where positive values indicate redistribution from high-income individuals to low/middle-income, and negative values indicate redistribution from low/middle-income individuals to high-income individuals. This question has two key features. First, it asks Social Architects to consider the current tax and transfer system, thereby fixing beliefs about the status quo beyond which redistribution should occur. Second, it allows redistribution to high-income individuals, which is a view shared by those who think the current system redistributes too much.

We estimate the correlation between Social Architects' elasticity of the weights and their support for government redistribution. The elasticity of Social Architects' weights is computed using Equation (6). We find that the estimated correlation is $-0.37$, which is significant at the 1% level. This estimate implies that Social Architects with more progressive welfare weights have stronger support for progressive government redistribution.

We benchmark the predictive power of Social Architects' welfare weights against their stated political affiliation. Political affiliation has been identified as an important predictor of people's support for redistribution (e.g., Stantcheva 2021). We regress Social Architects' support for redistribution on their elasticity of the weights or their political affiliation. To assess the predictive power of a specification, we compute the root mean squared error (RMSE) of the out-of-sample predictions obtained from a specification.[31] The lower the RMSE of a specification, the higher the predictive power.

Table 6 presents the results. Looking at the first two rows, we find that the elasticity of Social Architects' welfare weights is just as good a predictor of their support for redistribution as their stated political affiliation. We find similar results in specifications that include treatment dummies and background characteristics as controls (Rows 3 and 4). We also find similar results when we use two validated measures of support for redistribution that are used in the literature. The results are presented in Appendix Section D.4.1. This leads to the following result.

**Result 3.** *Social Architects' support for government redistribution can be predicted with similar accuracy using either their stated political affiliation or their assigned welfare weights.*

Our findings above suggest that Social Architects' welfare weights predict their support for government redistribution. This means that calibrating optimal policy formulas with the welfare weights of the general population would likely lead to socially acceptable policies.

#### 4.7.2 Comparing the Share Supporting Progressive Redistribution

How does the share of Social Architects with progressive welfare weights compare to the share supporting additional progressive government redistribution in the survey measure? We find that 65% of the Social Architects have progressive welfare weights.

[31] We divide the data into four sub-samples ($S(k), k \in 1, 2, 3, 4$) with $k = 4$. For each sub-sample, we train the specification of interest using the other three sub-samples ($S(-k)$). Next, we predict values for the sub-sample we left out and calculate the squared error, which is the difference between the actual and predicted values squared. To obtain the RMSE, we compute the square root of the average of the squared errors across all four sub-samples.

Table 6: Welfare Weights and Support for Redistribution

| Row | Explanatory variable | Controls? | RMSE |
|---|---|---|---|
| 1 | Republican | No | 0.85 |
| 2 | Elasticity of the weights | No | 0.83 |
| 3 | Republican | Yes | 0.85 |
| 4 | Elasticity of the weights | Yes | 0.83 |
| 5 | Republican + Elasticity of the weights | No | 0.80 |
| 6 | Republican + Elasticity of the weights | Yes | 0.80 |

*Notes:* Each row of the table presents the root-mean-squared error (RMSE) of the predictions generated from a linear regression using a k-fold cross-validation procedure with $k = 4$. The dependent variable (*Redistribution*) takes values from -2 to +2, where positive (negative) values indicate redistribution from high-income (low/middle-income) individuals to low/middle-income (high-income) individuals. *Elasticity of the weights* is the elasticity of Social Architects' weights with respect to Recipients' incomes. *Republican* is a dummy variable taking a value of 1 for Republicans and a value of 0 for Democrats or Independents. The controls in the regression include a set of treatment dummies, *High Income* (= 1 if above median income), *Male* (=1 if male), *High Education* (=1 if above median education), and *High Age* (=1 if above median age). The regressions use data from Wave 2.

Since these welfare weights were elicited given the current tax and transfer system, Social Architects with progressive welfare weights will, all else equal, desire additional redistribution. In the survey measure, we find that 71% of the Social Architects support additional progressive government redistribution. We present the frequencies of responses to this question in Figure A6 in Appendix Section C.1. The weighted share, weighting by sampling weights, of Social Architects supporting additional progressive government redistribution is 67%. This number is very close to the share of Social Architects who want additional redistribution based on their welfare weights. These results provide further evidence that calibrating optimal policy formulas with the general population weights would likely lead to socially acceptable policies.

### 4.8 Which Factors do Welfare Weights Capture?

Our experimental measure of welfare weights is designed to capture welfare preferences or normative ideals. However, empirically, welfare weights may also capture factors orthogonal to welfare preferences. We explore which factors are captured by the welfare weights in Appendix Section D.5. Details about the measurement of the other factors can be found in Appendix Section A.

We proceed in two steps. First, we estimate the overall variation in support for government redistribution that can be explained by welfare weights using a linear regression. This variation can be explained by various factors. A factor that predicts Social Architects' support for redistribution via their welfare weights is thus captured by welfare weights. In the second step, we decompose this overall variation into the variation explained by each of the other factors using the covariate decomposition procedure proposed by Gelbach (2016). We find that the overall variation is driven by Social Architects' beliefs about the externalities due to inequality and their beliefs about higher taxes on high-income individuals hurting the economy.

We also measured Social Architects' misperceptions about the level of taxes paid by individuals, the share of individuals with incomes below \$35,000, and upward mobility. While Social Architects do have misperceptions along these margins, their welfare weights do not capture their misperceptions.

# 5 Comparing Welfare Weights

In this section, we compare the general population weights to the weights implied by tax and transfer policies and the weights used in the optimal policy literature. To compare these different sets of welfare weights, we assume a parametric form for the welfare weights, as done in the previous sections, given by $c^{\nu}$, where $c$ represents Recipients' incomes and $\nu$ is a parameter that governs the progressivity of the weights. This is a simple parametric function that is commonly used in the literature (e.g., Saez 2002, Allcott et al. 2019). We find that the power function provides a good approximation of the general population weights. The results are presented in Appendix Section D.7.

For these comparisons, we focus on Treatments Loss $\times$ 70K, Gain $\times$ 70K, and Real.[32] We identify the median progressivity of the welfare weights across these three treatments. The median progressivity corresponds to the aggregation of societal welfare weights under the median voter model.

The elasticity estimate ($\hat{\nu}$) for each Social Architect is obtained using Equation (6). We then estimate the weighted median of these elasticity estimates, weighting by sampling weights. The range of estimates is given by $\nu \in [-0.30, -0.60]$. These estimates are very similar to the range of estimates of the average progressivity documented in Table

[32] We exclude the remaining treatments for various reasons. Treatments Loss $\times$ 500K and Gain $\times$ 500K are excluded because these treatments have a limited range of possible values of $\nu$. This limitation is discussed in Section 4.6. We exclude Treatment Hypothetical because we find that the elicited welfare weights are different in Treatments Hypothetical and Real; we defer to Treatment Real since the presence of real stakes is likely to lead to more reliable welfare weights. We exclude Treatment No Self-Interest because these treatments presented the income brackets of the Recipients rather than the exact incomes. This treatment does not control for Social Architects' beliefs about Recipients' incomes. For example, Social Architects could believe that the Recipient earning in the income bracket "\$375,000 and above" earns \$375,000 or \$2,000,000. The estimated elasticity in this treatment can be sensitive to the assumptions about Social Architects' beliefs about Recipients' incomes. Finally, Treatment Self-Interest is excluded because we follow the tradition in welfare economics of exploring people's views unconfounded by self-interest motives.

5. These estimates are also similar when we exclude participants who choose the Balanced Reform in every decision and consequently, assign the most regressive weights. The results are presented in Appendix Section D.7.

### 5.1 Comparing to Weights Implied by Tax and Transfer Policies

How do the general population weights compare to the weights implied by the income tax schedule and transfer policies in the U.S.? The weights implied by the tax schedule and transfer policies can be represented as politicians' aggregation of societal welfare weights, potentially influenced by political economy considerations.

We obtain the weights implied by the income tax schedule in the U.S. from Hendren (2020), which uses the universe of tax returns in 2012, and computes individuals' tax liabilities based on ordinary income taxes, alternative minimum tax (AMT), earned income tax credits (EITC), state taxes, local taxes, and Medicare.[33]

The weights implied by transfer policies in the U.S. are derived based on the framework outlined in Hendren & Sprung-Keyser (2020). In this framework, the desirability of a policy can be assessed by its Marginal Value of Public Funds (MVPF). The MVPF indicates the welfare accrued to the beneficiaries of a policy from \$1 of government spending. There exists an inverse relationship between the MVPF of a policy and the welfare weights assigned to its beneficiaries. Intuitively, a policy with a low MVPF may be deemed desirable if a high welfare weight is placed on its beneficiaries.[34] Hendren & Sprung-Keyser (2020) provide estimates of the MVPF of various policies. We use their estimates to compute the welfare weights implied by these policies. We focus on taxes, cash transfers, and in-kind transfers, as they are the policies most similar to those in our experiment.[35] Additionally, we restrict the sample to policies with a positive MVPF, as our

[33]The weights implied by the tax schedule are obtained using the optimal income tax formula, which provides the optimal marginal tax rates as a function of welfare weights and other relevant objects, such as the elasticity of taxable income. The formula can be inverted to obtain the "inverse-optimum" tax formula, which provides welfare weights as a function of marginal tax rates and other relevant objects. The current marginal tax rates can be used to identify the inverse-optimum welfare weights that make the current tax schedule optimal. We present the welfare weights implied by the income tax schedule at each quintile of the income distribution in Figure A7 in Appendix Section C.1.

[34]Consider a policy that affects Recipients with incomes near $z^*$. The Marginal Value of Public Funds (MVPF) of a policy is defined as the Recipients' willingness to pay for the policy ($s^*$) divided by the net cost ($c$) accrued from the policy to the government. If the government aims to achieve $s^*$ through adjustments to the tax schedule instead of implementing the policy, the cost to the government would be $s^*g(z^*)$, where $g(z^*)$ is the marginal value of an additional dollar of consumption (welfare weight). It would be cheaper for the government to achieve $s^*$ through the policy than through adjustments to the tax schedule if and only if $c \leq s^*g(z^*)$. Rewriting this expression yields the following equation: $MVPF = s^*/c \geq 1/g(z^*)$.

[35]In these policies, similar to the ones we consider in our experiment, a \$1 spending on a policy costs the government \$1, and the beneficiaries' willingness-to-pay for the policy is \$1. We present the welfare weights implied by the selected policies against the income of the beneficiaries of the policies in Figure A8 in Appendix Section C.1.

theoretical framework and experimental design cannot accommodate negative welfare weights.

Figure 4 plots the welfare weights interpolated using the function $c^{\nu}$ against the disposable income distribution. We find that the elasticity of the weights implied by the income tax schedule is $-0.10$ and by transfer policies is $-0.27$. The general population weights ($\nu \in [-0.3, -0.6]$) are 3 to 6 times more progressive than the weights implied by the income tax schedule and 1.1 to 2.2 times more progressive than the weights implied by transfer policies.

The general population weights were elicited based on Recipients' disposable incomes. If the general population weights were elicited based on Recipients' pre-tax income, they would likely be even more progressive. This suggests that the observed gap between the general population weights and the weights implied by the tax schedule and transfer policies is a lower bound. We now have the following result.

**Result 4.** *The general population welfare weights are 3 to 6 times more progressive than the weights implied by the income tax schedule in the U.S. and 1.1 to 2.2 times more progressive than the weights implied by transfer policies in the U.S.*

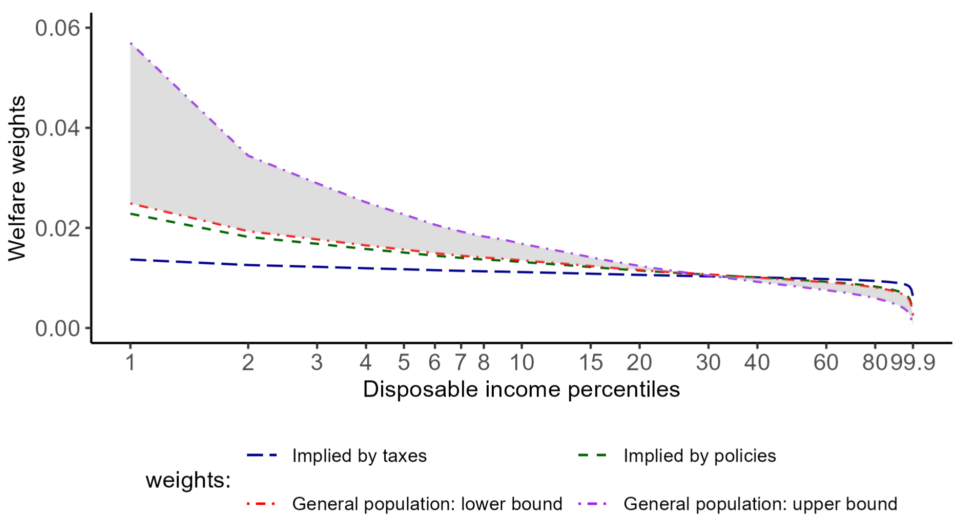


Figure 4: General Population Weights and Weights Implied by Tax and Transfer Policies

*Notes:* The figure plots welfare weights against percentiles of the disposable income distribution. The x-axis has a natural log spacing. We use the function $c^{\nu}$ to interpolate the welfare weights for the disposable income ($c$) distribution and then re-normalize the welfare weights such that they sum to 1. The figure plots the re-normalized weights implied by the income tax schedule computed by Hendren (2020) ($\nu = -0.1$), weights implied by transfer policies computed by Hendren & Sprung-Keyser (2020) ($\nu = -0.27$), lower bound of the general population weights ($\nu = -0.3$), and upper bound of the general population weights ($\nu = -0.6$). Details on the construction of the figure can be found in Appendix Section E.2.

**Decomposing the Gap**

Why are the general population weights more progressive than the weights implied by the income tax schedule (henceforth "political weights")? We present several explanations that can rationalize the gap between the general population weights and the political weights.

First, we consider alternative assumptions about the group of individuals that the politicians consider when aggregating societal welfare weights. In particular, politicians may be considering only the voting population, not the entire population. The weighted median estimate of $\nu$ across the three treatments, weighting the sample using sampling weights, is $-0.45$. We find that the weighted median estimate of $\nu$, weighting the sample using sampling weights and the likelihood of being a registered voter, is also $-0.45$. This result suggests that accounting for the voting population does not close the gap between the general population weights and the political weights. Details on the analysis can be found in Appendix Section E.3.

Second, we explore the hypothesis of "elite capture," which posits that politicians overweight the interests of high-income individuals when aggregating societal preferences. We observe an upward spike in the political weights for the two highest percentiles in Figure A7 in Appendix Section C.1. Does this mean that politicians overweight the welfare weights of high-income individuals? To test this hypothesis, we estimate the "aggregation" weights that can rationalize the gap between the general population weights and the political weights. We conduct this analysis using data aggregated up to deciles to reduce the noise in the data. Details on the analysis can be found in Appendix Section E.3. The aggregation weights resulting from this analysis are significantly higher for the top decile compared to the other deciles. Figure A9 in Appendix Section C.1 plots the aggregation weights against the deciles. The weighted median estimate of $\nu$, weighting the sample by these aggregation weights, drops to $-0.26$ or $-0.31$, depending on the initial aggregation weights assumed in the optimization.[36] Approximately 44% to 58% of the overall gap can be attributed to assigning disproportionately higher aggregation weights to high-income individuals. This explanation is consistent with the evidence in the literature suggesting that implemented policies are often more likely to reflect the interests of high-income individuals (e.g., Gilens & Page 2014, Karabarbounis 2011).

Third, the gap could arise if the welfare weights elicited in our experiment are not the welfare weights that politicians aggregate. For example, politicians may be aggregating the weights of individuals guided by self-interest motives.[37] In addition, politicians may

[36]Note that the median value of $\nu$ in the aggregate data is $-0.47$.

[37]In Section 4.6, we find that Social Architects' weights are more progressive in Treatment Self-Interest

be aggregating the weights of individuals who may be guided by factors that matter in the real world but which are not captured (intentionally) by the welfare weights in our experiment, such as trust in government.

Finally, the gap could arise if politicians' beliefs about the behavioral responses to taxation, captured by the elasticity of taxable income, differ from the estimates used by Hendren (2020) in the tax formulas to identify the political weights.

### 5.2 Comparing to Weights Used in the Literature

How do the general population weights compare to the weights assumed in the optimal policy literature? While the literature assumes different estimates of welfare weights, one frequently assumed estimate is inversely proportional to Recipients' disposable incomes or consumption (e.g., Saez 2001). These "inverse-consumption" weights can be derived by assuming constant relative risk aversion (CRRA) in consumption utilities with a coefficient of relative risk aversion given by $\gamma = 1$. CRRA utilities are given by $u(c,l) = u(c) + v(l) = \frac{c^{1-\gamma}-1}{1-\gamma} + v(l)$, where $c$ represents consumption, $v$ represents the disutility of work (which depends on labor effort $l$), and $\gamma$ is the coefficient of relative risk aversion. Taking the first-order condition of the utilitarian social welfare function $W = \sum u(c,l)$ results in $\Delta W = \sum u'(c)\Delta c$. Thus, $u'(c) = c^{-\gamma}$ characterizes the welfare weights.

Inverse-consumption weights can be characterized by the function $c^{\nu}$ with $\nu = -1$. We find that these inverse-consumption weights are 1.7 to 3.3 times more progressive than the general population weights ($\nu \in [-0.3, -0.6]$). We plot the inverse-consumption weights and the general population weights in Figure A10 in Appendix Section C.2. We have the following result.

**Result 5.** *Welfare weights that are inversely proportional to Recipients' consumption are about 1.7 to 3.3 times more progressive than the general population weights.*

To better align policy recommendations with the general population's views, the optimal policy literature could use the estimates of welfare weights provided in our paper. Optimal policy formulas based on Recipients' incomes can use the function $c^{\nu}$ with $\nu \in [-0.3, -0.6]$ to characterize welfare weights. Optimal policy formulas based on Recipients' utilities can characterize welfare weights using constant relative risk aversion (CRRA) utilities with a coefficient of relative risk aversion given by $\gamma = -\nu = [0.3, 0.6]$.

relative to Treatment No Self-Interest. This suggests that allowing for self-interest motives to affect welfare weights would widen the gap between the general population weights and weights implied by the tax schedule.

### 5.3 Calibrating Optimal Labor Income Taxes

We explore the implications of the estimated welfare weights for the optimal non-linear labor income taxes in the U.S. We use the optimal tax formula derived in Saez (2001). The formula is the solution to the planner's problem of maximizing social welfare, given the constraints on government revenue. It provides the optimal marginal tax rates (MTRs) for different incomes as a function of (i) the shape of the ability (wage) distribution, (ii) the elasticity of taxable income, and (iii) welfare weights. We use the actual income distribution in the U.S. to identify the shape of the underlying ability distribution. The estimates of the elasticity of taxable incomes are taken from the literature. Finally, we use the different estimates of welfare weights computed in the previous section. The progressivity of the optimal MTRs is increasing with the progressivity of the welfare weights.

We use an updating rule to find the fixed-point tax schedule, drawing from Mankiw et al. (2009) and Støstad & Cowell (2022). First, we assume an initial tax schedule. Second, given the tax schedule, we estimate individuals' labor supply responses to the taxation and, consequently, utilities. We assume an estimate for the elasticity of taxable income of 0.25, which is a mid-range estimate (Saez et al. 2012). We assume CRRA utilities with a coefficient of relative risk aversion given by $\gamma$. We use different values of $\gamma = -\nu$ to obtain different estimates of welfare weights (see Section 5.2). Third, given the utilities, we calculate the optimal MTRs. We iterate on this process until an optimum is found.

Figure 5 plots the optimal MTRs for different estimates of welfare weights against the labor income distribution. The figure also plots the current MTRs.[38] The optimal MTRs exhibit a U-shape pattern, mirroring the pattern commonly observed in the literature. Individuals with the lowest income receive a guaranteed income. The high MTRs near the bottom are used to phase out the guaranteed income. The low MTRs for middle-income earners are intended to reduce the distortions to the high share of individuals earning these incomes.

The optimal MTRs calibrated using inverse-consumption welfare weights ($\nu = -1$), which are the most progressive among the set, are depicted in the top line. The average MTR in this case is 62%. This is similar to the average MTR of 59% found in Saez (2001). Table A5 in Appendix Section C.2 presents the average MTRs.

The average optimal MTR calibrated using the lower bound of the general population weights ($\nu = -0.3$) is 41%, and that based on the upper bound ($\nu = -0.6$) is 53%. The average optimal MTRs based on the general population weights are 9-21 percentage points lower than the average optimal MTR based on inverse-consumption weights.

[38] The current MTRs include the ordinary income taxes for single filers in 2019. Following Hendren (2020), we add a 5% state tax, a 2.9% tax rate for Medicare, and a 2.3% sales tax rate.

The current MTRs are depicted by the solid black line. The current MTRs are similar to the optimal MTRs based on the weights implied by the tax schedule ($\nu = -0.1$). The latter is presented in Figure A11 in Appendix Section C.1. The optimal MTRs calibrated using the general population weights are higher than the current MTRs for all incomes except for incomes roughly between \$150,000 and \$200,000. The average current MTR is 28%. This is 13-25 percentage points lower than the average optimal MTRs based on the general population weights.

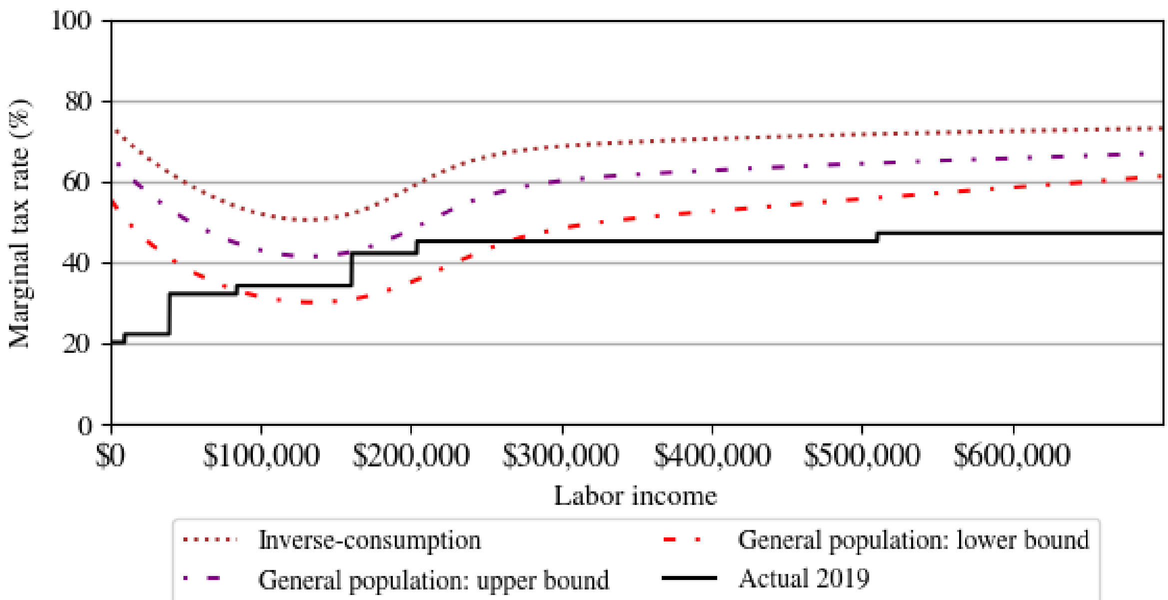


Figure 5: Marginal Tax Rates (MTRs)

*Notes:* The figure plots MTRs against the labor income distribution. The figure plots the optimal MTRs obtained using the lower bound of the general population weights ($\nu = -0.3$), upper bound of the general population weights ($\nu = -0.6$), and inverse-consumption weights ($\nu = -1$). The figure also plots the current MTRs. See Appendix Section E.4 for details.

Overall, a key result with policy implications is that the optimal MTRs calibrated using the general population weights are lower than those calibrated using inverse-consumption weights but higher than the current MTRs. We now have the following result.

**Result 6.** *The optimal marginal income tax rates calibrated using the general population weights are lower than those calibrated using inverse-consumption weights but higher than the current marginal income tax rates.*

# 6 Discussion

We elicit the welfare weights assigned by the general population of the U.S. We conducted two real-stakes online experiments with large samples of the general population in the U.S. (N $\approx$ 4000). In our experiment, participants in the role of "Social Architects" make a number of real-stakes redistributive decisions that are used to identify the welfare weights assigned to participants in the role of "Recipients." A Social Architect's assigned welfare weights can be guided by various underlying ideals, such as equality of opportunity or utilitarianism. However, knowing a Social Architect's welfare weights in the experiment is sufficient to learn their assessment of the welfare implications of a reform and, by extension, its desirability.

We find that the aggregate general population weights are progressive. This indicates that the general population wants additional redistribution beyond that achieved by the current tax and transfer system. The general population weights are more progressive than the weights implied by the current tax and transfer policies in the U.S. but less progressive than the weights frequently used in the optimal policy literature. We provide estimates of welfare weights that the optimal policy literature can use to implement the general population weights. Finally, we explore the implications of the general population weights for the optimal non-linear income taxes in the U.S.

Our sufficient-statistics approach to eliciting welfare weights and the "small-reform" approach to taxation used by Saez & Stantcheva (2016) has a few limitations.

First, the welfare weights assigned by the Social Architects may not be normatively appealing if they have inaccurate perceptions at various margins. However, there are two reasons why the presence of misperceptions may not be problematic. First, Social Architects may have misperceptions at various margins, but their assigned welfare weights may not be sensitive to their misperceptions. We show that Social Architects' welfare weights are not sensitive to misperceptions about income mobility, the share of low-income individuals, and the level of taxes paid by individuals. Nevertheless, we cannot rule out the possibility that Social Architects' misperceptions at other margins affect their welfare weights. Second, the aggregate welfare weights of Social Architects may be unaffected by misperceptions if the misperceptions across Social Architects cancel out in the aggregate.

Second, the welfare weights estimated in our paper cannot be used to evaluate non-marginal ("large") reforms.[39] For non-marginal reforms, the marginal value of the first dollar may not be the same as the marginal value of the last dollar. For example, a Social

[39]It is worth noting that alternative approaches, such as using the inverse-optimum weights implied by policies, also cannot be used to evaluate non-marginal reforms (Hendren 2020).

Architect with progressive welfare weights may find a marginal budget-neutral reform desirable but may find a non-marginal reform that completely equalizes incomes as undesirable. We assume a parametric form for the welfare weights, in which the welfare weights depend on Recipients' disposable incomes, which allows the welfare weights to be applicable to evaluate large reforms.

Third, our welfare weights cannot account for spillover effects or general equilibrium effects. Spillover effects would imply that a reform affects individuals who were not the direct target of the reform. However, such effects are typically not incorporated by standard optimal policy formulas.

Fourth, the welfare weights may not be applicable across time, countries, and policy domains. There is evidence in the literature suggesting that people's support for redistribution may differ over time (Fisman et al. 2015) and across countries (e.g., Almås et al. 2020, Falk et al. 2018). Future work can test whether welfare weights differ across time, countries, and policy domains.

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# ONLINE APPENDIX

# Who Should Get Money? Estimating Welfare Weights in the U.S.

Francesco Capozza
Krishna Srinivasan

## Contents

# A Variable Definitions

**Support for Redistribution**

*Redistribution:* In Wave 2, we elicited Social Architects' support for government redistribution using a survey measure. The question asks Social Architects if they want additional redistribution beyond that achieved by the current tax and transfer system. Their responses can range from -2 to +2, where positive values indicate transfers from high-income individuals to low/middle-income individuals, and negative values indicate transfers from low/middle-income individuals to high-income individuals. A value of 0 indicates a desire for no additional redistribution.

*Govt should do more:* In Wave 1, we ask Social Architects if they think the government should do more to reduce income differences between the rich and poor. This question was used in the General Social Survey (GSS). The variable *Govt should do more* takes values from 1 to 7, with higher values indicating a greater desire for the government to do something to reduce inequality.

*Increase top-taxes:* In Wave 1, we ask Social Architects if they want to increase or decrease the taxes on top-income earners. A modified version of this question was used by Cohn et al. (2019) and Kuziemko et al. (2015). The variable *Increase top-taxes* takes values from 1 to 7. A value below 4 indicates a desire to decrease top-taxes, while a value above 4 indicates a desire to increase top-taxes. A value of 4 indicates a desire to leave the top-taxes unchanged.

**Misperceptions**

We elicit Social Architects' perceptions about the level of taxes paid by individuals, the share of individuals with incomes below $35,000, and upward mobility.

*Overestimate the level of taxes:* We ask Social Architects four questions designed to elicit their perceptions about the level of taxes paid by individuals in society. In particular, Social Architects are asked about their beliefs regarding (i) the share of households in the top tax bracket, (ii) the average tax rate of those in the top tax bracket, (iii) the share of households who pay no taxes, and (iv) the average tax rate of households with the median income. We focus on perceptions along these four dimensions because they were the most predictive of people's support for redistribution in Stantcheva (2021). Social Architects can select a number from 0 to 100 using a slider for each of the four questions. We identify misperceptions in each of the four variables as follows.

- *Gap in top-taxes = Beliefs about top-taxes* - 32.7
- *Gap in top-share = Beliefs about top-share* - 0.73

- *Gap in non-filers* = 44 - *Beliefs about non-filers*

- *Gap in median-taxes = Beliefs about median-taxes* - 13

We take the actual values from Stantcheva (2021). We orient the gap in non-filers such that a lower gap in non-filers corresponds to an overestimation in the level of taxes paid. We standardize each of the four misperception variables such that they have a mean of 0 and a standard deviation of 1. Then, we create an index by taking the equally weighted average of the four standardized variables and standardizing the resulting variable.

*Overestimate share earning $<$ 35K*: We elicit Social Architects' beliefs about the share of households earning less than $35,000. This income level corresponds to the income of the Recipient with the second lowest income in our experiment. Social Architects can select a number from 0 to 100 using a slider. We identify Architects' misperceptions by subtracting the actual value (29) from their responses. We obtain the actual value by looking at the share of individuals whose disposable income is below $35,000 in the data obtained from Piketty et al. (2018) (variable *diinc*). Finally, we standardize the misperceptions.

*Perceptions about upward mobility*: We ask Social Architects about their perceived likelihood of a child with parents in the first quintile of the income distribution growing up to be in the highest quintile as an adult. Social Architects can select a number from 0 to 100 using a slider. We identify Architects' misperceptions by subtracting the actual value (7.8) from their responses. We obtain the actual value from Alesina et al. (2018). Finally, we standardize the misperceptions.

**Views about Taxes and Government**

We ask Social Architects several questions that elicit their views about the tax system and their trust in government, each capturing a unique mechanism that may explain people's support for redistribution. These questions are drawn from Stantcheva (2021). The prompt for the question on inequality being a serious issue is taken from Lobeck & Støstad Nyborg (2022).

*Behavioral responses high earners*: We ask Social Architects about their beliefs regarding the extent to which taxing high-income earners would encourage them to work less. The indicator variable *Behavioral responses high earners* takes a value of 1 if a Social Architect indicates "A moderate amount," "A lot," or "A great deal," and a value of 0 if the respondent indicates "A little," or "None at all."

*Higher taxes high-incomes hurt economy*: We elicit Social Architects' beliefs about whether taxing high-income earners would hurt the economy. The indicator variable *Higher taxes high-incomes hurt economy* takes a value of 1 if a Social Architect indicates that taxing high-income earners would "Hurt economic activity in the U.S." and a value of 0 if the Social

Architect indicates "Not have an effect on economic activity in the U.S." or "Help economic activity in the U.S."

*Belief trickle down*: Social Architects are asked whether the lower class and working class would win or lose if taxes on high-income earners were cut. Social Architects who believe in trickle-down economics would believe that if taxes on high-income earners were cut, the lower class and working class would mostly win. *Belief trickle down* is an indicator variable taking a value of 1 if a Social Architect indicates that the lower class and working class would "Mostly win" if taxes on high-income earners were cut and a value of 0 if the respondent indicates that they would "Mostly lose" or "Neither lose nor win."

*Inequality is a serious issue*: We ask Social Architects their beliefs about inequality being a serious issue, considering that inequality can have externalities on crime, trust, corruption, and social unrest. The indicator variable *Inequality is a serious issue* takes a value of 1 if a Social Architect indicates that inequality is "A serious issue" or "A very serious issue" and a value of 0 if a Social Architect indicates "An issue," "A small issue," or "Not an issue at all."

*Trust the government*: We ask Social Architects how much of the time they can trust the federal government to do what is right. The indicator variable *Trust the government* takes a value of 1 for the responses "Most of the time" or "Always" and a value of 0 for the responses "Only some times" or "Never."

# B Pre-registration

The experimental design, data collection, and analyses were pre-registered.[1] We do not discuss minor deviations from pre-registration in the instructions. We report three deviations from the pre-registration in data collection. First, we received slightly fewer participants than the number we pre-registered in Wave 1. Second, in Wave 1, we relaxed the quotas towards the end of the study to reach our target sample size faster. Third, we excluded participants with multiple survey responses (6 participants from Wave 1 and 7 participants from Wave 2). We did not pre-register this sample restriction as we did not expect participants to take the survey multiple times. Finally, we report some deviations from the pre-registration in the analyses.

1. We construct the sampling weights based on the population estimates in Table 4. These estimates differ by a few percentage points from the incorrect estimates in the pre-registration document.

2. We control for the income of the Social Architects using the variable *High Income*,

[1] https://doi.org/10.1257/rct.8372-3.2

which is an indicator variable that takes a value of 1 if a Social Architect's income is above the median and 0 otherwise. We pre-registered using the log of the income and the log of the income squared as controls before Wave 1. We pre-registered using *High Income* as a control before Wave 2. We deviate because the variable *High Income* is easier to interpret.

3. We estimate Social Architects' individual-level elasticity of the welfare weights with respect to Recipients' incomes using OLS regressions (by minimizing the sum of squared errors). We pre-registered estimating the elasticity by minimizing the square root of the mean squared errors. While both methods should provide similar results, OLS regressions are computationally simpler to estimate.

4. In the section (Appendix Section D.2) exploring the role of Social Architects' own income on their assigned weights, we present regressions in which the explanatory variables are a set of seven dummy variables that indicate if a Social Architect's income is near the income of Recipients 1 through 7, respectively. In our pre-registration, we specified including only one dummy variable that indicates if a Social Architect's income is near a given Recipient. We deviate because our current version helps us explore the role of self-interest separately by income.

5. We explore the role of self-interest motives (Table A14 in Appendix Section C) by comparing Treatment Self-Interest and Bracket separately for each of the seven income brackets. We had initially pre-registered an incorrect regression.

6. The actual value used to construct the variable *Overestimate share earning* $<$ *35K* is 29. We incorrectly pre-registered the value as 30.

7. The results in Table A6 were not pre-registered. Some regressions in Section 4.7 and Section D.4.1 were not pre-registered.

# C Additional Tables and Figures

## C.1 Additional Figures

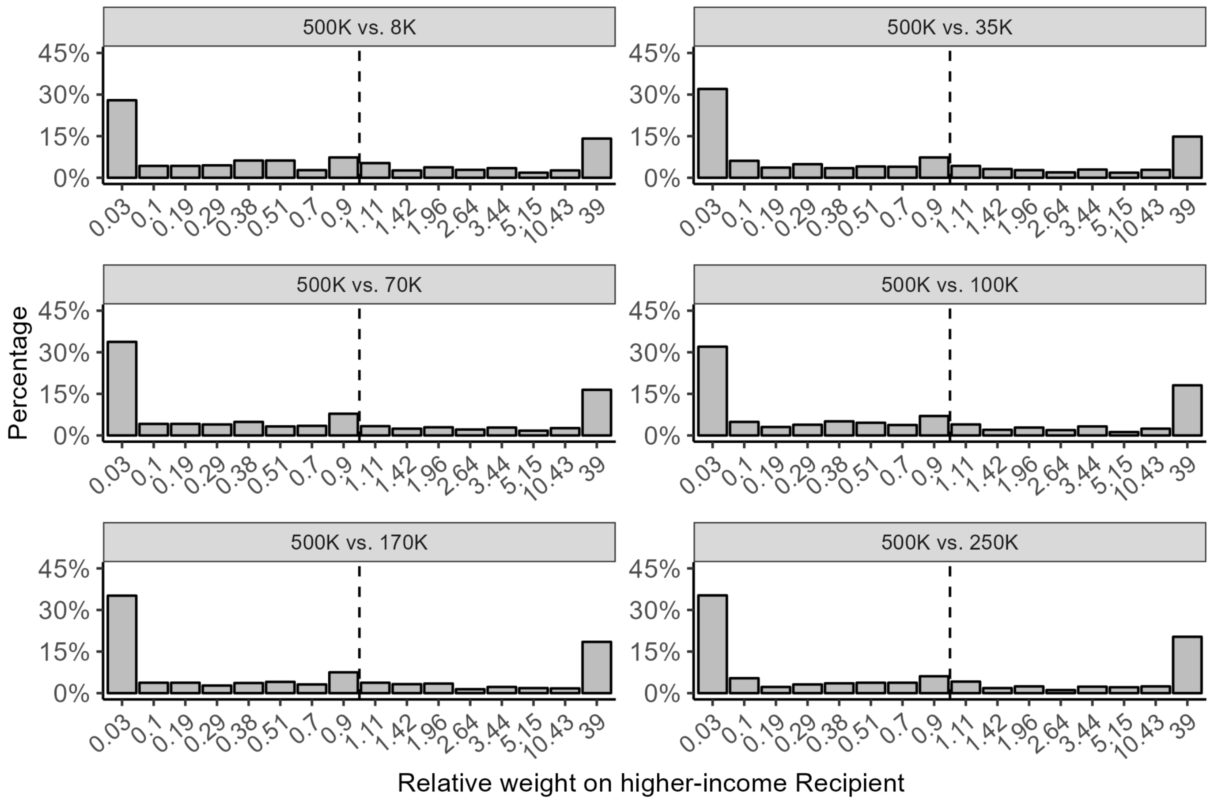



Figure A1: Distribution of $\tilde{g}$ Across Recipient Pairs

*Notes:* The figure presents the distribution of $\tilde{g}$, the welfare weight assigned to the higher-income Recipient relative to the lower-income Recipient, across the six pairs of Recipients in the six decision screens. The parameter $\tilde{g}$ is calculated using Equation (4). The sample includes Social Architects in all treatments where the Recipient common across the pairs of Recipients has an income of $500,000.

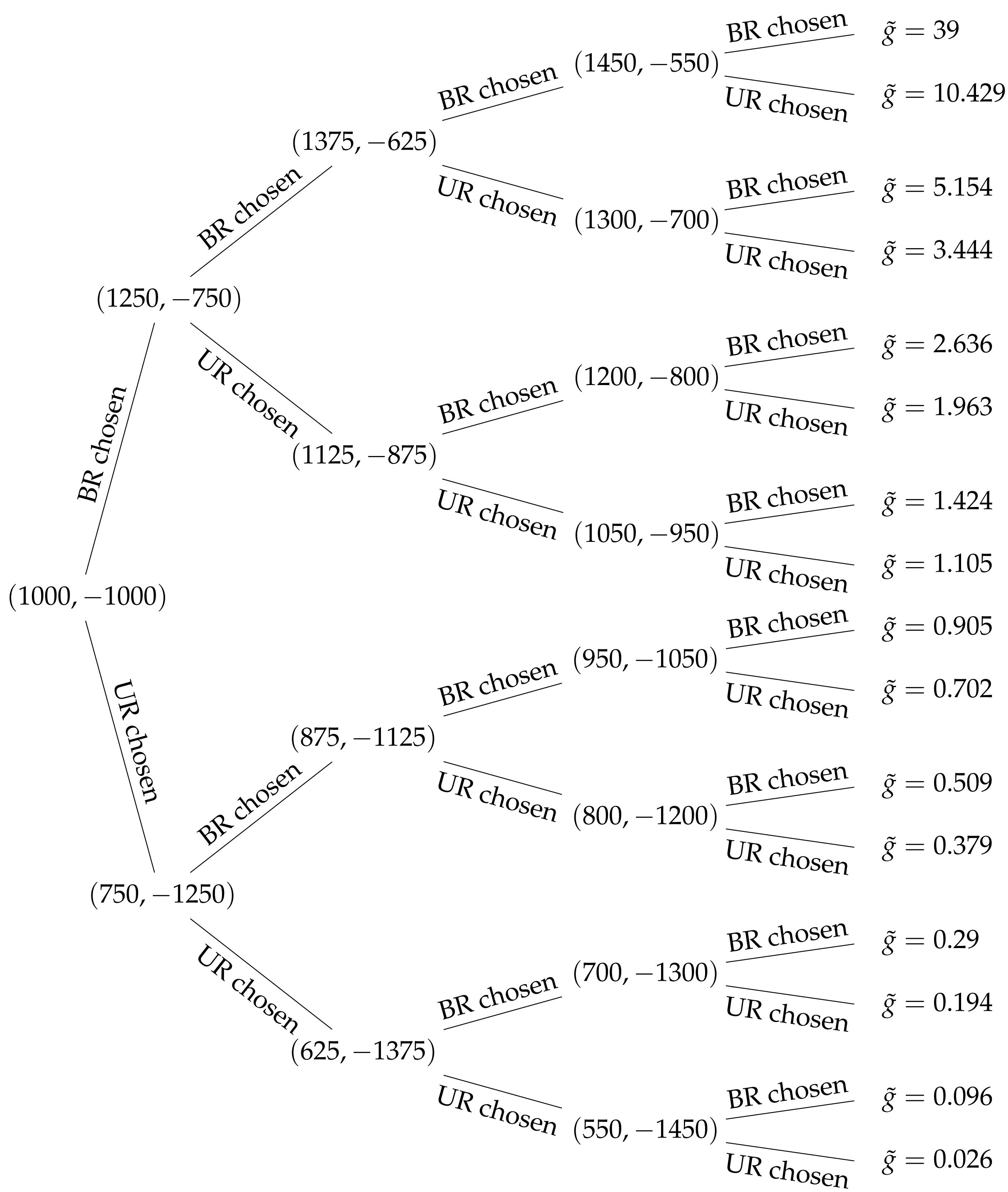



Figure A2: Unbalanced Reforms Selected by the Staircase Method

*Notes:* "UR chosen" and "BR chosen" indicate that the Unbalanced Reform and the Balanced Reform $(500, -500)$ was chosen in the previous node, respectively. The parameter $\tilde{g}$ is the ratio of the weight assigned to the higher-income Recipient to the weight assigned to the lower-income Recipient.

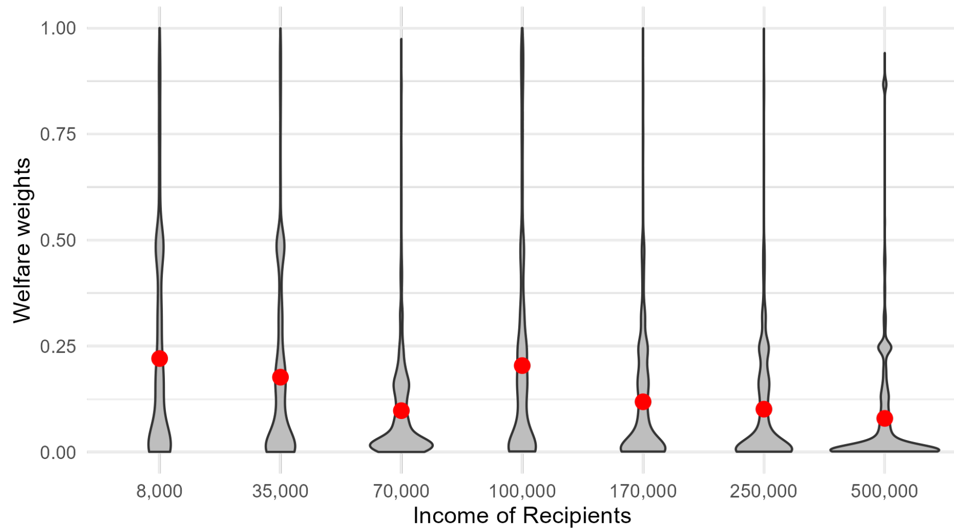



Figure A3: Distribution of Welfare Weights

*Notes:* The figure plots the average welfare weights (dots) assigned by the general population and the distribution of the weights (thickness of the shape around the dot) against the incomes of the seven Recipients.

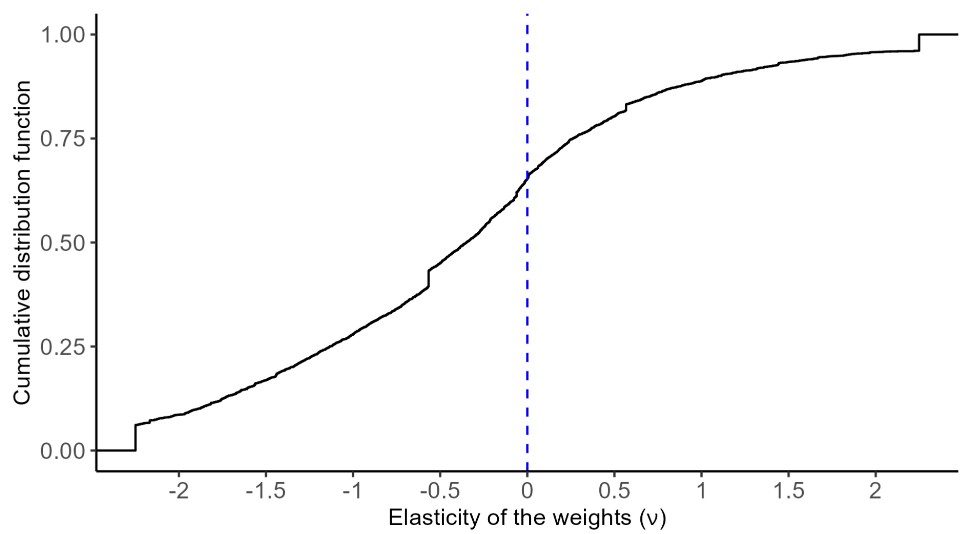



Figure A4: Distribution of the Elasticity of Social Architects' Welfare Weights

*Notes:* The figure presents the cumulative distribution function (CDF) of the coefficient estimate $\hat{\nu}$ obtained from the regression $log(g(R_j)) = \beta_0 + \nu log(recipient\ income_j) + \epsilon_j$, where $g(R_j)$ is the weight assigned by a given Social Architect to Recipient $j$, and $recipient\ income_j$ is the disposable income of Recipient $j$.

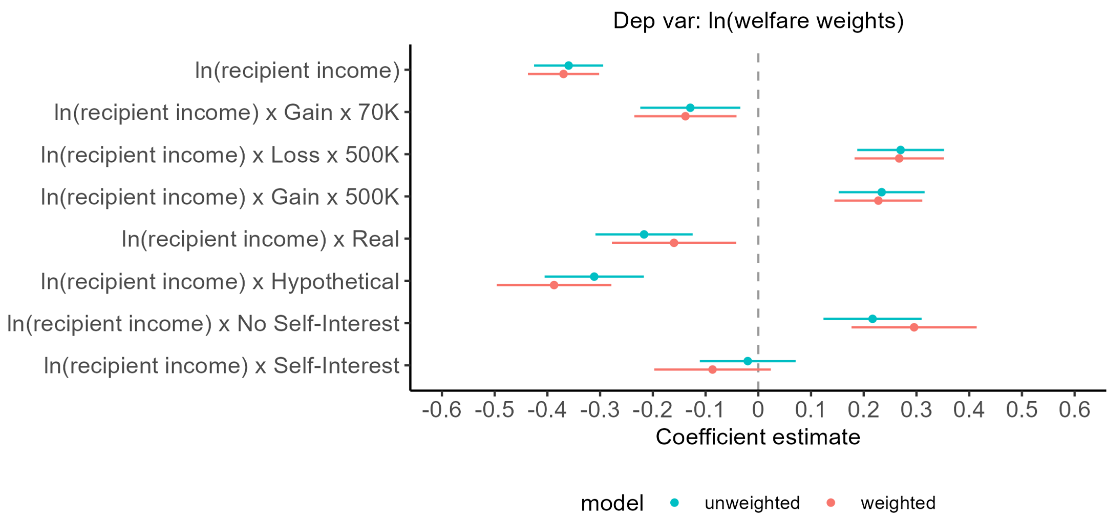



Figure A5: Welfare Weights and Treatments

*Notes:* The figure presents coefficient estimates. The dependent variable is the log of the welfare weights assigned by Social Architects. The explanatory variables include the log of the incomes of the Recipients, a set of treatment dummies, and the interaction terms of the log of the incomes of the Recipients with the treatment dummies. The base category is Treatment Loss $\times$ 70K. We do not present the main effects of the treatment dummies. The regressions weight each treatment using sampling weights. Error bars are computed using HC3 standard errors.

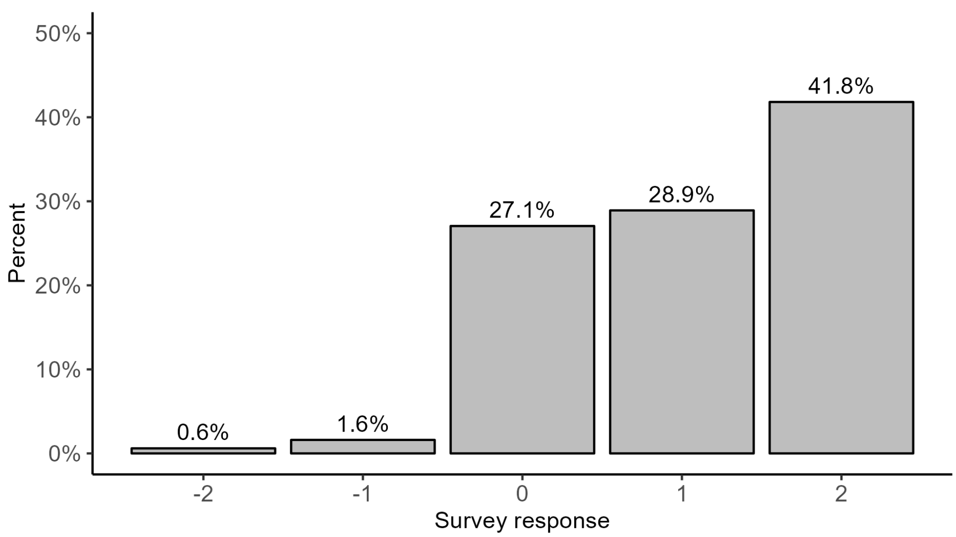



Figure A6: Frequency of Responses to the question *Redistribution*

*Notes:* This figure presents the share of participants selecting each option in the question *Redistribution*. Positive (negative) responses to the question indicate a desire for redistribution from high-income (low/middle-income) individuals to low/middle-income (high-income) individuals. A value of zero indicates a desire for no additional redistribution.

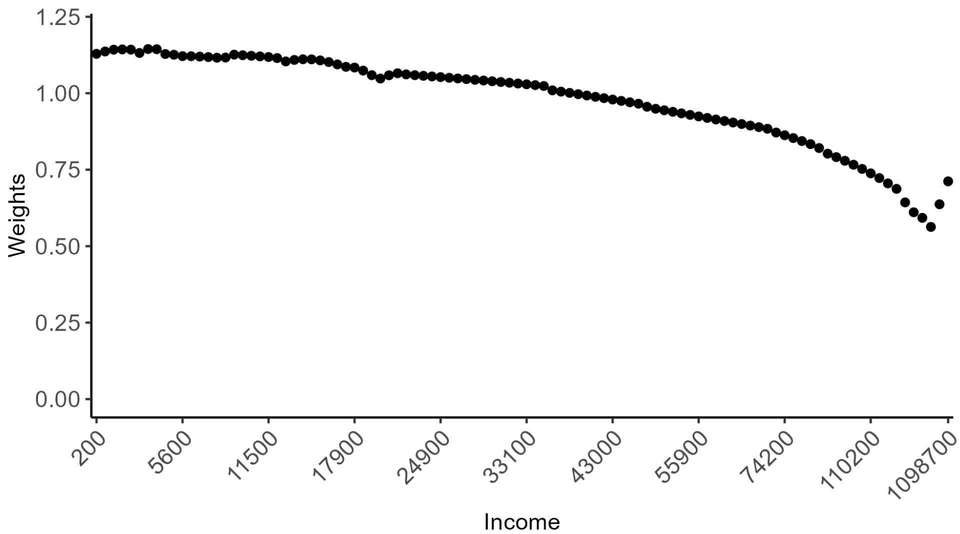



Figure A7: Welfare Weights Implied by the Tax Schedule

*Notes:* The figure plots the welfare weights implied by the income tax schedule for each percentile of the income distribution. The welfare weights are computed by Hendren (2020). The welfare weights are not normalized to sum to 1.

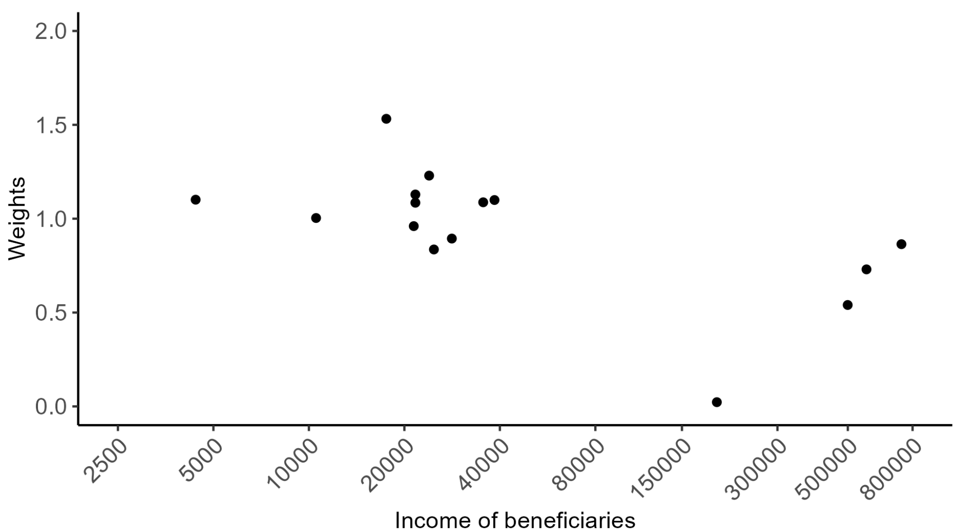



Figure A8: Welfare Weights Implied by Transfer Policies

*Notes:* The figure plots the welfare weights implied by transfer policies against the average incomes of the beneficiaries of the policies. The x-axis has a log-spacing. The welfare weight of a given policy is the inverse of its marginal value of public funds. The data on the marginal value of public funds of the policies is obtained from Hendren & Sprung-Keyser (2020). The welfare weights are normalized to sum to 1

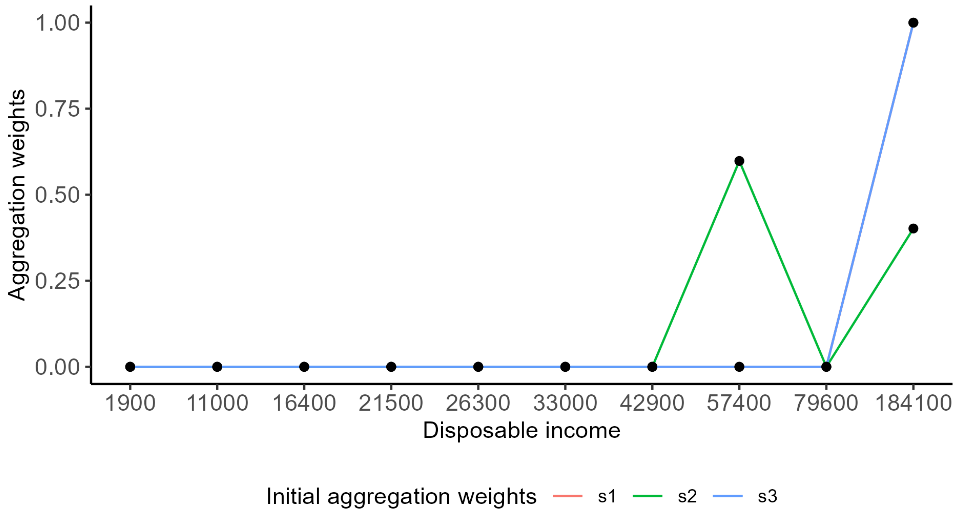



Figure A9: Optimal Aggregation Weights

*Notes:* The figure presents the aggregation weights that minimize the gap between the weights implied by the tax schedule computed by Hendren (2020) and the general population weights. The x-axis presents the average income of each decile in our sample. The y-axis presents the aggregation weights. See Section E.3 for details. We assume three sets of initial weights in the optimization: equal weights (s1), weights randomly drawn from a uniform distribution (s2), and all the weight on the top decile (s3).

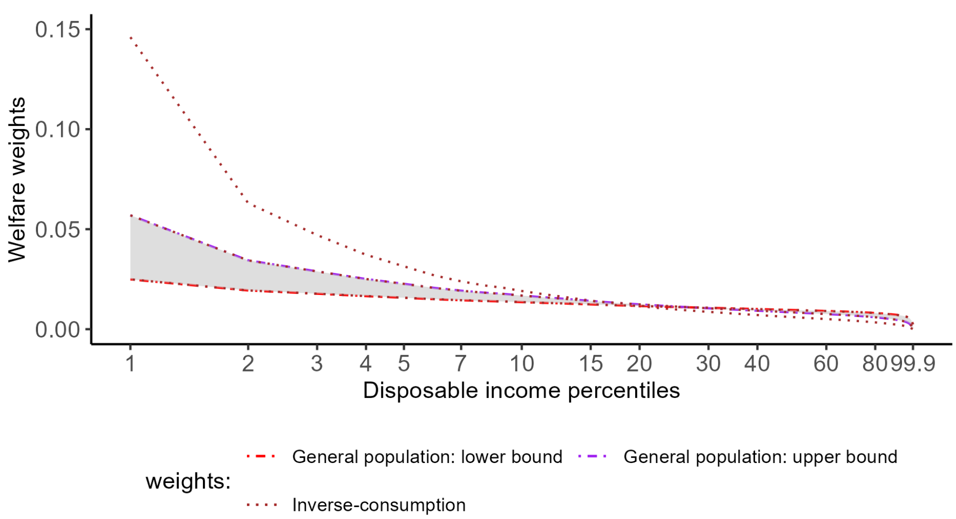



Figure A10: General Population Weights and Inverse-Consumption Weights

*Notes:* The figure plots welfare weights against percentiles of the disposable income distribution. The x-axis has a natural log spacing. We use the function $c^{\nu}$ to interpolate the welfare weights for the income ($c$) distribution and then re-normalize the welfare weights to sum to 1. The figure plots the re-normalized inverse-consumption weights ($\nu = -1$), lower bound of the general population weights ($\nu = -0.3$), and upper bound of the general population weights ($\nu = -0.6$). Details on the construction of the figure can be found in Appendix Section E.2.

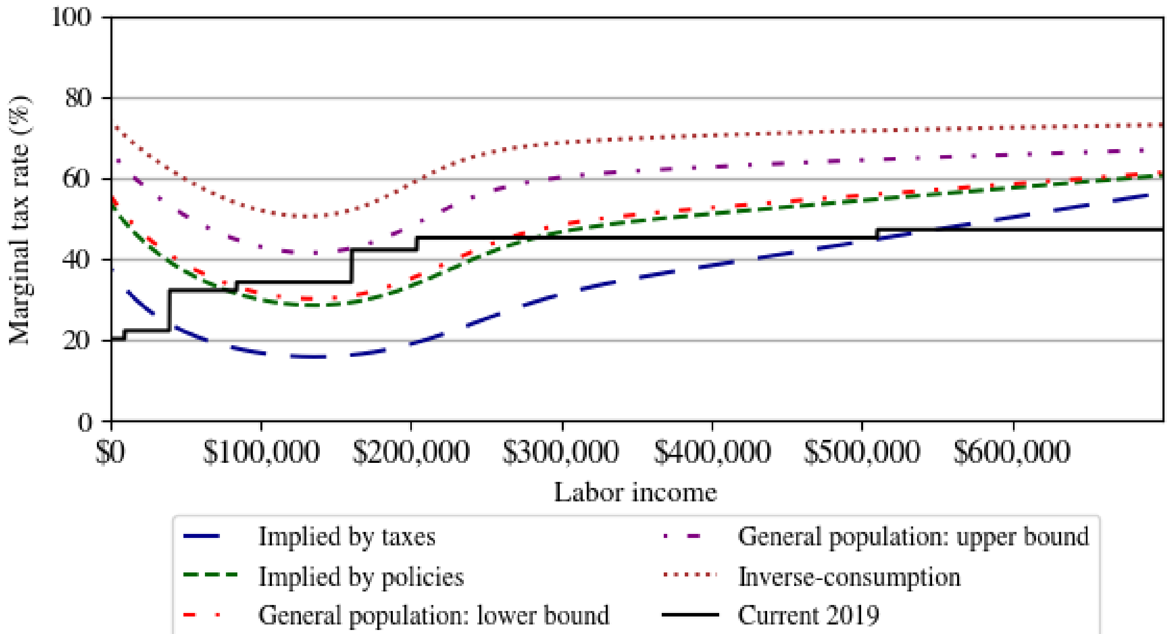



Figure A11: Marginal Tax Rates (MTRs)

*Notes:* The figure plots MTRs against the labor income distribution. The figure plots the optimal MTRS obtained using the weights implied by the income tax schedule computed by Hendren (2020) ($\nu = -0.1$), weights implied by transfer computed by Hendren & Sprung-Keyser (2020) ($\nu = -0.27$), the lower bound of the general population weights ($\nu = -0.3$), upper bound of the general population weights ($\nu = -0.6$), and inverse-consumption weights ($\nu = -1$). The figure also plots the current MTRs. See Appendix Section E.4 for details.

## C.2 Additional Tables

Table A1: Summary Statistics by Treatments in Wave 1

| | Loss x 500K | Loss x 70K | Gain x 500K | Gain x 70K | p-val |
|---|---|---|---|---|---|
| Income: $<$ 30,000 | 0.49 | 0.54 | 0.53 | 0.55 | 0.00 |
| Income: 30-59,999 | 0.26 | 0.26 | 0.26 | 0.26 | 0.53 |
| Income: 60-99,999 | 0.14 | 0.12 | 0.13 | 0.13 | 0.00 |
| Income: 100-149,999 | 0.07 | 0.03 | 0.06 | 0.04 | 0.02 |
| Income: $>$ 149,999 | 0.04 | 0.04 | 0.03 | 0.03 | 0.39 |
| Age: 18-34 | 0.30 | 0.28 | 0.29 | 0.30 | 0.00 |
| Age: 35-44 | 0.17 | 0.16 | 0.18 | 0.17 | 0.12 |
| Age: 45-54 | 0.18 | 0.18 | 0.17 | 0.17 | 0.54 |
| Age: 55-64 | 0.17 | 0.19 | 0.16 | 0.17 | 0.92 |
| Age: $>$ 64 | 0.18 | 0.19 | 0.20 | 0.19 | 0.00 |
| Edu: Up to Highschool | 0.44 | 0.48 | 0.44 | 0.46 | 0.00 |
| Edu: Some college | 0.19 | 0.20 | 0.20 | 0.21 | 0.91 |
| Edu: Bachelor or Associate | 0.26 | 0.23 | 0.25 | 0.22 | 0.00 |
| Edu: Masters or above | 0.11 | 0.10 | 0.10 | 0.11 | 0.00 |
| Region: West | 0.19 | 0.24 | 0.22 | 0.20 | 0.57 |
| Region: North-east | 0.17 | 0.17 | 0.18 | 0.19 | 0.72 |
| Region: South | 0.39 | 0.39 | 0.41 | 0.40 | 0.70 |
| Region: Mid-west | 0.24 | 0.20 | 0.20 | 0.21 | 0.21 |
| Male | 0.44 | 0.53 | 0.47 | 0.43 | 0.00 |
| Republican | 0.29 | 0.35 | 0.33 | 0.32 | 0.00 |
| Minutes Spent | 7.42 | 7.48 | 7.79 | 7.66 | 0.00 |

*Notes:* The table presents the average sample characteristics by the four treatments in Wave 1. The last column indicates the p-value corresponding to the F-statistic when testing if the treatment dummies are jointly significant.

Table A2: Summary Statistics by Treatments in Wave 2

| | Real | Hypo | No Self | Self | p-val |
|---|---|---|---|---|---|
| Income: $<$ 30,000 | 0.37 | 0.39 | 0.36 | 0.39 | 0.00 |
| Income: 30-59,999 | 0.28 | 0.28 | 0.30 | 0.28 | 0.32 |
| Income: 60-99,999 | 0.23 | 0.20 | 0.22 | 0.21 | 0.00 |
| Income: 100-149,999 | 0.08 | 0.10 | 0.08 | 0.07 | 0.00 |
| Income: $>$ 149,999 | 0.04 | 0.03 | 0.03 | 0.04 | 0.99 |
| Age: 18-34 | 0.37 | 0.37 | 0.39 | 0.37 | 0.00 |
| Age: 35-44 | 0.20 | 0.21 | 0.22 | 0.23 | 0.02 |
| Age: 45-54 | 0.14 | 0.14 | 0.16 | 0.16 | 0.74 |
| Age: 55-64 | 0.19 | 0.17 | 0.13 | 0.16 | 0.13 |
| Age: $>$ 64 | 0.10 | 0.10 | 0.10 | 0.09 | 0.00 |
| Edu: Up to Highschool | 0.13 | 0.15 | 0.14 | 0.15 | 0.00 |
| Edu: Some college | 0.20 | 0.21 | 0.20 | 0.20 | 0.91 |
| Edu: Bachelor or Associate | 0.49 | 0.47 | 0.48 | 0.53 | 0.00 |
| Edu: Masters or above | 0.17 | 0.17 | 0.18 | 0.12 | 0.00 |
| Region: West | 0.17 | 0.14 | 0.20 | 0.18 | 0.01 |
| Region: North-east | 0.18 | 0.21 | 0.20 | 0.20 | 0.19 |
| Region: South | 0.42 | 0.44 | 0.40 | 0.43 | 0.31 |
| Region: Mid-west | 0.22 | 0.20 | 0.19 | 0.18 | 0.38 |
| Male | 0.51 | 0.49 | 0.48 | 0.50 | 0.53 |
| Republican | 0.20 | 0.21 | 0.18 | 0.19 | 0.00 |
| Minutes Spent | 18.63 | 14.14 | 14.95 | 15.05 | 0.00 |

*Notes:* The table presents the average sample characteristics by the four treatments in Wave 2: Real, Hypothetical, No Self-Interest, and Self-Interest. The last column indicates the p-value corresponding to the F-statistic when testing if the treatment dummies are jointly significant.

Table A3: Classifying Social Architects

| Redistributive Tastes | Interval | Share |
|---|---|---|
| Weak | $\nu \in (0, \lvert 0.625 \rvert]$ | 46% |
| Strong | $\nu \in (\lvert 0.625 \rvert, \lvert 2 \rvert]$ | 41% |
| Extremely Strong | $\nu \in (\lvert 2 \rvert, \infty)$ | 13% |
| Weak Progressive | $\nu \in (-0.625, 0]$ | 28% |
| Strong Progressive | $\nu \in (-2, -0.625]$ | 29% |
| Extremely Strong Progressive | $\nu \in (-\infty, -2]$ | 9% |
| Weak Regressive | $\nu \in (0, 0.625]$ | 19% |
| Strong Regressive | $\nu \in (0.625, 2]$ | 12% |
| Extremely Strong Regressive | $\nu \in (2, \infty)$ | 4% |

*Notes:* The table presents the share of Social Architects classified by the strength of the reditributive tastes implied by their welfare weights. The elasticity of the weights ($\nu$) for each Social Architect is computed using Equation (6).

Table A4: Patterns in the Welfare Weights

| Variable | Full | Loss x 70K | Real | p-val |
|---|---|---|---|---|
| Share always choosing BR | 0.053 | 0.059 | 0.036 | 0.089 |
| Share always choosing UR | 0.099 | 0.096 | 0.094 | 0.934 |
| Share w/ strictly progressive weights | 0.001 | 0.000 | 0.002 | 0.321 |
| Share w/ strictly regressive weights | 0.000 | 0.000 | 0.000 | NA |
| Share w/ weakly progressive weights | 0.182 | 0.149 | 0.220 | 0.004 |
| Share w/ weakly regressive weights | 0.068 | 0.069 | 0.050 | 0.204 |
| Share w/o weakly monotonic weights | 0.751 | 0.782 | 0.729 | 0.054 |
| Slope of the weights | -0.020 | -0.019 | -0.030 | 0.001 |
| Share w/ negative slope | 0.655 | 0.629 | 0.711 | 0.006 |
| Elasticity of the weights | -0.355 | -0.360 | -0.576 | 0.004 |
| Share w/ negative elasiticity | 0.653 | 0.674 | 0.719 | 0.121 |
| Maximum observed elasticity | 2.249 | 2.249 | 2.249 | NA |
| Minumum observed elasticity | -2.249 | -2.249 | -2.249 | NA |

*Notes:* The table presents the average patterns in the Social Architects' assigned welfare weights in the full sample (second column), in Treatment Loss $\times$ 70K (third column), and in Treatment Real (fourth column). The last column indicates the p-value corresponding to the F-statistic when testing if the pattern is different, on average, between Treatment Loss $\times$ 70K and Treatment Real. The F-statistic is based on a weighted regression that weights each treatment using sampling weights. *Share always choosing BR (UR)* refers to the share who chooses the Balanced Reform (Unbalanced Reform) in every question. Strictly progressive (regressive) weights imply that the weights are strictly decreasing (increasing) with the Recipients' income. Weakly progressive (regressive) weights imply that the weights are weakly decreasing (increasing) with the Recipients' incomes. The slope of the weights is the coefficient estimate $\hat{\beta_1}$ obtained from the regression $g(R_j) = \beta_0 + \beta_1 j + \epsilon_j$, where $g(R_j)$ is the weight assigned by a given Social Architect to Recipient $j$, and the incomes earned by Recipients 1 through 7 are \$8000 through \$500,000. The elasticity of the weights is the coefficient estimate $\hat{\nu}$ obtained from the regression $log(g(R_j)) = \beta_0 + \nu log(\textit{recipient income}_j) + \epsilon_j$, where $g(R_j)$ is the weight assigned by a given Social Architect to Recipient $j$, and $\textit{recipient income}_j$ is the income of Recipient $j$. *Minimum (Maximum) observed elasticity* refers to the minimum (maximum) values of the estimated elasticity of Social Architects' weights observed in the sample.

Table A5: Average Optimal Marginal Tax Rates (MTRs)

| Case | E[MTR] | Guaranteed Income Share |
|---|---|---|
| Inverse-consumption ($\nu = -1$) | 62% | 63% |
| General population lower-bound ($\nu = -0.6$) | 53% | 54% |
| General population upper-bound ($\nu = -0.3$) | 41% | 42% |
| Transfer policies ($\nu = -0.27$) | 40% | 40% |
| Tax schedule ($\nu = -0.1$) | 24% | 25% |
| Current MTRs | 28% | - |

*Notes:* The table presents the average optimal MTRs calibrated using different estimates of welfare weights and the guaranteed income share to bottom earners as a share of the average income. The table also presents the current average MTRs in the U.S. See Appendix Section E.4 for details.

# D Additional Analysis

## D.1 Welfare Weights and Non-Welfarist Ideals

We test whether Social Architects' welfare weights capture "non-welfarist" ideals. In the traditional "welfarist" approach, welfare weights depend on characteristics that enter Recipients' utilities (e.g., Recipients' disability status). On the other hand, in the non-welfarist approach, welfare weights do not enter Recipients' utilities (e.g., Recipients' parental income).

In Wave 2, Social Architects are asked about their beliefs regarding whether high-income individuals deserve and need their current income. Their answer options were as follows: (i) "do not deserve their current income and do not need their current income," (ii) "deserve their current income but do not need their current income," (iii) "do not deserve their current income but need their current income," and (iv) "deserve their current income and need their current income." We also ask them a similar question about low-income individuals. The word "need" captures an important class of welfarist ideals in which welfare weights depend on the needs of the Recipients. The word "deserve" captures all non-welfarist ideals.

To explore whether welfare weights capture welfarist and non-welfarist ideals, we regress the log of the welfare weights assigned by Social Architects on the log of the incomes of the Recipients, a set of dummies indicating Social Architects' beliefs about the needs and deservingness of high-income and low-income individuals, and the interaction terms of the log of the incomes of the Recipients with all the other variables. The base category takes a value of 1 if a Social Architect indicates that high-income individuals do not deserve and do not need their current income and low-income individuals do not deserve and do not need their current income.

The results are presented in Figure A12. The coefficient estimate of *ln(recipient income)* $\times$ *HI deserve but do not need* is greater than 0. This implies that when Social Architects believe that high-income individuals deserve their current incomes (conditional on not needing them), they assign less progressive weights. We find a similar effect, qualitatively, for Social Architects who believe that high-income individuals deserve their incomes, conditional on needing them. This can be seen by comparing the coefficient estimates of *ln(recipient income)* $\times$ *HI do not deserve but need* and *ln(recipient income)* $\times$ *HI deserve and need*. From the coefficient estimate of *ln(recipient income)* $\times$ *HI do not deserve but need*, we find that when Social Architects believe that high-income individuals need their current incomes (conditional on not deserving them), they assign less progressive weights. We find a similar effect, qualitatively, for Social Architects who believe that high-income individuals need their current incomes, conditional on deserving them. Social Architects' beliefs about the needs and deservingness of low-income individuals have a much smaller effect on their welfare weights.

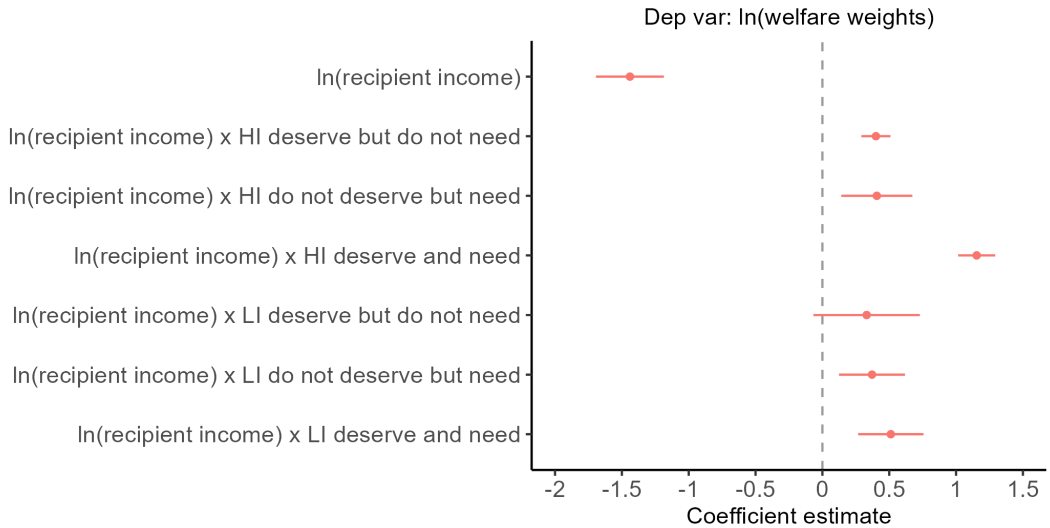



Figure A12: Welfare Weights and Non-Welfarist Ideals

*Notes:* The figure presents coefficient estimates. The dependent variable is the log of welfare weights assigned by Social Architects. The explanatory variables include the log of the incomes of the Recipients, a set of dummies indicating Social Architects' beliefs about the needs and deservingness of high-income and low-income individuals, and the interaction terms of the log of the incomes of the Recipients with all the other variables. Except for the main effect of the log of the incomes of the Recipients, we do not present the other main effects. *HI deserve but do not need* takes a value of 1 if a Social Architect indicates that high-income individuals deserve but do not need their current income. *LI deserve but do not need* takes a value of 1 if a Social Architect indicates that low-income individuals deserve but do not need their current income. The other variables are defined similarly. The base category takes a value of 1 if a Social Architect indicates that high-income individuals and low-income individuals do not deserve and do not need their current income. The regression is weighted using sampling weights. The regression uses data from Wave 2. Error bars are computed using HC3 standard errors.

Overall, we find that Social Architects' welfare weights capture both welfarist and non-welfarist ideals.

### D.2 Role of Social Architect's Own Income

To explore whether Social Architects assign higher welfare weights to Recipients with incomes similar to their own, we estimate the following regression.

$$g(R_j)_i = \beta_1 Income\ near\ R1_{ij} + ... + \beta_7 Income\ near\ R7_{ij} + \gamma_i + \epsilon_{ij}. \quad \text{(A1)}$$

The variable $g(R_j)_i$ is the weight assigned by Social Architect $i$ to Recipient $j$. The variable $Income\ near\ R1_{ij}$ takes a value of 1 if Social Architect $i$'s income is near the income of Recipient 1. In particular, the variable takes a value of 1 if a Social Architect's income is less than or equal to \$22,000. The other variables are similarly defined based on the following income brackets: (\$22,000, \$53,000], (\$53,000, \$85,000], (\$85,000, \$135,000], (\$135,000, \$210,000], (\$210,000, \$375,000], (\$375,000, ∞). These income brackets are similar to the ones used in Treatments No Self-Interest and Self-Interest. We include Social Architect fixed effects $\gamma_i$ to leverage the variation across decision screens. We exclude Treatment Self-Interest from the sample since this treatment incorporates self-interest motives by design. Here, we focus on understanding whether Social Architects are guided by self-interest motives in treatments designed to minimize the role of self-interest motives by design. We describe the role of self-interest motives in Treatment Self-Interest in Appendix Section D.3.

Figure A13 presents the coefficient estimates. Model s1 presents the specification described above. In Model s2, the variables *Income near R1*$_{ij}$ through *Income near R7*$_{ij}$ are indicator variables that take a value of 1 if Social Architect *i*'s income is within +- 20% of the income of Recipients 1 through 7, respectively.

We find that Social Architects with incomes near Recipient 1 assign a 10 percentage point higher weight to Recipient 1 relative to other Recipients. We find a similar effect for Social Architects with incomes near Recipients 2 and 4. Social Architects with incomes near Recipient 3 (earning \$70,000) assign a lower weight to Recipient 3 relative to other Recipients. We do not find a statistically significant effect for Social Architects with incomes near Recipients 5, 6, and 7; we are likely underpowered to detect an effect for these Social Architects since our sample has very few high-income earning Social Architects.

### D.3 Treatment Effects

#### Comparing Treatments Real and Hypothetical

We explore a possible reason why Social Architects might have more progressive welfare weights in Treatment Hypothetical relative to Treatment Real: Social Architects are less attentive in Treatment Hypothetical. Table A6 presents a series of regressions to investigate this hypothesis. The explanatory variable in each regression is a dummy variable that takes a value of 1 if a Social Architect is in Treatment Hypothetical and 0 if the Social Architect is in Treatment Real. In Column (1), the dependent variable is the time spent by the Social Architects on the survey. While Social Architects spend 1.6 fewer minutes on the survey in Treatment Hypothetical, this difference is not statistically significant. In Columns (2) and (3), the dependent variable takes a value of 1 if a Social Architect chooses the Balanced Reform and the Unbalanced Reform in each decision, respectively. We test whether Social Architects in Treatment Hypothetical choose one option throughout the

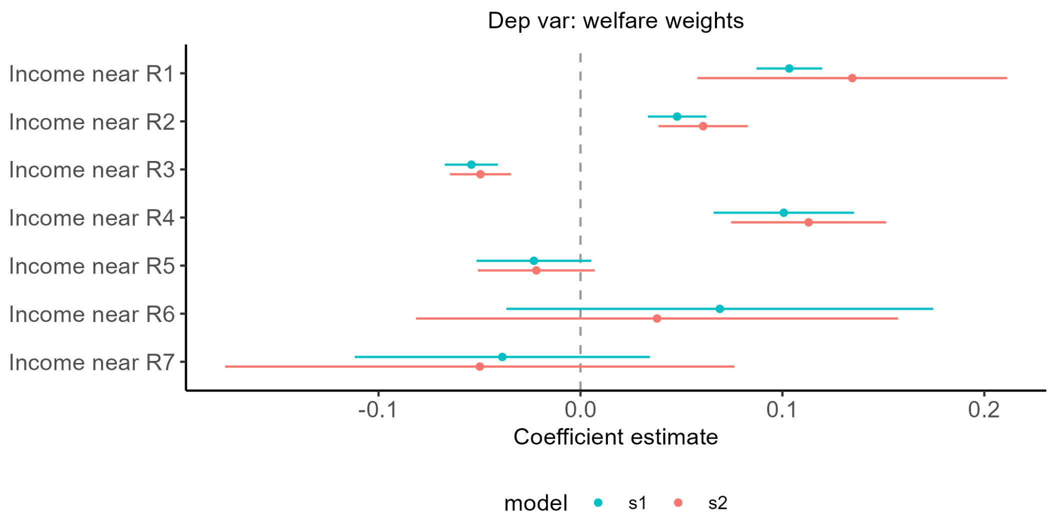



Figure A13: Weights Assigned to Recipients with Similar Incomes

*Notes:* The figure presents coefficient estimates. The dependent variable is the weights assigned by Social Architects. In Model s1, *Income near R1* takes a value of 1 if a Social Architect's income is less than or equal to \$22,000. The other variables in Model s1 are similarly defined based on the following income brackets: (\$22,000, \$53,000], (\$53,000, \$85,000], (\$85,000, \$135,000], (\$135,000, \$210,000], (\$210,000, \$375,000], (\$375,000, ∞). In model s2, *Income near R1* takes a value of 1 if a Social Architect's income is plus or minus 20% of the income of Recipient 1. The other variables in Model s2 are defined similarly. The regressions include Social Architect fixed effects and are weighted using sampling weights. The sample is restricted to all treatments, excluding Treatment Self-Interest. Error bars are computed using HC1 standard errors.

survey to complete the survey quickly. We do not find evidence that the share of participants always choosing the Balanced Reform or the Unbalanced Reform is different in Treatment Hypothetical relative to Treatment Real. Overall, we do not find evidence that Social Architects in Treatment Hypothetical are less attentive in the survey.

**Comparing Treatments Real and No-Self Interest**

We explore the role of framing the Recipients' incomes by comparing Treatment No Self-Interest to Treatment Real. Treatments No Self-Interest is similar to Treatments Real, except that in the former, we provide Social Architects with the income brackets of the Recipients instead of the exact incomes of the Recipients. These income brackets span the income distribution.[2] We assume that Social Architects use the incomes \$8,000, \$35,000, ... , \$500,000 as a reference when assigning welfare weights. These incomes are similar to the mean income of each income bracket. The results in Table 5 in the main text indicate that Social Architects are less progressive in Treatment No Self-Interest compared to Treatment Real ($|\Delta\nu| = 0.45$).

[2]The income brackets are [0,\$22,000], [\$22,000, \$53,000], [\$53,000, \$85,000], [\$85,000, \$135,000], [\$135,000, \$210,000], [\$210,000, \$375,000], [\$375,000, ∞).

Table A6: Comparing Treatments Real and Hypothetical

| Dependent Variables: | Time spent (mins) | Always BR | Always UR |
|---|---|---|---|
| Model: | (1) | (2) | (3) |
| Constant | 16.758*** | 0.039*** | 0.119*** |
| | (1.542) | (0.011) | (0.026) |
| Hypothetical | -1.679 | 0.018 | -0.036 |
| | (1.623) | (0.017) | (0.029) |
| Observations | 997 | 997 | 997 |
| Sampling Weights? | Yes | Yes | Yes |

*Notes:* The table presents linear regressions. *Time spent (min)* is the time spent on the survey in minutes. *Always BR* (*Always VR*) is an indicator variable taking a value of 1 if a Social Architect chooses the Balanced Reform (Unbalanced Reform) in every decision. *Hypothetical* is an indicator variable taking a value of 1 if a Social Architect is in Treatment Hypothetical and a value of 0 if the Social Architect is in Treatment Real. The sample is restricted to Social Architects in Treatments Hypothetical and Real. The regressions weight each treatment using sampling weights. The Standard errors are robust to heteroskedasticity (HC3).
*p<0.1, **p<0.05, ***p<0.01

Treatment No Self-Interest does not control for Social Architects' beliefs about Recipients' incomes. For example, Social Architects might believe that the Recipient in the "$375,000 and above" income bracket has an income of either $375,000 or $2,000,000. The estimated elasticity in this treatment can be sensitive to the assumptions about Social Architects' beliefs about Recipients' incomes.

**Exploring Self-Interest Motives**

In the main text, we found that participants in Treatment Self-Interest have more progressive weights than participants in Treatment No Self-Interest, indicating that Social Architects' are guided by self-interest motives. In this section, we compare Social Architects' welfare weights across these two treatments, separately by income groups. We pool the three groups with the highest incomes because we have a smaller share of participants in these groups. Figure A14 presents the results.

Considering the coefficient estimate of *ln(recipient income)* $\times$ *Self-Interest*, we find that for all income groups except the group earning above $135,000, the welfare weights are more progressive in Treatment Self-Interest relative to Treatment No Self-Interest. We are likely underpowered to detect effects for the group earning above $135,000. Overall, we find evidence that Social Architects across the income distribution are guided by self-interest motives.

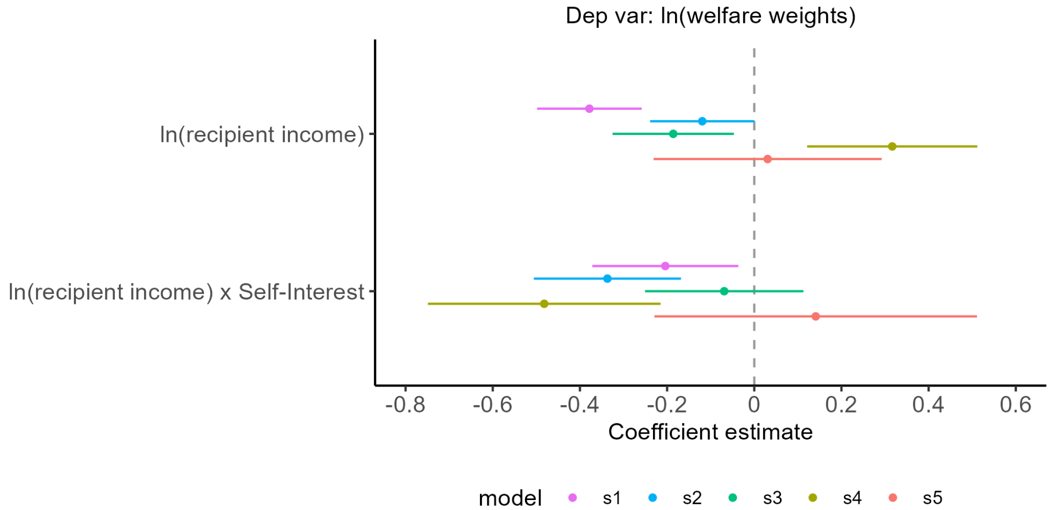



Figure A14: Social Architects' Weights and Self-Interest Motives

*Notes:* The figure presents coefficient estimates. The dependent variable is the log of the welfare weights assigned by Social Architects. The explanatory variables are the log of the incomes of the Recipients, *Self-Interest*, and the interaction term of the log of the incomes of the Recipients with *Self-Interest*. *Self-Interest* is a dummy variable taking a value of 1 if a Social Architect is in Treatment Self-Interest and 0 if a Social Architect is in Treatment No Self-Interest. The regressions use data from Treatments No Self-Interest and Treatment Self-Interest. Models s1 to s5 include Social Architects from the following income brackets [0, $22,000], [$22,000, $53,000], [$53,000, $85,000], [$85,000, $135,000], [$135,000, $210,000], [$210,000, $375,000], [$375,000, ∞), respectively. We do not present the main effects of *Self-Interest*. Error bars are computed using HC3 standard errors.

## D.4 Welfare Weights and Support for Redistribution

### D.4.1 Do Welfare Weights Predict Support for Redistribution?

We explore the empirical link between Social Architects' welfare weights and their support for government redistribution. In the main text, we explored the link using a question (*Redistribution*) administered in Wave 2. In this section, we explore the link using two validated measures of support of redistribution administered in Wave 1. The first question, *Govt should do more*, asks Social Architects if they think the government should do more to reduce income differences between the rich and poor. The second question, *Increase top-taxes*, asks Social Architects if they want to increase or decrease the taxes on top-income earners. The order of the questions was counterbalanced across participants. Details about the variables can be found in Appendix Section A.

We benchmark the predictive power of Social Architects' welfare weights, measured by the elasticity of the weights, against their stated political affiliation. We estimate regressions in which the dependent variables are *Govt should do more* or *Increase top-taxes*. To assess the predictive power of a specification, we compute the root mean squared error

(RMSE) of the out-of-sample predictions obtained from a specification.[3] The lower the RMSE of a specification, the higher the predictive power of that specification.

Table A7 presents the results. In rows one and two, we find that the elasticity of Social Architects' welfare weights is just as good a predictor of their support for redistribution as their stated political affiliation. In rows five and six, we find that the predictive power of welfare weights is slightly lower than that of political affiliation. However, the difference in the average prediction is small: the difference of 0.06 is 3% of the standard deviation (2.07) of the support for redistribution. We find similar results in rows three, four, seven, and eight, which include treatment dummies and background characteristics as controls in the regressions.

Table A7: Welfare Weights and Support for Redistribution

| Row | Dependent variable | Explanatory variable | Controls? | RMSE |
|---|---|---|---|---|
| 1 | Increase top-taxes | Republican | No | 1.57 |
| 2 | Increase top-taxes | Elasticity | No | 1.57 |
| 3 | Increase top-taxes | Republican | Yes | 1.55 |
| 4 | Increase top-taxes | Elasticity | Yes | 1.56 |
| 5 | Govt should do more | Republican | No | 2.00 |
| 6 | Govt should do more | Elasticity | No | 2.06 |
| 7 | Govt should do more | Republican | Yes | 1.97 |
| 8 | Govt should do more | Elasticity | Yes | 2.01 |
| 9 | Increase top-taxes | Republican + Elasticity | No | 1.55 |
| 10 | Increase top-taxes | Republican + Elasticity | No | 1.99 |

*Notes:* Each row of the table presents the root-mean-squared error (RMSE) of the predictions generated from a linear regression using a k-fold cross-validation procedure with $k = 4$. The dependent variable *Govt should do more* takes values from 1 through 7, with higher values indicating a greater desire for the government to do something to reduce inequality. The dependent variable *Increase top-taxes* takes values from 1 to 7, with higher values indicating a greater desire for the government to increase top-taxes. *Elasticity* is the elasticity of Social Architects' weights with respect to Recipients' incomes. *Republican* is a dummy variable taking a value of 1 for Republicans and a value of 0 for Democrats or Independents. The controls in the regression include a set of treatment dummies, *High Income* (= 1 if above median income), *Male* (=1 if male), *High Education* (=1 if above median education), and *High Age* (=1 if above median age), and *Policy Order* (dummy indicating the order of the two questions). The regressions use data from Wave 1.

[3] We divide the data into four sub-samples ($S(k), k \in 1,2,3,4$) with $k = 4$. For each sub-sample, we train the specification of interest using the other three sub-samples ($S(-k)$). Next, we predict values for the sub-sample we left out and calculate the squared error, which is the difference between the actual and predicted values squared. To obtain the RMSE, we compute the square root of the average of the squared errors across all four sub-samples.

### D.4.2 Which Factors Predict Support for Redistribution?

We explore whether Social Architects' support for redistribution (variable *Redistribution*) is driven by their welfare weights or other factors. We regress Social Architects' support for redistribution on their standardized elasticity of welfare weights and other variables, capturing other factors, including Social Architects' misperceptions and views about taxation and government. Some of these factors are orthogonal to welfare weights, while others are captured by welfare weights. Details about the other variables can be found in Appendix Section A.

Model s2 in Figure A15a presents the coefficient estimates of the regression. We find that Social Architects' elasticity of the weights predicts their support for redistribution. However, Social Architects' misperceptions also predict their support for redistribution. Social Architects who overestimate the level of taxes paid by individuals in society have less progressive support for redistribution. Intuitively, Social Architects who think that society already bears a high tax burden are less in favor of increasing the tax burden. Social Architects who overestimate upward mobility, i.e., who think income is more upward mobile than it is, have less progressive support for redistribution. This result is consistent with the findings of Alesina et al. (2018). Social Architects who overestimate the share of individuals earning less than $35,000 have more progressive support for redistribution.

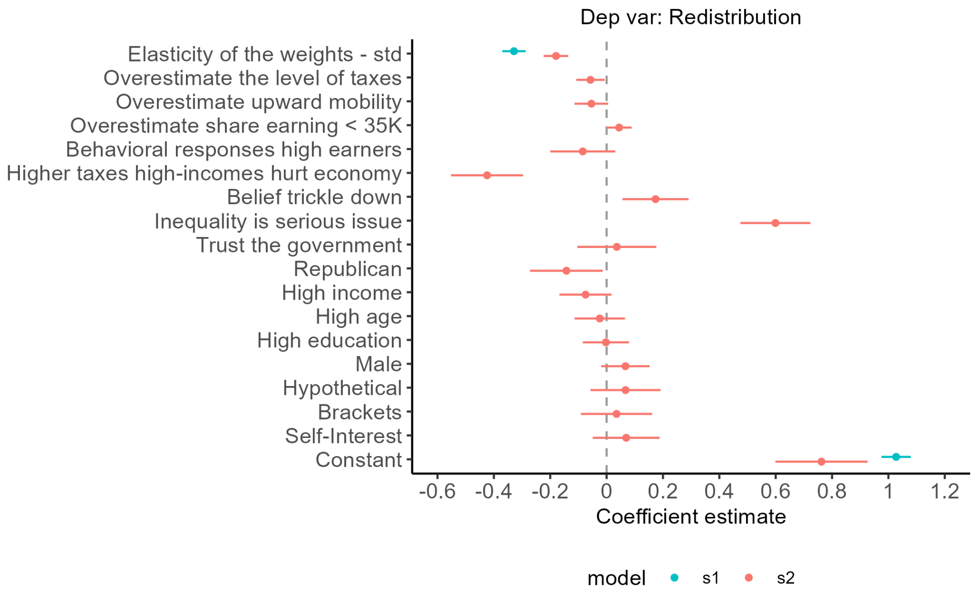
Social Architects' views about taxes and government also predict their support for redistribution. Social Architects who think that higher taxes on high-income individuals hurt the economy have less progressive support for redistribution. Social Architects who believe in trickle-down economics have more progressive support for redistribution. However, the direction of this effect is counterintuitive. Finally, Social Architects who believe that inequality is a serious issue because it can have externalities have more progressive support for redistribution.

Overall, we find that while Social Architects' welfare weights predict their support for redistribution, their misperceptions and views about taxes and government also predict their support for redistribution.

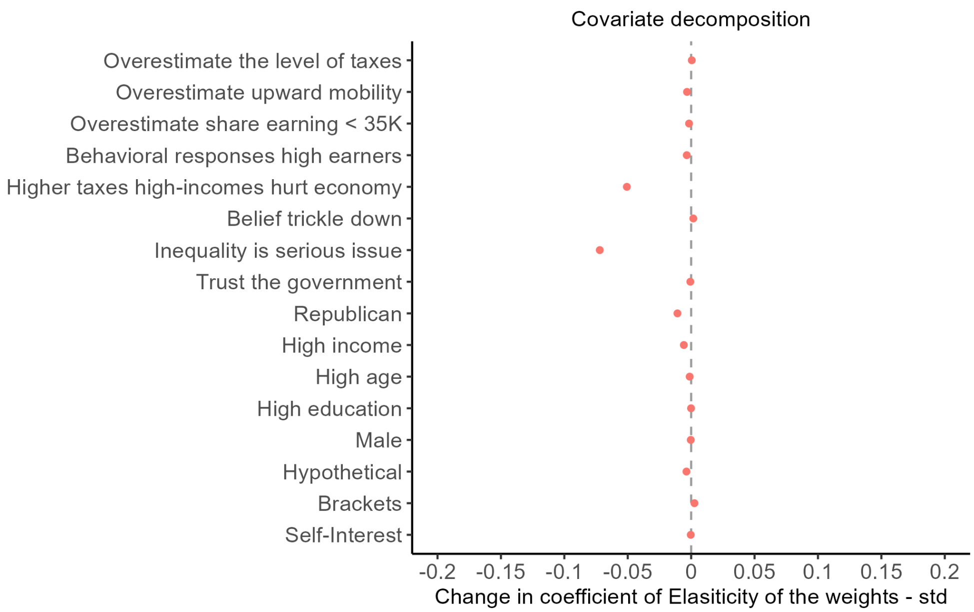
## D.5 Which Factors do Welfare Weights Capture?

Our experimental measure of welfare weights is designed to capture welfare preferences. However, empirically, welfare weights may also capture factors orthogonal to welfare preferences. In this section, we explore which factors are captured by welfare weights. Details about the other factors can be found in Appendix Section A.

To identify which factors are captured by Social Architects' assigned welfare weights, we proceed in two steps. First, we estimate the overall variation in support for redistri-




(a) Coefficient Estimates




(b) Covariate Decomposition

Figure A15: Predictors of Support for Redistribution and Decomposition of Weights

*Notes:* Panel (a) presents coefficient estimates. The dependent variable (*Redistribution*) takes values from -2 to +2, where positive (negative) values indicate redistribution from high-income (low/middle-income) individuals to low/middle-income (high-income) individuals. A value of zero indicates that incomes should not be further redistributed. See the main text for an explanation of the explanatory variables. Models s1 and s2 are weighted using sampling weights. Error bars are computed using HC3 standard errors. Panel (b) presents the effect of each variable on the coefficient estimate of *Elasticity of the weights - std*. The effects are computed using the covariate decomposition procedure proposed by Gelbach (2016). The figures use data from Wave 2.

bution that can be explained by welfare weights using a linear regression. Some of this overall variation may be explained by factors orthogonal to welfare preferences. A factor that predicts Social Architects' support for redistribution via their welfare weights is thus captured by welfare weights. In the second step, we decompose this overall variation into the variation explained by each of the other factors.[4]

The overall variation in support for redistribution that is explained by welfare weights can be estimated by regressing Social Architects' support for redistribution on their standardized elasticity of the weights. The results are presented in Model s1 in Figure A15a. We find that the coefficient estimate of the elasticity of the weights is $-0.33$.

In Model s2 in Figure A15a, we add other variables (capturing other factors) to the regression. We find that the coefficient estimate of the elasticity of the weights drops, in absolute value, from $-0.33$ in Model s1 to $-0.18$ in Model s2. This suggests that about half of the overall variation in support for redistribution explained by welfare weights goes through these other factors.

How much of the change in the coefficient estimate of the elasticity of the weights (between Model s1 and s2) is explained by each of the other variables? Figure A15b presents the effect of each variable on the coefficient estimate of the elasticity of the weights. The effects are computed using the covariate decomposition procedure proposed by Gelbach (2016). A negative value for a variable indicates that its inclusion in the regression reduces the absolute value of the coefficient estimate of the elasticity of the weights in Model s1. We find that the change in the coefficient estimate of the elasticity of weights is driven by Social Architects' beliefs about the externalities due to inequality and their beliefs about higher taxes on high-income individuals hurting the economy.

Factors that affect Social Architects' support for redistribution via their welfare weights are captured by our measure of welfare weights. Thus, Social Architects' welfare weights partly capture their beliefs about the externalities due to inequality and their beliefs about higher taxes on high-income individuals hurting the economy.

### D.6 Partisan Gap in Support for Redistribution

The results presented in the main text suggest that Republicans have less progressive support for government redistribution compared to Democrats and Independents. In this section, we explore the factors that explain the partisan gap in support for redistribution.

We explore the overall partisan gap in support for redistribution by regressing Social Architects' support for redistribution (variable *Redistribution*) on their political affiliation. The results are presented in Model s1 in Figure A16. The coefficient estimate of *Repub-*

[4]Our estimation assumes that the set of concerns captured by support for redistribution is a superset of the set of concerns captured by welfare weights.

*lican* in Model s1 is $-0.69$. This estimate reflects the overall partisan gap in support for redistribution.

Next, we explore the change in the coefficient estimate of *Republican* when we include other variables in the regression. Details about the other variables can be found in Appendix Section A. The results are presented in Model s2 in Figure A16a. We find that the coefficient estimate of *Republican* drops from $-0.69$ in Model s1 to $-0.14$ in Model s2 when we include other variables in the regression, indicating that these variables explain 79% of the partisan gap in support for redistribution.

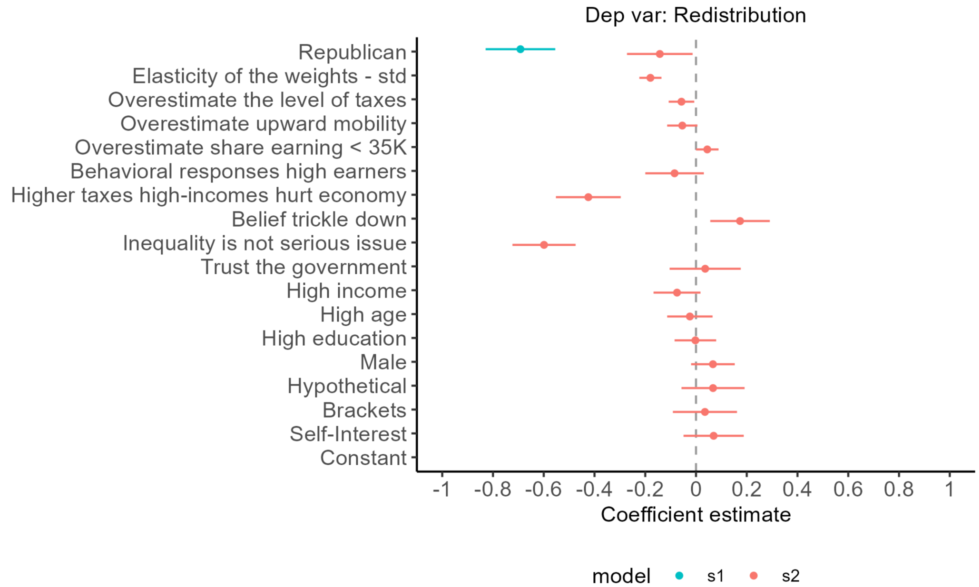
How much of the change in the coefficient estimate of *Republican* (between Model s1 and s2) is due to each of the other variables? Figure A16b presents the effect of each variable on the coefficient estimate of *Republican*. The effects are computed using the covariate decomposition procedure proposed by Gelbach (2016). A negative value for a variable indicates that its inclusion in the regression reduces the absolute value of the coefficient estimate *Republican* in Model s1. We find that about 8% of the partisan gap in support for redistribution is driven by welfare weights. Beliefs about higher taxes on high-income individuals hurting the economy and beliefs about the externalities from inequality explain 14% and 27% of the partisan gap, respectively.

### D.7 Progressivity of General Population Weights

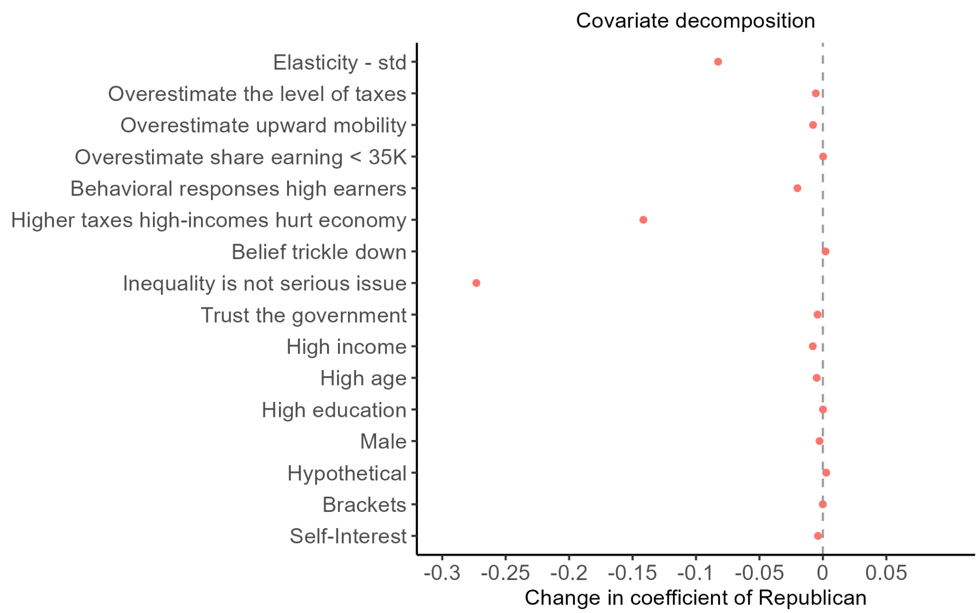
For the comparisons in Section 5, we assume that the general population weights are characterized by the power function $c^{\nu}$, where $c$ represents Recipients' incomes and $\nu$ is a parameter that governs the progressivity of the weights. We identify the range of $\nu$ across the following three treatments: Treatments Loss $\times$ 70K, Gain $\times$ 70K, and Real. We estimate $\nu$ for each Social Architect by regressing the log of the welfare weights on the log of the Recipients' incomes, as discussed in Section 4.3. We then estimate the median value of $\hat{\nu}$ in each treatment. In our benchmark estimates, the range of the median estimates across the treatments is given by $\hat{\nu} \in [-0.30, -0.60]$.

#### D.7.1 Fit

To test whether the power function is a good approximation of the general population weights, we test how sensitive the estimates are to dropping observations in the tails of the welfare weights distribution. In particular, we compute ($\hat{\nu}$) for each Social Architect based on the welfare weights they assign to the Recipients excluding the lowest income Recipient earning $8,000. We find that the range of the median estimates across the treatments is given by $\hat{\nu} \in [-0.31, -0.68]$. We similarly compute ($\hat{\nu}$) excluding the welfare weights assigned to the highest income Recipient earning $500,000. The range of the median estimates across the treatments is given by $\hat{\nu} \in [-0.33, -0.57]$. The estimates ob-




(a) Regression estimates




(b) Covariate Decomposition

Figure A16: Partisan Gap in Support for Redistribution

*Notes:* Panel (a) presents coefficient estimates. The dependent variable (*Redistribution*) takes values from -2 to +2, where positive (negative) values indicate redistribution from high-income (low/middle-income) individuals to low/middle-income (high-income) individuals. A value of zero indicates that incomes should not be further redistributed. See the main text for an explanation of the explanatory variables. In these regressions, we reverse-code the variable *Inequality is a serious issue*. Models s1 and s2 are weighted using sampling weights. Error bars are computed using HC3 standard errors. Panel (b) presents the effect of each variable on the coefficient estimate of *Republican*. The effects are computed using the covariate decomposition procedure proposed by Gelbach (2016). The figures use data from Wave 2.

tained by dropping observations in the tails of the welfare weights distribution are very similar to our benchmark estimates. This suggests that the power function is indeed a good approximation of the general population weights.

### D.7.2 Robustness

We test how robust the estimates are to dropping Social Architects who choose the Balanced Reform in every decision (5%), and consequently, have the more regressive weights. The range of the median estimates obtained after dropping these Social Architects is given by $\hat{v} \in [-0.41, -0.64]$. These estimates are similar to the benchmark estimates.

# E Details on Analyses

## E.1 Details on Plotting Recipients' incomes

We present the details of the construction of the figure that plots Recipients' incomes. Data on the income distribution is obtained from the Distributional National Accounts micro-files of Piketty et al. (2018). Our measure of income is disposable incomes (*diinc*), which includes in-cash and in-kind transfers. For simplicity, every individual in the dataset is treated as a single filer, irrespective of their actual tax filing status.

Step 1: Exclude individuals with negative disposable incomes.

Step 2: Identify disposable income thresholds for percentiles (1, . . ., 99).

Step 3: Assign the seven Recipients to the percentile matching their incomes.

Step 4: Plot the disposable income thresholds against the corresponding percentiles. Overlay the incomes of the Recipients.

## E.2 Details on Plotting Welfare Weights

We present the details on constructing the figures that plot welfare weights against the income distribution. Data on the income distribution is obtained from the Distributional National Accounts micro-files of Piketty et al. (2018). Our measure of income is disposable incomes (*diinc*), which includes in-cash and in-kind transfers. For simplicity, every individual in the dataset is treated as a single filer, irrespective of their actual tax filing status.

Step 1: Exclude individuals with negative disposable incomes.

Step 2: Identify disposable income thresholds for percentiles (1, . . ., 99, 99.9).

Step 3: Compute the average disposable income in each percentile.

Step 4: Interpolate the welfare weights using the function $c^{\nu}$, where $c$ is the average disposable income in each percentile, and $\nu$ is a parameter. Different values of $\nu$ lead to different welfare weights.

Step 5: Re-normalize the welfare weights so that they sum to 1.

Step 6: Plot the re-normalized welfare weights against the percentiles of the income distribution.

## E.3 Gap Between General Population Weights and Political Weights

### E.3.1 Estimating Likelihood of Being Registered Voters

We outline the methodology used to estimate the likelihood of Social Architects being registered voters. The data on voting behavior and demographics are obtained from the Cooperative Election Study (CCES) 2022 wave. The CCES is a 50,000+ person national stratified sample survey administered by YouGov.

Step 1: Using the CCES data, estimate a logistic regression model to estimate the probability of an individual being a registered voter. The predictors in the model include dummy variables indicating individuals' family income, age, education, gender, region, and political affiliation. The set of predictors is the same as those indicated in Table 4, with the exception that we replace variables indicating individual income with variables indicating family income.

Step 2: Use the fitted logistic regression to obtain the predicted probability of an observation in our sample being a registered voter. Even though the model was trained using family income, the predictions are based on individual income because we only collected data on individual incomes in the survey.

### E.3.2 Estimating Aggregation Weights

We outline the methodology used to identify the "aggregation weights" that can rationalize the gap between the general population weights and the weights implied by the income tax schedule ("political weights") computed by Hendren (2020).

Step 1: Estimate the elasticity of welfare weights $\nu$ for each Social Architect.

Step 2: Identify income thresholds for deciles, and estimate the average elasticity in each decile. We estimate the average elasticity to minimize the noise in the data.

Step 3: Define an optimization problem as finding the set of aggregation weights that minimizes the absolute difference between the weighted average value of $\nu$, weighting by the aggregation weights, and the political weights ($\nu = -0.1$).

Step 4: Define the constraints on the aggregation weights in the optimization problem: (i) the sum of weights must equal one, (ii) weights must be non-negative, and (iii) weights must be less than or equal to 1.

Step 5: Define three different initial aggregation weights: (i) equal weights, (ii) random weights drawn from a uniform distribution, (iii) all the weight on the top decile. We test if the optimization is sensitive to the choice of the initial aggregation weights.

Results: Figure A9 plots the optimal aggregation weights that minimize the gap between the general population weights and the political weights. These optimal aggregation weights are based on the three different initial aggregation weights: (i) equal weights, (ii) random weights drawn from a uniform distribution, and (iii) all the weight on the top decile. The weighted average value of $\nu$, weighting the sample by these optimal aggregation weights, are $-0.26$, $-0.30$, and $-0.26$, respectively. The optimal aggregation weights are identical based on the initial weights in (i) and (iii).

## E.4 Calibration of Optimal Income Taxes

We explore the implications of the estimated welfare weights for the optimal non-linear labor income taxes in the U.S. The formula is the solution to the planner's problem of maximizing social welfare, given the constraints on government revenue. It provides the optimal marginal tax rates (MTRs) for different incomes as a function of (i) the shape of the ability (wage) distribution, (ii) the elasticity of taxable income, and (iii) welfare weights. We use the actual income distribution in the U.S. to identify the shape of the underlying ability distribution. The estimates of the elasticity of taxable incomes are taken from the literature. Finally, we use the different estimates of welfare weights computed in our paper. Our calibration draws from Mankiw et al. (2009) and Støstad & Cowell (2022).

**Optimal Tax Formula**

We assume that individuals are on a continuum of abilities (wage) $w$ with densities $f(w)$ and cumulative distribution function $F(w)$. Individuals' incomes are given by $z = wl$, where $l$ is individuals' labor supply. Individuals' tax liabilities and consumption are denoted as $T(z)$ and $c = z - T(z)$. The planner observes income $z$ and labor supply $l$, but does not know individuals' abilities $w$. We assume that every individual has additively separable preferences over consumption and labor given by

$$U(c,l) = u(c) + v(l) = \frac{c^{1-\gamma}}{1-\gamma} - \frac{l^{1+\frac{1}{E_L}}}{(1+\frac{1}{E_L})}. \tag{A2}$$

These are constant relative risk aversion (CRRA) utilities in consumption with a coefficient of relative risk aversion given by $\gamma$. We assume a simple functional form for individuals' labor supply in which utilities are isoelastic in labor and depend on $E_L$, the elasticity of earnings with respect to the retention rate $1 - T'(z)$.

We denote the utility of an individual with wages $w$ as $U(w)$. The planner has a utilitarian social welfare function given by $W = \int U(\theta) f(\theta) d\theta$, where $\theta$ indexes wages in the integral. The planner's first-order condition in Saez (2001) is given by

$$\frac{T'(z(w))}{1-T'(z(w))} = \left(\frac{1+E_L^U(w)}{E_L^c(w)}\right)\frac{u'(c(w))}{wf(w)}\int_w^\infty \frac{1}{u'(c(\theta))} f(\theta)d\theta - (1-F(w))\frac{1}{p}. \tag{A3}$$

where $T'(z(w))$ is the optimal MTR that applies to the income $z(w)$ at ability level $w$. The term $u'(c(w))$ is the marginal utility of consumption. It can be interpreted as welfare weights. Our assumption of CRRA utilities would result in $u'(c(w)) = c(w)^{-\gamma}$. There is a mapping from the welfare weights ($c(w)^{-\gamma}$) obtained assuming CRRA utilities with a coefficient of relative risk aversion $\gamma$ to the parametric form $c^{\nu}$ used in our paper to characterize welfare weights, given by $\gamma = -\nu$. Thus, we implement different estimates of welfare weights using different values of $\gamma = -\nu$. The progressivity of the optimal MTRs is increasing with the progressivity of the welfare weights.

The optimal MTRs are a function of $E_L^u(w)$ and $E_L^c(w)$, which are the average uncompensated and compensated elasticity of earnings with respect to the retention rate $1 - T'(z)$. The elasticity of earnings is assumed to be driven by the substitution effect (people work less due to increased taxes) and assumes no income effects (people work more due to increased taxes). Thus, we assume that $E_L^U(w) = E_L^c(w) = E_L$. The optimal MTR is decreasing in the elasticity of earnings to reduce the extent to which taxes distort people's labor supply.

In Equation A3, $p$ is the marginal value of public funds. It measures the increase in social welfare obtained when the planner loosens the budget constraint. The cost in consumption terms of a marginal increase in utility for an individual with wage $w$ is $\frac{1}{u'(c(w))}$. The cost of a marginal increase in average utility is $\int_0^\infty \frac{1}{u'(c(w))} f(w)dw$. The value to the planner of a marginal unit of public funds is the inverse of this cost, which is given by

$$p = \frac{1}{\int_0^\infty \frac{1}{u'(c(w))} f(w)dw} \tag{A4}$$

**Estimating the Wage-Ability Distribution**

The optimal taxes depends on individuals' incomes, which in turn depends on the taxes due to individuals' behavioral responses to taxes. We estimate the ability (wage) distribution from the current income distribution and use this exogenous ability distribution when we calibrate the tax formula in Equation (A3). Data on the income distribution is obtained from the Distributional National Accounts micro-files of Piketty et al. (2018). Each observation in the data corresponds to a tax unit.

Step 1: Use the NBER TAXSIM model to find the marginal tax rate for each tax unit. The tax rates are calculated based on the available information about the tax units, which include the number of dependents, the age of the primary filer, and marital status. Add a 5% state tax rate, a 2.9% tax rate for Medicare, and a 2.3% sales tax rate.

Step 2: Assuming that individuals have correctly optimized according to their utility function in Equation (A2), back out the resulting ability ($w$) of each tax unit.

Step 3: Create a smooth ability distribution using a Kernel density estimator with a band-

width of \$5000. The smooth distribution has 50,000 observations.
Step 4: Replace the top 0.5% of the distribution with a Pareto distribution. The Pareto parameter is the value of the Pareto parameter $\alpha(z(w)) = \frac{z \cdot f(z)}{1-F(z)}$ just before the top 0.5%.

**Calibrating Optimal Income Taxes**

We use an updating rule to find the fixed-point tax schedule, drawing from Mankiw et al. (2009) and Støstad & Cowell (2022). We assume an initial tax schedule. Given the tax schedule, we estimate individuals' labor supply. Individuals' labor supply is used to calculate their utilities. Given the utilities, we calculate the resulting optimal MTRs at each wage level using Equation (A3). We iterate on this process until an optimum is found. We check if the second-order condition holds at the optimum. This condition states that the pre-tax incomes are non-decreasing with wages.
Step 1: Start with an initial flat tax rate of 35%.
Step 2: Compute individuals' labor choices based on this tax rate, assuming that they have correctly optimized their utilities in Equation (A2). Computing the derivative of Equation (A2) with respect to $l$ and setting it to 0 yields $l = (w \cdot (1 - T'(z))^{E_L}$. Set $E_L = 0.25$, which is a mid-range estimate for the elasticity of taxable income (Saez et al. 2012).
Step 3: Based on the optimal labor choices computed in Step 2, calculate the optimal income choices $z = wl$ and the resulting utilities based on Equation (A2). Different values of $\gamma$ in Equation (A2) lead to different estimates of welfare weights. For example, $\gamma = -\nu = 0.3$ can be used to obtain the lower-bound of the general population weights.
Step 4: Calculate the resulting optimal tax rate at each ability level based on Equation (A3).
Step 5: Repeat the previous steps until the tax rates converge to a fixed point.

# F Instructions - Wave 1

Bold text, underlining, tables, etc., appear as on the original screens.

### F.1 Treatment Loss x 70K

[Consent screen]

**Introduction**
Welcome to this research study. We appreciate your participation. We are a non-partisan group of researchers from University of Zurich and Erasmus University Rotterdam. This study contains real choices and questions regarding your demographic characteristics. No matter what your political views are, by completing this survey you are contributing to our knowledge as a society.

**Time required**
Approximately **10 minutes.** You will have a maximum of one hour to finish the survey after starting it.

**Requirements**
You must be a **U.S. resident** to participate in this study. You must also be above the age of 18. The survey contains attention checks. You must pass these check in order to proceed with the survey.

**Confidentiality**
All data obtained from you will be used for research purposes only. Data will be anonymized immediately after collection. Researchers will at no point have access to any information that could be used to personally identify you.

**Voluntary participation**
It is voluntary to participate in the project, and you can at any time choose to withdraw your consent without stating any reason.

**Questions about the Survey**
If you have questions about this study or your rights, please get in touch with us at Krishna.srinivasan@econ.uzh.ch

**Consent**
I have received the above information about the project and am willing to participate.

- ○ Yes; No

page break

[If a participant did not provide consent]

**End of survey**

You did not give your consent to continue with the study.

Thank you for your time.

You will be automatically redirected in 5 seconds.

page break

[Demographics screen]

What is your sex?

- ○ Male; Female

How old are you?

- ○ 18 years old - 34 years old; 35 years old - 44 years old; 45 years old - 54 years old; 55 years old - 64 years old; Above 65 years old

In which state do you currently reside?

- ○ Northeast (ME, NH, VT, MA, CT, RI, NY, PA, NJ); Midwest (OH, MI, IN, WI, IL, MN, IA, MO, ND, SD, NE, KS); South (DE, MD, DC, VA, WV, NC, SC, GA, FL, KY, TN, AL, MS, AR, LA, OK, TX); Pacific (MT, WY, CO, NM, ID, UT, AZ, NV, WA, OR, CA, AK, HI); I do not reside in the US

What is the highest level of education you have completed?

- ○ Less than High School; High School/GED; Some College; Associate's Degree; Bachelor's degree; Master's degree; Doctoral or Profession Degree (PhD, ED.D, JD, DVM, DO, MD, DDS, or similar)

As of today, do you consider yourself a Republican, a Democrat, or an Independent?

- ○ Republican; Democrat; Independent

The next question is about your **total individual income in 2020 before taxes**. This figure should include income from all sources, including salaries, wages, pensions, Social Security, dividends, interest, and all other income. What was your total individual income (USD) in 2020?

- $29,999 and below; $30,000 to $59,999; $60,000 to $99,999; $100,000 to $149,999; $150,00 and above

[Displayed if $29,999 and below is chosen]

You have reported that your total individual income in 2020 before taxes was $29,999 and below.

[Displayed if $30,000 to $59,999 is chosen]

You have reported that your total individual income in 2020 before taxes was between $30,000 and $59,999.

[Displayed if $60,000 to $99,999 is chosen]

You have reported that your total individual income in 2020 before taxes was between $60,000 and $99,999.

[Displayed if $100,000 to $149,999 is chosen]

You have reported that your total individual income in 2020 before taxes was between $100,000 and $149,999.

[Displayed if $150,000 and above is chosen]

You have reported that your total individual income in 2020 before taxes was above $150,000.

[Displayed in all cases]

Could you provide your best guess of what your **total individual income** was?

——————————— page break ———————————

[If quotas are full]

**End of survey**

Unfortunately, we already have the number of participants needed for this study.

Thank you for your time.

You will be automatically redirected in 5 seconds.

——— page break ———

[If a participant does not reside in the U.S]

**End of survey**

Unfortunately, you do not fulfil the requirements of this study since you do not reside in the U.S.

Thank you for your time.

You will be automatically redirected in 5 seconds.

——— page break ———

[Attention check screen]

In surveys like ours, some participants do not carefully read the questions. This means that there are a lot of random answers that can compromise the results of research studies. To show that you read our questions carefully, please choose both "Extremely interested" and "Not at all interested" below:

- ○ Extremely interested; Very interested; A little bit interested; Almost not interested; Not at all interested

——— page break ———

[If a participant failed the attention check]

**End of survey**

Sorry, you failed the attention check. You were supposed to select both "Extremely interested" and "Not at all interested."

You cannot continue with the study.

Thank you for your time.

You will be automatically redirected in 5 seconds.

page break

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **seven real people**. These people will be selected at random from a survey panel and will not participate in the same survey as you. These people are above the age of 18 and are U.S. citizens. The incomes of the seven people are as follows:

| Person | After-tax annual income |
|---|---|
| Person A | $8000 |
| Person B | $35,000 |
| Person C | $70,000 |
| Person D | $100,000 |
| Person E | $170,000 |
| Person F | $250,000 |
| Person G | $500,000 |

---

Here is an example of a question that you will see in the survey:

| | Person C | Person G |
|---|---|---|
| After-tax annual income | $70,000 | $500,000 |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +$750<br>Person G: -$1250 | Person C: +$500<br>Person G: -$500 |

**In this question, if you choose the option on the left, then $1250 will be taken away from Person G and $750 will be given to Person C. If you choose the option on the right, then $500 will be taken away from Person G and $500 will be given to Person C.**

If you choose the option on the left, the final incomes of the two people **(including an initial $1500 bonus)** will be Person C: $72,250 and Person G: $500,250. If you choose the option on the right, the final incomes of the two people (including an initial $1500 bonus) will be Person C: $72,000 and Person G: $501,000.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

There is a chance that you may be randomly selected in this study. If you are randomly selected, your choice on one randomly selected question on one randomly selected decision screen will be implemented. **This means that if you are randomly selected, one of your choices will have real consequences for two other people.** The final bonus of these two people will be transferred to them at the end of the study.

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: "In this study, you will make several choices involving seven real people."

- ○ True; False

Please state True or False: "If you are randomly selected, one of your choices will have real consequences for two other people."

- ○ True; False

(You will be allowed to move to the next screen in 30 seconds)

——————————— page break ———————————

[If a participant fails the comprehension check]

**End of survey**

The correct answers were "True" and "True". You answered incorrectly.

You cannot continue with the study.

Thank you for your time.

You will be automatically redirected in 5 seconds.

——————————— page break ———————————

[Decision Screen 1 Question 1 (D1Q1): shown to all participants]

**Decision Screen 1/6**

Please consider each question carefully because if you are selected, one of your choices will have real consequences for two other persons.

| | Person A | Person G |
|---|---|---|
| After-tax annual income | **$8,000** | **$500,000** |

**Question 1/4:** Please choose your preferred alternative

| | |
|---|---|
| Person A: +$1000<br>Person G: -$1000 | Person A: +$500<br>Person G: -$500 |

page break

[All questions hereafter in Decision Screen 1 look like D1Q1]

[D1Q2.1: If (500, −500) chosen in D1Q1, choose between (1250, −750) and (500, −500)]

[D1Q2.2: If (1000, −1000) chosen in D1Q1, choose between (750, −1250) and (500, −500)]

page break

[D1Q3.1: If (500, −500) chosen in D1Q2.1, choose between (1375, −625) and (500, −500)]

[D1Q3.2: If (1250, −750) chosen in D1Q2.1, choose between (1125, −875) and (500, −500)]

[D1Q3.3: If (500, −500) chosen in D1Q2.2, choose between (875, −1125) and (500, −500)]

[D1Q3.4: If (750, −1250) chosen in D1Q2.2, choose between (625, −1375) and (500, −500)]

page break

[D1Q4.1: If (500, −500) chosen in D1Q3.1, choose between (1450, −550) and (500, −500)]

[D1Q4.2: If (1375, −625) chosen in D1Q3.1, choose between (1300, −700) and (500, −500)]

[D1Q4.3: If (500, −500) chosen in D1Q3.2, choose between (1200, −800) and (500, −500)]

[D1Q4.4: If (1125, −875) chosen in D1Q3.2, choose between (1050, −950) and (500, −500)]

[D1Q4.5: If $(500, -500)$ chosen in D1Q3.3, choose between $(950, -1050)$ and $(500, -500)$]

[D1Q4.6: If $(875, -1125)$ chosen in D1Q3.3, choose between $(800, -1200)$ and $(500, -500)$]

[D1Q4.7: If $(500, -500)$ chosen in D1Q3.4, choose between $(700, -1300)$ and $(500, -500)$]

[D1Q4.8: If $(625, -1375)$ chosen in D1Q3.4, choose between $(550, -1450)$ and $(500, -500)$]

page break

[Decision Screens 2-6 are identical to Decision Screen 1, with the exception that the incomes of the Recipients are different. The pair of Recipients they view is as follows:

B: \$35,000 vs. C: \$70,000 (Decision Screen 2)

C: \$70,000 vs. D: \$100,000 (Decision Screen 3)

C: \$70,000 vs. E: \$170,000 (Decision Screen 4)

C: \$70,000 vs. F: \$250,000 (Decision Screen 5)

C: \$70,000 vs. G: \$500,000 (Decision Screen 6) ]

[For half the participants, the order of the Decision Screens is reversed. The pair of Recipients are as follows: C: \$70,000 vs. G: \$500,000 (Decision Screen 1), C: \$70,000 vs. F: \$250,000 (Decision Screen 2), C: \$70,000 vs. E: \$170,000 (Decision Screen 3), C: \$70,000 vs. D: \$100,000 (Decision Screen 4), B: \$35,000 vs. C: \$70,000 (Decision Screen 5), and A: \$8,000 vs. C: \$70,000 (Decision Screen 6).]

page break

[Policy views screen]

[The order of the two questions is counterbalanced across participants in each treatment.]

We have some final questions. It is important for us that you answer them carefully.

The top income tax category in 2020 includes those with an annual individual income of over \$518,400. Do you think that income taxes levied on these people in the top income category should be increased, stay the same, or decreased?

- ○ 1 - Increased a lot
- ○ ...
- ○ 4 - Stay the same

- ...
- 7 - Decreased a lot

---

Some people think that the government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. Others think that the government should not concern itself with reducing this income difference between the rich and the poor.

Here is a scale from 1 to 7. Think of a score of 1 as meaning that the government ought to reduce the income differences between rich and poor, and a score of 7 meaning that the government should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel?

- 1 - Government should do something to reduce income differences between rich and poor
- ...
- 7 - Government should not concern itself with income differences

——— page break ———

**End of survey**

Thank you for your time!

You will be automatically redirected in 5 seconds.

### F.2 Treatment Loss x 500K

[All screens, with the exceptions of those listed below, are identical to the screens in Treatment Loss x Moderate]

[Decision Screens 1 to 6 are identical to the corresponding Decision Screens in Treatment Loss x Moderate, with the exception that the incomes of the Recipients are different. The pair of Recipients they view is as follows:

A: $8,000 vs. G: $500,000 (Decision Screen 1)

B: $35,000 vs. G: $500,000 (Decision Screen 2)

C: $70,000 vs. G: $500,000 (Decision Screen 3)

D: $100,000 vs. G: $500,000 (Decision Screen 4)

E: $170,000 vs. G: $500,000 (Decision Screen 5)

F: $250,000 vs. G: $500,000 (Decision Screen 6)]

[For half the participants, the order of the Decision Screens is reversed]

### F.3 Treatment Gain x 70K

[All screens, with the exceptions of those listed below, are identical to the screens in Treatment Loss x 70K]

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **seven real people**. These people will be selected at random from a survey panel and will not participate in the same survey as you. These people are above the age of 18 and are U.S. citizens. The incomes of the seven people are as follows:

| Person | After-tax annual income |
|---|---|
| Person A | $8000 |
| Person B | $35,000 |
| Person C | $70,000 |
| Person D | $100,000 |
| Person E | $170,000 |
| Person F | $250,000 |
| Person G | $500,000 |

---

Here is an example of a question that you will see in the survey:

| | Person C | Person G |
|---|---|---|
| After-tax annual income | **$70,000** | **$500,000** |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +$2250<br>Person G: +$250 | Person C: +$2000<br>Person G: +$1000 |

**In this question, if you choose the option on the left, then $250 will be given to Person G and $2250 will be given to Person C. If you choose the option on the right, then $1000 will be given to Person G and $2000 will be given to person C.**

If you choose the option on the left, the final incomes of the two people will be Person C: $72,250 and Person G: $500,250. If you choose the option on the right, the final incomes of the two people will be Person C: $72,000 and Person G: $501,000.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

There is a chance that you may be randomly selected in this study. If you are randomly selected, your choice on one randomly selected question on one randomly selected decision screen will be implemented. **This means that if you are randomly selected, one of your choices will have real consequences for two other people.** The final bonus of these two people will be transferred to them at the end of the study.

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: "In this study, you will make several choices involving seven real people."

- True; False

Please state True or False: "If you are randomly selected, one of your choices will have real consequences for two other people."

- True; False

(You will be allowed to move to the next screen in 30 seconds)

——————— page break ———————

[The incomes of the Recipients in the six decision screens are identical to the incomes of the Recipients in Treatment Loss x 70K.]

[Decision screen 1]

[D1Q1: Architect chooses between $(2500, 500)$ and $(2000, 1000)$]

——————— page break ———————

[D1Q2.1: If $(2000, 1000)$ chosen in D1Q1, choose between $(2750, 750)$ and $(2000, 1000)$]

[D1Q2.2: If $(2500, 500)$ chosen in D1Q1, choose between $(2250, 250)$ and $(2000, 1000)$]

page break

[D1Q3.1: If (2000, 1000) chosen in D1Q2.1, choose between (2875, 875) and (2000, 1000)]

[D1Q3.2: If (2750, 750) chosen in D1Q2.1, choose between (2625, 625) and (2000, 1000)]

[D1Q3.3: If (2000, 1000) chosen in D1Q2.2, choose between (2375, 375) and (2000, 1000)]

[D1Q3.4: If (2250, 250) chosen in D1Q2.2, choose between (2125, 125) and (2000, 1000)]

page break

[D1Q4.1: If (2000, 1000) chosen in D1Q3.1, choose between (2950, 950) and (2000, 1000)]

[D1Q4.2: If (2875, 875) chosen in D1Q3.1, choose between (2800, 800) and (2000, 1000)]

[D1Q4.3: If (2000, 1000) chosen in D1Q3.2, choose between (2700, 700) and (2000, 1000)]

[D1Q4.4: If (2625, 625) chosen in D1Q3.2, choose between (2550, 550) and (2000, 1000)]

[D1Q4.5: If (2000, 1000) chosen in D1Q3.3, choose between (2450, 450) and (2000, 1000)]

[D1Q4.6: If (2375, 375) chosen in D1Q3.3, choose between (2300, 300) and (2000, 1000)]

[D1Q4.7: If (2000, 1000) chosen in D1Q3.4, choose between (2200, 200) and (2000, 1000)]

[D1Q4.8: If (2125, 125) chosen in D1Q3.4, choose between (2050, 50) and (2000, 1000)]

[The questions in the other decision screens are identical to those in Decision Screen 1]

### F.4 Treatment Gain x 500K

[All screens are identical to the screens in Treatment Gain x 70K, with the following exceptions: The incomes of the Recipients in the six decision screens are identical to the incomes of the Recipients in Treatment Loss x 500K.]

# G Instructions - Wave 2

Bold text, underlining, tables, etc., appear as on the original screen.

## G.1 Treatment Real

This is an academic study conducted by the University of Zurich and Erasmus University Rotterdam.

- What you will do: You will make a number of decisions.
- Time required: Approximately 12 minutes.
- Requirements: In order to take part, you need to be a U.S. resident

——————————— page break ———————————

[Consent screen]

**Introduction**
Welcome to this research study. We appreciate your participation. We are a non-partisan group of researchers from University of Zurich and Erasmus University Rotterdam. This study contains real choices and questions regarding your demographic characteristics. No matter what your political views are, by completing this survey you are contributing to our knowledge as a society.

**Time required**
Approximately **12 minutes.**

**Requirements**
You must be a U.S. resident to participate in this study. You must also be above the age of 18. The survey contains attention checks. You must pass these check in order to proceed with the survey.

**Confidentiality**
All data obtained from you will be used for research purposes only. Data will be anonymized immediately after collection. Researchers will at no point have access to any information that could be used to personally identify you.

**Voluntary participation**
It is voluntary to participate in the project, and you can at any time choose to withdraw

your consent without stating any reason.

**Questions about the Survey**
If you have questions about this study or your rights, please get in touch with us at Krishna.srinivasan@econ.uzh.ch

**Consent**
I have received the above information about the project and am willing to participate.

- Yes; No

What is your prolific ID?

——————————————— page break ———————————————

[If a participant did not provide consent]

You did not give your consent to continue with the study.

Thank you for your time.

**Please return your submission on Prolific by selecting the 'Stop without completing' button.**

——————————————— page break ———————————————

[Demographics screen]

What is your sex?

- Male; Female

How old are you?

- 18 years old - 34 years old; 35 years old - 44 years old; 45 years old - 54 years old; 55 years old - 64 years old; 65 years old or above

In which state do you currently reside?

- Alabama; ...; Wyoming; I do not reside in the U.S.

In which ZIP code do you live? (5 digits)

What is the highest level of education you have completed?

- Less than High School; High School/GED; Some College; Associate's Degree; Bachelor's degree; Master's degree; Doctoral or Profession Degree (PhD, ED.D, JD, DVM, DO, MD, DDS, or similar)

As of today, do you consider yourself a Republican, a Democrat, or an Independent?

- Republican; Democrat; Independent

The next question is about your **total individual income in 2021 before taxes**. This figure should include income from all sources, including salaries, wages, pensions, social security, dividends, interest, and all other income. What was your total individual income (USD) in 2021?

- $29,999 and below; $30,000 to $59,999; $60,000 to $99,999; $100,000 to $149,999; $150,00 and above

——————————————— page break ———————————————

[Displayed if $29,999 and below is chosen]

You have reported that your total individual income in 2021 before taxes was $29,999 and below.

[Displayed if $30,000 to $59,999 is chosen]

You have reported that your total individual income in 2021 before taxes was $30,000 to $59,999.

[Displayed if $60,000 to $99,999 is chosen]

You have reported that your total individual income in 2021 before taxes was $60,000 to $99,999.

[Displayed if $100,000 to $149,999 is chosen]

You have reported that your total individual income in 2021 before taxes was $100,000 to $149,999.

[Displayed if $150,000 and above is chosen]

You have reported that your total individual income in 2021 before taxes was $150,000 and above.

[Displayed in all cases]

Could you provide your best guess of what your **total individual income** was?

——————————————— page break ———————————————

[If a participant does not reside in the U.S]

**End of survey**

Unfortunately, you do not fulfil the requirements of this study since you do not reside in the U.S.

Thank you for your time.

**Please return your submission on Prolific by selecting the 'Stop without completing' button.**

——————————————— page break ———————————————

[Attention check screen]

In surveys like ours, some participants do not carefully read the questions. This means that there are a lot of random answers that can compromise the results of research studies. To show that you read our questions carefully, please choose both "Extremely interested" and "Not at all interested" below:

- ○ Extremely interested; Very interested; A little bit interested; Almost not interested; Not at all interested

——————————————— page break ———————————————

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **seven real people**. These people will be selected at random from a survey panel and will not participate in the same survey as you. These people are above the age of 18 and are U.S. citizens. The incomes of the seven people **after all taxes paid and transfers received** are as follows:

---

| Person | After-tax annual income |
|---|---|
| Person A | $8,000 |
| Person B | $35,000 |
| Person C | $70,000 |
| Person D | $100,000 |
| Person E | $170,000 |
| Person F | $250,000 |
| Person G | $500,000 |

Here is an example of a question that you will see in the survey:

| | Person C | Person G |
|---|---|---|
| After-tax annual income | **$70,000** | **$500,000** |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +$750<br>Person G: -$1250 | Person C: +$500<br>Person G: -$500 |

**In this question, if you choose the option on the left, then $1250 will be taken away from Person G and $750 will be given to Person C. If you choose the option on the right, then $500 will be taken away from Person G and $500 will be given to Person C.**

If you choose the option on the left, the final incomes of the two people **(including an initial $1500 bonus)** will be Person C: $72,250 and Person G: $500,250. If you choose the option on the right, the final incomes of the two people (including an initial $1500 bonus) will be Person C: $72,000 and Person G: $501,000.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

One participant in this study will be randomly selected. If you are randomly selected, your choice on one randomly selected question on one randomly selected decision screen will be implemented. **This means that if you are randomly selected, one of your choices will have real consequences for two other people.** The final bonus of these two people will be transferred to them at the end of the study.

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: “In this study, you will make several choices involving seven real people.”

- True; False

Please state True or False: “If you are randomly selected, one of your choices will have real consequences for two other people.”

- True; False

(You will be allowed to move to the next screen in 30 seconds)

[The timer updates dynamically. When the time elapses, the text disappears.]

——————————— page break ———————————

[If a participant fails at least two out of three checks (one attention check and two comprehension checks)]

**End of survey**

Sorry, you answered at least two out of three comprehension/attention checks incorrectly.

You cannot continue with the study.

Thank you for your time.

**Please return your submission on Prolific by selecting the ‘Stop without completing’ button.**

[If a participant fails only one out of three checks (one attention check and two comprehension checks)]

**End of survey**

Thank you for your time.

We will pay you your £2 participation fee in the following days.

**Please click the following link to finish the survey.**

——————————— page break ———————————

[D1Q1: shown to all participants]

**Decision Screen 1/6**

Please consider each question carefully because if you are selected, one of your choices will have real consequences for two other persons.

| | Person A | Person C |
|---|---|---|
| After-tax annual income | **$8,000** | **$70,000** |

**Question 1/4:** Please choose your preferred alternative:

| | |
|---|---|
| Person A: +$1000<br>Person C: -$1000<br>○ | Person A: +$500<br>Person C: -$500<br>○ |

———————————— page break ————————————

[All questions hereafter in Decision Screen 1 look like D1Q1]

[D1Q2.1: If (500, −500) chosen in D1Q1, choose between (1250, −750) and (500, −500)]

[D1Q2.2: If (1000, −1000) chosen in D1Q1, choose between (750, −1250) and (500, −500)]

———————————— page break ————————————

[D1Q3.1: If (500, −500) chosen in D1Q2.1, choose between (1375, −625) and (500, −500)]

[D1Q3.2: If (1250, −750) chosen in D1Q2.1, choose between (1125, −875) and (500, −500)]

[D1Q3.3: If (500, −500) chosen in D1Q2.2, choose between (875, −1125) and (500, −500)]

[D1Q3.4: If (750, −1250) chosen in D1Q2.2, choose between (625, −1375) and (500, −500)]

———————————— page break ————————————

[D1Q4.1: If (500, −500) chosen in D1Q3.1, choose between (1450, −550) and (500, −500)]

[D1Q4.2: If (1375, −625) chosen in D1Q3.1, choose between (1300, −700) and (500, −500)]

[D1Q4.3: If (500, −500) chosen in D1Q3.2, choose between (1200, −800) and (500, −500)]

[D1Q4.4: If (1125, −875) chosen in D1Q3.2, choose between (1050, −950) and (500, −500)]

[D1Q4.5: If (500, −500) chosen in D1Q3.3, choose between (950, −1050) and (500, −500)]

[D1Q4.6: If (875, −1125) chosen in D1Q3.3, choose between (800, −1200) and (500, −500)]

[D1Q4.7: If (500, −500) chosen in D1Q3.4, choose between (700, −1300) and (500, −500)]

[D1Q4.8: If (625, −1375) chosen in D1Q3.4, choose between (550, −1450) and (500, −500)]

——————————————— page break ———————————————

[Decision Screens 2-6 are identical to Decision Screen 1, with the exception that the incomes of the Recipients are different. The pair of Recipients they view is as follows:

B: $35,000 vs. C: $70,000 (Decision Screen 2)

C: $70,000 vs. D: $100,000 (Decision Screen 3)

C: $70,000 vs. E: $170,000 (Decision Screen 4)

C: $70,000 vs. F: $250,000 (Decision Screen 5)

C: $70,000 vs. G: $500,000 (Decision Screen 6) ]

[For half the participants, the order of the Decision Screens is reversed.]

——————————————— page break ———————————————

How confident are you that the choices you made in the previous screens reflect what you really think?

Please provide your answer on a scale of 1 to 5. A 1 indicates "Not confident all," and a 5 indicates "Completely confident."

- ○ 5: Completely confident; 4:; 3:; 2:; 1: Not confident at all

——————————————— page break ———————————————

In the following screens, we would like to ask you some general questions about your views on society. Your opinion and thoughts are important to us.

**Consider the current incomes of individuals in society obtained after all taxes are paid and transfers received.**

Which of the following statements comes closest to how you feel?

High-income individuals ...

- do not deserve their current income and do not need their current income
- deserve their current income but do not need their current income
- do not deserve their current income but need their current income
- deserve their current income and need their current income

---

Which of the following statements comes closest to how you feel?

Low-income individuals ...

- do not deserve their current income and do not need their current income
- deserve their current income but do not need their current income
- do not deserve their current income but need their current income
- deserve their current income and need their current income

——————— page break ———————

**Consider the current incomes of individuals in society obtained after all taxes are paid and transfers received.**

Do you think that, given the current incomes of individuals in society, incomes should be further redistributed or should not be further redistributed?

Please provide your answer on a scale from -2 to +2 where a +2 means that income should be further redistributed by taking from the higher-income individuals and giving to the lower/middle-income individuals while a -2 means that income should be further redistributed by taking from the lower/middle-income individuals and giving to the higher-income individuals.

- -2: Incomes should be further redistributed by taking from the lower/middle-income individuals and giving to the higher-income individuals
- -1:

- +0: Incomes should **not** be further redistributed
- +1:
- +2: Incomes should be further redistributed by taking from the higher-income individuals and giving to the lower/middle-income individuals

——————————————— page break ———————————————

The next set of questions is about the income tax system in the United States. These are questions for which there are right or wrong answers.

In order for your answers to be most helpful to us, it is really important that you answer these questions as accurately as you can. Although you may find some questions difficult, it is very important for our research that you try your best. Thank you very much!

---

Out of 100 households in the U.S., how many are in the top federal personal income tax bracket?

[slider 0-100]

---

What share of their total income do people in the top federal personal income tax bracket pay in taxes?

[slider 0-100]

---

Out of 100 U.S. households, how many pay no federal income taxes?

[slider 0-100]

---

Imagine a middle class household that is right at the middle of the income distribution, such that half of all households in the U.S. earn more than this household and half earn less. What share of their income do you think such a household pays in federal income taxes?

[slider 0-100]

---

Out of every 100 individuals in the U.S., how many earn an income (after all taxes paid and transfers received) below $35,000?

[slider 0-100]

---

We would now like to ask you what you think about the life opportunities of children from very poor families.

For the following question, we focus on 500 families that represent the U.S. population. We divide them into five groups on the basis of their income, with each group containing 100 families. These groups are:

- The poorest 100 families
- The second poorest 100 families
- The middle 100 families
- The second richest 100 families
- The richest 100 families

How many out of 100 children coming from the poorest 100 families will grow up to be among the richest 100 families?

——————————————— page break ———————————————

[Tax preferences screen]

We would like to ask you what you think the distribution of after-tax income in the U.S. should be.

There are **7 tax groups** (tax brackets) in the U.S. Group 1 includes households with the lowest incomes and Group 7 includes households with the highest incomes. Groups 2 through 6 include households with incomes in the middle.

Column 2 of the table below lists the **CURRENT** average annual after-tax income of all households in each group. The after-tax income is obtained by subtracting all federal income taxes (e.g., ordinary income taxes, alternative minimum taxes) from the pre-tax income and adding all federal transfers (e.g., tax credits) to the pre-tax income.

In Column 3 of the table below, we list the average federal income tax rate of each group. This rate was determined based on the ordinary income taxes that households paid. As an example, if a household with a pre-tax income of $80,000 has an average tax rate of 15%, they would pay 80000*0.15 = $12,000 in taxes.

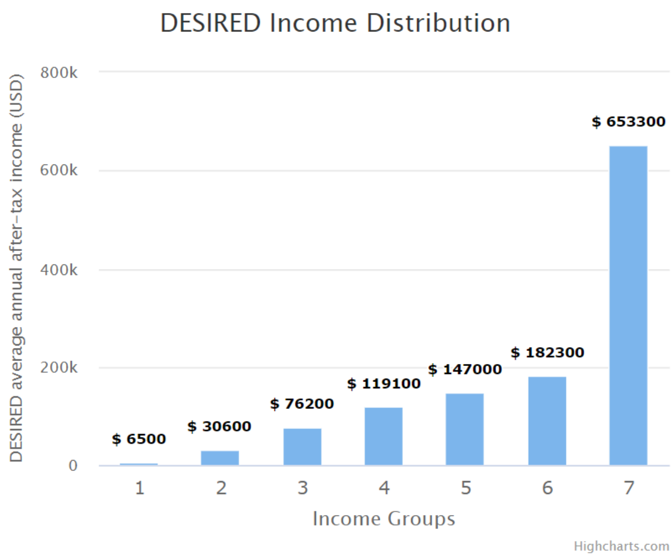
We would like you to indicate what you think the average tax rate for each tax group in the U.S. should be. This can be done as follows. **You can increase or decrease the average tax rates of the first six groups. The average tax rate of group 7 adjusts automatically so that all seven groups together pay as much taxes as they currently do.**

Column 4 of the table below and the figure below indicate your **DESIRED** average annual after-tax incomes. The numbers in the table as well as the figure update automatically as you change the average tax rates.

Your choices will sometimes be limited for a variety of reasons. For example, you cannot set the tax rate for a group such that their average after-tax income becomes lower than the average after-tax income of the group below them or higher than the average after-tax income of the group above them.

Note also that there may be rounding-off errors in various calculations.

You can go back to the initial situation by refreshing the page.




| Income group | Annual after-tax income **(CURRENT)** | Average tax rate | Annual after-tax income **(DESIRED)** |
|---|---|---|---|
| 1 | $6,500 | 9% | $6,500 |
| 2 | $30,600 | 11% | $30,600 |
| 3 | $76,200 | 15% | $76,200 |
| 4 | $119,100 | 19% | $119,100 |
| 5 | $147,000 | 21% | $147,000 |
| 6 | $182,300 | 25% | $182,300 |
| 7 | $653,300 | 31% | $653,300 |

page break

Please answer the following last set of questions.

Which has more to do with why a person is rich?

- Because she or he worked harder than others; Because she or he had more advantages than others

---

If the federal personal income tax rate were to increase for the richest people in the economy, to what extent would it encourage them to work less?

- A great deal; A lot; A moderate amount; A little; None at all

---

Do you think that increasing income taxes on high-income households would hurt economic activity, not have an effect on economic activity, or help economic activity in the U.S.?

- Hurt economic activity in the U.S.; Not have an effect on economic activity in the U.S.; Help economic activity in the U.S.

---

Typically, when the top federal income tax rate on high earners is cut, do you think that the lower class and working class mostly win or mostly lose from this change?

- Mostly lose; Neither lose nor win; Mostly win

---

Some people think that income inequality in society can affect the level of crime, trust, corruption, and social unrest in society.

How big of an issue do you think income inequality is in America?

- Not an issue at all; A small issue; An issue; A serious issue; A very serious issue

---

How much of the time do you think you can trust the federal government to do what is right?

- Always; Most of the time; Only some times; Never

——————————————— page break ———————————————

**End of survey**

Thank you for your time!

We will pay you your £2 participation fee in the following days.

**Please click the following link to finish the survey.**

### G.2 Treatment Hypothetical

[All screens, with the exceptions of those listed below, are identical to the screens in Treatment Real]

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **seven hypothetical people**. These people are not real but you should imagine them as above the age of 18 and U.S. citizens. The incomes of the seven people **after all taxes paid and transfers received** are as follows:

| Person | After-tax annual income |
|---|---|
| Person A | \$8,000 |
| Person B | \$35,000 |
| Person C | \$70,000 |
| Person D | \$100,000 |
| Person E | \$170,000 |
| Person F | \$250,000 |
| Person G | \$500,000 |

---

Here is an example of a question that you will see in the survey:

| | Person C | Person G |
|---|---|---|
| After-tax annual income | **\$70,000** | **\$500,000** |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +\$750<br>Person G: -\$1250 | Person C: +\$500<br>Person G: -\$500 |

**In this question, if you choose the option on the left, then \$1250 will be taken away from Person G and \$750 will be given to Person C. If you choose the option on the right, then \$500 will be taken away from Person G and \$500 will be given to Person C.**

If you choose the option on the left, the final incomes of the two people **(including an initial \$1500 bonus)** will be Person C: \$72,250 and Person G: \$500,250. If you choose the option on the right, the final incomes of the two people (including an initial \$1500 bonus) will be Person C: \$72,000 and Person G: \$501,000.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

**The choices you make in the survey will not have real consequences.**

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: "In this study, you will make several choices involving seven hypothetical people."

- ○ True; False

Please state True or False: "Your choices will **not** have real consequences."

- ○ True; False

(You will be allowed to move to the next screen in 30 seconds)

[The timer updates dynamically. When the time elapses, the text disappears.]

——— page break ———

[D1Q1: shown to all participants]

**Decision Screen 1/6**

Please consider each question carefully.

| | Person A | Person C |
|---|---|---|
| After-tax annual income | **$8,000** | **$70,000** |

**Question 1/4:** Please choose your preferred alternative:

| | |
|---|---|
| Person A: +$1000<br>Person C: -$1000<br>○ | Person A: +$500<br>Person C: -$500<br>○ |

[All decision screens and questions and identical to those in Treatment Real. Only the first sentence differs between the two treatments]

### G.3 Treatment No Self-Interest

[All screens, with the exceptions of those listed below, are identical to the screens in Treatment Real]

[In the Demographics screen, all questions, with the exception of the question on own income, is the same as in Treatment Real]

The next question is about your **total individual income in 2021 before taxes**. This figure should include income from all sources, including salaries, wages, pensions, Social Security, dividends, interest, and all other income. What was your total individual income (USD) in 2021?

- ○ $22,000 and below; $22,000 to $53,000; $53,000 to $85,000; $85,000 to $135,000; $135,000 to $210,000; $210,000 to $375,000; $375,000 and above

——————————— page break ———————————

[Displayed if $22,000 and below is chosen]

You have reported that your total individual income in 2021 before taxes was $22,000 and below.

[Displayed if $22,000 to $53,000 is chosen]

You have reported that your total individual income in 2021 before taxes was $22,000 to $53,000.

[Displayed if $53,000 to $85,000 is chosen]

You have reported that your total individual income in 2021 before taxes was $53,000 to $85,000.

[Displayed if $85,000 to $135,000 is chosen]

You have reported that your total individual income in 2021 before taxes was $85,000 to $135,000.

[Displayed if $135,000 to $210,000 is chosen]

You have reported that your total individual income in 2021 before taxes was $135,000 to $210,000.

[Displayed if $210,000 to $375,000 is chosen]

You have reported that your total individual income in 2021 before taxes was $210,000 to $375,000.

[Displayed if $375,000 and above is chosen]

You have reported that your total individual income in 2021 before taxes was $375,000 and above.

[Displayed in all cases]

Could you provide your best guess of what your **total individual income** was?

——————————— page break ———————————

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **seven real people**. These people will be selected at random from a survey panel and will not participate in the same survey as you. These people are above the age of 18 and are U.S. citizens. The incomes of the seven people **after all taxes paid and transfers received** put them in the following income brackets:

| **Person** | **After-tax annual income** |
|---|---|
| Person A | $22,000 and below |
| Person B | $22,000 to $53,000 |
| Person C | $53,000 to $85,000 |
| Person D | $85,000 to $135,000 |
| Person E | $135,000 to $210,000 |
| Person F | $210,000 to $375,000 |
| Person G | $375,000 and above |

---

Here is an example of a question that you will see in the survey:

| | **Person C** | **Person G** |
|---|---|---|
| After-tax annual income | **$53,000 to $85,000** | **$375,000 and above** |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +$750<br>Person G: -$1250 | Person C: +$500<br>Person G: -$500 |

**In this question, if you choose the option on the left, then $1250 will be taken away from Person G and $750 will be given to Person C. If you choose the option on the right, then $500 will be taken away from Person G and $500 will be given to Person C.**

If you choose the option on the left, the final income brackets of the two people **(including an initial $1500 bonus)** will be Person C: $55,250 to $87,250 and Person G: $375,250 and above. If you choose the option on the right, the final incomes of the two people (including an initial $1500 bonus) will be Person C: $55,000 to $87,000 and Person G: $376,000 and above.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

One participant in this study will be randomly selected. If you are randomly selected, your choice on one randomly selected question on one randomly selected decision screen will be implemented. **This means that if you are randomly selected, one of your choices will have real consequences for two other people.** The final bonus of these two people will be transferred to them at the end of the study.

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: "In this study, you will make several choices involving seven real people."

- True; False

Please state True or False: "If you are randomly selected, one of your choices will have real consequences for two other people."

- True; False

(You will be allowed to move to the next screen in 30 seconds)

[The timer updates dynamically. When the time elapses, the text disappears.]

———————————— page break ————————————

[D1Q1: shown to all participants]

**Decision Screen 1/6**

Please consider each question carefully because if you are selected, one of your choices will have real consequences for two other persons.

| | Person A | Person C |
|---|---|---|
| After-tax annual income | **$22,000 and below** | **$53,000 to $85,000** |

**Question 1/4:** Please choose your preferred alternative:

| | |
|---|---|
| Person A: +$1000<br>Person C: -$1000<br>○ | Person A: +$500<br>Person C: -$500<br>○ |

[All questions are identical to those in Treatment Real. Decision Screens 1 to 6 are identical to the corresponding Decision Screens in Treatment Real, with the exception that the incomes of the Recipients are different. The pair of Recipients they view is as follows:

Decision Screen 2 (B: $22,000 to $53,000 and C: $53,000 to $85,000)

Decision Screen 3 (C: $53,000 to $85,000 and D: $85,000 to $135,000)

Decision Screen 4 (C: $53,000 to $85,000 and E: $135,000 to $210,000)

Decision Screen 5 (C: $53,000 to $85,000 and F: $210,000 to $375,000)

Decision Screen 6 (C: $53,000 to $85,000 and G: $375,000 and above)]

[For half the participants, the order of the Decision Screens is reversed]

### G.4 Treatment Self-Interest

[All screens, with the exceptions of those listed below, are identical to the screens in Treatment No Self-Interest]

[Instructions screen]

**Instructions**

In this study, you will make several choices involving **six real people** and you. These six people will be selected at random from a survey panel and will not participate in the same survey as you. These people are above the age of 18 and are U.S. citizens. The incomes of the six people **after all taxes paid and transfers received** put them in the following income brackets:

**Note that in this study, you are Person [A/B/C/D/E/F/G] earning [income].**

| **Person** | **After-tax annual income** |
|---|---|
| Person A | $22,000 and below |
| Person B | $22,000 to $53,000 |
| Person C | $53,000 to $85,000 |
| Person D | $85,000 to $135,000 |
| Person E | $135,000 to $210,000 |
| Person F | $210,000 to $375,000 |
| Person G | $375,000 and above |

---

Here is an example of a question that you will see in the survey:

| | **Person C** | **Person G** |
|---|---|---|
| After-tax annual income | **$53,000 to $85,000** | **$375,000 and above** |

**Question 2/4:** Please choose your preferred alternative

| | |
|---|---|
| Person C: +$750<br>Person G: -$1250 | Person C: +$500<br>Person G: -$500 |

**In this question, if you choose the option on the left, then $1250 will be taken away from Person G and $750 will be given to Person C. If you choose the option on the right, then $500 will be taken away from Person G and $500 will be given to Person C.**

If you choose the option on the left, the final income brackets of the two people **(including an initial $1500 bonus)** will be Person C: $55,250 to $87,250 and Person G: $375,250 and above. If you choose the option on the right, the final incomes of the two people (including an initial $1500 bonus) will be Person C: $55,000 to $87,000 and Person G: $376,000 and above.

You will face four questions like the one you saw above in each "decision screen." **Overall, you will face six decision screens with four questions in each.** In each question, you will see a different amount in the option on the left. In each decision screen, you will see a different pair of people.

**Remember that in this study, you are Person [A/B/C/D/E/F/G] earning [income].**

One participant in this study will be randomly selected. If you are randomly selected, your choice on one randomly selected question on one randomly selected decision screen will be implemented. **This means that if you are randomly selected, one of your choices will have real consequences. If the selected question involves a payment to you, then we will pay out the bonus to you and to the other person. If the selected question involves a payment to two other persons, then we will pay out the bonus to these two other persons.** The final bonus will be transferred at the end of the study. If you are among the winners, we will contact you in a few months and pay out your bonus via prolific.

---

Please answer the following questions to demonstrate that you have understood the instructions. You can read the instructions above again if you feel the need to.

Please state True or False: "In this study, you will make several choices involving six real people and you."

- ○ True; False

Please state True or False: "If you are randomly selected, one of your choices will have real consequences for two other people or for you and one other person."

- ○ True; False

(You will be allowed to move to the next screen in 30 seconds)

[The timer updates dynamically. When the time elapses, the text disappears.]

——— page break ———

[D1Q1: shown to all participants]

**Decision Screen 1/6**

Please consider each question carefully because if you are selected, one of your choices will have real consequences.

| | Person A | Person C |
|---|---|---|
| After-tax annual income | **$22,000 and below** | **$53,000 to $85,000** |

**Question 1/4:** Please choose your preferred alternative:

| | |
|---|---|
| Person A: +$1000<br>Person C: -$1000<br>○ | Person A: +$500<br>Person C: -$500<br>○ |

[All questions and decision screens are identical to those in Treatment No Self-Interest except that in the relevant decision screens, we replace "Person [A/B/C/D/E/F/G]" with "You." Furthermore, the first sentence in all decision screens is different.]

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