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Inherited Inequality and the Dilemma of Meritocracy

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Abstract

In a meritocratic society, inequality is considered to be just if it reflects factors within but not outside individuals' control. However, individuals are often not responsible for their outcomes themselves but, to a differential extent, benefit from the efforts of others. By meritocratic standards, the resulting *inherited inequality* is just and unjust at the same time and confronts meritocrats with a dilemma—*the dilemma of meritocracy*. We run a preregistered survey experiment with a representative sample of US citizens to investigate how people deal with this dilemma. In the experiment, impartial spectators redistribute payments between pairs of individuals. We vary a) whether the initial payment distribution is based on a random draw or on relative effort and b) whether spectators redistribute between individuals who have worked themselves or who merely benefit from the work of real-life friends. Redistribution levels are substantially higher if inequality is based on luck instead of effort. However, whether individuals worked themselves or merely inherited their initial payoffs does not matter much for spectators' redistribution decisions. Our results suggest that many US citizens accept inherited inequality as long as it is merited at some stage, which may explain why many people oppose redistributive policies.

Keywords: Inequality, Fairness, Redistribution, Inheritance, Meritocracy
JEL Classification: *Q12; C22; D81.*

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1 Introduction

In a meritocratic society, inequality is considered to be just if it reflects factors within but not outside individuals' control. However, individuals are often not responsible for their outcomes themselves but benefit differentially from the efforts of others. For example, a child may be lucky to inherit abundant resources acquired by its parents, while another child is born into less favourable circumstances. Such *inherited inequality*[1] exposes a fundamental tension in the meritocratic logic. On the one hand, individuals are entitled to decide how to spend their earned resources, which includes the right to transfer them to others. On the other hand, if two individuals are not involved in the process that generates inequality between them, such inequality does not reflect their individual achievements. In the parent-child example, if one pair of parents works particularly hard such that their children "can have a better life", they have merited to see their child reap the benefits of their efforts. However one child has not merited more favourable circumstances than the other. By meritocratic standards, inherited inequality is just and unjust at the same time and confronts meritocrats with a dilemma—*the dilemma of meritocracy*.

The dilemma of meritocracy is central to various policy debates. Consider as an example the debate on the estate tax. Here, people who seemingly endorse the same fairness ideal—the meritocratic one—can end up taking diametrically opposed positions. Some contend that bequests are a result of the testator's hard work and usually conclude that it is unfair to redistribute. In this vein, it has been argued that "[s]ince the accumulation of a substantial estate is one of the motivations that drive people to work hard, a death tax on saving is indirectly a tax on work" (Posner, 1972). Other people stress that it was certainly not the heir's efforts that generated the bequest and label inheritances as unmerited income, concluding that it should be heavily taxed. For instance, US investor Warren Buffet is quoted in Obama (2006) saying that "[w]hen you get rid of the estate tax, you're basically handing over command of the country's resources to people who didn't earn it". Hence, the meritocratic fairness ideal is being used as a justification for policies at opposite ends of the political spectrum.

A potential explanation for this disagreement is that people differ in whether they prioritize meritocratic fairness toward the benefactors or the beneficiaries. Different priorities may, in turn, translate into different views on policies and demand for redistribution in the context of inherited inequality. To develop policies that are politically implementable and meet the fairness

[1]With *inherited inequality* we refer to inequality between individuals that originates from the actions of others. Hence, we interpret the term "inherited" broadly. Our definition encompasses inequality between children who profit differentially from the actions of their parents, but also inequality between people who benefit to a differential extent from their friends, coworkers, or compatriots.

preferences of citizens, it is therefore necessary to better understand people's attitudes toward economic inequality and, in particular, how they deal with the dilemma of meritocracy.

In pursuit of this aim, this study introduces a stylized theoretical framework that formalizes how individuals evaluate (inherited) unequal distributions and reports results from a survey experiment that puts its predictions to the test. The framework covers situations in which money is distributed between two individuals who each benefit from the effort of an associated worker. An impartial spectator observes this situation and makes a fairness judgment based on his or her fairness ideal. This setup nests the case of noninherited inequality, where a beneficiary and the associated worker are identical and, therefore, being fair toward workers is the same as being fair toward beneficiaries. If beneficiaries and their associated workers are not identical, however, meritocrats need to balance two potentially conflicting fairness views: if the two workers exert different levels of effort, the distribution that is considered fair toward the two workers may be different from the distribution that is considered fair toward the two beneficiaries, who both exert no effort. Given that fairness toward the workers calls for no redistribution whereas fairness toward the beneficiaries demands full equalization, individuals face a dilemma because they infringe meritocratic fairness no matter how they redistribute. Because beneficiaries merit similar but inherit different outcomes, meritocrats may be less willing to accept inherited inequality as compared to noninherited inequality.

The corresponding experiment builds on the impartial spectator paradigm (Cappelen et al., 2013; Konow, 2000) and consists of two stages. In the earnings stage, an initial distribution of \$10 between two stakeholders is determined. In the first of two treatment dimensions, we vary whether the two stakeholders themselves work on a real-effort task to generate earnings (Noninherited Inequality), or whether they each profit from the work of a real-life friend (Inherited Inequality). In the second treatment dimension, we vary whether workers complete the same fixed number of tasks and the initial distribution is determined by a random draw (Luck), or whether workers choose how many tasks to complete and the initial distribution is proportional to the relative number of completed tasks (Effort). In the redistribution stage, we sample 543 impartial spectators representative of the general US population who can redistribute the \$10 between pairs of workers (Noninherited Inequality conditions) or workers' friends (Inherited Inequality conditions). Based on the treatment variation in the earnings stage, we implement a $2x2$ within-subjects design in the redistribution stage: spectators make redistribution decisions for each of the four types of situations. For each situation, they observe the initial distribution and workers' relative effort before they determine the final allocation. Spectators are impartial in the sense that they have no stakes in the distribution themselves. Because redistribution is costless, we interpret the final allocation as the allocation they consider fair.

Besides the absence of spectator self-interest, this experimental setting has a number of additional advantages. First, it allows to abstract from other factors that affect distributional preferences and support for redistributive policies, such as efficiency considerations or trust in the government (Almås et al., 2020; Stantcheva, 2021). Second, the comparability of redistribution decisions across experimental conditions enables us to isolate how variations in our two dimensions of interest—whether the initial distribution is tied to workers' relative efforts or based on a random draw, and whether beneficiaries are responsible for their outcomes themselves or not—affect which distribution spectators find fair. Finally, while the intergenerational transmission of wealth will be our leading example, the phenomenon that individuals derive advantages from the achievements of others is more widespread. Besides inheriting from family members, people might also profit differentially from friendship ties, coworkers, or their countries' institutional environments. Hence, studying fairness preferences in an abstract setting may yield insights into behavior, policy preferences, and fairness views in a variety of settings that have inherited inequality in general and the dilemma of meritocracy in particular at their core.

Our empirical results are in line with our theoretical framework and yet surprising. Consistent with the existing literature, we find that in the Noninherited Inequality & Luck condition redistribution levels are substantially higher than in Noninherited Inequality & Effort (Cappelen et al., 2020). Spectators equalize about 80% of the initial inequality on average in the Luck case but only about 5% in the Effort case. Comparing redistribution levels between the two Luck conditions reveals that spectators redistribute in a similar way when beneficiaries profit from the random draw of their friends compared to a random draw of themselves. In the Effort domain, however, spectators indeed redistribute significantly more if inequality is inherited. While in the Noninherited Inequality & Effort condition spectators equalize 5% of the inequality in the initial distribution, this share increases to 8% in Inherited Inequality & Effort.

The key takeaway though is that spectators redistribute a small fraction of the initial inequality in Inherited Inequality & Effort, close to the Noninherited Inequality & Effort benchmark but far away from the Luck benchmark of 80%. In other words, most spectators handle the dilemma of meritocracy by prioritizing fairness toward the benefactors over fairness toward the beneficiaries. This result seems to be a general feature of the US population, as it does not vary much by demographic variables like age, gender, or political ideology. Hence, there appears to be a broad consensus among US citizens that inherited inequality is acceptable as long as it is merited by those who bequest.

We examine potential reasons why spectators tend to handle the dilemma of meritocracy in favor of the benefactors by analyzing open-ended responses in which spectators explain their

redistribution decisions. Consistent with their decisions, most spectators state to redistribute based on the workers' (and not their non-working friends') relative efforts in the INHERITED INEQUALITY & EFFORT condition. Zooming in on spectators who acknowledge the dilemma, i.e. that they infringe meritocratic fairness irrespective of how they redistribute, reveals a more instructive consideration behind redistribution decisions: many of these spectators argue that passive friends are not entitled to payoffs whatsoever, such that fairness toward the workers receives a much larger weight in their decision process. Under the assumption that workers prefer their own friends to receive the earnings they have merited through their efforts, this relative weighting of conflicting fairness judgments calls for the low level of redistribution that we observe in the experiment.

These considerations suggest that spectators observe workers' relative efforts, derive their relative entitlements, and then implement redistribution decisions trying to take into account (in particular the more industrious worker's) preferences over the distribution of payoffs between passive friends. To substantiate that this is a common rationale behind spectator's decisions, we explore how decisions are associated with spectators' (incentivized) beliefs about workers' preferred distributions of the \$10 between their own and the other worker's friend. Indeed, spectators who believe that workers prefer distributions that more strongly favor their own friends redistribute less. Despite being neither causal nor conclusive, these observations suggest that spectators prioritize meritocratic fairness toward workers and try to respect workers' distributional preferences.

Due to the within-subjects design employed in the spectator stage, we can relate a given spectator's decisions across the four treatment conditions. Both within the NONINHERITED INEQUALITY and the INHERITED INEQUALITY domain, we use this feature to classify spectators into one of three fairness types that have received the most attention in the literature, and a residual type: egalitarians who prioritize equality and always redistribute, libertarians who prioritize property rights and personal freedom and never redistribute, and meritocrats who prefer distributions that reflect relative efforts. In the NONINHERITED INEQUALITY domain, we can classify all but one spectator into one of the three fairness types. By far the most prevalent fairness type is the meritocratic one (76%), followed by libertarians (21%) and only few egalitarians (3%). Most spectators display similar redistribution patterns in situations with NONINHERITED INEQUALITY and INHERITED INEQUALITY. While we observe some switching between meritocrats and libertarians that is not in line with our theoretical framework, more than 85% of the spectators behave in a way that is consistent. We conclude that our theoretical framework can accommodate spectators' redistribution behavior well.

We also relate our experimental measures of fairness preferences to attitudes toward various redistribution-related policies including income and estate taxation, disability and unemploy-

ment insurance, and support for equal opportunity programs. Because redistribution decisions across NONINHERITED INEQUALITY and INHERITED INEQUALITY situations are highly correlated both within the LUCK and the EFFORT domain, we apply a factor analysis to reduce the four behavioral measures elicited in the experiment to two factor variables. One of these factor variables captures variation in redistribution behavior in the LUCK domain while the other one captures variation in redistribution behavior in the EFFORT domain. We find that more redistribution in the experiment is related to more support for redistribution regarding all policies. This suggests that the fairness preferences identified in this experiment are a fundamental preference underlying attitudes towards various policies.

Finally, researchers who seek to relate survey responses to individual fairness preferences may often not have the resources to accommodate a thorough experimental elicitation of these preferences. We validate that unincentivized survey questions included in the post-experimental questionnaire correlate strongly with the experimentally elicited preferences in NONINHERITED INEQUALITY situations. Hence, these survey items may constitute an economical alternative in the presence of organizational constraints.

This paper contributes to a growing literature that explores how contextual and personal factors determine individuals' fairness views and redistributional preferences (Cappelen et al., 2020). With regard to personal factors, it has been studied how redistributional preferences are associated with risk preferences (Gärtner et al., 2017), depend on experienced inequality (Roth and Wohlfart, 2018), and respond to information on intergenerational mobility (Alesina et al., 2018a) or inequality and the tax system (Kuziemko et al., 2015). In terms of contextual factors, it is well documented that many people reject inequality that is based on luck but accept inequality if stakeholders are responsible for their outcomes, for example due to investment decisions (Cappelen et al., 2007), effort provision (Andre, 2022; Cappelen and Tungodden, 2017; Cappelen et al., 2010, 2022c; Schaube and Strang, 2022), or risk-taking (Cappelen et al., 2013; Mollerstrom et al., 2015). Relative to this literature, our study differs in two key aspects: first, we are primarily interested in situations where individuals are not responsible for their outcomes themselves but profit—potentially to a differential extent—from the actions of others. Second, the situations studied in existing papers usually yield interesting decision problems because individuals face uncertainty regarding decision-relevant aspects of the situation, such as to what extent the initial distribution is based on factors within versus outside individuals' control. In contrast, in our case individuals who endorse a meritocratic fairness ideal face a non-trivial decision problem even if they are perfectly informed about all relevant aspects of the situation; the dilemma originates from the fact that they will infringe meritocratic fairness no matter how they redistribute.

Our results may also help to explain why many people oppose redistributive policies.

Several studies show that people's preferences regarding redistributive policies are strongly related to whether they find inequality fair or unfair (Alesina and Angeletos, 2005; Alesina and Giuliano, 2011; Stantcheva, 2021). At the same time, economic inequality is often inherited either directly through bequests or indirectly through differential education, social environments, and parenting (Björklund et al., 2012; Bowles and Gintis, 2002; Chetty et al., 2016; Kosse et al., 2020). Hence, our finding that individuals tend to consider inequality as fair if it is based on effort at some stage suggests that people may reject redistributive policies based on fundamental fairness preferences. Faced with two similarly unattractive options, many people might perceive inherited inequality or unequal opportunity as the lesser evil and prioritize rewarding the efforts of those who pass on resources.

While Bowles and Gintis (2002) and Stantcheva (2021) briefly discuss the dilemma of meritocracy and Bénabou (2000) and Piketty and Saez (2013) study related issues theoretically, Cohen et al. (2022) is most closely related to our paper. They employ the impartial spectator design to experimentally study fairness preferences in a setting where inequality between two non-working individuals originates from the decision of a worker who has to pass on all earned money to one of these two individuals. Contrary to our results, they find that impartial spectators redistribute between the non-working subjects in a similar way as between two workers who are randomly assigned unequal initial endowments. A key difference to our design, where workers generate payments for real-life friends, is that in Cohen et al. (2022) the worker can differentiate between the two individuals only based on their favorite hobbies, which they had to list beforehand. Because the non-working subjects are otherwise strangers to the worker, spectators may wonder whether the worker would not actually prefer an egalitarian split. Notably, the design of Cohen et al. (2022) requires workers to pass on all of the money to one individual, precluding an equal split. If spectators indeed try to respect workers' preferences — as our analysis suggests — one would then expect redistribution toward an egalitarian split, which is common in the luck case. Hence, the results in Cohen et al. (2022) can be well reconciled with ours.

The remainder of the paper is structured as follows: Section 2 introduces the theoretical framework to study fairness preferences under inherited inequality in general and the Dilemma of Meritocracy in particular. Section 3 details the experimental design, Section 4 outlines the empirical strategy, and Section 5 reports the results. Finally, Section 6 concludes.

2 Theoretical Framework

We are primarily interested in situations where individuals are not responsible for their outcomes themselves but profit—potentially to a differential extent—from the efforts of others. In such

situations, fairness judgments may not only need to take into account whether inequality reflects differential luck or differential efforts but also balance fairness toward individuals who generated payments and toward individuals who receive these payments. To accommodate these situations, we extend the framework in Cappelen et al. (2013) and Almås et al. (2020) to allow for cases of inherited inequality, in which the person responsible for an outcome is not identical to the person who receives that outcome. We derive behavioral hypotheses in Subsection 4.3, after introducing the experimental design.

2.1 Setup

We study distributional preferences in a situation in which a fixed sum of money P is distributed between two individuals ("beneficiaries" B_X and B_Y), who each benefit from the effort of an associated worker (W_X and W_Y). Workers exert effort for their respective beneficiaries because they are interested in their well-being; for example, one may think of workers as parents caring for their respective child. Let $e_{W_i} \geq 0$ denote the effort of worker $i \in \{X, Y\}$ and $e_{B_X} = e_{B_Y} = 0$ the effort of the two beneficiaries, who are entirely passive. After workers have exerted effort, an initial distribution of P between the two beneficiaries is realized, which may depend on effort levels and a random process. This distribution is described by $(s_0, 1 - s_0)$, with s_0 being the initial (relative) share of B_X. Without loss of generality, we assume that B_X is the initially weakly disadvantaged beneficiary, i.e., $s_0 \leq 0.5$.

Consider an impartial spectator who observes this situation and contemplates whether the distribution is fair or should be altered. The spectator is impartial in the sense that he does not receive a material benefit but incurs disutility if he perceives the distribution between the two beneficiaries to be unfair. We assume that the spectator's utility function is given by

$$V(s|\sigma) = -\frac{\alpha}{2}\underbrace{(s - s^f_W(\sigma))^2}_{\substack{\text{deviation from}\\ \text{what is fair}\\ \text{toward workers}}} - \frac{1-\alpha}{2}\underbrace{(s - s^f_B(\sigma))^2}_{\substack{\text{deviation from}\\ \text{what is fair}\\ \text{toward beneficiaries}}}. \tag{1}$$

In that expression, σ encodes information about the situation. The spectator's fairness judgments in situation σ are expressed by the relative shares $s^f_W(\sigma)$ and $s^f_B(\sigma)$, which describe the distributions $(s^f_L(\sigma), 1 - s^f_L(\sigma))$, $L \in \{W, B\}$, that the spectator considers fair toward the workers and beneficiaries, respectively. Quadratic loss functions capture the disutility from distributions that deviate from what is considered fair, and $\alpha \in [0, 1]$ governs how the spectator balances fairness toward workers and beneficiaries. Solving the corresponding maximization problem yields the distribution the spectator finds fair overall, given by

$$s^r(\sigma) = \alpha\, s^f_W(\sigma) + (1 - \alpha)\, s^f_B(\sigma). \tag{2}$$

Under the given functional form assumptions, the spectator's preferred distribution is a lin-

ear combination of the distribution considered fair toward the workers and the distribution considered fair toward the beneficiaries, with weights α and $1 - \alpha$, respectively.

2.2 Fairness Types, Fairness Judgments, and the Dilemma of Meritocracy

Let us turn to the question of how spectators make fairness judgments. We follow the literature by assuming that spectators endorse either an egalitarian (E), libertarian (L), or meritocratic (M) fairness type τ.

Egalitarians ($\tau = E$): An egalitarian is convinced that total resources should be distributed equally in any case. Hence, the distribution perceived fair toward workers as well as beneficiaries is given by $s^f_W(\sigma) = s^f_B(\sigma) = s^f(\sigma) = \frac{1}{2}$. Because perceived fair shares coincide, egalitarians do not encounter a conflict in the case of inherited inequality, and the preferred distribution is $s^r(\sigma) = \frac{1}{2}$.

Libertarians ($\tau = L$): A libertarian does not value equality but advocates the opposing standpoint that one should not intervene in the allocation process and therefore accepts the initial allocation. The perceived fair distributions are given by $s^f_W(\sigma) = s^f_B(\sigma) = s^f(\sigma) = s_0$ and the overall preferred distribution is $s^r(\sigma) = s_0$.

Meritocrats ($\tau = M$): In between, meritocrats think that distributions should reflect individual merits: $s^f_L(\sigma) = \frac{e_{L_X}}{e_{L_X}+e_{L_Y}}$ if $e_{L_X} + e_{L_Y} > 0$ and $s^f_L(\sigma) = \frac{1}{2}$ if $e_{L_X} + e_{L_Y} = 0$, with $L \in \{W, B\}$. Hence, in the case of inherited inequality, meritocrats may face a dilemma: because beneficiaries do not exert any effort but their associated workers may exert different levels of effort ($e_{W_X} \neq e_{W_Y}$), it follows that $s^f_B = \frac{1}{2}$ but usually $s^f_W = e_{W_X}/(e_{W_X}+e_{W_Y}) \neq \frac{1}{2}$ — merit judgments conflict! As a consequence, meritocrats need to balance fairness toward workers and beneficiaries, and the overall perceived fair share is given by

$$s^r(\sigma) = \alpha \, \frac{e_{W_X}}{e_{W_X} + e_{W_Y}} + (1 - \alpha) \, \frac{1}{2}. \tag{3}$$

We denominate this phenomenon the *Dilemma of Meritocracy*. If one worker chose to exert higher effort for the sake of his beneficiary than the other, this pulls the meritocrat toward a distribution between beneficiaries that reflects these differences in effort. Conversely, both beneficiaries are passive and none merited more resources than the other, which pulls the meritocrat toward an egalitarian distribution. The weighting parameter α that governs how this dilemma is handled may be interpreted as the relative importance of the workers' and the beneficiaries' perspectives in the meritocrat's overall fairness judgment.

2.3 Noninherited Inequality

Our framework nests the case of noninherited inequality studied in existing research, where each worker is identical to his associated beneficiary, $W_i \equiv B_i$. This implies that $e_{W_i} = e_{B_i}$ and fairness judgments toward workers and beneficiaries coincide for all fairness types: $s^f_W = s^f_B = s^f$. The spectator's utility function collapses to $V(s|\sigma) = -(s - s^f(\sigma))^2$, and the solution is simply $s^r(\sigma) = s^f(\sigma)$, such that one reobtains the formulation used in Cappelen et al. (2013) and Almås et al. (2020).

3 Experimental Design

Our experiment builds on the impartial spectator paradigm (Cappelen et al., 2013; Konow, 2000) and consists of two stages. In the earnings stage, an initial (pre-redistribution) allocation of \$10 between two stakeholders is determined. In the redistribution stage, impartial spectators may redistribute the \$10 between the two stakeholders to determine the final (post-redistribution) allocation. We are primarily interested in spectators' redistribution decisions; the earnings stage is used to incentivize these decisions.

3.1 The Earnings Stage

In the earnings stage, we implement four treatment conditions in a between-subjects design. In all conditions, subjects work on a real-effort task in which they have to reposition sliders into the middle position (Gill and Prowse, 2012). Each task has a fixed duration of 30 seconds and requires repositioning 5 sliders, which is easy to achieve. Hence, completing tasks is solely a matter of effort and time, but not ability. After workers have completed their participation, they are divided into pairs of two. Treatments differ in two dimensions. One dimension varies whether the initial distribution of the \$10 is determined by a random draw ("Luck") or reflects the relative number of completed tasks ("Effort"). The other dimension varies whether the \$10 is distributed between a pair of workers themselves ("Noninherited Inequality") or whether each worker designates a real-life friend and the \$10 is distributed between the two friends of a pair of workers ("Inherited Inequality"). Working with real-life friends has organizational advantages over, for example, the stricter requirement that workers designate a beneficiary among their family members. At the same time, friendship ties capture two central aspects of relationships between benefactors and beneficiaries that may be prerequisites for the dilemma of meritocracy: there is a meaningful relationship between workers and their friends, and workers are more altruistic toward their own friend than toward the friend of the other worker (Gächter et al., 2015).

Table 1: Features of Treatment Arms

Treatment	$10 distr. betw.	# Tasks completed	Initial allocation
Noninherited Ineq. & Luck	Workers	$e_x = e_y = 20$	$s_0 \sim U[0,1]$
Noninherited Ineq. & Effort	Workers	$e_x, e_y \in [0,40]$	$s_0 = e_x/(e_x + e_y)$
Inherited Ineq. & Luck	Workers' friends	$e_x = e_y = 20$	$s_0 \sim U[0,1]$
Inherited Ineq. & Effort	Workers' friends	$e_x, e_y \in [0,40]$	$s_0 = e_x/(e_x + e_y)$

Note: e_x and e_y denote the number of tasks by worker X and Y, respectively. $U[\cdot]$ denotes the uniform distribution and s_0 denotes the share of the $10 allocated to stakeholder X according to the initial distribution. The share of the $10 allocated to stakeholder Y according to the initial distribution always equals $1 - s_0$.

The 2x2 variation in the earnings stage results in the following four conditions which are summarized in Table 1:

- **Noninherited Inequality & Luck:** Workers complete exactly 20 tasks. $10 are distributed between the two workers of a pair. The initial distribution is determined by a random draw. Each distribution is equally likely.
- **Noninherited Inequality & Effort:** Workers choose to complete between 0 and 40 tasks. $10 are distributed between the two workers of a pair. The initial distribution corresponds to the relative number of completed tasks.
- **Inherited Inequality & Luck:** Workers complete exactly 20 tasks. Each worker chooses a real-life friend, and $10 is distributed between the workers' friends. The initial distribution is determined by a random draw. Each distribution is equally likely.
- **Inherited Inequality & Effort:** Workers choose to complete between 0 and 40 tasks. Each worker chooses a real-life friend, and $10 is distributed between the workers' friends. The initial distribution corresponds to the relative number of completed tasks.

Before they start working, workers know whether they generate earnings for themselves or a real-life friend and how the initial allocation is determined. They also know that another person's decision may affect their (or their friend's) payoff, but not how and why. Workers (and their friends) never observe the initial allocation or spectators' decisions. Friends are entirely passive.

Workers make a final decision at the end of the earnings stage. We ask workers in the Noninherited Inequality conditions how they would distribute additional $10 between themselves and the worker they are matched to if they could freely decide. Likewise, we ask workers in the Inherited Inequality conditions how they would distribute $10 between their own friend and the friend of the worker they are matched to. Workers are incentivized to report their preferences truthfully, as we would randomly draw one worker and implement his or her

preference. We will later refer to these decisions as dictator decisions.

3.2 The Redistribution Stage

In the redistribution stage, unrelated subjects ("impartial spectators") can redistribute the \$10 between pairs of workers or workers' friends. Based on the four conditions from the earnings stage, we implement a 2x2 within-subjects design in the redistribution stage. Before they make a redistribution decision, spectators learn whether \$10 is distributed between workers or passive friends, whether the initial allocation was determined by a random draw or according to the relative number of completed tasks, and the initial allocation. They make their decision by entering the final distribution in the form of relative shares of the two workers (in the NONINHERITED INEQUALITY conditions) or friends (in the INHERITED INEQUALITY conditions) in a table that also contains condensed information about the situation. Figure 18 shows a screenshot of the decision screen in the INHERITED INEQUALITY & EFFORT condition; the other decision screens had the same structure. To focus on the fairness aspect of the redistribution problem, we abstract from a potential fairness-efficiency tradeoff (Almås et al., 2020) by making redistribution costless.

Similar to recent studies that use the impartial spectator design (Schaube and Strang, 2022) we employ a variant of the strategy method (Kube and Traxler, 2011). For each spectator, we construct a set of six initial allocations that consists of one initial allocation from a randomly drawn situation that has occurred in the earnings stage and five hypothetical initial allocations that are constant across all spectators.[2] These initial allocations yield a block of 6 situations within each of the four conditions – 24 situations in total – for which we ask spectators to make redistribution decisions.

Spectators make redistribution decisions for all situations within a block before they proceed to the next one. After each block, they are prompted to briefly describe the reasoning behind their decisions. We randomize the order of blocks as well as the order of situations within each block between subjects. Spectators know that some situations are hypothetical and that we randomly select one spectator for each pair of workers (friends), whose decision for the relevant situation is implemented. Because spectators do not know whether a decision is potentially relevant or not, all decisions are probabilistically incentivized.

After spectators have completed the redistribution part, we elicit their beliefs about workers'

[2]The hypothetical initial allocations were (\$0.00, \$10.00), (\$1.00, \$9.00), (\$2.20, \$7.80), (\$3.00, \$7.00), and (\$3.80, \$6.20). If the initial allocation in the randomly drawn situation was identical to one of the hypothetical initial allocations, the respective hypothetical initial allocation was replaced by a "backup" allocation. This case applied for 52 spectators.

dictator decisions. Separately for workers in the Noninherited Inequality and Inherited Inequality conditions, we ask spectators to guess how much workers on average kept for themselves or gave to their own friends, respectively. Spectators receive a bonus of $0.20 for each guess with less than $0.20 distance to the actual value, such that guesses are incentivized as well. Finally, spectators complete a brief questionnaire on their general attitudes toward inequality, their assessment of various policies related to inequality and redistribution, and additional demographics.

3.3 Procedures

3.3.1 Workers and Friends

The earnings stage was conducted online in March 2022 and implemented using oTree (Chen et al., 2016). Workers were recruited from the BonnEconLab subject pool via Hroot (Bock et al., 2014). The invitation mail informed potential participants that some of them would be able to generate a payment for a real-life friend. In the confirmation email, workers in the Inherited Inequality conditions received a link that they had to pass on to a friend. Via that link, friends had to give us their bank details. On the next day, the corresponding workers received another email with a participation link only if a friend had given us his or her bank details before, such that we could ensure to be able to make all payments that were generated in the study. Workers in the Noninherited Inequality conditions were informed in the confirmation email that they were not among those participants that could generate a payment for a friend and received an email with a participation link on the next day as well. All workers could start immediately when they received the participation link and had time to conclude their participation until the end of the day.

In the earnings stage itself, workers had to enter their own bank details before they received condition-specific instructions and entered the work stage. Workers in the Effort conditions could choose how many tasks to complete, whereas workers in the Luck conditions had to complete exactly 20 tasks.[3] After the work stage, workers had to make their respective dictator decision to conclude their participation.

In total, 43 workers completed their participation in the earnings stage, 21 in the Noninherited Inequality conditions and 22 in the Inherited Inequality conditions. In the Nonhereditary Inequality conditions, each worker received a fixed payment of $3, and $10 was distributed between two workers each. In the Inherited Inequality conditions, each

[3]Workers could at most work on 60 tasks until the work stage was automatically concluded. One worker in the Luck conditions did not manage to complete 20 tasks with 60 attempts and did not generate a payment, as was announced beforehand.

worker received a fixed payment of $5, each friend received a fixed payment of $3, and $10 was distributed between two friends each. In addition, one among all workers' dictator decisions was randomly selected and implemented as announced during the study. Payoffs were presented in the form of experimental currency during the earnings stage but eventually made in euros via bank transfer.

3.3.2 Spectators

The redistribution stage was conducted online in late April 2022 and implemented using oTree as well. We recruited a sample of 552 adult US citizens via the survey provider Prolific, which has been shown to provide higher data quality than comparable companies (Palan and Schitter, 2018; Peer et al., 2021). In addition to incentivizing redistribution decisions, we took several measures to further promote quality responses, including two attention checks, control questions for each block of redistribution decisions, and graphical instructions that are arguably more engaging than large blocks of text instructions. Details and data quality checks are presented in Appendix A, which also provides evidence that spectators recognized and understood the differences between treatments.

Spectators were recruited in two waves within the same week.[4] The first and second wave contained 75 and 477 spectators, respectively. Because participants from the first wave were not excluded from participating in the second wave, 9 spectators participated twice. We only include the first observation from these participants, such that we end up with a sample of 543 spectators. The median completion time in the first wave was 21 minutes and subjects earned a base rate of £3.03 plus bonus payments. The median completion time in the second wave was slightly longer at 25 minutes and participants earned a base rate of £2.55 plus bonus payments. For the second wave, Prolific recruited a sample representative of the US adult population aged 18 or older regarding the joint distribution of age, sex, and ethnicity. This was impossible for the first wave due to the low number of participants. Yet, as shown in Table 7, our total spectator sample is representative of the adult US population in terms of age, gender, and ethnicity. In contrast, our sample overrepresents the well-educated and underrepresents the top quartile of the income distribution, which is common for survey samples (Stantcheva, 2022). The study was preregistered at the AER RCT Registry (RCT ID: AEARCTR-0009186). The instructions for the spectator session are presented in Appendix D, and the pre-analysis plan can be accessed

[4]The two-wave procedure mainly served to test for technical issues. Indeed, during the first wave, we recognized that for some of the spectators one hypothetical initial allocation was always replaced by the backup allocation due to a bug, which we fixed immediately. Because there is nothing inherently special about our preselected hypothetical initial allocations this is not a big issue, though, and the respective decisions/observations are treated like all other decisions and as described in Subsection 4.2.

here: https://doi.org/10.1257/rct.9186.

4 Empirical Analysis

4.1 Main Variables

Independent Variables. Our main independent variables are the indicators II_σ (= 1 if situation σ features inherited inequality) and E_σ (= 1 if the initial allocation in situation σ is based on effort). Both indicators together describe the treatment condition situation σ was embedded in. Further, we define the initial extent of inequality $\Delta_\sigma = 0.5 - s_0$, which allows us to investigate whether redistribution decisions depend on how much inequality is present in the initial allocation.

Dependent Variables. Observing that a spectator implements (\$4, \$6) as the final allocation indicates very different redistributional preferences if the initial allocation was (\$2, \$8) instead of (\$4, \$6). In the former case, the spectator reduces inequality while in the latter inequality is left constant. To differentiate between such cases, our analysis needs to take into account that the initial allocation varies across situations.[5] Hence, we define as our main outcome variable the extent of redistribution implemented by spectator i in situation σ,

$$\theta_{i,\sigma} = \frac{s_i^r - s_0}{0.5 - s_0}. \tag{4}$$

The extent of redistribution describes the fraction of inequality in the initial situation that is equalized by spectator i's redistribution decision. $\theta_{i,\sigma} = 1$ indicates that spectator i completely equalizes payoffs in situation σ while $\theta_{i,\sigma} = 0$ means that spectator i accepts the initial allocation. For some analyses we use the average of spectator i's redistribution decisions within a given condition, which we refer to as the average extent of redistribution, $\bar{\theta}_{i,c}$, $c \in$ {NI-L, NI-E, II-L, II-E}.

4.2 Exclusion Criteria and Restricted Sample

To ensure high data quality, we remove some observations from our main sample as preregistered. First, we drop spectators who fail both attention checks. Second, if a spectator rushes

[5]This is different from existing studies on fairness preferences in the context of noninherited inequality, where usually one of the two workers receives all of the money in the initial distribution (see e.g. (Almås et al., 2022; Cappelen and Tungodden, 2017; Cappelen et al., 2022b; Schaube and Strang, 2022)). In that case, it suffices to normalize that the first worker is the initially disadvantaged one (or vice versa) and consider how much that worker receives after redistribution.

unreasonably fast through the instructions for a given block of redistribution decisions, we drop the decisions of that spectator for the corresponding condition. Third, we only include observations for situations that all spectators encountered because these are constant across spectators and admit a clean comparison. Hence, the main sample does not include observations based on a true scenario (except if that scenario coincides with a hypothetical one) or the backup scenario.

Based on the main sample, we further construct a restricted sample that disregards observations that cannot be reconciled with the fairness ideals prevalent in the literature, which was preregistered as well. First, we drop observations which imply $\theta_{i,\sigma} < 0$ (the spectator redistributes money from the already disadvantaged beneficiary to the already advantaged beneficiary) or $\theta_{i,\sigma} > 1$ (the spectator redistributes more to the initially disadvantaged beneficiary than what would lead to a 50/50 split). While such decisions should not prematurely be characterized as "noise" or "irrational", we cannot explain these decisions within our framework and our hypotheses do not pertain to such behavior. Second, we completely drop a spectator from the restricted sample if we disregard 3 or more decisions of that spectator within any of the four conditions, either because the spectator rushed or because too many decisions imply $\theta_{i,\sigma} \notin [0, 1]$.

Starting with 543 spectators and 13,032 decision observations, we end up with 543 spectators and 10,236 decision observations in the main sample and 437 spectators and 8,399 observations in the restricted sample. Unless indicated differently, the results presented in the paper are based on the restricted sample. However, results do not differ notably if we consider the main sample or all of the 13,032 observations for which our main outcome measure is defined, that is, where the initial allocation is not 50/50.

4.3 Behavioral Predictions & Preregistered Hypotheses

The theoretical framework outlined in Section 2 makes nuanced individual-level predictions about what kinds of behavioral patterns we should observe across the four treatment conditions, given a subjects' fairness type: egalitarians always prefer equal distributions, libertarians always go with the initial distribution, and meritocrats prefer distributions that reflect relative effort. Given that $e_{W_X}/(e_{W_X} + e_{W_Y})$ equals 1/2 in the Luck conditions and s_0 in the Effort conditions, the expression for the perceived fair share (Equation 2) collapses to numbers for each of the three fairness types. Plugging these numbers into the definition of the extent of redistribution (Equation 4) yields predictions on the extent of redistribution spectators with different fairness types implement in the different conditions. These predictions are summarized in Table 2.

Assuming that all types are present in our sample, these predictions imply that the four

Table 2: Predicted Extent of Inequality θ by Condition and Fairness Type

Condition	Egalitarians	Libertarians	Meritocrats
Noninherited Ineq. & Luck	1	0	1
Noninherited Ineq. & Effort	1	0	0
Inherited Ineq. & Luck	1	0	1
Inherited Ineq. & Effort	1	0	$1-\alpha$

conditions should be ordered in terms of the average extent of redistribution as follows: $\bar{\theta}_{NI-L} = \bar{\theta}_{II-L} \geq \bar{\theta}_{II-E} \geq \bar{\theta}_{NI-E}$, with at least one of the inequalities being strict. Based on the individual-level predictions and this expected ordering, we derive the following four (preregistered) aggregate-level predictions that we will formally test using ordinary least squares (OLS) regressions and clustering standard errors on the spectator-level:

Hypothesis 1. *Spectators redistribute less if inequality is based on effort instead of luck.*

Because this hypothesis should hold both in the noninherited inequality domain (H1a) and — weakly — in the inherited inequality domain (H1b), we will test it separately within both domains. Formally, we estimate the following (regression) equation:

$$\theta_{i,\sigma} = \beta + \beta_E \cdot E_\sigma + \delta \cdot \Delta_\sigma + \varepsilon_{i,\sigma}. \tag{5}$$

We preregistered to test $H_0 : \beta_E = 0$ against $H_1 : \beta_E \neq 0$ and interpret $\beta_E < 0$ and the rejection of H_0 as evidence in favour of Hypothesis 1.

Hypothesis 2. *Spectators redistribute more if inequality is inherited.*

Pooling the data from the Luck and Effort conditions, we estimate

$$\theta_{i,\sigma} = \beta + \beta_{II} \cdot II_\sigma + \delta \cdot \Delta_\sigma + \varepsilon_{i,\sigma}, \tag{6}$$

and test $H_0 : \beta_{II} = 0$ against $H_1 : \beta_{II} \neq 0$ as preregistered, interpreting $\beta_{II} > 0$ and the rejection of H_0 as evidence in favour of Hypothesis 2.

Hypothesis 3. *The higher extent of redistribution in the case of inherited inequality is driven by situations in which inequality is based on effort.*

To formally test whether the fact that inequality is inherited indeed only matters if the initial allocation is based on effort, we consider the following difference-in-difference-like regression equation:

$$\theta_{i,\sigma} = \beta + \beta_E \cdot E_\sigma + \beta_{II} \cdot II_\sigma + \beta_{E,II} \cdot E_\sigma \cdot II_\sigma + \delta \cdot \Delta_\sigma + \varepsilon_{i,\sigma}. \tag{7}$$

In accordance with our pre-analysis plan, we test $H_0^a : \beta_{II} = 0$ against $H_1^a : \beta_{II} \neq 0$ and $H_0^b : \beta_{E,II} = 0$ against $H_1^b : \beta_{E,II} \neq 0$. We interpret the results as evidence in favour of Hypothesis 3 if we find $\beta_{E,II} > 0$ and reject H_0^b but not H_0^a.

Hypothesis 4. *The higher extent of redistribution in the case of inherited inequality, driven by situations in which inequality is based on effort, is driven by meritocrats.*

Due to the within-subjects design, we can relate individual redistribution patterns across conditions. We will classify spectators into the three fairness types (and a residual type) based on their decisions in the Noninherited Inequality conditions (details follow later) and estimate

$$\begin{aligned}\theta_{i,\sigma} = \quad & \beta^{E} && + \beta^{L} L_i && + \beta^{M} M_i && + \beta^{NC} NC_i \\ & + \beta^{E}_{E} E_\sigma && + \beta^{L}_{E} E_\sigma L_i && + \beta^{M}_{E} E_\sigma M_i && + \beta^{NC}_{E} E_\sigma NC_i \\ & + \beta^{E}_{II} II_\sigma && + \beta^{L}_{II} II_\sigma L_i && + \beta^{M}_{II} II_\sigma M_i && + \beta^{NC}_{II} II_\sigma NC_i \\ & + \beta^{E}_{E,II} E_\sigma II_\sigma && + \beta^{L}_{E,II} E_\sigma II_\sigma L_i && + \beta^{M}_{E,II} E_\sigma II_\sigma M_i && + \beta^{NC}_{E,II} E_\sigma II_\sigma NC_i \\ & && && && + \delta \Delta_\sigma + \varepsilon_{i,\sigma}.\end{aligned} \tag{8}$$

Here, egalitarians are the baseline type and L_i (libertarian), M_i (meritocrat), and NC_i (non-classified) are indicators that equal 1 if spectator i is classified into the corresponding fairness type. As preregistered, we test $H_0^a : \beta^M_{E,II} = 0$ against $H_1^a : \beta^M_{E,II} \neq 0$ and $H_0^b : \beta^M_{E,II} = \beta^L_{E,II}$ against $H_1^b : \beta^M_{E,II} \neq \beta^L_{E,II}$ and interpret the results as evidence in favour of the hypothesis if $\beta^M_{E,II} > 0$, $\beta^M_{E,II} > \beta^L_{E,II}$, and we reject both H_0^a and H_0^b.

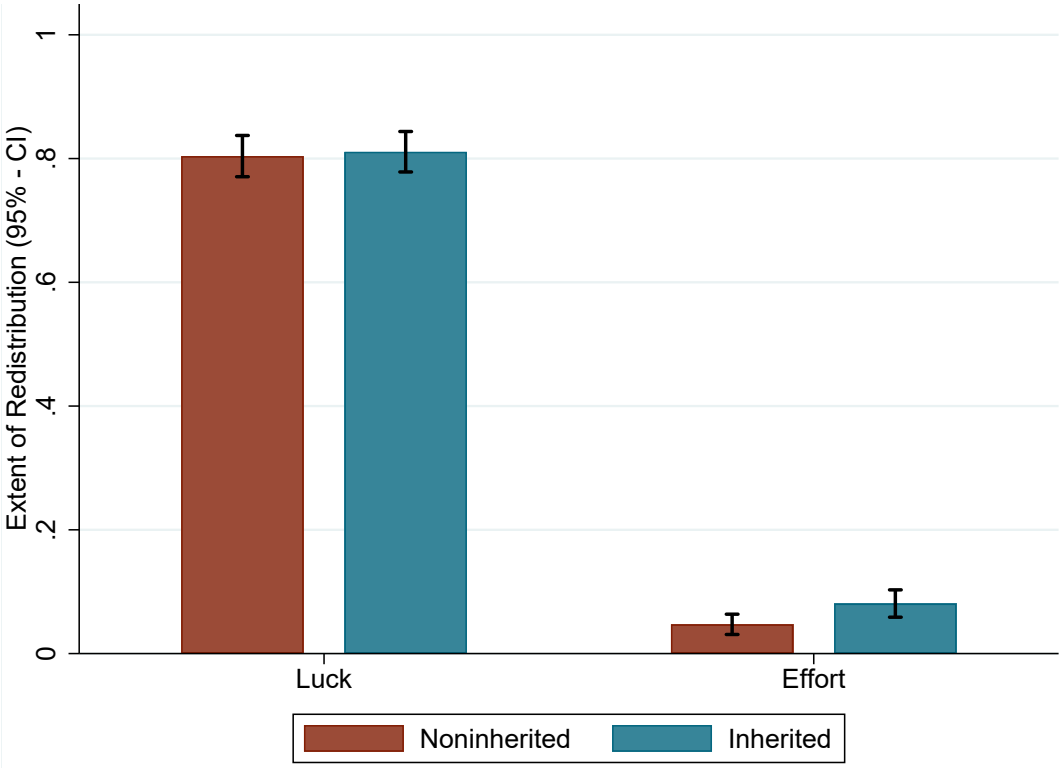
5 Results

First, we compare the average extent of redistribution between treatment conditions, displayed in Figure 1. Averages are taken over all decisions of all subjects in the restricted sample. Comparing redistribution levels between Noninherited Inequality & Luck and Noninherited Inequality & Effort, we replicate what many studies have documented before: under noninherited inequality, where workers' actions determine their own earnings and spectators do not need to balance potentially conflicting fairness ideals, they redistribute much less if distributions reflect differential effort than if they are based on a random draw. While they, on average, equalize about 80% of the inequality in the initial distribution in the Luck case, they equalize only about 5% in the Effort case. These numbers suggest that many spectators in our sample subscribe to the meritocratic idea that resource distributions should reflect individual effort and achievement.

Consistent with our theoretical considerations from Section 2, a comparison of redistribution levels between Noninherited Inequality & Luck and Inherited Inequality & Luck shows that it makes no difference whether inequality is inherited or not in the Luck domain: the difference is insignificant and small both in absolute and relative terms.[6] This indicates that

[6] $d = 0.007$ and $p = 0.62$ in an OLS regression of the form $\theta_{i,\sigma} = \beta + \beta_{II} \cdot II_\sigma + \varepsilon_{i,\sigma}$, using only observations

Figure 1: Average Extent of Redistribution $\bar{\theta}_{i,c}$ by Treatment Condition



Note: This figure displays the average extent of redistribution $\bar{\theta}_{i,c}$ by treatment condition, together with 95−% confidence intervals. Averages are taken over all decisions of all subjects in the restricted sample. Confidence intervals are based on standard errors clustered on the spectator level.

in the Luck domain, given that in either case the initial distribution is not tied to relative effort, it does not matter whether the money goes to the workers themselves or is inherited by their passive friends.

To judge how spectators deal with the dilemma of meritocracy, we examine how the average extent of redistribution in Inherited Inequality & Effort compares to the Noninherited Inequality & Luck and Noninherited Inequality & Effort benchmarks. As displayed in Figure 1, the fraction of inequality that is equalized in Inherited Inequality & Effort (8%) is significantly higher than the share that is equalized in Noninherited Inequality & Effort (5%).[7] However, the key takeaway is that the average extent of redistribution in Inherited Inequality & Effort is much closer to the Noninherited Inequality & Effort benchmark than to the Noninherited Inequality & Luck benchmark (80%). This is consistent with our theoretical considerations from Section 2, but given that any magnitude between the two

from the Luck domain and clustering standard errors on the spectator level.

[7] $d = 0.034$ and $p < 0.001$ in an OLS regression of the form $\theta_{i,\sigma} = \beta + \beta_{II} \cdot II_{\sigma} + \varepsilon_{i,\sigma}$, using only observations from the Effort domain and clustering standard errors on the spectator level.

benchmarks would have been similarly consistent, this result may almost be considered a corner solution. Speaking in model terms, the data suggest that spectators "have a high α": they prioritize fairness toward the workers—whose effort is reflected in the initial distribution—and accept that in the INHERITED INEQUALITY case the beneficiaries end up with different shares even though one did not "merit" more than the other. Overall, these results suggest that spectators treat the dilemma of meritocracy by prioritizing fairness toward the workers over fairness toward the friends.

5.1 The Aggregate Level: Testing the Hypotheses

To test the hypotheses from Subsection 4.3, we estimate the corresponding preregistered regression equations using OLS regressions. All reported equations control for the initial extent of inequality in a given situation (Δ_σ), and standard errors are always clustered on the spectator level. The results are reported in Table 3. The titles below the column numbers indicate which hypothesis is referred to.

The estimates in columns (1) and (2) indicate that, both in the case of NONINHERITED INEQUALITY and INHERITED INEQUALITY, spectators redistribute significantly less if the initial distribution is based on effort rather than luck. The differences in the average extent of redistribution amount to 76%p (NONINHERITED INEQUALITY) and 73%p (INHERITED INEQUALITY), respectively.

We further observe that the initial extent of inequality (Δ_σ) has a weakly significant but small effect on the fraction of inequality spectators equalize. The estimates show that the extent of redistribution is $3-4\%p$ higher on average if the initial extent of inequality is one unit larger. Given that the variable is only defined over the interval from 0 (a 50/50 split) to 0.5 (one stakeholder receives everything), the effect is more tangibly described by saying that, for example, going from a 30/70 split to a 20/80 split increases the average extent of redistribution by $0.3-0.4\%p$. Overall, these observations yield strong support for Hypothesis 1:

Result 1. *In both the NONINHERITED INEQUALITY and the INHERITED INEQUALITY domain, spectators redistribute considerably less on average if inequality is based on effort instead of luck.*

Moving to the regression equation in column (3), which makes use of all observations in the restricted sample, we see that spectators redistribute significantly more if inequality is inherited. Consistent with Hypothesis 2, the average extent of redistribution is 2.2%p higher if the money is distributed between passive friends instead of the workers themselves. Yet, in contrast to the magnitude of the difference in redistribution levels between EFFORT and LUCK situations, the effect is almost negligible. We summarize these observations in the following result:

Table 3: Treatment Effects on the Extent of Redistribution $\theta_{i,\sigma}$

	Restricted Sample				Main Sample	Full Sample
	(1)	(2)	(3)	(4)	(5)	(6)
	H1a	H1b	H2	H3	H3	H3
Effort (E_σ)	-0.757***	-0.730***		-0.757***	-0.747***	-0.741***
	(0.019)	(0.019)		(0.019)	(0.020)	(0.020)
Inherited (II_σ)			0.022**	0.007	0.021	0.017
			(0.009)	(0.014)	(0.015)	(0.016)
Effort (E_σ) × Inherited (II_σ)				0.027	0.022	0.042**
				(0.016)	(0.019)	(0.021)
Initial Inequality (Δ_σ)	0.031*	0.035*	0.024	0.033**	0.079***	0.054
	(0.018)	(0.019)	(0.015)	(0.015)	(0.019)	(0.042)
Constant	0.795***	0.801***	0.421***	0.794***	0.784***	0.789***
	(0.018)	(0.018)	(0.011)	(0.018)	(0.019)	(0.024)
Included Treatments	NI-L & NI-E	II-L & II-E	All	All	All	All
Clusters	437	437	437	437	543	543
Observations	4203	4196	8399	8399	10236	12448
R^2	0.620	0.575	0.001	0.598	0.488	0.364

Note: This table reports results from OLS regressions of the extent of redistribution implemented by spectator i in situation σ on treatment indicators, controlling for the initial extent of inequality in situation σ. Columns (1) and (2) correspond to Equation 5 and estimate the difference between redistribution in the Effort versus Luck case, once in the Noninherited Inequality and once in the Inherited Inequality domain. Column (3) corresponds to Equation 6 and estimates the difference between redistribution if inequality is inherited versus noninherited, pooling Effort and Luck situations. Columns (4) - (6) correspond to Equation 7 and interact both treatment dimensions using observations from all treatment conditions. For information on the composition of the different subsamples, see Subsection 4.2. Standard errors (in parentheses) are clustered on the spectator level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Result 2. *Spectators redistribute significantly more if inequality is inherited. However, the magnitude of the effect is small.*

The remaining columns, (4)-(6), test for an interaction effect: does the fact that payoffs are inherited matter more if the initial distribution is based on workers' relative effort levels instead of a random draw? Whereas the difference in average redistribution levels between Inherited Inequality and Noninherited Inequality situations is less than 1%p if the initial distribution is determined by luck, this difference is about five times as large (0.007 + 0.027) if the initial distribution is proportional to workers' relative effort. The interaction effect is still small, however, and just short of reaching statistical significance. The numbers and qualitative patterns are very similar if the same equation is estimated on the main sample (column (5)), which includes observations that cannot be reconciled with commonly considered fairness

ideals, i.e., $\theta_{i,\sigma} \notin [0, 1]$. Similarly, results change little if we consider the full sample (column (6)), which includes situations based on true scenarios and from blocks where spectators rushed through the instructions, albeit the interaction effect is statistically significant here. Relative to our main regression equation in column (4) the share of variance explained drops sharply in columns (5) and (6), which indicates that our sample restrictions successfully reduce the amount of noise in the data. Overall, we interpret these observations as (partial) support in favour of Hypothesis 3:

Result 3. *The higher extent of redistribution in the case of inherited inequality is, if anything, driven by situations in which inequality is based on effort.*

5.2 The Individual Level: Redistribution Patterns & Fairness Types

Our within-subjects setup in the redistribution stage has the advantage that we can relate a given spectator's redistribution decisions across the four different conditions. In this subsection, we use this feature to detect common redistribution patterns. As a first step, we use subjects' decisions in the two Noninherited Inequality conditions to classify them into one of three fairness types discussed in Subsection 2.2: egalitarians (E), libertarians (L), and meritocrats (M). We define a spectator's fairness type in situations of noninherited inequality, $\tau_{i,NI}$, as follows:

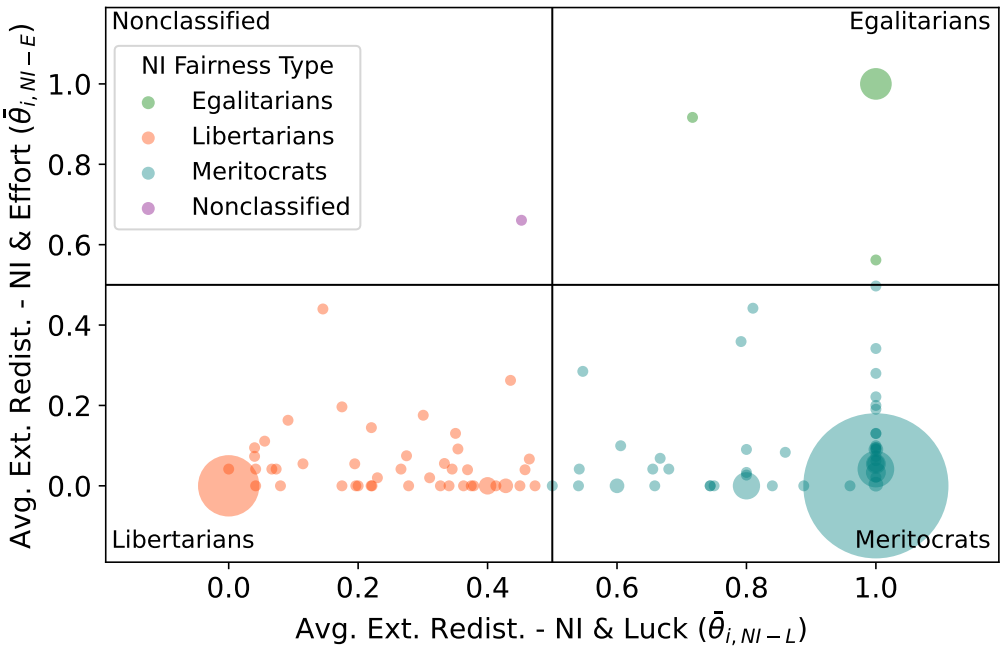
$$\tau_{i,NI} = \begin{cases} E & \text{if } \bar{\theta}_{i,NI-L} \geq 0.5 \text{ and } \bar{\theta}_{i,NI-E} \geq 0.5 \\ M & \text{if } \bar{\theta}_{i,NI-L} \geq 0.5 \text{ and } \bar{\theta}_{i,NI-E} < 0.5 \\ L & \text{if } \bar{\theta}_{i,NI-L} < 0.5 \text{ and } \bar{\theta}_{i,NI-E} < 0.5 \\ NC & \text{else,} \end{cases} \tag{9}$$

where NC describes a residual type of "Nonclassifieds".

Figure 2 plots the distribution of spectators in the $\bar{\theta}_{i,NI-L} \times \bar{\theta}_{i,NI-E}$ space. The horizontal axis indicates the average extent of redistribution in the Noninherited Inequality & Luck condition. Similarly, the vertical axis measures the average extent of redistribution in Noninherited Inequality & Effort. Hence, each circle in Figure 2 represents the redistribution behavior of a spectator in the Noninherited Inequality domain, and circle size is proportional to the number of spectators at the corresponding position.

Two aspects of the plot attract particular attention. First, the majority of spectators (76%) fall into the bottom right quarter and are, therefore, classified as meritocrats. A much smaller fraction of spectators (21%) are classified as libertarians, and only a few (3%) are classified as egalitarians. Only a single spectator in the restricted sample remains unclassified. Second, spectators in general behave very consistently: most of them make either perfectly meritocratic

Figure 2: Classification into Fairness Types - Noninherited Inequality



Note: Circles correspond to subjects in the spectator role of the experiment. The horizontal axis describes the share of inequality that the individual equalized on average in the Noninherited Inequality & Luck condition. The vertical axis describes the share of inequality that the individual equalized on average in the Noninherited Inequality & Effort condition. Circle size is proportional to the number of spectators at the corresponding position. Subjects were classified according to the label names in the four quadrants, and colors indicate the respective classes.

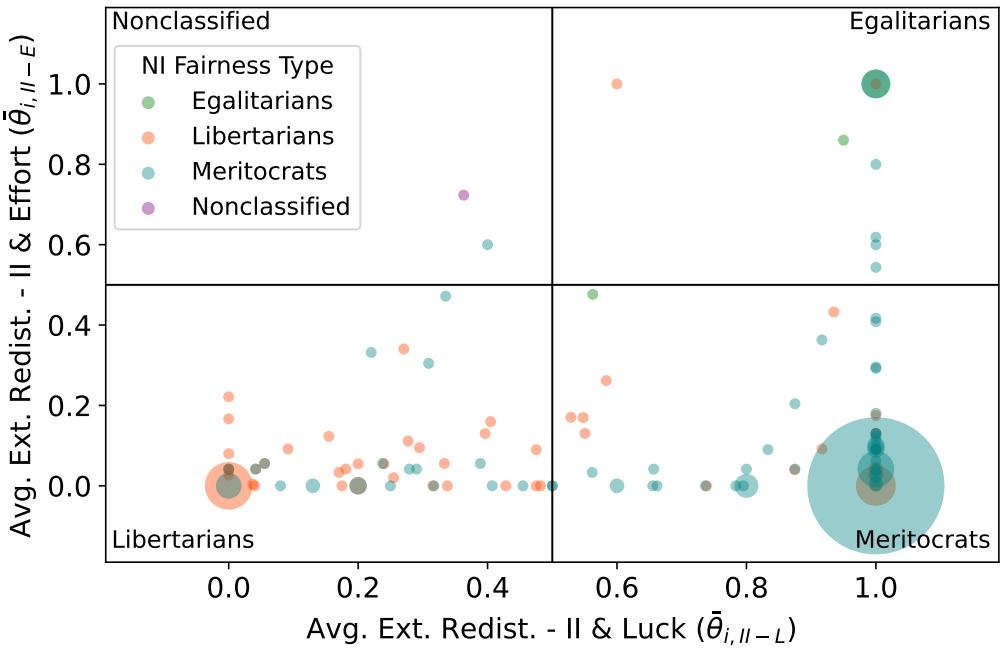
(59%), libertarian (10%), or egalitarian (3%) decisions.

As a second step, in analogy to the noninherited inequality classification, we define a spectator's redistribution pattern in situations with inherited inequality, $\tau_{i,II}$:

$$\tau_{i,II} = \begin{cases} E & \text{if } \bar{\theta}_{i,II-L} \geq 0.5 \text{ and } \bar{\theta}_{i,II-E} \geq 0.5 \\ M & \text{if } \bar{\theta}_{i,II-L} \geq 0.5 \text{ and } \bar{\theta}_{i,II-E} < 0.5 \\ L & \text{if } \bar{\theta}_{i,II-L} < 0.5 \text{ and } \bar{\theta}_{i,II-E} < 0.5 \\ NC & \text{else.} \end{cases} \tag{10}$$

Figure 3 shows, in the familiar fashion, where spectators are positioned in the $\bar{\theta}_{i,II-L} \times \bar{\theta}_{i,II-E}$ space. To relate spectators' redistribution patterns across situations with noninherited and inherited inequality, spectators' noninherited inequality fairness type is indicated by the color of the corresponding circle. Recall from Section 2 that we would not expect subjects who were classified as egalitarians and libertarians to display differential redistribution patterns if inequality is inherited. Hence, we should observe that green dots ($\tau_{i,NI} = E$) are situated in

Figure 3: Classification by Redistribution Patterns - Inherited Inequality



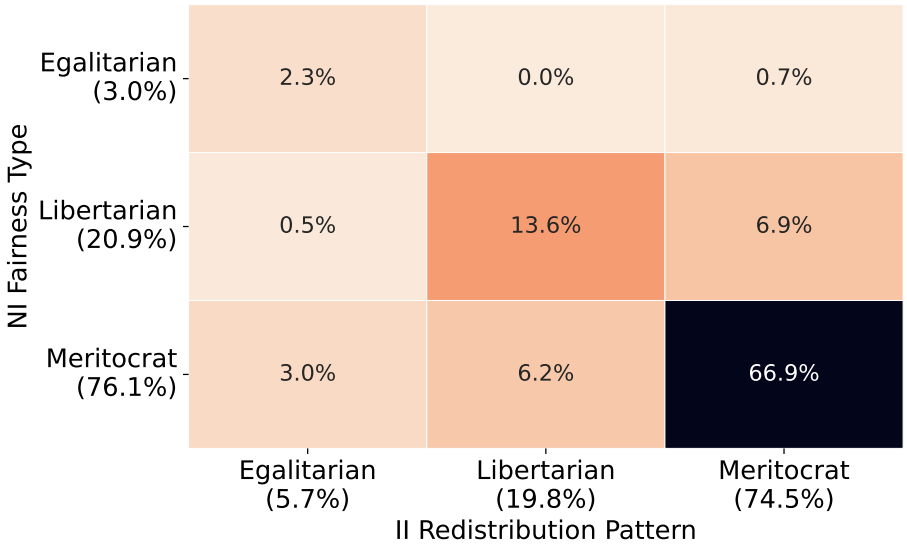
Note: Circles correspond to subjects in the spectator role of the experiment. The horizontal axis describes the share of inequality that the individual equalized on average in the Inherited Inequality & Luck condition. The vertical axis describes the share of inequality that the individual equalized on average in the Inherited Inequality & Effort condition. Circle size is proportional to the number of spectators at the corresponding position. Subjects were classified according to the labels in the four quadrants. Colors indicate how spectators were classified in the Noninherited Inequality situations.

the upper right quarter of the figure, and that orange dots ($\tau_{i,NI} = L$) are situated in the lower left quarter. For meritocrats (teal circles), the theoretical prediction is vague: depending on α—how they weigh fairness toward workers versus beneficiaries—they should either behave meritocratically ($\alpha > 0.5$, lower right quarter) or in an egalitarian way ($\alpha < 0.5$, upper right quarter).

The figure shows that, just like before, many spectators behave very consistently and are either placed on a corner or on an edge. Most spectators "remain in their quarter", that is, display similar redistribution patterns in situations featuring inherited and noninherited inequality. Focusing on those spectators who have been classified as meritocrats under noninherited inequality, we see that only a few switch to an egalitarian redistribution pattern when inequality is inherited. This indicates that most of them prioritize fairness toward the workers ($\alpha > 0.5$). In contrast to our expectations, we observe some switching between meritocrats and libertarians.

These observations are quantified in the moving matrix displayed in Figure 4, which shows the distribution of two-dimensional redistribution patterns in a more condensed way. The

Figure 4: Two-Dimensional Redistribution Patterns



Note: This moving matrix displays the distribution of spectators over two-dimensional redistribution patterns. Fairness types under noninherited inequality are shown on the vertical axis. Redistribution patterns under inherited inequality are shown on the horizontal axis.

position on the vertical axis describes spectators' fairness type under noninherited inequality, and the position on the horizontal axis describes their redistribution pattern under inherited inequality.[8] Marginal distributions are reported with the axis labels. The figure shows that most spectators are "on the diagonal", that is, they display the same redistribution pattern under both inherited and noninherited inequality. Only 3% of all spectators in the restricted sample switch from meritocratic to egalitarian, meaning that they prioritize fairness toward beneficiaries ($\alpha < 0.5$ in the theoretical framework). Between 6% and 7% of spectators each switch from meritocratic to libertarian or vice versa, which is not consistent with our theoretical framework and suggests that this may be more than just noise. Besides that, there are only very few "inconsistent" spectators. Overall, more than 85% of spectators are classified in a way that is consistent with our theoretical framework, which—together with the observation that spectators make very consistent observations *within* each condition—indicates that the framework explains spectators' behavior well.

As shown theoretically in Section 2, the fact that the money is distributed between passive stakeholders who differentially profit from their friends' effort in the INHERITED INEQUALITY conditions should only matter for meritocrats, and only if the initial distribution reflects relative effort. To formally test whether this is the case, we estimate regression Equation 8 using OLS

[8]The figure disregards two spectators who are nonclassified in at least one dimension.

and clustering standard errors on the spectator level. We are particularly interested in the triple interaction of the Inherited Inequality and Effort indicators (II_σ and E_σ) with spectators' (noninherited inequality) fairness type.

The results are displayed in Table 4, in which a number of coefficients are suppressed for increased readability.[9] The estimates in column (1), which corresponds to Equation 8 and uses

Table 4: Treatment Effects on the Extent of Redistribution $\theta_{i,\sigma}$ by Fairness Type

	Restricted Sample			
	(1) Pooled	(2) Egalitarians	(3) Meritocrats	(4) Libertarians
Effort (E_σ)	-0.025	-0.025	-0.960***	-0.109***
	(0.036)	(0.038)	(0.006)	(0.018)
Inherited (II_σ)	-0.018	-0.017	-0.059***	0.268***
	(0.031)	(0.032)	(0.012)	(0.042)
Effort (E_σ) × Inherited (II_σ)	-0.144	-0.144	0.099***	-0.232***
	(0.103)	(0.108)	(0.015)	(0.044)
Effort (E_σ) × Inherited (II_σ) × Meritocrat	0.243**			
	(0.104)			
Effort (E_σ) × Inherited (II_σ) × Libertarian	-0.088			
	(0.112)			
Initial Inequality (Δ_σ)	0.031**	-0.052	-0.004	0.175***
	(0.014)	(0.101)	(0.012)	(0.045)
Constant	0.977***	1.001***	0.977***	0.084***
	(0.015)	(0.036)	(0.006)	(0.019)
Clusters	437	13	332	91
Observations	8399	249	6403	1731
R^2	0.817	0.106	0.864	0.228

Note: This table reports results from OLS regressions of the extent of redistribution implemented by spectator i in situation σ on treatment indicators and spectator i's fairness type, controlling for the initial extent of inequality in situation σ. Column (1) corresponds to Equation 8. Columns (2) - (4) correspond to Equation 7 but are estimated on subsets of spectators who share the corresponding fairness type. Standard errors (in parentheses) are clustered on the spectator level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[9]For a regression table that reports the same regression equations but does not omit coefficients, please refer to Table 8 in Appendix C.

egalitarians as the reference fairness type, show that the triple interaction effect amounts to 24.3%p and is significant for meritocrats. This indicates that, relative to egalitarians, the fact that inequality is inherited nudges meritocrats more strongly to redistribute more if inequality is based on effort instead of luck. As the triple interaction effect for meritocrats is also significantly higher than that for libertarians (Wald test, $p < 0.0001$), the data formally yields strong support for Hypothesis 4.

Result 4. *The fact that inheritance increases the extent of redistribution more strongly if inequality is based on effort instead of luck is driven by meritocrats.*

Considering columns (2) - (4), where Equation 7 is estimated separately for the three fairness types, it becomes apparent that the data do not perfectly fit the story behind Hypothesis 4, though. While the interaction effect of Inherited Inequality and Effort amounts to almost 10%p for meritocrats and is highly significant, in the Luck domain they redistribute on average about 6%p less if inequality is inherited, which is a significant difference as well. Conversely, libertarians redistribute on average about 27%p more if inequality is inherited in the Luck domain, while the interaction effect largely offsets this difference (−23%p) for the Effort domain, and both coefficients are highly significant again.

5.3 Potential Channels

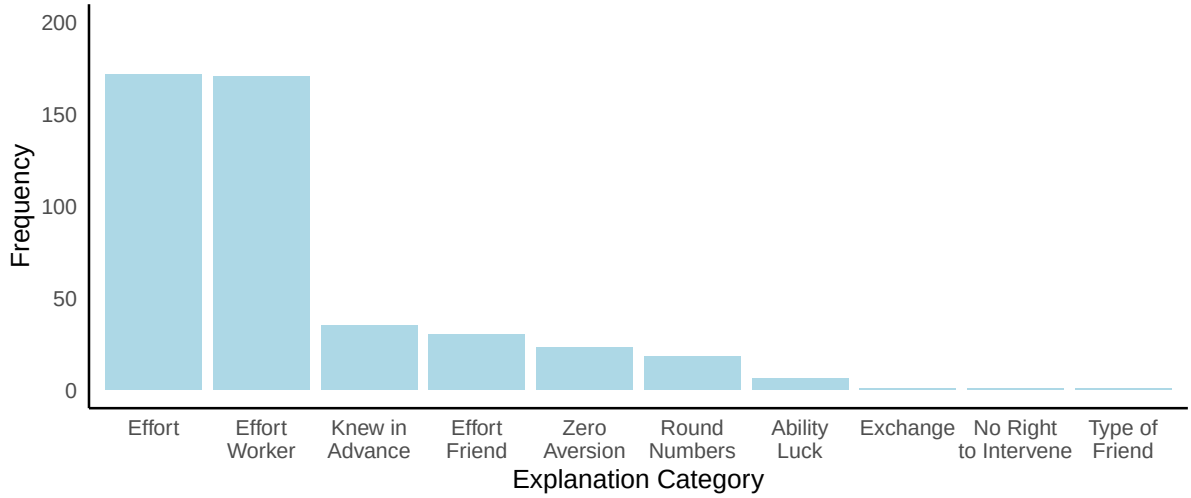
5.3.1 Spectators' Explanations for Their Redistribution Decisions

Why do spectators redistribute so little when they face the dilemma of meritocracy? To develop an understanding of how people reason about the dilemma and to generate hypotheses for potential channels, we analyze the open-ended explanations subjects gave for their redistribution decisions. Most spectators use the opportunity to write open-ended explanations after each decision block. For all open-ended explanation fields, more than 98% of spectators make an entry. Figure 12 in Appendix A shows that responses correspond well to treatment arms and fairness types. Hence, open-ended responses seem to provide useful information.

To get an overview of how spectators explain their decisions, we sort all mentioned explanations by hand into categories. Table 9 shows the complete list of categories and gives examples of the kind of explanations they encompass. Most spectators state specific rationales for their behavior. Yet, 49 spectators do not explain their decisions or use explanations like "I just tried to be fair", which cannot be assigned to a meaningful category. Consequently, our analysis excludes these spectators and is based on the remaining 388 subjects, who comprise about 89% of the spectators in the restricted sample.

Figure 5 depicts the frequencies with which explanations for redistribution decisions in Inherited Inequality & Effort are given by the explanation category. The plurality of spectators mentions that they implemented final allocations proportional to relative efforts without specifying whether that refers to the efforts of the workers or the efforts of the friends. Of those who specify this, most refer to the workers' efforts and few to the friends' efforts, which is consistent with our results for the redistribution decisions. The three corresponding categories contain nearly 82% of all explanations. Hence, relative effort levels appear to be the main theme behind redistribution decisions.

Figure 5: Spectators' Explanations for their Decisions in Inherited Inequality & Effort



Note: This figure displays the frequency of explanations spectators gave for their redistribution decisions in Inherited Inequality & Effort by explanation category. Results are based on up to 3 arguments made by the 388 spectators from the restricted sample who gave specific explanations for their behavior. We included up to 3 arguments per spectator.

Alternative explanations are much less frequently mentioned by spectators. For instance, it is conceivable that a worker's effort changes the spectators' belief about what kind of person the respective friend is. However, only a single spectator mentions this as relevant to his decision. Similarly, only one spectator mentions being influenced by the thought that workers and their friends might exchange money after the experiment. Slightly more frequently mentioned explanation categories include that subjects "Knew in Advance" and agreed to the rules of the study, such that redistribution would mean an unfair ex-post rule adjustment[10]; an aversion to giving people zero or very little money; a preference for round numbers; the idea that some people might have been less able to perform the task due to bad luck; and the belief that one

[10]As described in Section 3 workers were informed that their (or their friend's) payoff could be affected by the decision of a third person, and spectators knew that. Spectators who refer to this issue apparently still consider altering the initial distribution an unfair rule adjustment.

must not intervene in the affairs of others. Figure 14, Figure 13 and Figure 15 in the appendix show similar results for the other 3 treatment conditions. Consistent with our other results, most spectators in each condition argue that earnings should be based on effort but not on luck.

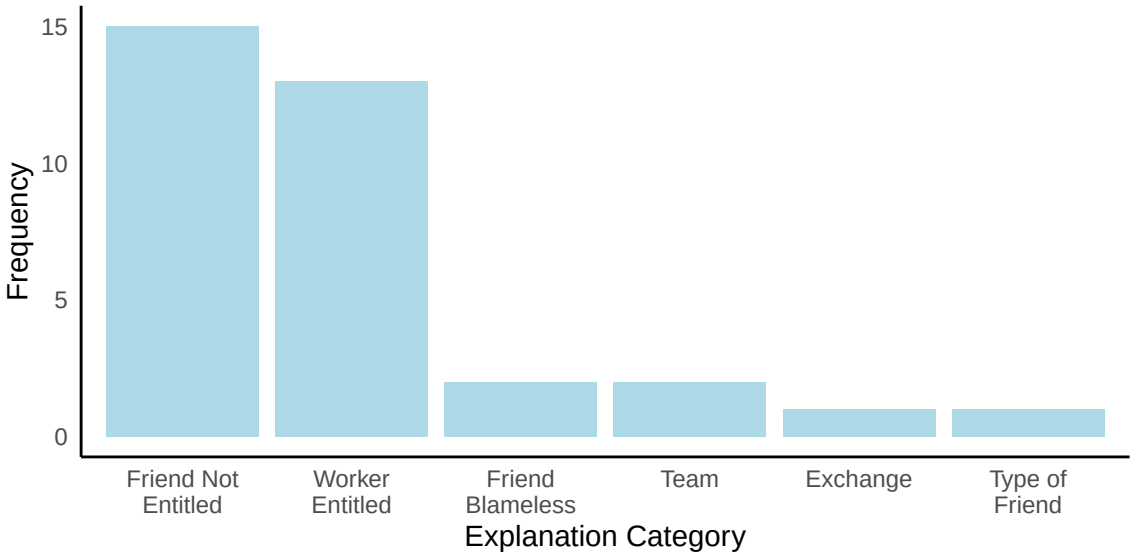
Why do most spectators base their decisions on the relative efforts of the workers rather than on the relative efforts of the friends? To examine this question, we focus on the explanations of spectators in Inherited Inequality & Effort who acknowledge the dilemma of meritocracy, because they consciously think about fairness toward the workers versus fairness toward the friends. We consider a spectator to acknowledge the dilemma of meritocracy if he provides arguments for and against redistribution based on the meritocratic fairness ideal in his explanation. Due to this strong selection requirement, this includes only 25 spectators who provide 34 arguments collectively.

Figure 6 shows the frequencies of explanation categories spectators use to rationalize their decisions. About 82% of all explanations belong to two categories: explanations in the "Worker Entitled" category argue that the workers are entitled to the fruits of their labor. Conversely, explanations in the "Friend Not Entitled" category state that, in contrast to workers, friends are not entitled to the bonus payment because they did not earn it through effort. Both explanation categories refer to the same asymmetry between workers and friends: workers work for the bonus while friends do not. In the view of most spectators who mentioned the dilemma of meritocracy, this makes the entitlement of workers stronger than the entitlement of friends. This can explain why most spectators prefer to be fair toward the workers rather than toward their friends.

Again, alternative explanations are mentioned much less frequently. About 6% of the respondents mention that priority should be given to friends precisely because they did not work and are therefore blameless for the initial distribution. Another 6% view a worker and his friends as one team and argue that resources that were earned by the team should remain within the team. One respondent expects the friend to return some of his earnings to his associated worker and another respondent argues that a friend who is not worked for is not worth the work.

Hence, most spectators seem to believe workers earned the right to distribute a monetary amount that is proportional to their relative effort levels. While spectators might at the same time find it unfair that some passive friends receive less than others even though neither of them worked themselves, the former consideration might be perceived as more important. These considerations suggest that in the Effort conditions (meritocratic) spectators' redistribution decisions should depend on their belief about workers' preferred distributions. For example, a spectator might equalize the distribution between passive friends based on the belief that workers prefer a 50/50 split. Conversely, a spectator who believes that workers only care about their own friends might not redistribute to respect workers' preferences.

Figure 6: Spectators' Explanations for Resolving the Dilemma of Meritocracy



Note: This figure displays the frequency of explanations spectators gave for resolving the dilemma of meritocracy in the way they did by explanation category. Results are based on up to 3 arguments made by 25 spectators from the restricted sample who mentioned the dilemma of meritocracy in their explanations.

5.3.2 Redistribution Decisions and Spectators' Beliefs about Workers' Preferences

To pursue this potential explanation, we make use of spectators' beliefs about how workers would distribute money in a dictator game between a) themselves and another worker and b) their own friend and the friend of another worker, elicited subsequent to the redistribution blocks.[11] If spectators indeed make merit judgments based on workers' relative effort and then try to respect their distributional preferences (in particular: those of the more industrious worker), we should observe that these beliefs are associated with the average extent of redistribution implemented by spectators. We should further observe that these associations are stronger in the Effort conditions and driven by meritocrats.

To test these predictions, we proceed in two steps. First, we regress subjects' average extent of redistribution in a given condition on the corresponding belief about workers' preferred distribution. To make estimates comparable across conditions, we standardize both the dependent variable (across spectators but within conditions) as well as the independent variable. Formally, we estimate the following regression equation using OLS:

$$std(\bar{\theta}_{i,c}) = \alpha + \beta_{c,k} \cdot std(\mu_{i,k}) + \varepsilon_{i,c,k}. \tag{11}$$

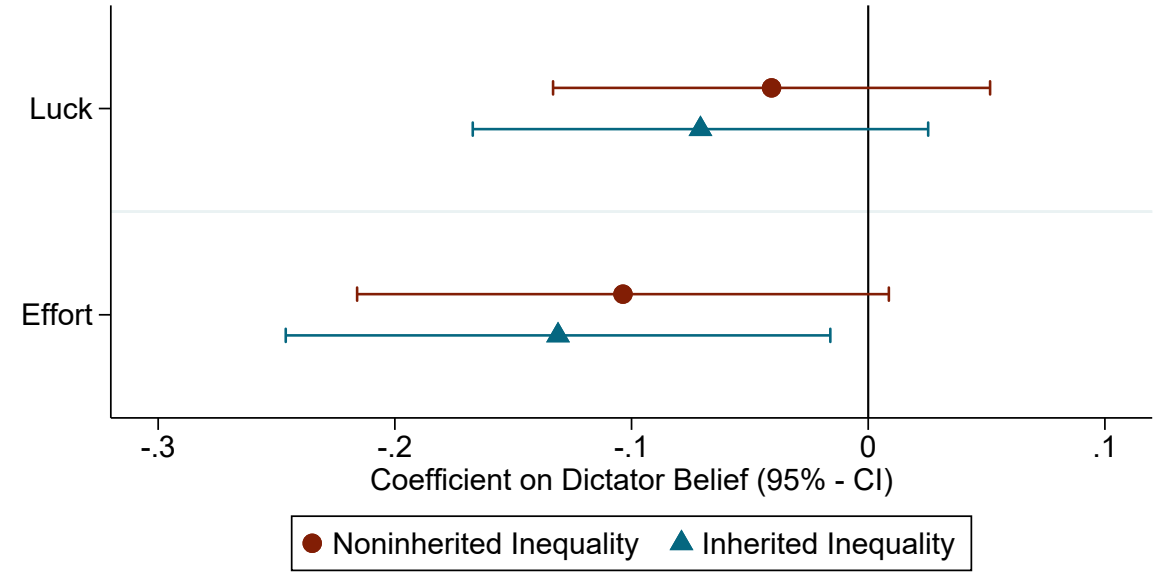
As usual, $\bar{\theta}_{i,c}$ is the average extent of redistribution implemented by spectator i in condition

[11] Histograms of these beliefs and the individual-level differences in these beliefs are shown in Figure 19 and Figure 20 in Appendix B.

$c \in$ {NI-L, NI-E, II-L, II-E}. $\mu_{i,k}$ describes the belief of spectator i about workers' preferred distributions in case k, with k indicating which dictator decision is used: for $c \in$ {NI-L, NI-E} we use spectators' beliefs about workers' preferred distribution between themselves and the other worker, and for $c \in$ {II-L, II-E} we use spectators' beliefs about workers' preferred distribution between their own friend and the friend of the other worker.

The coefficients from these regressions are displayed in Figure 7. In Noninherited

Figure 7: Association between Beliefs about Workers Preferences and Redistribution Decisions



Note: This figure displays coefficients on spectators' beliefs about workers' preferred distributions, obtained from separate regressions of redistribution levels (standardized across spectators but within conditions) on the corresponding standardized beliefs (see Equation 11). The corresponding regression results are reported in Table 10 in Appendix C.

Inequality & Luck, an increase of one standard deviation (SD) in the belief about the share of the \$10 workers on average keep for themselves is associated with a 0.04 SD reduction in the average extent of redistribution ($p = 0.39$). With a 1 SD increase in the same belief being associated with a 0.10 decrease in the average extent of redistribution, the estimate for the Noninherited Inequality & Effort conditions is more than twice as large and weakly significant ($p = 0.07$). In the Inherited Inequality domain, the pattern is very similar but estimated coefficients a bit larger in terms of absolute value. In Inherited Inequality & Luck, a 1 SD increase in the belief about the share of the \$10 workers on average give to their own friends is associated with a 0.07 SD decrease in the average extent of redistribution ($p = 0.15$). Again, with a 1 SD increase in the belief being associated with a 0.13 SD decrease in the average extent of redistribution, the same estimate for the Inherited Inequality & Effort condition is about twice as large and statistically significant ($p = 0.03$). These patterns indicate that spectators' beliefs about workers' preferred distributions are, in particular in the Effort case,

indeed associated with their redistribution decisions in the expected way.

As a second step, we test the more nuanced prediction that these associations are most pronounced for spectators classified as meritocrats in the Noninherited Inequality domain. We estimate the same regression equation as before, but separately for the three fairness types and, to increase comparability of effects across types, standardizing the belief (redistribution) variable not across all spectators (and within a given condition), but across spectators of a given type (and within a given condition). The results for the Effort domain, reported in Table 5, are mixed.[12] While our sample includes too few egalitarians to consider the corresponding

Table 5: Association between Beliefs and Redistribution Decisions by Fairness Type

	Noninherited Inequality			Inherited Inequality		
	(1)	(2)	(3)	(4)	(5)	(6)
	Egalitarians	Meritocrats	Libertarians	Egalitarians	Meritocrats	Libertarians
Guess Self/Other	0.244*	0.043	-0.089			
	(0.134)	(0.045)	(0.089)			
Guess Own Friend/Other's Friend				-0.246	-0.115	0.036
				(0.291)	(0.075)	(0.136)
Observations	13	332	91	13	332	91
R^2	0.060	0.002	0.008	0.060	0.013	0.001

Note: This table reports results from OLS regressions of spectators' average extent of redistribution in the two Effort conditions, standardized across spectators of a given (Noninherited Inequality) fairness type and within experimental conditions, on their beliefs about workers preferred distributions, standardized across spectators of the same fairness type. Robust standard errors are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

estimates reliable (columns (1) and (4)), the estimates for meritocrats (columns (2) and (5)) and libertarians (columns (3) and (6)) are insignificant. Focusing on meritocrats, we observe that in the Noninherited Inequality & Effort condition, the association goes in the wrong direction ($p = 0.34$). In the Inherited Inequality & Effort condition, a 1 SD increase in the belief about the share workers on average keep for their own friends is associated with a 0.12 SD decrease in the average extent of redistribution among meritocrats. This effect, however, does not reach statistical significance ($p = 0.13$).

Overall, our observations on the relation of spectators' beliefs about workers' preferences and their redistribution decisions suggest that spectators making merit judgments and then seeking to respect (the more diligent) workers' preferences may be a part of what is behind our results. However, the associations documented in the first step seem to be driven to some extent by differentially distributed beliefs across different fairness types, and this potential explanation

[12]For completeness, a similar regression table reporting the results for the Luck domain can be found here: Table 11.

requires a more thorough investigation.[13]

5.4 Heterogeneity between Demographic Groups

The previous analysis has shown that most people do not redistribute in the Inherited Inequality & Effort treatment. To investigate whether this result masks heterogeneity between sociodemographic groups, we construct binary sample splits along a variety of dimensions and test whether spectators on different sides of these sample splits make different redistribution decisions. We consider the following sociodemographic characteristics: age, voting frequency (below vs. above median); sex (female vs. male); education (college degree vs. no college degree); income (below vs. above $\$68,000$); wealth (below vs. above $\$124,000$); party identification (republican vs. democrat); perceived social class (above vs. below middle class); and economic ideology (state- vs. market-oriented).[14] Because we have not preregistered any hypotheses regarding heterogeneity, we rely on the main sample for this exercise.

For the different sample splits, Figure 8 displays subgroup averages (with equal weights) of spectators' average extent of redistribution in Inherited Inequality & Effort. Heterogeneity is most pronounced along the wealth dimension. This is consistent with the notion that inherited inequality can be considered just from the perspective of those who bequest but unjust from the perspective of those who inherit — the key idea behind the dilemma of meritocracy. High-wealth individuals might be more likely to take the benefactors' perspective while for low-wealth individuals the beneficiaries' perspective might be more salient. Similarly, those from the upper classes tend to redistribute less than those from the lower classes.[15]

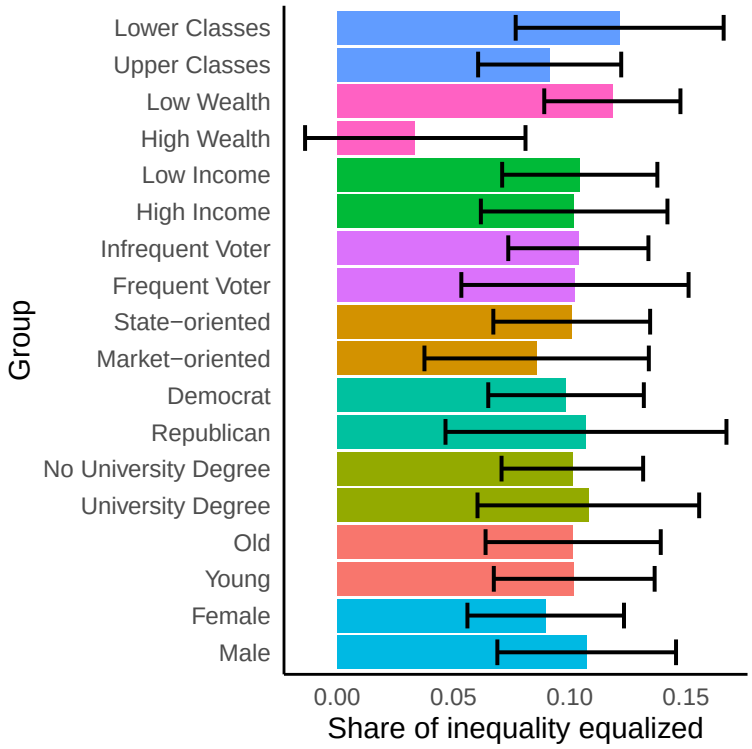
Yet, there is not much heterogeneity overall; in particular, Democrats and Republicans redistribute to a similar extent on average, and no subgroup equalizes more than $\$12$ of the initial inequality on average. As shown in Figure 21, Figure 22 and Figure 23 in Appendix B, the patterns in Noninherited Inequality & Effort closely resemble those in Inherited

[13] The average beliefs about the share workers on average keep for themselves (when they distribute between themselves and the worker they are matched to) are $\$4.98$ (Egalitarians), $\$6.14$ (Meritocrats), and $\$6.35$ (Libertarians). The average beliefs about the share workers on average give to their own friends (when they distribute between their own friend and the friend of the worker they are matched to) are $\$5.20$ (Egalitarians), $\$6.13$ (Meritocrats), and $\$6.22$ (Libertarians).

[14] When spectators reported their political affiliation, perceived social class, and economic ideology, they could select a middle option; when we consider these sociodemographic dimensions, we drop spectators who selected this middle option.

[15] A potential explanation for heterogeneity along the wealth/socio-economic status dimension could be that individuals take perspectives, endorse fairness ideals, and form beliefs in a self-serving way (Cassar and Klein, 2019; Deffains et al., 2016; Konow, 2000; Rodriguez-Lara and Moreno-Garrido, 2012; Valero, 2022).

Figure 8: Average Equalization in Condition Inherited Inequality & Effort by Demographic Group



Note: Shares of inequality equalized for a group are calculated by averaging over the average extent of redistribution in the Inherited Inequality & Effort condition for all spectators in the main sample who belong to the group. 95% confidence intervals around the averages based on standard errors of the mean.

Inequality & Effort displayed here, and heterogeneity in the two Luck conditions is even less pronounced.

To test formally whether there is heterogeneity in the treatment effects across any of the binary splits in the Inherited Inequality & Effort condition, we run the following OLS regression:

$$\theta_{i,\sigma} = \alpha + \alpha^D D_i + \alpha_E E_\sigma + \alpha_E^D E_\sigma D_i + \beta II_\sigma + \beta^D II_\sigma D_i + \beta_E E_\sigma II_\sigma + \beta_E^D E_\sigma II_\sigma D_i + \delta \Delta_\sigma + \epsilon_{i,\sigma} \tag{12}$$

where D_i indicates whether spectator i belongs to a certain sociodemographic subgroup. We cluster standard errors on the spectator level. Figure 24 in the appendix plots estimates for β^D and β_E^D by demographic variable, which describe the differences across the sample split in a) the effect of inequality being inherited in the luck domain and b) the "difference-in-differences" effect of inequality being inherited in the effort versus luck domain. Table 12 and Table 13 in Appendix C also report estimated coefficients on other variables. Few estimates for β^D

and β_E^D are significant before controlling for multiple hypothesis testing, and after applying the Benjamini-Hochberg procedure none of the coefficients differs significantly from zero. Hence, resolving the dilemma of meritocracy in favor of those who bequest is common across sociodemographic groups.

To explore whether the distribution of redistribution patterns differs by socioeconomic characteristics, we calculate for each demographic subgroup the distribution over the two-dimensional redistribution patterns $(\tau_{NI}, \tau_{II}) \in \{$(Egalitarian, Egalitarian), (Libertarian, Libertarian), (Meritocrat, Meritocrat), (Meritocrat, Egalitarian)$\}$, which are consistent with our theoretical framework, and a residual type which encompasses all remaining spectators. Figure 25 in Appendix B shows the resulting distribution of redistribution patterns by demographic subgroups. There is no notable variation between demographic subgroups. In each subgroup, most spectators can be classified into one of the four main patterns, and in each subgroup more than half of all spectators display a meritocratic redistribution pattern in both dimensions. Using Fisher's exact test, we do not detect any significant differences in the distribution between any two subgroups of the same demographic variable.

5.5 External Validity

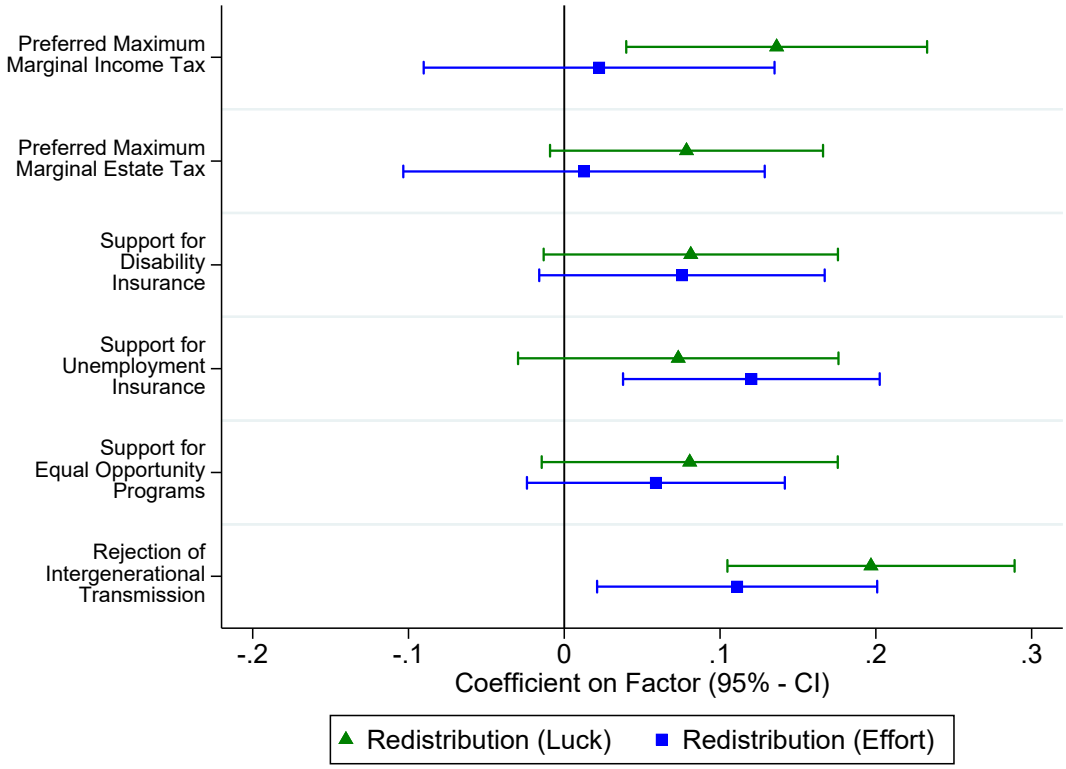
As a next step, we investigate to what extent our experimental measures of redistributional preferences are associated with preferences over real-world policies elicited in the post-experimental questionnaire. Because spectators' average extent of redistribution is highly correlated both within the Luck and Effort domain ($\rho_{\bar{\theta}_{i,NI-L},\bar{\theta}_{i,II-L}} = 0.64$ and $\rho_{\bar{\theta}_{i,NI-E},\bar{\theta}_{i,II-E}} = 0.60$), we apply a factor analysis on the four variables that capture an individual's tendency to redistribute in the four conditions, retaining two factors (eigenvalues equal to 1.11 and 0.91; −0.21 for the third factor). $\bar{\theta}_{i,NI-L}$ and $\bar{\theta}_{i,II-L}$ load heavily on the first factor (0.73 in both cases) but not the second one (0.02 and 0.03). Conversely $\bar{\theta}_{i,NI-E}$ and $\bar{\theta}_{i,II-E}$ load heavily on the second factor (0.69 in both cases) but not the first one (0.02 and 0.04). Hence, we conclude that the first factor captures an individual's preference for redistribution if inequality is based on luck ("Redistribution (Luck)"), while the second factor captures the preference for redistribution if inequality is the result of differential effort ("Redistribution (Effort)").

In the questionnaire, we elicited preferences regarding six inequality-related policies. First, we asked spectators to indicate their preferred maximum marginal income and estate tax rates on scales from 0% – 100%. Second, we used 7-point Likert scales to elicit their support for disability insurance, unemployment insurance, and equal opportunity programs, with options ranging from "[the policy] should be significantly reduced" to "significantly extended". Finally, we asked to what extent spectators find intergenerational transmission fair, eliciting responses by

means of a 6-point Likert scale from "clearly unfair" to "clearly fair". To facilitate the analysis, we reverse-coded the last variable such that higher values always indicate stronger support for redistribution. Further, we standardized all policy variables and the two factor variables.

Figure 9 displays coefficients from OLS regressions of the policy variables on the two factor variables. Without exception, the estimated coefficients are positive, indicating that

Figure 9: Association between Experimental Measures and Policy Preferences



Note: This figure plots coefficients from OLS regressions of spectators' (standardized) policy preferences on (standardized) factor variables based on the average extent of redistribution in the four treatment conditions. 95% confidence intervals are based on robust standard errors. The corresponding regressions are reported in Table 14. Results are based on the main sample.

more redistribution in the impartial spectator experiment is associated with stronger support for redistributive policies. A 1SD increase in one of the factor variables is often associated with an increase in support for the respective policy by about 0.1SD. Given that recent research has shown that preferences over real-world (redistributive) policies are strongly influenced by factors other than inequality preferences such as views on government efficiency (Stantcheva, 2021), it is perhaps unsurprising that the associations are not too strong. However, for all policy variables, at least one of the two factor variables is significant at the 10%-level. In sum, the results suggest that the experimental measures capture meaningful information about individuals' fairness preferences, and that these preferences are associated with preferences over real-world (redistributive) policies.

5.6 Validation of Survey Items

Sometimes it may be infeasible to elicit incentivized experimental measures of fairness preferences in a survey. To test whether short nonincentivized survey measures can be employed as substitutes, we asked spectators to what extent they find luck-based and effort-based inequality between two individuals fair. Responses were elicited by means of 6-point Likert scales ranging from "clearly unfair" to "clearly fair".[16]

To assess how closely the experimental and survey measures are related, we run OLS regressions with the average extent of redistribution in either the Noninherited Inequality & Luck or the Noninherited Inequality & Effort condition as the dependent variable and the (standardized) survey measures as the independent variable(s). The results are reported in Table 6 and indicate that the experimental measures of redistributional preferences are strongly related to the corresponding survey measure, but not related to the non-corresponding survey measure. Columns (1)-(3) refer to the average extent of redistribution in the Noninherited

Table 6: Association between Experimental and Survey Measures of Redistributional Preferences

	$\bar{\theta}_{i,NI-L}$			$\bar{\theta}_{i,NI-E}$		
	(1)	(2)	(3)	(4)	(5)	(6)
Luck Survey Measure	-0.148***		-0.148***	0.004		0.003
	(0.017)		(0.017)	(0.010)		(0.010)
Effort Survey Measure		0.008	0.006		-0.067***	-0.066***
		(0.016)	(0.018)		(0.018)	(0.018)
Constant	0.799***	0.799***	0.799***	0.048***	0.048***	0.048***
	(0.016)	(0.017)	(0.016)	(0.008)	(0.008)	(0.008)
Observations	437	437	437	437	437	437
R^2	0.172	0.000	0.172	0.000	0.147	0.147

Note: This table reports results from OLS regressions of the average extent of redistribution in the Noninherited Inequality & Luck ($\bar{\theta}_{i,NI-L}$) and Noninherited Inequality & Effort ($\bar{\theta}_{i,NI-E}$) conditions on the respective (standardized) survey measures. Robust standard errors are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Inequality & Luck condition. We observe that a 1SD increase in the luck survey measure

[16]The survey questions asked spectators to complete the sentences "If one person receives more than another due to having better luck, I find that ..." and "If one person receives more than another due to exerting higher effort, I find that ..." by selecting the option on the Likert scale that corresponded most closely to their view. Figure 26 in Appendix B show cumulative distribution functions for the two survey questions.

is associated with a decrease in the average extent of redistribution by almost 15%p. In contrast, there is no association at all between the experimental measure for this condition and the effort survey measure. Conversely, focusing on the NONINHERITED INEQUALITY & EFFORT case in columns (4)-(6), a 1SD increase in the effort survey measure is associated with a $6-7\%p$ decrease in the average extent of redistribution, but there is no association between the experimental measure for this condition and the luck survey measure. These observations are corroborated by the fact that at least 15% of the variance in the average extent of redistribution is explained if the regression includes the "right" survey measure, but none of the variance is explained if only the "wrong" survey measure is included as a regressor. Overall, our results suggest that if researchers have to economize on survey content these nonincentivized survey measures constitute decent alternatives to elicit fairness preferences and even allow to differentiate between different sources of inequality.

6 Conclusion

Human beings tend to more altruistic toward their family members, friends, and compatriots than toward non-relatives, strangers and foreigners (Bernhard et al., 2006; Cappelen et al., 2022a). In many instances the underlying relationships are accidental; for example, we do not choose to which parents or in which country we are born. In meritocratic societies where inequality is accepted if it is based on factors within individuals' control but rejected if it is based on factors outside individuals' control, this creates a fundamental dilemma: unequal outcomes between individuals who differentially profit from other people's efforts are at the same time within the benefactors' control (and therefore just) but outside the beneficiaries' control (and therefore unjust). This paper studied US citizens' fairness preferences in situations with such inherited inequality and how they deal with this dilemma.

Our results show that most US citizens prioritize the benefactors' efforts and accept inherited inequality, which can help to explain why many people accept high levels of inequality and unequal starting positions within and across societies. It is not that they find it fair that some people have better opportunities than others; rather, they weigh this concern against another—in their view stronger—fairness argument. For example, creating equal opportunities among children requires preventing parents from channeling extra resources to their children, even if they themselves earned them fairly. When meritocrats have to decide whether to accept unequal opportunities or prevent families or friends from endowing their loved ones with extra endowments, our results suggest that they choose the former.

Since we find that individuals clearly prioritize rewarding the benefactors' efforts over equalizing payoffs between the non-working beneficiaries when facing the dilemma of meritoc-

racy, a natural avenue for future research is to explore how much the decision environment has to be tweaked for spectators to redistribute more. Our setup is ideally suited to do so because it admits controlled variation in a variety of dimensions.

One potentially relevant dimension is the relationship between benefactor and beneficiary, which varies between outside-the-lab contexts. For example, people usually bequest their resources to their children, and the parent-child relationship is usually stronger than the relationship between friends (Cappelen et al., 2022a). In light of our finding that spectators tend to redistribute less if they think that workers tend to prioritize their own friends more strongly, it seems unlikely that the results would differ if we had used family ties instead of friendships, where redistribution levels are already low. Instead, redistribution in the friends-case likely poses an upper bound to redistribution in the family case. Still, spectators might view kinship differently from friendships because people can choose their friends but not their kin. To examine this possibility, researchers could combine our experimental design with a subject sample containing pairs of relatives.

The size of the stakes involved constitutes a second dimension that might be relevant for fairness judgments. High stakes may not only induce individuals to make considerate decisions but, in the context of redistribution, also call into play different motivations such as taking into account individuals' needs (Konow, 2000). Further, employing high stakes may also enable researchers to study preferences over more nuanced (e.g., progressive) redistribution schemes. While the correlation between spectators' behavior in our experiment and their policy preferences indicates that a lot can be learned also from small-stakes settings, it might be worthwhile to study how the stake size affects the relevance of different fairness motives and overall fairness judgments.

Third, our Effort and Luck treatments make it very clear that the initial distribution is either exclusively determined by workers' relative efforts or by luck, whereas resource distributions are usually determined by a combination of the two that is hard to disentangle. Recent research has documented in the context of noninherited inequality that if inequality is based on both effort and luck, this affects redistribution behavior in a non-trivial way. For example, spectators prioritize rewarding effort when the relative contribution of effort and luck can be decomposed (Cappelen and Tungodden, 2017), but uncertainty induces meritocrats to behave in a more egalitarian way (Cappelen et al., 2022b). Similarly, uncertainty allows individuals to form biased beliefs about the source of inequality (Cassar and Klein, 2019; Deffains et al., 2016; Konow, 2000; Rodriguez-Lara and Moreno-Garrido, 2012; Valero, 2022). Hence, it might be interesting to study how uncertainty about the source of inequality affects preferences for redistribution in the context of inherited inequality.

Fourth, individuals may not only inherit differential amounts of resources that can be

consumed but also differential opportunities to generate resources themselves. Some papers investigate preferences for redistribution under unequal opportunities, albeit in settings where those unequal opportunities arise exogenously (Alesina et al., 2018b; Andre, 2022; Eisenkopf et al., 2013; Schwaiger et al., 2022). Our setup could easily be extended to accommodate the inheritance of unequal opportunities by introducing a second production stage in which the beneficiaries' returns to effort depend on their benefactors' efforts in the first production stage. This would introduce a dilemma similar to the one studied in this paper because a meritocrat should reject unequal opportunities but welcome that higher effort in the first stage pays off for beneficiaries in the second stage, leading to a very different decision problem for individuals making fairness judgments as compared to those in the papers mentioned above.

Finally, we have provided suggestive evidence for a potential mechanism behind individuals' fairness judgments in the context of inherited inequality. Our observations — and also the results from Cohen et al. (2022) — are consistent with the idea that individuals determine entitlements based on the benefactors' merits and then try to take into account the benefactors' preferences over resource distributions between potential beneficiaries when making fairness judgments. Devising a causal test of this mechanism seems to be a promising endeavor.

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A Data Quality

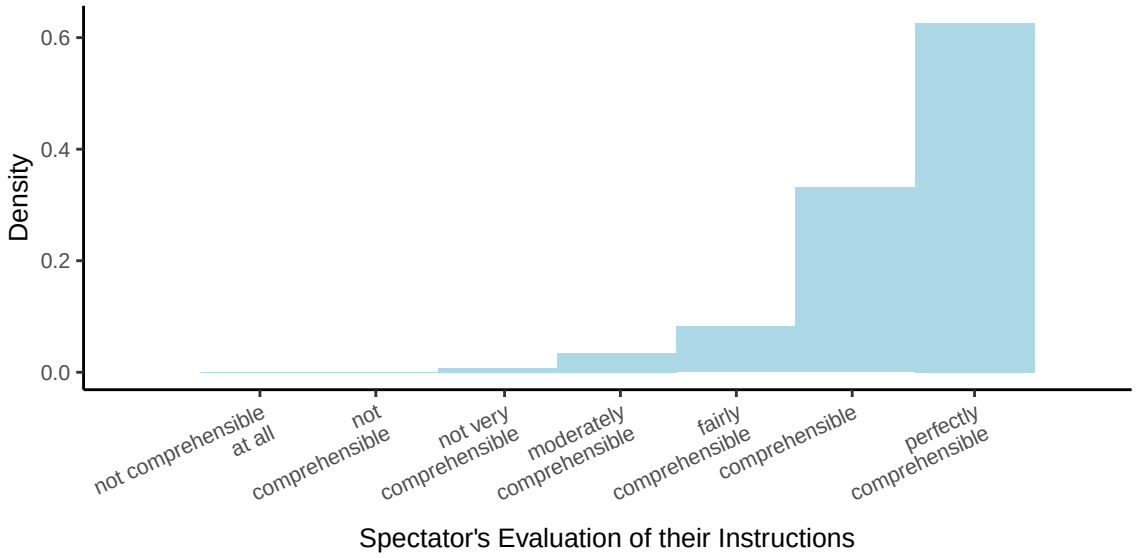
In this section, we detail how we tried to promote high-quality responses in the spectator survey and report various data quality checks. The data reveal that a) very few spectators fail attention checks, b) the vast majority states that the instructions were comprehensible, c) spectators make few errors on control questions, d) most spectators write detailed and thoughtful responses to open-ended questions, and e) few spectators perceive the survey to have been biased in either political direction.

Attention Checks. The survey features two attention checks, and participants are informed on the first page that they will be rejected if they fail both of them. In line with Prolific's attention check policy, the first attention check instructs subjects to select prespecified options, and the second attention check is a nonsensical question for which only two options are objectively correct. Attention checks are placed strategically: one is administered right at the start of the survey, and the other one is administered as part of the policy preferences questionnaire and resembles the other questions at first glance. None of the 543 subjects who completed the spectator survey failed both attention checks, such that we do not have to exclude anyone in the main sample to follow our pre-analysis plan. Generally, few spectators failed attention checks at all: among the 543 spectators in the main sample, 2 failed the first attention check, and 15 failed the second attention check. Considering only the 437 spectators in the restricted sample (see Subsection 4.2), only one failed the first attention check, and 11 failed the second attention check.

Comprehensibility. We attach great importance to not confronting spectators with walls of text. For example, we introduce them to each condition of the earnings stage and how they can make their redistribution decisions with the help of individual slideshows. Each slideshow displays graphical representations of the different steps in the earnings stage with only minimal text, and spectators can go back and forth within each slideshow. The slideshow and the combination of visual and text information are designed to make the survey as engaging and easy to digest as possible.

At the end of the survey, we ask spectators how comprehensible they find the instructions. On a 7-point Likert scale, subjects can choose options from "not comprehensible at all" to "perfectly comprehensible". For spectators in the restricted sample, Figure 10 shows the distribution of the responses (the figure for the main sample looks very similar). We observe that spectators judge the instructions very favorably. The vast majority (58%) say that the instructions were "perfectly comprehensible," and 89% assess the instructions as at least "fairly

Figure 10: Spectators' Assessment of the Instructions



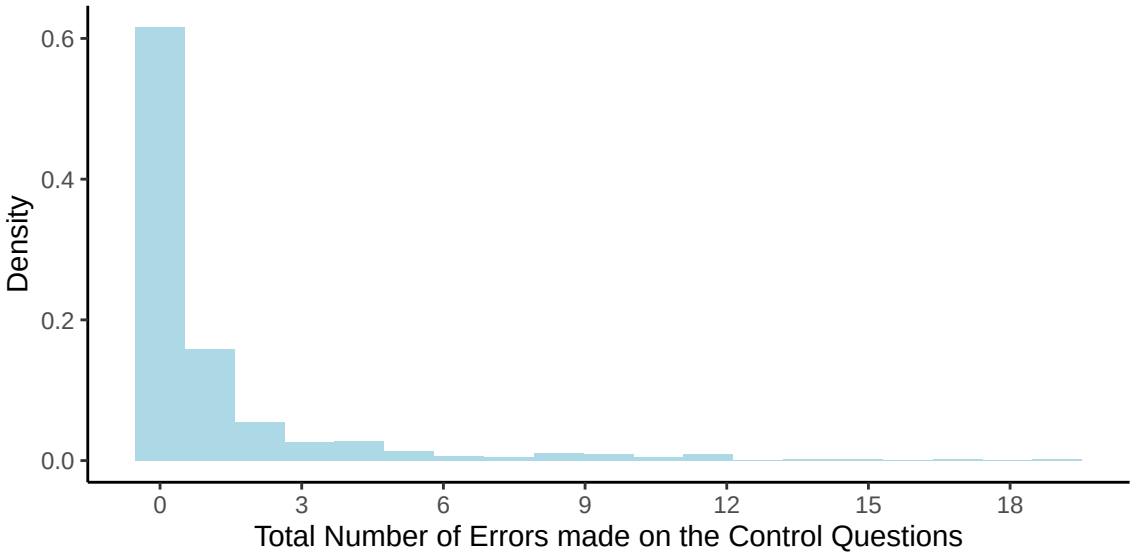
Note: Histogram showing how spectators in the restricted sample chose to complete the sentence "Overall, I found the instructions ..." on a 7-point Likert scale from "not comprehensible at all." to "perfectly comprehensible.".

comprehensible." It is particularly reassuring that less than 1% of the spectators perceive the instructions as "not very comprehensible," and no one chooses the lowest two options.

Control Questions. To check more directly whether spectators understand the instructions, they have to answer two control questions each after they were introduced to a particular type of situation by means of the slideshow. They can proceed to the corresponding block of decisions only if they answered both questions correctly; otherwise, they are referred to the slideshow again. Control questions ask about the most crucial features of the situation: whether workers worked for themselves or friends and whether the initial allocation of the \$10 would be based on a random draw or the relative number of completed tasks. In total, each spectator responds to 8 control questions. Figure 11 depicts a histogram of the total number of errors spectators in our sample made. We observe that most spectators made few errors, which indicates that they usually understood the instructions well. About 65% of spectators made no error, and only about 13% made more than 2 errors in total.

Open-Ended Questions. The spectator survey features several open-ended questions. After spectators have made all redistribution decisions within a particular block, we ask them to describe their considerations regarding these decisions. Further, at the end of the survey, subjects can leave a final comment on the general topic, the instructions, whether they experienced difficulties or anything else they have on their mind. Most open-ended responses are quite

Figure 11: Control Question Errors



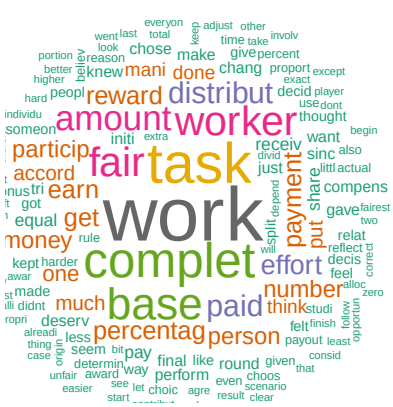
Note: Histogram of the total number of errors that spectators in the restricted sample made when responding to the 8 control questions.

detailed and thoughtful. Only one spectator in the restricted sample (four spectators in the main sample) did not write any open-ended response during the study, suggesting that spectators generally put considerable effort into the study.

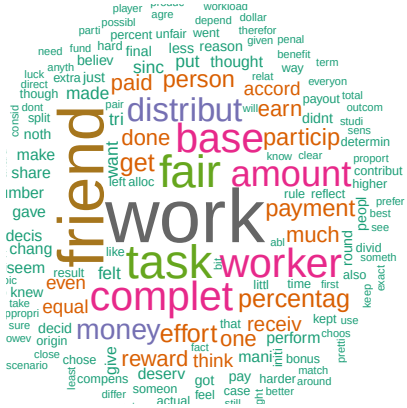
Figure 12 summarizes responses in four word clouds, one for each treatment. To generate these word clouds, we remove all numbers from the open-ended responses, transform all words to lowercase and remove punctuation and stop words. Finally, we reduce all words to their base word (stem). The size of words in Figure 12 indicates the frequency with which that word was used. The term "work" was among the most often used terms in all conditions, consistent with the large share of meritocrats in our sample. In the Luck conditions, the term "equal" was also used very frequently, while it was nearly absent in the Effort conditions. Similarly, the term "friend" belongs to the most commonly used terms in the Inherited Inequality conditions but is rarely used in the Noninherited Inequality treatments. This suggests that subjects understood the conditions and gave thoughtful explanations.

Figure 13, Figure 14 and Figure 15 show the frequencies of explanations that spectators give for their decisions by explanation category. Table 9 provides an overview of all categories with definitions and examples. Figure 13 shows that, consistent with their redistribution decisions, most spectators state to redistribute in the Noninherited Inequality & Effort condition based on the workers' efforts. Figure 14 reveals that most spectators rationalize their behavior in the Noninherited Inequality & Luck condition with a preference for a distribution based on effort too. However, many also mention that they find distributions based on luck unfair, while

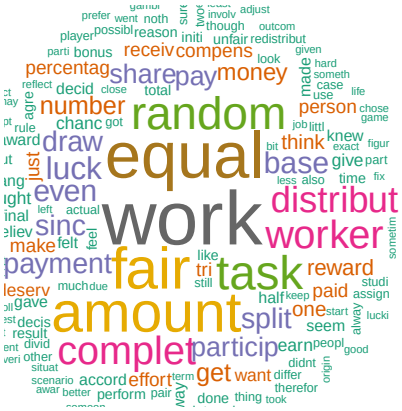
Figure 12: Word clouds of terms subjects used to explain their considerations when making redistribution decisions by treatment condition.



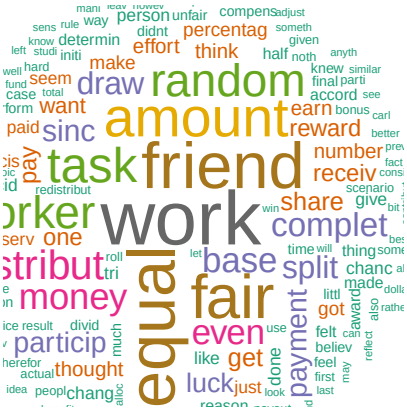
(a) Noninherited & Effort



(b) Inherited & Effort



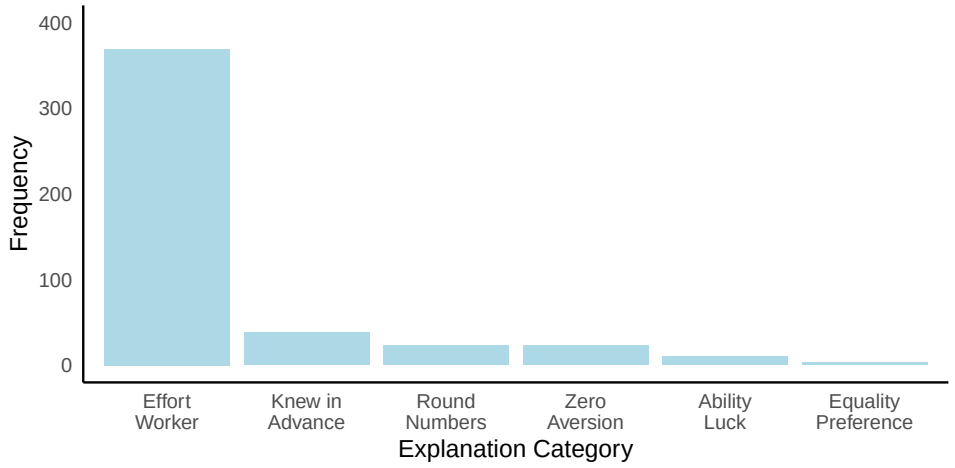
(c) Noninherited & Luck



(d) Inherited & Luck

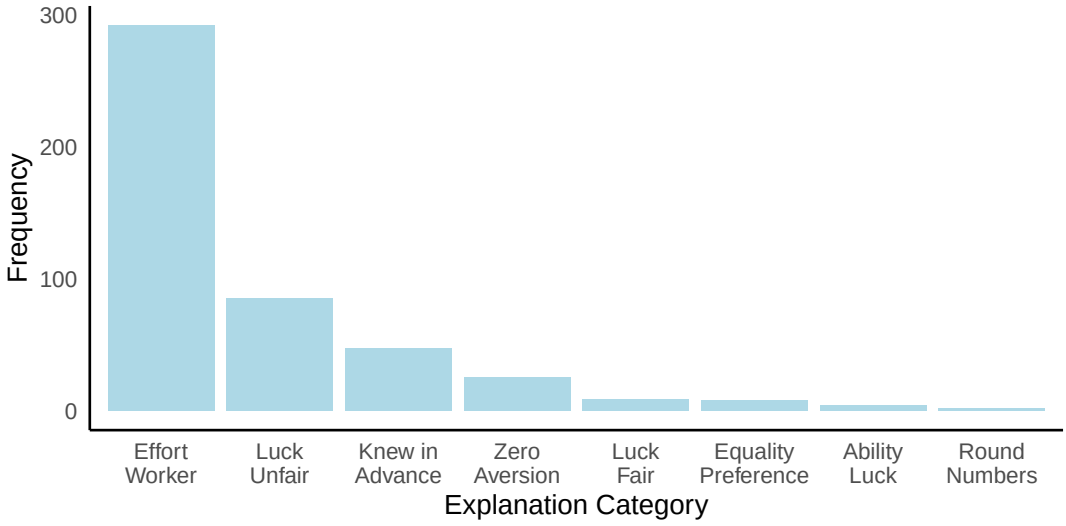
a few argue that the random allocation of resources is a fair method of distribution. Similarly, Figure 15 shows that many spectators justify their behavior in the Inherited Inequality & Luck treatment with arguments based on luck. Moreover, many spectators specifically refer to the effort of the workers or their friends. Hence, the explanations spectators give for their decisions correspond reasonably to the treatment conditions, which suggests that they had a good understanding of the study setup.

Figure 13: Spectators' Explanations for their Decisions in Noninherited Inequality & Effort



Note: This figure displays the frequency of explanations spectators gave for their redistribution decisions in Noninherited Inequality & Effort by explanation category. Results are based on up to 3 arguments made by 432 spectators from the restricted sample. We included up to 3 arguments per spectator.

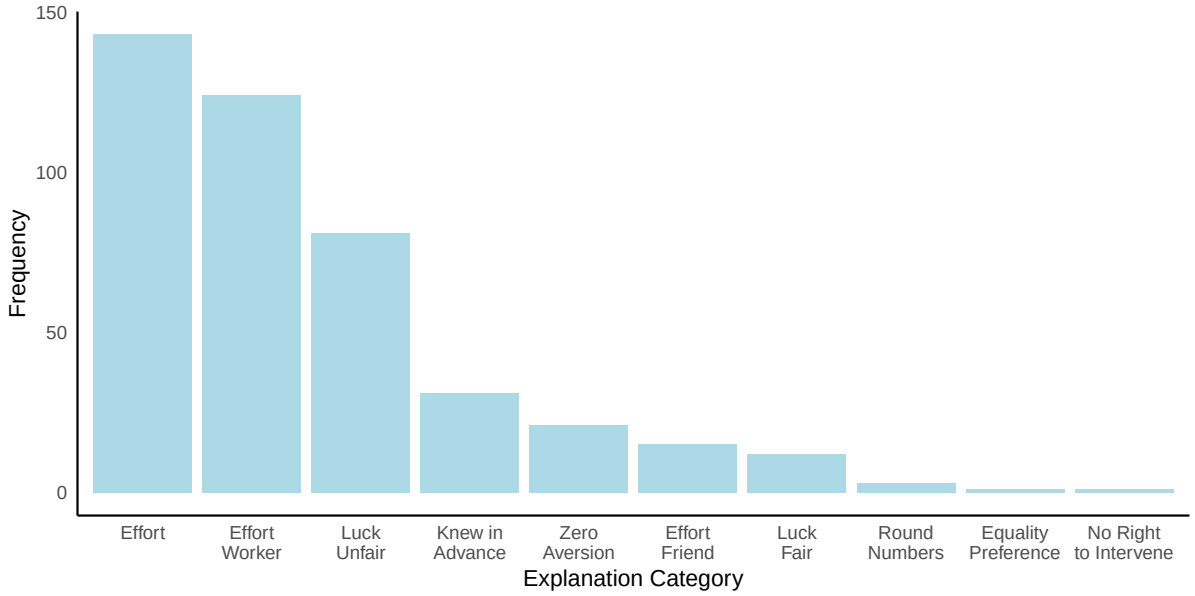
Figure 14: Spectators' Explanations for their Decisions in Noninherited Inequality & Luck



Note: This figure displays the frequency of explanations spectators gave for their redistribution decisions in Noninherited Inequality & Luck by explanation category. Results are based on up to 3 arguments made by 435 spectators from the restricted sample. We included up to 3 arguments per spectator.

Finally, Figure 16 shows a word cloud of final comments spectators could make at the end of the survey. Again, to generate this word cloud, we remove all numbers from the open-ended responses, transform all words to lowercase and remove punctuation and stop words. Finally, we stem all words. Most comments are positive. Many spectators mention that they found the

Figure 15: Spectators' Explanations for their Decisions in Inherited Inequality & Luck



Note: This figure displays the frequency of explanations spectators gave for their redistribution decisions in Inherited Inequality & Luck by explanation category. Results are based on up to 3 arguments made by 432 spectators from the restricted sample. We included up to 3 arguments per spectator.

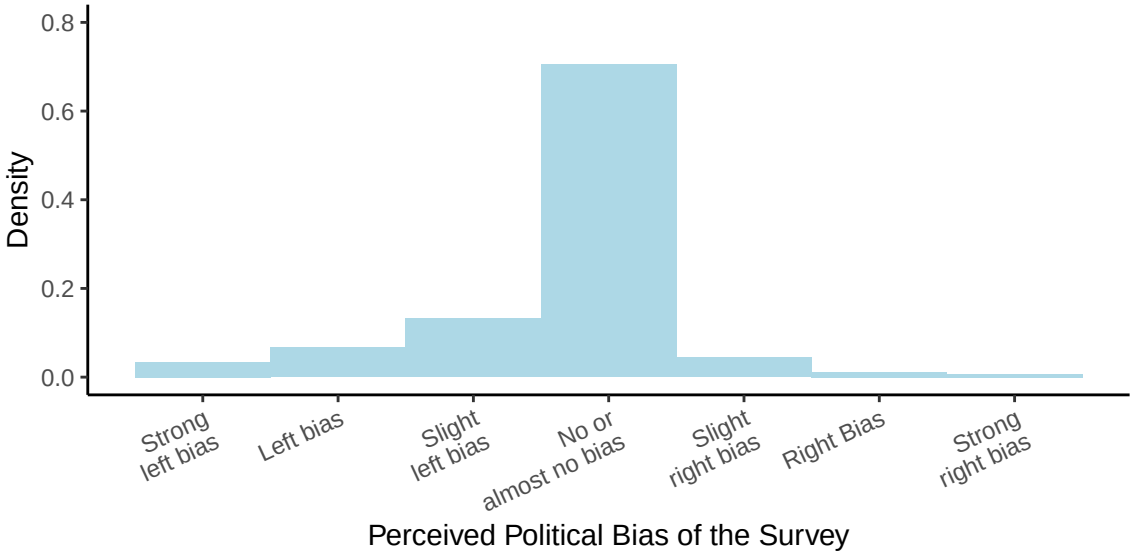
study interesting and understandable.

Political Bias. For surveys on highly politicized topics such as redistribution, it may be particularly important to phrase instructions and questions in a neutral way. We tried to keep this caveat in mind when we decided on the formulations used in the survey. Additionally, we ask subjects at the end of the survey whether they have the impression that the survey is biased toward a particular political stance, using a 7-point Likert scale with options from "strong left bias" to "strong right bias." Figure 17 displays how spectators' responses in the restricted sample are distributed (again, the figure for the main sample looks very similar). Less than 5% of the spectators perceive a strong bias in either direction. About 23% perceive a left-wing bias of any strength, whereas about 6% perceive a right-wing bias of any strength. More than 70% of the spectators in the restricted sample respond with "No or almost no bias," which is remarkable given that the theme of the survey is redistribution.

Figure 16: Word Cloud of Final Comments

Note: A word cloud relating to final comments spectators could make at the end of the survey.

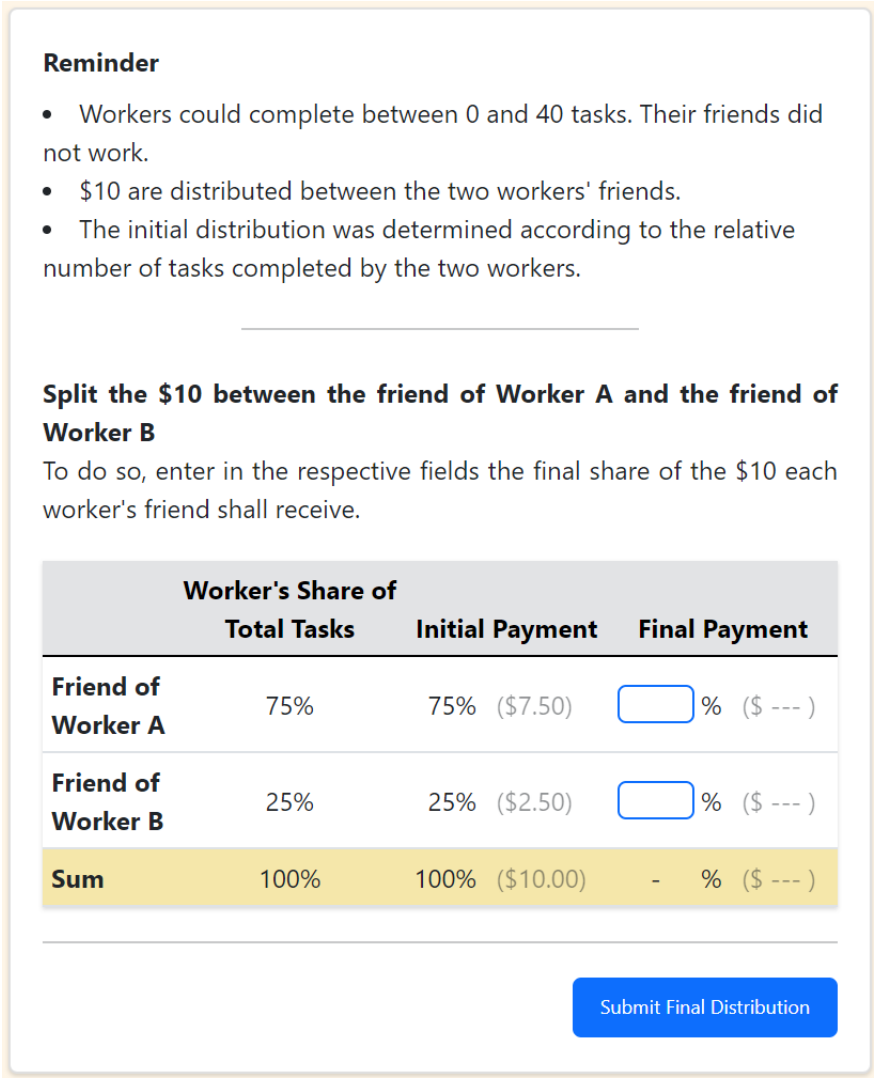
Figure 17: Spectators' Perception of the Survey's Political Bias



Note: Histogram of how subjects in the restricted sample respond to the question "Do you think this survey was biased toward a certain political stance?", asked at the end of the survey using a 7-point Likert scale from "strong left bias" to "strong right bias".

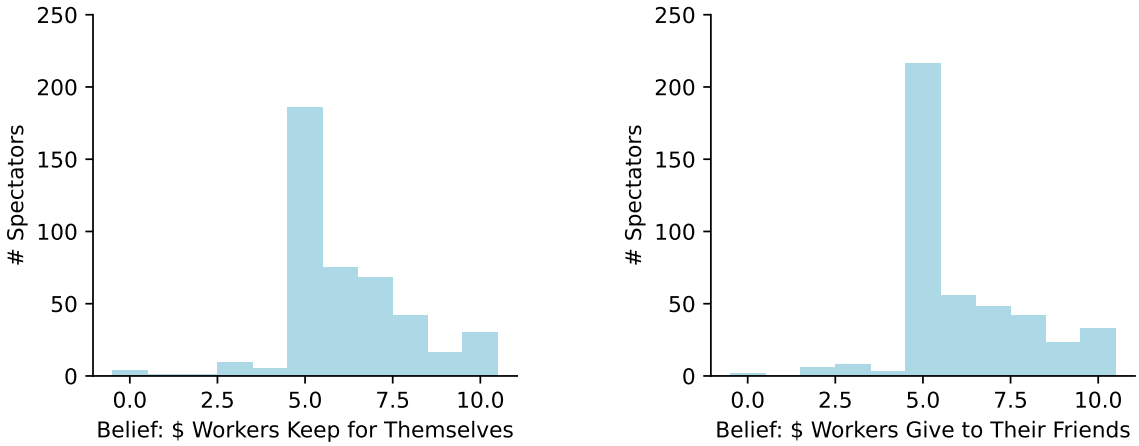
B Figures

Figure 18: Screenshot of the Decision Screen for Spectator's Redistribution Decisions



Note: This decision screen corresponds to the Inherited Inequality & Merit condition. The decision screens for the other conditions had the same structure.

Figure 19: Spectators' Beliefs about Workers' Preferred Distributions

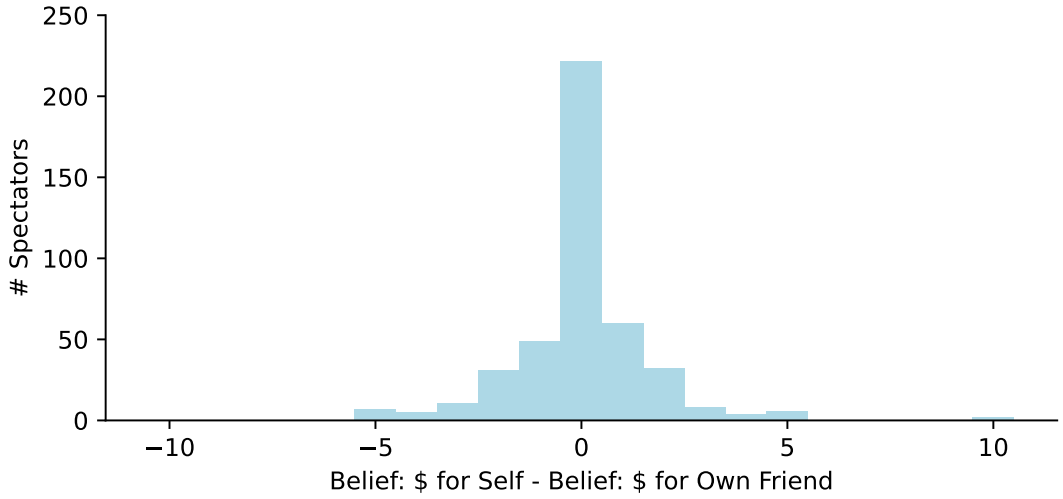


(a) Self vs. Other Worker

(b) Own Friend vs. Other Worker's Friend

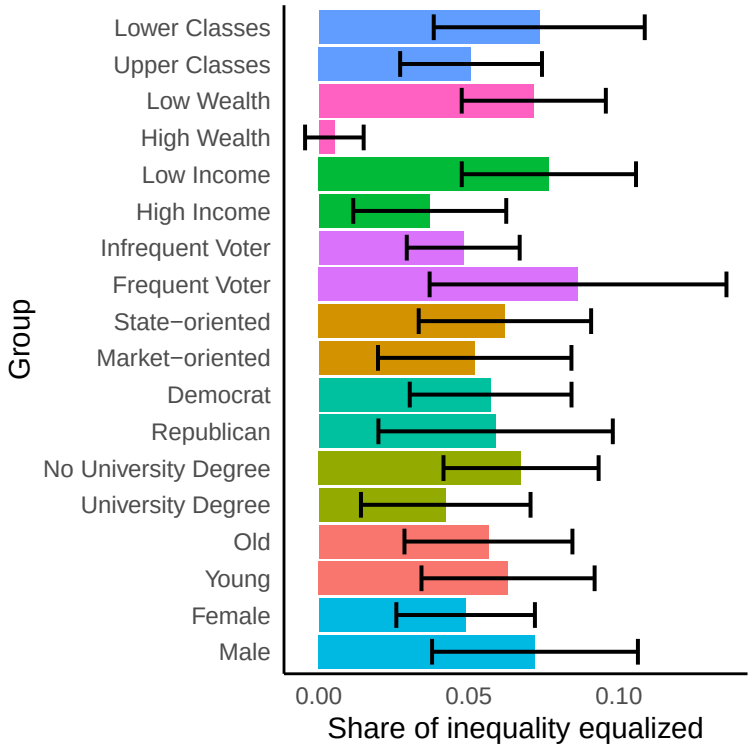
Note: Figure 20(a) displays a histogram of spectators' incentivized beliefs about the share of the $10 workers on average keep for themselves when they are asked how they would like to distribute $10 between themselves and the worker they are matched to in the first incentivized dictator decision. Figure 20(b) displays a histogram of spectators' incentivized beliefs about the share of the $10 workers on average give to their own friends when they are asked how they would like to distribute $10 between their own friend and the friend of the worker they are matched to in the second incentivized dictator decision.

Figure 20: Differences in Spectators' Beliefs about Workers' Preferred Distributions



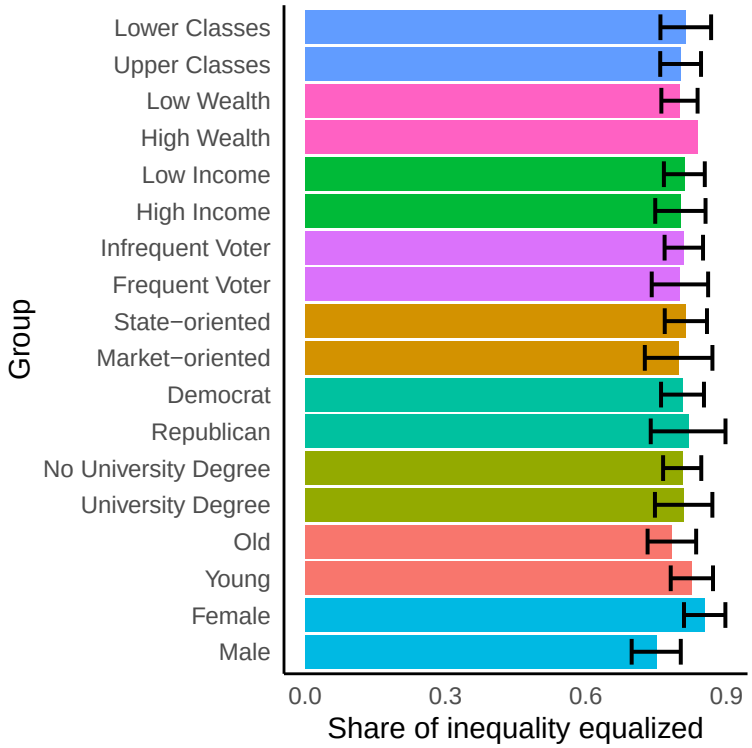
Note: This figure displays a histogram of the individual differences in spectators' beliefs about workers' preferred distributions in the dictator decisions for a) themselves vs. the worker they are matched to and b) their own friend vs. the friend of the worker they are matched to. For example, if a spectator indicated a belief that workers on average keep $8 for themselves when they are asked how they would like to distribute $10 between themselves and the worker they are matched to, and that workers on average give $7 to their own friend when they are asked how they would like to distribute $10 between their own friend and the friend of the worker they are matched to, this would yield a difference of $1.

Figure 21: Average Equalization in Condition Noninherited Inequality & Effort by Demographic Group



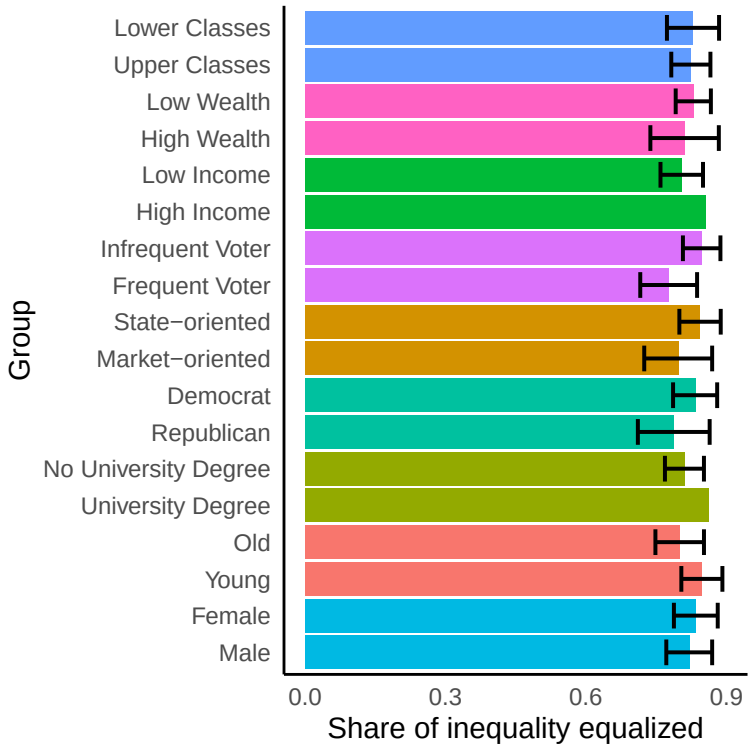
Note: Shares of inequality equalized for a group are calculated by averaging over the average extent of redistribution in the Noninherited Inequality & Effort condition for all spectators in the main sample who belong to the group. 95% confidence intervals around the averages based on standard errors of the mean.

Figure 22: Average Equalization in Condition NONINHERITED INEQUALITY & LUCK by Demographic Group



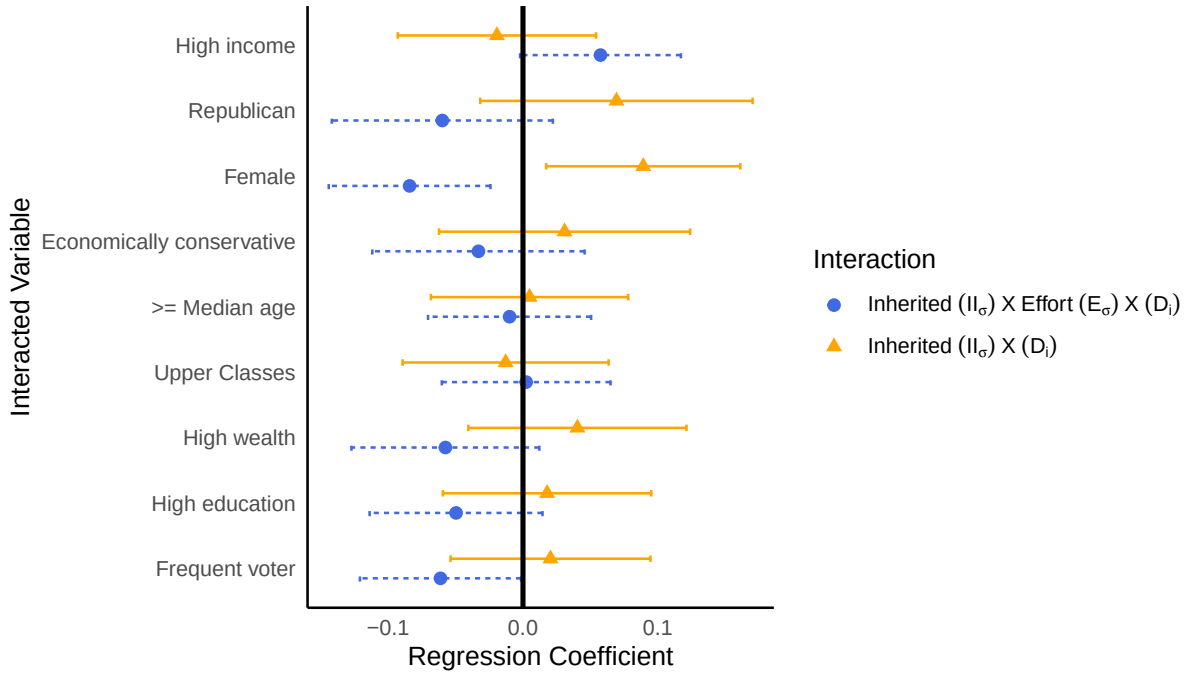
Note: Shares of inequality equalized for a group are calculated by averaging over the average extent of redistribution in the NONINHERITED INEQUALITY & LUCK condition for all spectators in the main sample who belong to the group. 95% confidence intervals around the averages based on standard errors of the mean.

Figure 23: Average Equalization in Condition INHERITED INEQUALITY & LUCK by Demographic Group



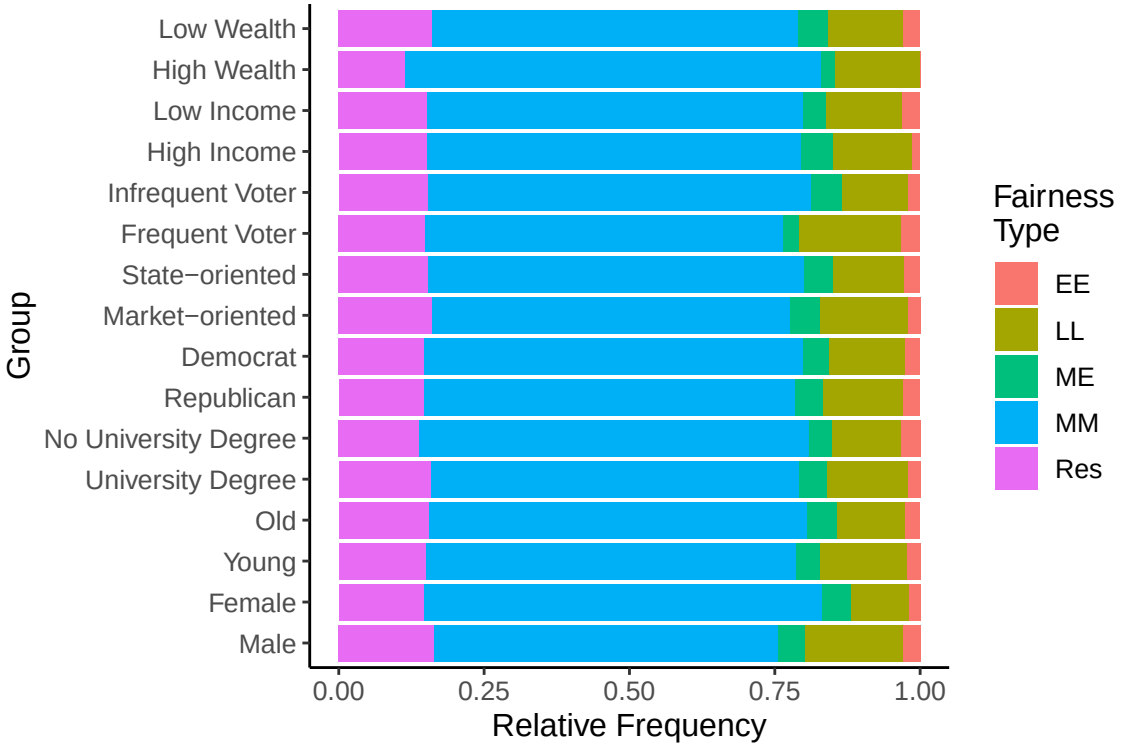
Note: Shares of inequality equalized for a group are calculated by averaging over the average extent of redistribution in the INHERITED INEQUALITY & LUCK condition for all spectators in the main sample who belong to the group. 95% confidence intervals around the averages based on standard errors of the mean.

Figure 24: Heterogeneity in Treatment Effects between Demographic Groups



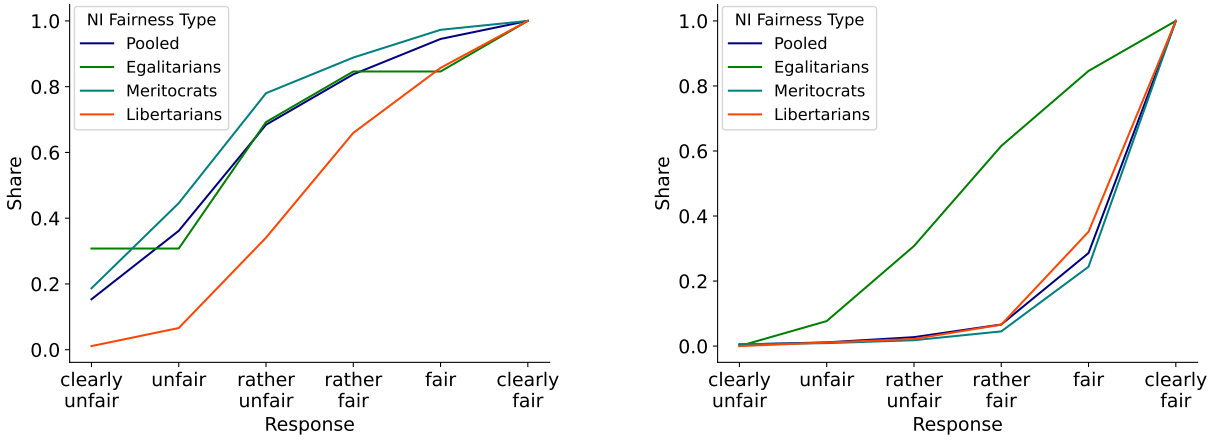
Note: This figure shows coefficients and 95% confidence intervals. The vertical axis shows demographic variables. These variables were interacted with two other terms in Equation 12. The blue points show the coefficient on the interaction term of each demographic variable (D_i) with the indicator for the Inherited Inequality conditions (II_σ). The orange points visualize the interaction of D_i with Inherited Inequality and an indicator for the Effort conditions (E_σ). Results are based on the main sample.

Figure 25: Distribution of Fairness Types by Demographic Group



Note: The vertical axis depicts demographic subgroups. Colors indicate 5 fairness types based on redistribution decisions under noninherited and inherited inequality. The horizontal axis shows the relative frequency with which these fairness types appear within the demographic subgroups. The fairness type ME stands for spectators who are classified as meritocrats under noninherited inequality and as egalitarians under inherited inequality. Likewise, EE, LL, and MM stand for egalitarian/egalitarian, liberterian/libertarian, and meritocrat/meritocrat, respectively. All spectators who do not belong to either of these types are summarized in the residual category "Res".

Figure 26: CDFs of the Responses to the Inequality Acceptance Survey Measures



(a) Luck

(b) Effort

Note: This figure shows cumulative redistribution functions of spectators' responses to the inequality acceptance survey questions. Figure 27(a) corresponds to the question "If one person receives more than another due to having better luck, I find that ..." and Figure 27(b) corresponds to the question "If one person receives more than another due to exerting higher effort, I find that ...". Included are the responses of spectators in the restricted sample.

C Tables

Table 7: Descriptives and Representativeness

	Spectator Sample		US Population
	Full/Main Sample	Restricted Sample	
Female	50.6 %	50.6 %	50.5 %
Age Groups			
18-19	1.5 %	1.6 %	3.4 %
20-24	9.9 %	8.5 %	8.3 %
25-29	11.7 %	9.5 %	8.6 %
30-34	9.3 %	8.8 %	8.9 %
35-39	10.8 %	9.5 %	8.7 %
40-44	8.9 %	9.0 %	8.3 %
45-49	6.9 %	7.2 %	7.7 %
50-54	8.4 %	8.8 %	8.1 %
55-59	10.8 %	11.3 %	8.2 %
60-64	9.1 %	10.6 %	8.4 %
65-69	7.1 %	8.5 %	7.1 %
70-74	3.2 %	3.7 %	6.0 %
75-79	2.2 %	2.5 %	3.8 %
80-84	0.4 %	0.5 %	2.4 %
85+	0.0 %	0.0 %	2.3 %
Education Groups			
No Highschool	0.4 %	0.2 %	10.6 %
High School Diploma Equivalent	30.4 %	30.0 %	45.6 %
Bachelor's or Associate's Degree	51.7 %	51.3 %	30.0 %
Master's Degree or Higher	17.5 %	18.5 %	13.8 %
Income Groups			
$< \$34,000$	26.7 %	27.5 %	25.0 %
$\$34,000 - \$68,000$	30.0 %	30.9 %	25.0 %
$\$68,000 - \$125,000$	30.0 %	28.4 %	25.0 %
$> \$125,000$	13.3 %	13.3 %	25.0 %
Race			
White	72.6 %	73.5 %	75.8 %
Black	12.6 %	12.9 %	13.6 %
Asian	7.2 %	6.3 %	6.1 %
Mixed	4.0 %	3.7 %	2.9 %
Other	3.6 %	3.5 %	1.6 %
Observations	543	437	

Note: This table reports descriptive statistics for our spectator sample and how they compare to the US general population. The survey company did not provide us with information on a spectator's age in two cases, gender in one case, and ethnicity in 13 cases. Shares in these groups are relative to the sample of spectators for which this information is available. Data for the US population are obtained from the 2021 American Community Survey, S0101 Age and Sex, via the United States Census Bureau (https://data.census.gov/table?tid=ACSST1Y2021.S0101, last accessed: January 9th, 2023; age and gender), the 2021 American Community Survey, S1501 Educational Attainment, via the United States Census Bureau (https://data.census.gov/table?tid=ACSST1Y2021.S1501, last accessed: January 9th, 2023; education groups), the United States Census Bureau QuickFacts table (https://www.census.gov/quickfacts/fact/table/US/PST045221, last accessed: January 16th, 2023; race), and https://dqydj.com/2020-household-income-percentile-calculator/, last accessed: January 9th, 2023; household income groups. Population data on educational attainment is based on citizens aged 25 years or older because for younger citizens the reported education groups did not match those we used in our survey. Likewise, we used the data on household income referenced above because they provided quartile household income group thresholds which we used in our survey.

Table 8: Treatment Effects on the Extent of Redistribution $\theta_{i,\sigma}$ by Fairness Type

	Restricted Sample			
	(1)	(2)	(3)	(4)
	Pooled	Egalitarians	Meritocrats	Libertarians
Effort (E_σ)	-0.025	-0.025	-0.960***	-0.109***
	(0.036)	(0.038)	(0.006)	(0.018)
Inherited (II_σ)	-0.018	-0.017	-0.059***	0.268***
	(0.031)	(0.032)	(0.012)	(0.042)
Effort (E_σ) × Inherited (II_σ)	-0.144	-0.144	0.099***	-0.232***
	(0.103)	(0.108)	(0.015)	(0.044)
Meritocrat	-0.010			
	(0.015)			
Libertarian	-0.850***			
	(0.023)			
Nonclassified	-0.532***			
	(0.014)			
Effort (E_σ) × Meritocrat	-0.935***			
	(0.036)			
Effort (E_σ) × Libertarian	-0.083**			
	(0.040)			
Effort (E_σ) × Nonclassified	0.234***			
	(0.036)			
Inherited (II_σ) × Meritocrat	-0.042			
	(0.034)			
Inherited (II_σ) × Libertarian	0.286***			
	(0.052)			
Inherited (II_σ) × Nonclassified	-0.071**			
	(0.031)			
Effort (E_σ) × Inherited (II_σ) × Meritocrat	0.243**			
	(0.104)			
Effort (E_σ) × Inherited (II_σ) × Libertarian	-0.088			
	(0.112)			
Effort (E_σ) × Inherited (II_σ) × Nonclassified	0.296***			
	(0.103)			
Initial Inequality (Δ_σ)	0.031**	-0.052	-0.004	0.175***
	(0.014)	(0.101)	(0.012)	(0.045)
Constant	0.977***	1.001***	0.977***	0.084***
	(0.015)	(0.036)	(0.006)	(0.019)
Clusters	437	13	332	91
Observations	8399	249	6403	1731
R^2	0.817	0.106	0.864	0.228

Note: This table reports results from the same regression equations as Table 4 but does not omit coefficients. Standard errors (in parentheses) are clustered on the spectator level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Categories of Explanations That Spectators Give for Their Redistribution Decisions

Category Name	**Argument Made by Spectator**	**Example**
Effort	The final distribution should be based on the relative amount of tasks done (The spectator does not mention whether he means the tasks done by the workers or the tasks done by their friends).	The money should be based on the percentage of work each one did.
Effort Workers	The final distribution should be based on the relative amount of tasks done by the workers.	I made the payment based on the amount of work that each worker produced. It made no difference to me where the money ended up going, I just wanted to make sure that payments were made according to the amount of work produced.
Effort Friends	The final distribution should be based on the relative amount of tasks done by the friends.	I think it is fair to split the money evenly between the friends of the participants. They did not do any work.
Knew in Advance	All subjects knew the rules of the experiment in advance and agreed by participating. Changing rules after decisions have been made is unfair.	It was an easy task, and all participants were aware of what they were working towards - it would be unethical to change that agreement after the fact.
Zero Aversion	Every subject should receive something (of the bonus)/should at least receive a certain amount (e.g., $1).	i tried to be fair and also give 10% to those that completed 0
Round Numbers	Spectator has a preference for round numbers.	i prefer even numbers. even percentages.
Ability Luck	Some workers were more able to perform on the task than other workers due to lucky circumstances.	... I did want to move it back closer to an even split a little bit in case one worker had an advantage that made the task easier for them
Equality Preference	Money should always be distributed equally (no specific reasons stated).	No matter how much work I do, I think everyone has the right to about the same amount of money.
Luck Unfair	Outcomes that result from luck are unfair.	Just because your luck ran out on certain examples shouldn't be a cause to distribute that way
Luck Fair	Distributing based on luck is a fair procedure.	A random drawing is about as fair as it gets so I kept the same numbers. The workers just needed to cross their fingers that day.
No Right to Intervene	Spectator has no right to intervene in the affairs of others.	... If the Friend was lucky, why should I change things for them so that I make things fair for everyone within my own sense of justice or fairness. I can't play God. I believe it is contingent upon the person who has been lucky to give off his/her/they/their wealth to others who were less fortunate.
Exchange	The workers should earn what they worked for and the spectator expects the friends to share with their workers after the study.	... I think the people who did the work deserve to get the outcome they expected. Some of them probably selected a friend who would give them the money.

Table 9 Continued: Categories of Explanations That Spectators Give for Their Redistribution Decisions

Category Name	**Argument Made by Spectator**	**Example**
Type of Friend	The worker working for his friend means that the friend is a good person, and a good person should be rewarded.	... If Bill felt like knocking out a lot of tasks for his friend, who am I to take some of that and give it to James' friend when James did not think his friend was worth it?
Friend Not Entitled	The friends did not work for the money. Hence, they are not entitled to receive nay money.	These "friends" should feel lucky to be receiving anything at all. Neither friend is entitled to anything especially more so for, that which the friend did *not* work for, ze'mself
Worker Entitled	The workers worked for the money. Hence, each worker is entitled to the amount he earned through his work.	The participants worked for and earned their share of the money. Even though the friends had no choice, the participants should receive (for their friend) a payment equivalent to how hard they worked
Friend Blameless	The friends did not work and are therefore not to blame for the distribution, in contrast to the workers. Hence, it is unfair that one friend gets less than another.	I had to make a decision between honoring the initiative of the workers or the making the receipts more equitable. Since the friends were "blameless" (and unconscious?) regarding the amount of labor involved, I elected to honor that side of the exercise with a 50-50 split
Team	Worker and friend are one team. What the team earns should stay with the team.	Even though friends did not work, he is a part of the team regardless and should be paid equally
NA	Comment without any explanation for the spectators' decisions.	Now is the time for the communist revolution! No more can these capitalist pigs turn us against one another! Throw off your chains, comrades, and let us create a world where no one goes hungry and we are truly free to pursue our passions!

Table 10: Association between Beliefs about Workers Preferences and Redistribution Decisions

	Noninherited Inequality		Inherited Inequality	
	(1)	(2)	(3)	(4)
	Luck	Effort	Luck	Effort
Guess Self/Other	-0.041	-0.104*		
	(0.047)	(0.057)		
Guess Own Friend/Other's Friend			-0.071	-0.131**
			(0.049)	(0.059)
Observations	437	437	437	437
R^2	0.002	0.011	0.005	0.017

Note: This table reports results from OLS regressions of spectators' average extent of redistribution, standardized across spectators but within conditions), on their standardized beliefs about workers preferred distributions. The coefficients are displayed in Figure 7. Robust standard errors are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 11: Association Between Beliefs and Redistribution Decisions

	Noninherited Inequality			Inherited Inequality		
	(1)	(2)	(3)	(4)	(5)	(6)
	Egalitarians	Meritocrats	Libertarians	Egalitarians	Meritocrats	Libertarians
Guess Self/Other	0.244*	0.043	-0.089			
	(0.134)	(0.045)	(0.089)			
Guess Own Friend/Other's Friend				-0.246	-0.115	0.036
				(0.291)	(0.075)	(0.136)
Observations	13	332	91	13	332	91
R^2	0.060	0.002	0.008	0.060	0.013	0.001

Note: In analogy to Table 5, this table reports results from OLS regressions of spectators' average extent of redistribution in the two Luck conditions, standardized across spectators of a given (Noninherited Inequality) fairness type and within experimental conditions, on their beliefs about workers preferred distributions, standardized across spectators of the same fairness type. Robust standard errors are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 12: Heterogeneity in Treatment Effects by Demographic Group (I)

	Dependent Variable: Extent of Redistribution $\theta_{i,\sigma}$			
	(1) Social Class D_i=1 if upper	(2) Wealth D_i=1 if high	(3) Income D_i=1 if high	(4) Education D_i=1 if high
Effort (E_σ)	-0.742***	-0.728***	-0.735***	-0.767***
	(0.033)	(0.023)	(0.026)	(0.033)
Inherited (II_σ)	0.019	0.031*	-0.004	0.055**
	(0.026)	(0.017)	(0.021)	(0.027)
Effort (E_σ) × Inherited (II_σ)	0.030	0.015	0.031	0.010
	(0.032)	(0.021)	(0.024)	(0.032)
D_i	-0.028	0.037	-0.009	-0.003
	(0.054)	(0.039)	(0.035)	(0.037)
Effort (E_σ) × D_i	0.012	-0.104**	-0.030	0.029
	(0.062)	(0.041)	(0.039)	(0.041)
Inherited (II_σ) × D_i	0.033	-0.058	0.058*	-0.050
	(0.046)	(0.036)	(0.030)	(0.033)
Effort (E_σ) × Inherited (II_σ) × D_i	-0.068	0.040	-0.019	0.018
	(0.060)	(0.041)	(0.038)	(0.039)
Initial Inequality (Δ_σ)	0.062**	0.079***	0.079***	0.079***
	(0.025)	(0.019)	(0.019)	(0.019)
Constant	0.796***	0.777***	0.788***	0.786***
	(0.029)	(0.022)	(0.024)	(0.033)
Clusters	287	543	543	543
Observations	5435	10236	10236	10236
R^2	0.480	0.490	0.489	0.489

Note: This table shows reports OLS estimates corresponding to Equation 12 for the first set of sample splits. Sample sizes vary because for social class the middle category ("Middle Class") is disregarded. Standard errors (in parentheses) are clustered at the spectator level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 13: Heterogeneity in Treatment Effects by Demographic Group (II)

	Dependent Variable: Extent of Redistribution $\theta_{i,\sigma}$				
	(1) Voting Freq. D_i=1 if high	(2) Econ. Ideology D_i=1 if conserv.	(3) Party Ident. D_i=1 if Rep.	(4) Age D_i=1 if old	(5) Sex D_i=1 if female
Effort (E_σ)	-0.762***	-0.750***	-0.747***	-0.735***	-0.680***
	(0.023)	(0.026)	(0.026)	(0.029)	(0.031)
Inherited (II_σ)	0.039**	0.031	0.029	0.020	0.068***
	(0.019)	(0.021)	(0.022)	(0.023)	(0.022)
Effort (E_σ) × Inherited (II_σ)	0.016	0.006	0.011	0.030	-0.029
	(0.023)	(0.025)	(0.027)	(0.027)	(0.028)
D_i	-0.010	-0.011	0.013	0.032	0.101***
	(0.037)	(0.042)	(0.046)	(0.034)	(0.034)
Effort (E_σ) × D_i	0.050	0.000	-0.014	-0.023	-0.125***
	(0.045)	(0.047)	(0.051)	(0.039)	(0.039)
Inherited (II_σ) × D_i	-0.061**	-0.033	-0.060	0.000	-0.085***
	(0.031)	(0.040)	(0.042)	(0.031)	(0.030)
Effort (E_σ) × Inherited (II_σ) × D_i	0.020	0.031	0.069	-0.015	0.090**
	(0.038)	(0.048)	(0.052)	(0.037)	(0.036)
Initial Inequality (Δ_σ)	0.079***	0.070***	0.072***	0.078***	0.080***
	(0.019)	(0.022)	(0.022)	(0.019)	(0.019)
Constant	0.787***	0.792***	0.783***	0.768***	0.729***
	(0.023)	(0.025)	(0.025)	(0.027)	(0.028)
Clusters	543	417	398	543	542
Observations	10236	7853	7485	10236	10216
R^2	0.489	0.502	0.488	0.489	0.492

Note: This table shows reports OLS estimates corresponding to Equation 12 for the second set of sample splits. Sample sizes vary because for economic ideology and party identification the middle categories ("Moderate" and "Neither Republican nor Democrat") are disregarded. Standard errors (in parentheses) are clustered at the spectator level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 14: Association between Experimental Measures and Policy Preferences

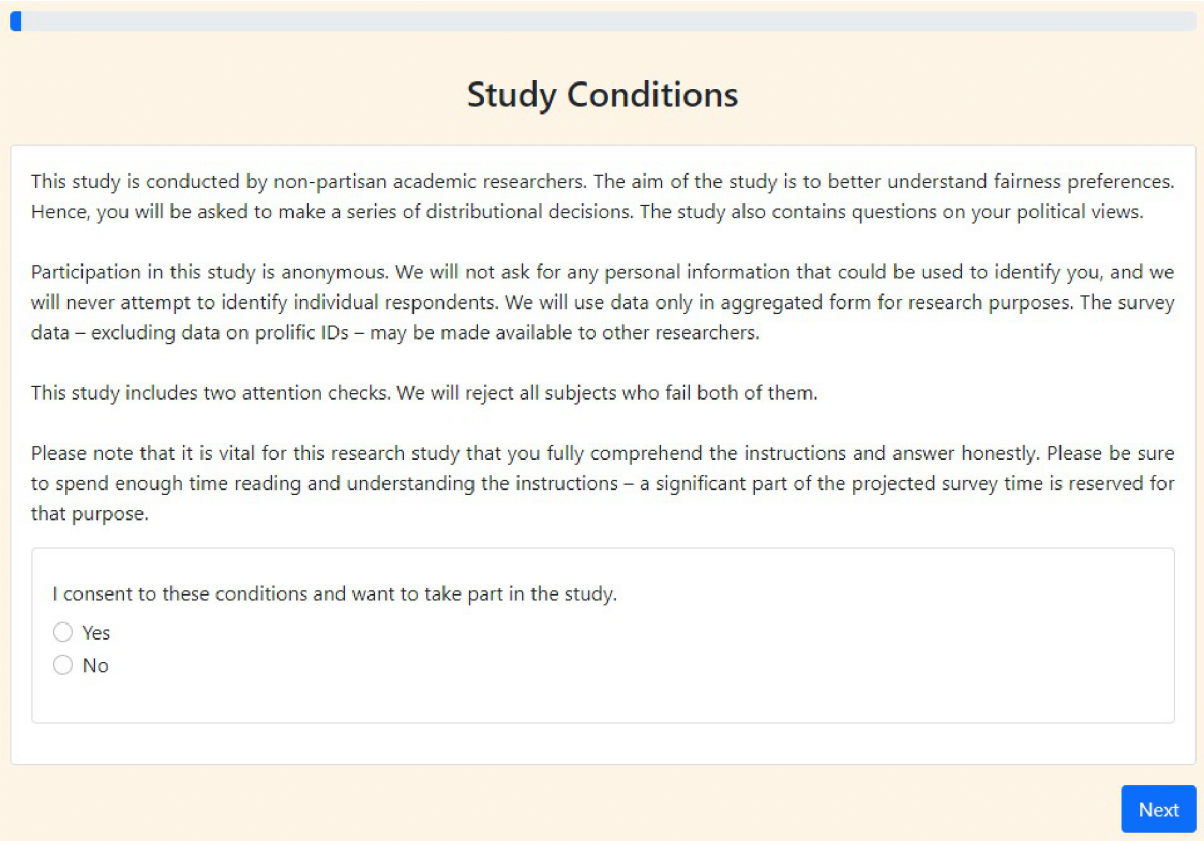
	Preferred Max. Marg. Rate		Support for			Rejection of
	(1)	(2)	(3)	(4)	(5)	(6)
	Income Tax	Estate Tax	Disability Ins.	Unemployment Ins.	Equal Opp. Prog.	Interg. Transm.
Redistribution (Luck)	0.136***	0.078*	0.081*	0.073	0.081*	0.197***
	(0.049)	(0.045)	(0.048)	(0.052)	(0.048)	(0.047)
Redistribution (Effort)	0.022	0.013	0.076	0.120***	0.059	0.111**
	(0.057)	(0.059)	(0.047)	(0.042)	(0.042)	(0.046)
Observations	437	437	437	437	437	437
R^2	0.019	0.006	0.013	0.020	0.010	0.052

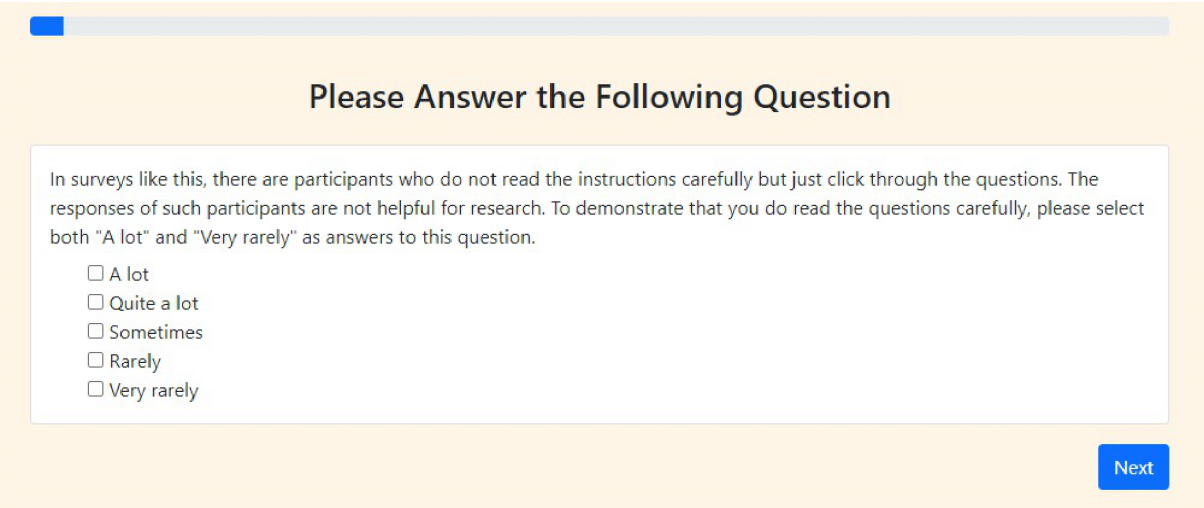
Note: This table shows OLS estimates of (standardized) survey-based policy attitudes on (standardized) factor variables based on spectators' average extent of redistribution in the four treatment conditions. The coefficients are plotted in Figure 9. Robust standard errors are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

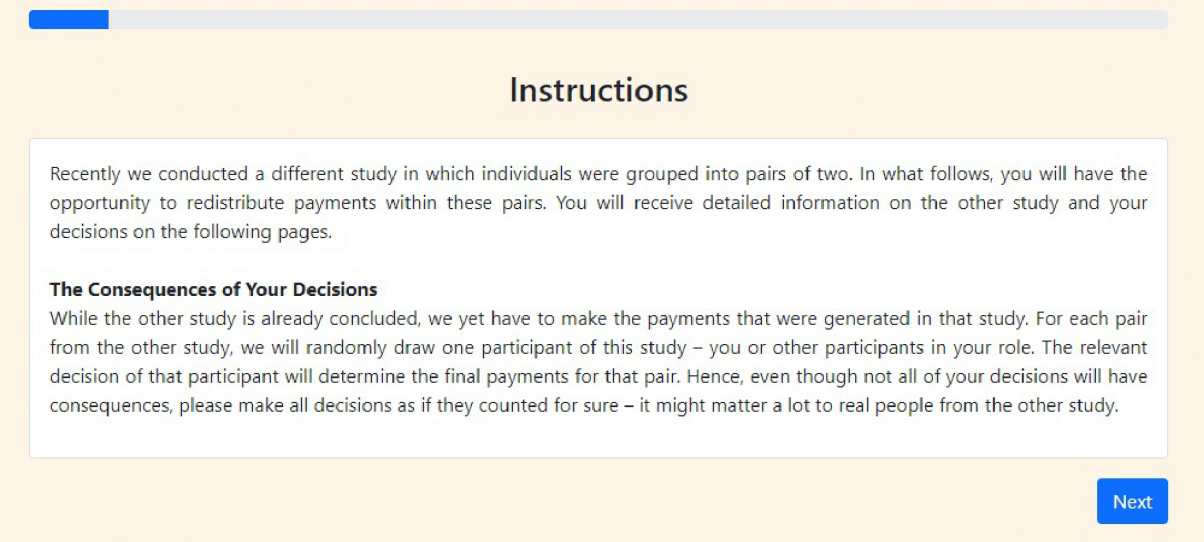
D Instructions for the Spectator Session

Below are the full instructions for the spectator session/redistribution stage.

The following pages were shown to all subjects in the same order as presented here.

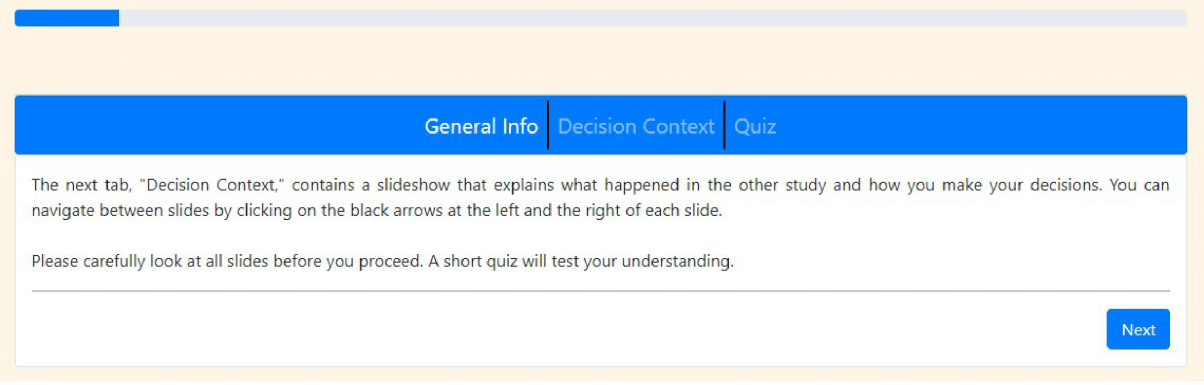






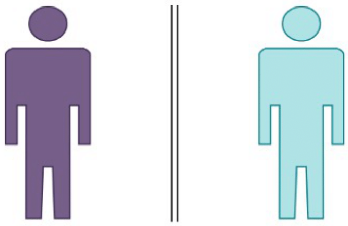
The order of the following four blocks of pages was randomly assigned for each participant. However, the "General Info" pages were always ordered such that the first "General Info" page a subject would see referred to the first block of decisions, the second "General Info" page referred to the second block of decisions and so on. Within each block subjects made six decisions.

Block 1



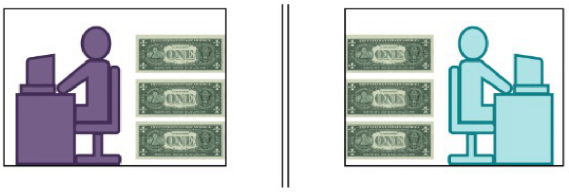
General Info | Decision Context | Quiz

These are John and Max.



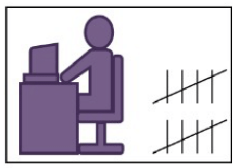
General Info | Decision Context | Quiz

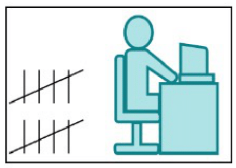
John and Max participated online in a different study. Each of them received a fixed payment of $3 for participating.

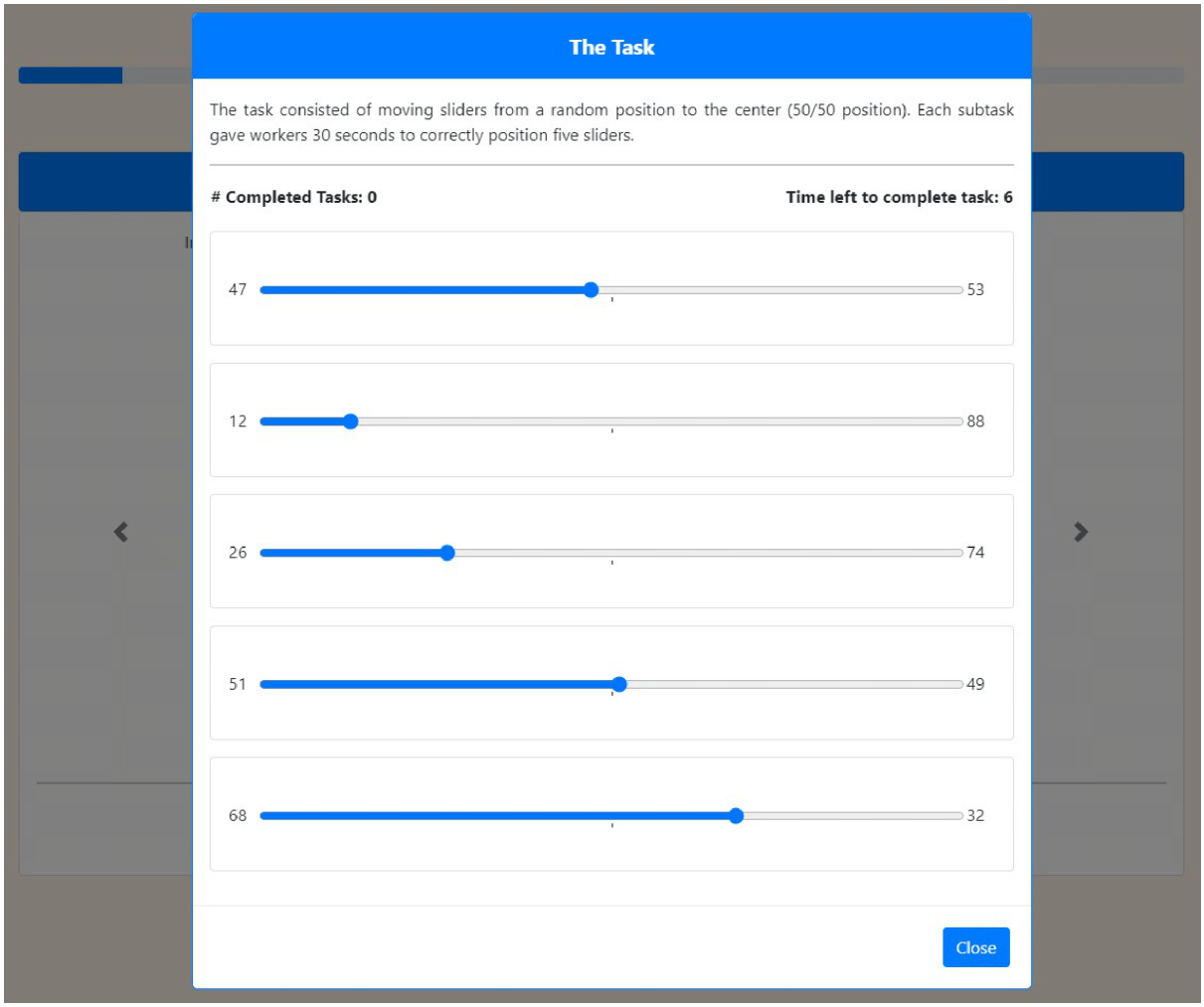


General Info | Decision Context | Quiz

In the study, John and Max worked on a task to earn additional money. The task required no special qualification or ability, but time and effort. Click here to try out the task. **Both of them completed the same fixed number of tasks.**

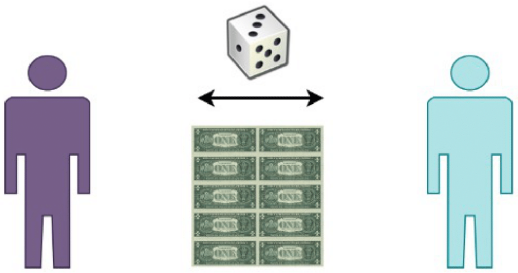





The Task
The task consisted of moving sliders from a random position to the center (50/50 position). Each subtask gave workers 30 seconds to correctly position five sliders.
Completed Tasks: 0
Time left to complete task: 6
47
53
12
88
26
74
51
49
68
32
Close

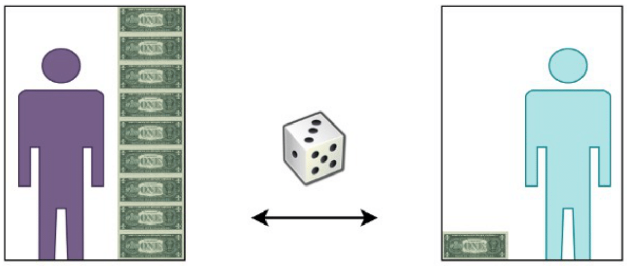
General Info | Decision Context | Quiz

After they had finished working, **$10** was initially **distributed between them** based on a **random draw**. John and Max knew about this procedure when they started working.



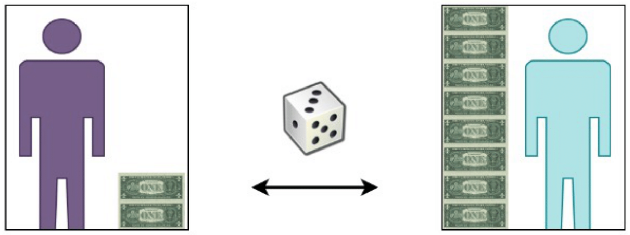
General Info | Decision Context | Quiz

For example, the random draw might have awarded $9 to John and $1 to Max.



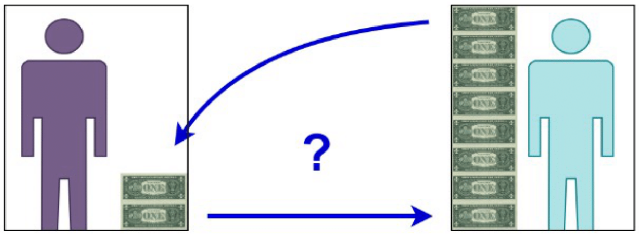
General Info | Decision Context | Quiz

Likewise, the random draw might have awarded $2 to John and $8 to Max. Each distribution was equally likely.



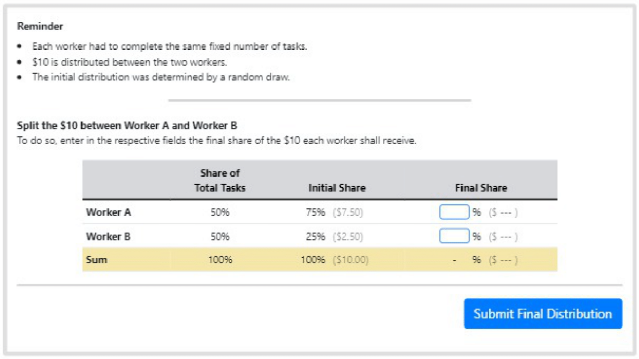
General Info | Decision Context | Quiz

You may find the resulting distribution of the $10 fair or unfair. Your task is to **confirm the distribution or redistribute the $10 as you deem appropriate**.



General Info | Decision Context | Quiz

The figure below displays the decision screen. The upper part contains a reminder about central aspects of the other study. The lower part contains a table that refers to the specific situation for which you make a decision.



Reminder

- Each worker had to complete the same fixed number of tasks.
- $10 is distributed between the two workers.
- The initial distribution was determined by a random draw.

Split the $10 between Worker A and Worker B

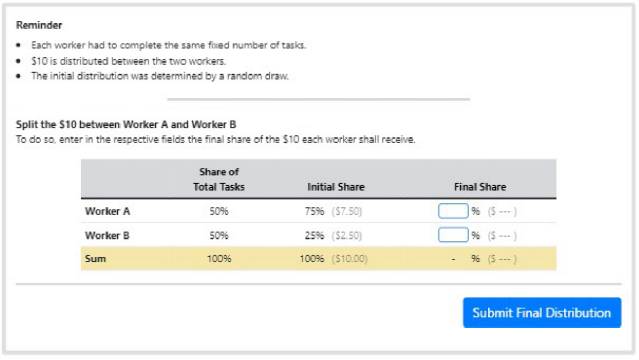
To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	50%	75% ($7.50)	% ($ ---)
Worker B	50%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

The table provides information on the share of total tasks each worker solved and each worker's share of the $10 according to the initial distribution. Your task is to enter each worker's final share of the $10 (as a percentage share) as you deem appropriate.



Reminder

- Each worker had to complete the same fixed number of tasks.
- $10 is distributed between the two workers.
- The initial distribution was determined by a random draw.

Split the $10 between Worker A and Worker B

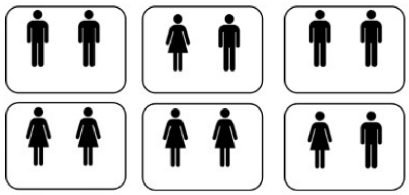
To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	50%	75% ($7.50)	% ($ ---)
Worker B	50%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

John and Max were just example characters. In the actual study, there were many pairs of participants. Each of these pairs faced the same situation as John and Max. You will have the opportunity to redistribute $10 within 6 of these pairs.



Previous Next

General Info | Decision Context | Quiz

The subsequent quiz questions refer to the situations that were just described. Please select for each question the alternative that correctly completes the sentence.

Quiz Question 1: Each worker generates earnings for ...

- ... a friend of his or her choice who did not work him- or herself.
- ... another worker.
- ... a randomly assigned participant who did not work him- or herself.
- ... him- or herself.

Quiz Question 2: If Worker A initially received a higher share of the $10 than Worker B, this reflects that ...

- ... Worker A completed more tasks than Worker B.
- ... Worker A had better luck than Worker B.

Previous Next

Proceed to Decisions

On the following six pages, you will make your redistribution decisions for six different pairs of workers.

Before you proceed, please take a short moment to deliberately think about which distribution you find appropriate in this kind of situation.

Proceed to Decisions

Situation 1

Reminder

- Each worker had to complete the same fixed number of tasks.
- $10 is distributed between the two workers.
- The initial distribution was determined by a random draw.

Split the $10 between Worker A and Worker B

To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	50%	0% ($0.00)	% ($ ---)
Worker B	50%	100% ($10.00)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

Your Considerations

To help us understand why you consider the final payments you implemented in the past six decisions appropriate, please briefly describe the reasoning behind your decisions.

Next

Block 2

General Info | Decision Context | Quiz

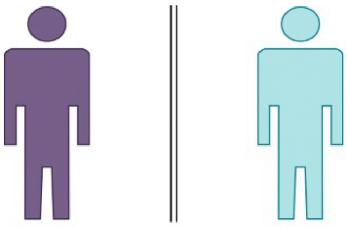
We ran **four different versions** of the other study. We would like you to make the same kind of decisions as before also for the three remaining versions.

Please refer to the slideshow in the "Decision Context" tab to learn what happened in **version two** of the other study. Even though the general structure does not change, please carefully look at all slides before you proceed to understand how this version differs from what you have seen before. A short quiz will test your understanding.

Next

General Info | Decision Context | Quiz

These are Mike and Chris.

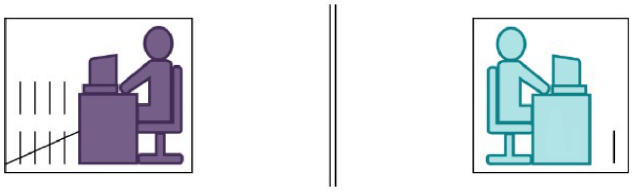


General Info | Decision Context | Quiz

Mike and Chris participated online in a different study. Each of them received a fixed payment of $3 for participating.

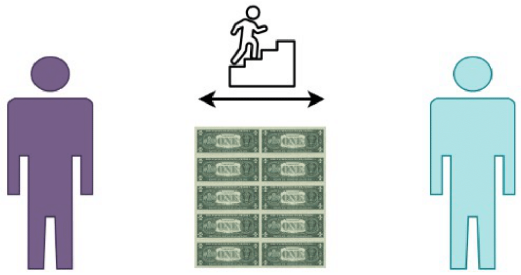
General Info | Decision Context | Quiz

In the study, Mike and Chris worked on a task to earn additional money. The task required no special qualification or ability, but time and effort. Click here to try out the task. **Each of them could choose how many tasks to complete.**



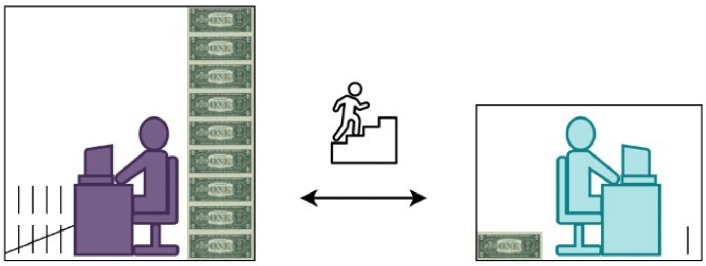
General Info | Decision Context | Quiz

After they had finished working, **$10** was initially **distributed between them** based on the **relative number of completed tasks**. Mike and Chris knew about this procedure when they started working.



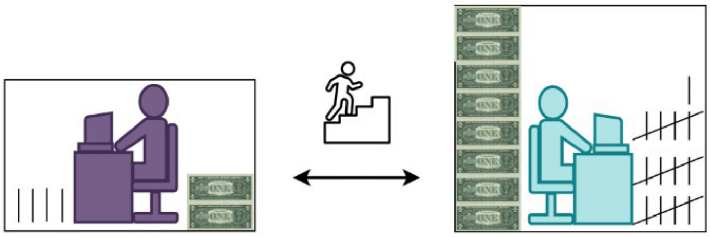
General Info | Decision Context | Quiz

For example, if Mike completed 9 tasks and Chris 1 task, Mike received $9 initially and Chris $1.



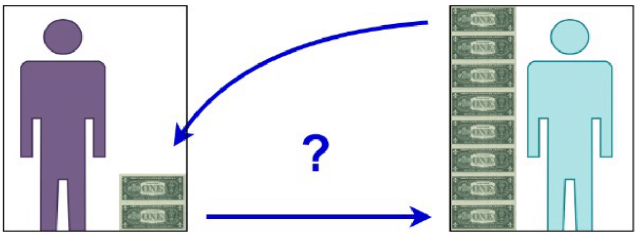
General Info | Decision Context | Quiz

Likewise, if Mike completed 4 tasks and Chris 16 tasks, Mike received $2 initially and Chris $8.



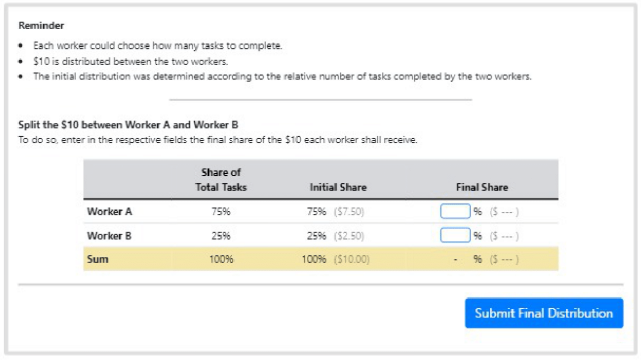
General Info | Decision Context | Quiz

You may find the resulting distribution of the $10 fair or unfair. Your task is to **confirm the distribution or redistribute the $10 as you deem appropriate**.



General Info | Decision Context | Quiz

The figure below displays the decision screen. The upper part contains a reminder about central aspects of the other study. The lower part contains a table that refers to the specific situation for which you make a decision.



Reminder

- Each worker could choose how many tasks to complete.
- $10 is distributed between the two workers.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

Split the $10 between Worker A and Worker B

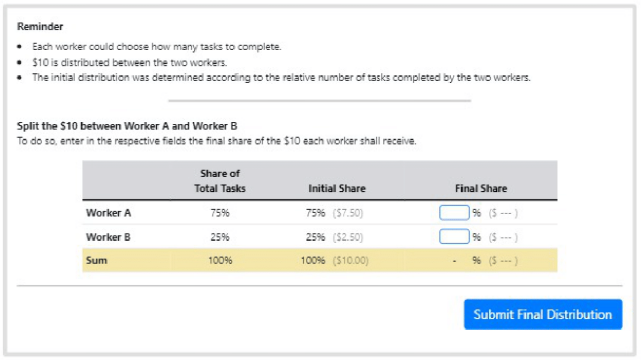
To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	75%	75% ($7.50)	% ($ ---)
Worker B	25%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

The table provides information on the share of total tasks each worker solved and each worker's share of the $10 according to the initial distribution. Your task is to enter each worker's final share of the $10 (as a percentage share) as you deem appropriate.



Reminder

- Each worker could choose how many tasks to complete.
- $10 is distributed between the two workers.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

Split the $10 between Worker A and Worker B

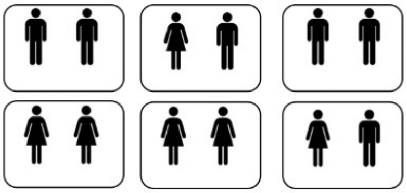
To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	75%	75% ($7.50)	% ($ ---)
Worker B	25%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

Mike and Chris were just example characters. In the actual study, there were many pairs of participants. Each of these pairs faced the same situation as Mike and Chris. You will have the opportunity to redistribute $10 within 6 of these pairs.



Previous Next

General Info | Decision Context | Quiz

The subsequent quiz questions refer to the situations that were just described. Please select for each question the alternative that correctly completes the sentence.

Quiz Question 1: Each worker generates earnings for ...

- ... a friend of his or her choice who did not work him- or herself.
- ... another worker.
- ... a randomly assigned participant who did not work him- or herself.
- ... him- or herself.

Quiz Question 2: If Worker A initially received a higher share of the $10 than Worker B, this reflects that ...

- ... Worker A completed more tasks than Worker B.
- ... Worker A had better luck than Worker B.

Previous Next

Proceed to Decisions

On the following six pages, you will make your redistribution decisions for six different pairs of workers.

Before you proceed, please take a short moment to deliberately think about which distribution you find appropriate in this kind of situation.

Proceed to Decisions

Situation 1

Reminder

- Each worker could choose how many tasks to complete.
- $10 is distributed between the two workers.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

Split the $10 between Worker A and Worker B

To do so, enter in the respective fields the final share of the $10 each worker shall receive.

	Share of Total Tasks	Initial Share	Final Share
Worker A	68%	68% ($6.80)	% ($ ---)
Worker B	32%	32% ($3.20)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

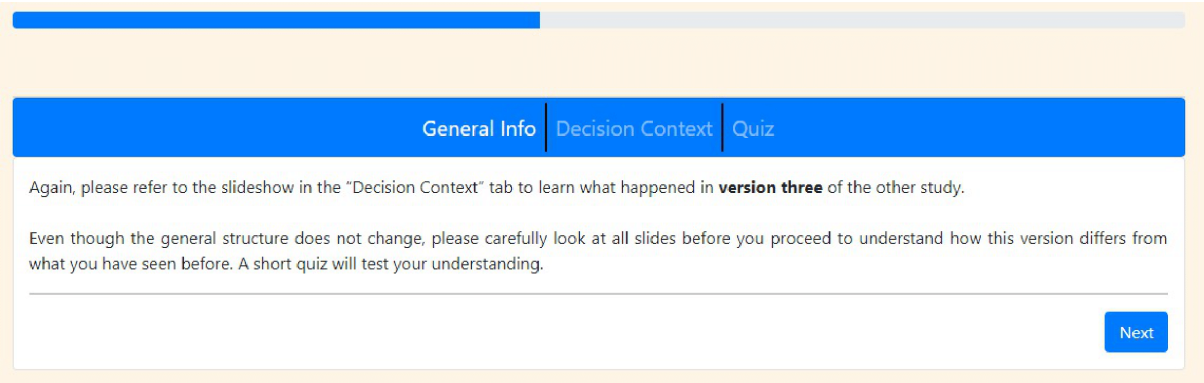
Submit Final Distribution

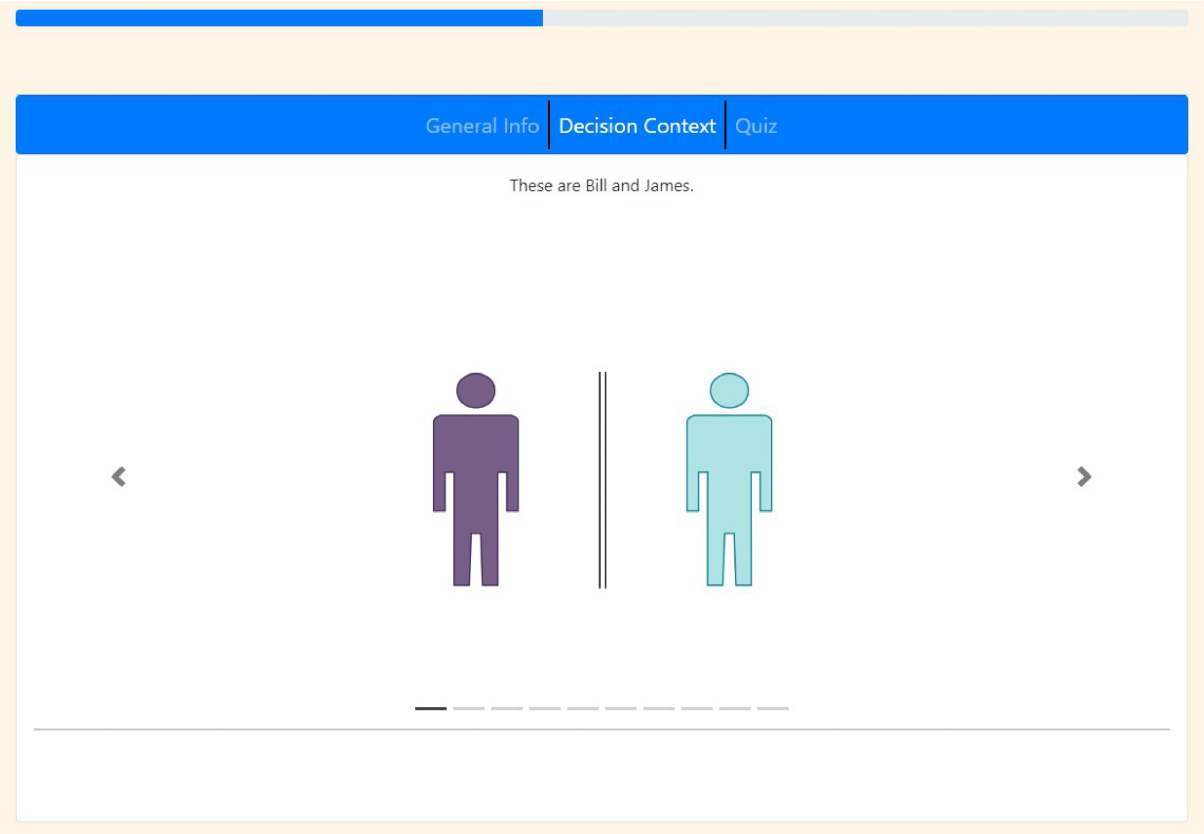
Your Considerations

To help us understand why you consider the final payments you implemented in the past six decisions appropriate, please briefly describe the reasoning behind your decisions.

Next

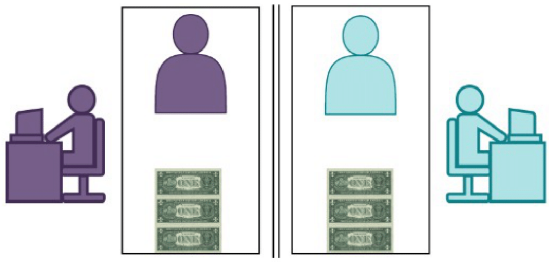
Block 3


General Info
Decision Context
Quiz
Again, please refer to the slideshow in the "Decision Context" tab to learn what happened in **version three** of the other study.
Even though the general structure does not change, please carefully look at all slides before you proceed to understand how this version differs from what you have seen before. A short quiz will test your understanding.
Next


General Info
Decision Context
Quiz
These are Bill and James.

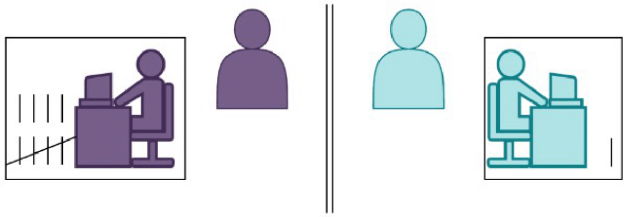
General Info | Decision Context | Quiz

Bill and James participated online in a different study. Before participating, they each selected a **real-life friend** who would profit from their participation and receive a fixed payment of $3.



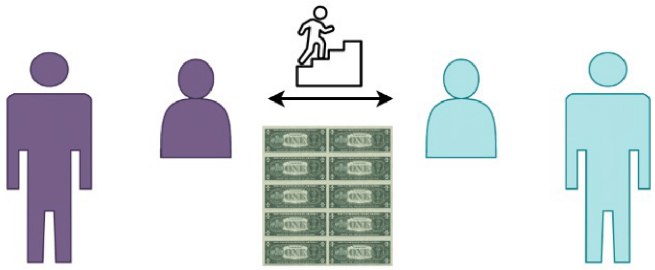
General Info | Decision Context | Quiz

In the study, Bill and James worked on a task to earn additional money for their friends. They were not paid for their work themselves. The task required no special qualification or ability, but time and effort. Click here to try out the task. **Each of them could choose how many tasks to complete. Their friends did not work.**



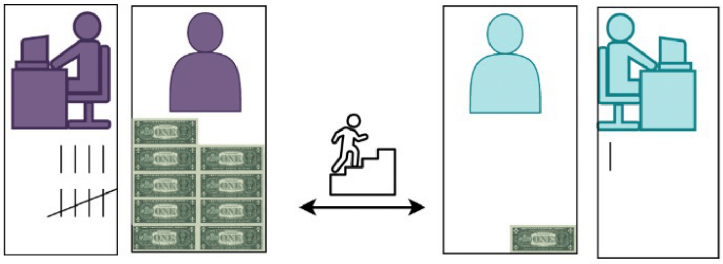
General Info | Decision Context | Quiz

After they had finished working, **$10** was initially **distributed between their friends** based on the **relative number of completed tasks**. Bill and James knew about this procedure when they started working.



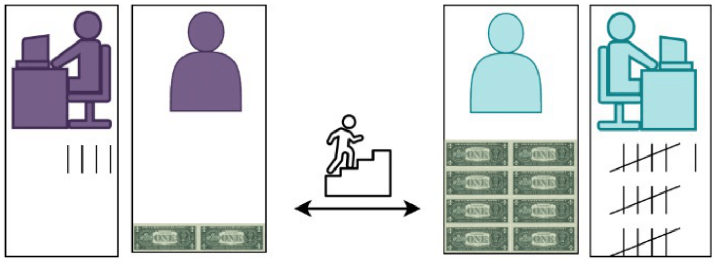
General Info | Decision Context | Quiz

For example, if Bill completed 9 tasks and James 1 task, Bill's friend received $9 initially and James's friend $1.



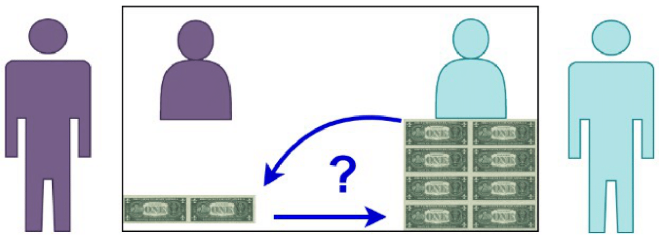
General Info | Decision Context | Quiz

Likewise, if Bill completed 4 tasks and James 16 tasks, Bill's friend received $2 initially and James's friend $8.



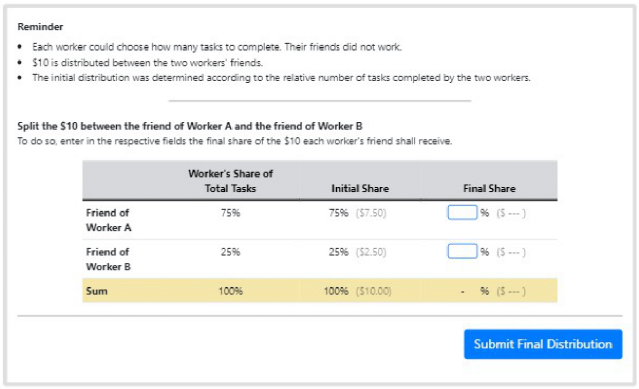
General Info | Decision Context | Quiz

You may find the resulting distribution of the $10 fair or unfair. Your task is to **confirm the distribution or redistribute the $10 as you deem appropriate**.



General Info | Decision Context | Quiz

The figure below displays the decision screen. The upper part contains a reminder about central aspects of the other study. The lower part contains a table that refers to the specific situation for which you make a decision.



Reminder

- Each worker could choose how many tasks to complete. Their friends did not work.
- $10 is distributed between the two workers' friends.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

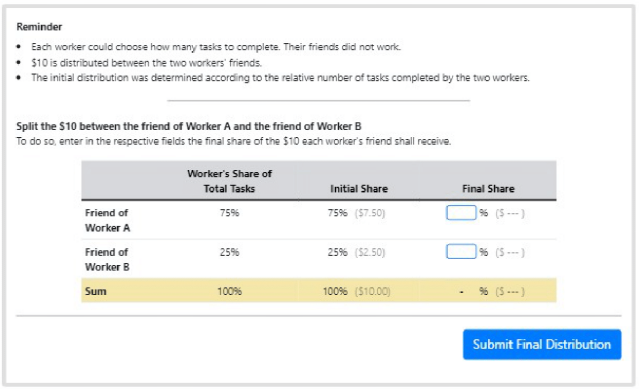
Split the $10 between the friend of Worker A and the friend of Worker B
To do so, enter in the respective fields the final share of the $10 each worker's friend shall receive.

	Worker's Share of Total Tasks	Initial Share	Final Share
Friend of Worker A	75%	75% ($7.50)	% ($ ---)
Friend of Worker B	25%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

The table provides information on the share of total tasks each worker solved and the share of the $10 each worker's friend receives according to the initial distribution. Your task is to enter each friend's final share of the $10 (as a percentage share) as you deem appropriate.



Reminder

- Each worker could choose how many tasks to complete. Their friends did not work.
- $10 is distributed between the two workers' friends.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

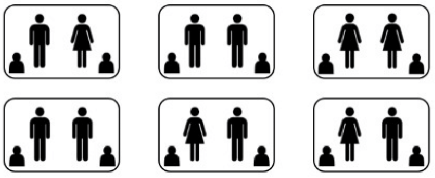
Split the $10 between the friend of Worker A and the friend of Worker B
To do so, enter in the respective fields the final share of the $10 each worker's friend shall receive.

	Worker's Share of Total Tasks	Initial Share	Final Share
Friend of Worker A	75%	75% ($7.50)	% ($ ---)
Friend of Worker B	25%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

Bill and James were just example characters. In the actual study, there were many pairs of participants who generated a payment for their friends. Each of these pairs faced the same situation as Bill and James. You will have the opportunity to redistribute $10 within 6 pairs of participants' friends.



Previous Next

General Info | Decision Context | Quiz

The subsequent quiz questions refer to the situations that were just described. Please select for each question the alternative that correctly completes the sentence.

Quiz Question 1: Each worker generates earnings for ...

- ... a friend of his or her choice who did not work him- or herself.
- ... another worker.
- ... a randomly assigned participant who did not work him- or herself.
- ... him- or herself.

Quiz Question 2: If Worker A's friend initially received a higher share of the $10 than Worker B's friend, this reflects that ...

- ... Worker A completed more tasks than Worker B.
- ... the friend of Worker A had better luck than the friend of Worker B.

Previous Next

Proceed to Decisions

On the following six pages, you will make your redistribution decisions for six different pairs of friends.

Before you proceed, please take a short moment to deliberately think about which distribution you find appropriate in this kind of situation.

Proceed to Decisions

Situation 1

Reminder

- Each worker could choose how many tasks to complete. Their friends did not work.
- $10 is distributed between the two workers' friends.
- The initial distribution was determined according to the relative number of tasks completed by the two workers.

Split the $10 between the friend of Worker A and the friend of Worker B
To do so, enter in the respective fields the final share of the $10 each worker's friend shall receive.

	Worker's Share of Total Tasks	Initial Share	Final Share
Friend of Worker A	22%	22% ($2.20)	% ($ ---)
Friend of Worker B	78%	78% ($7.80)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

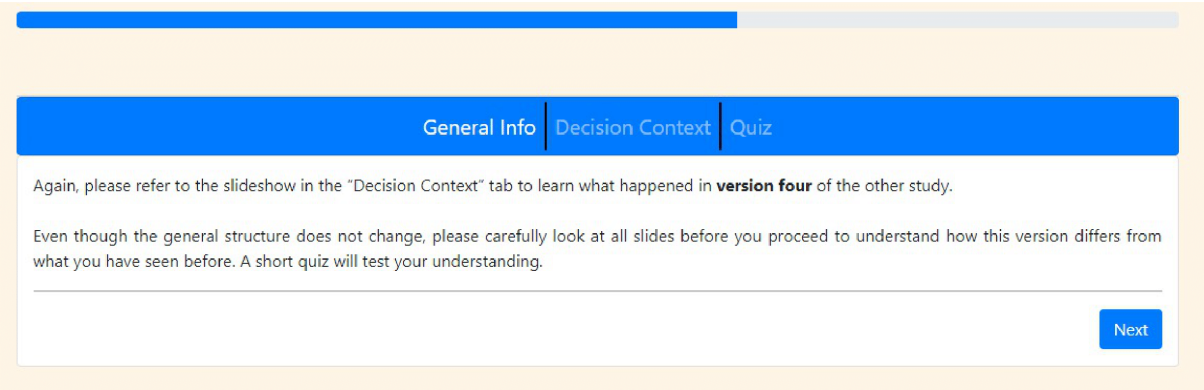
Submit Final Distribution

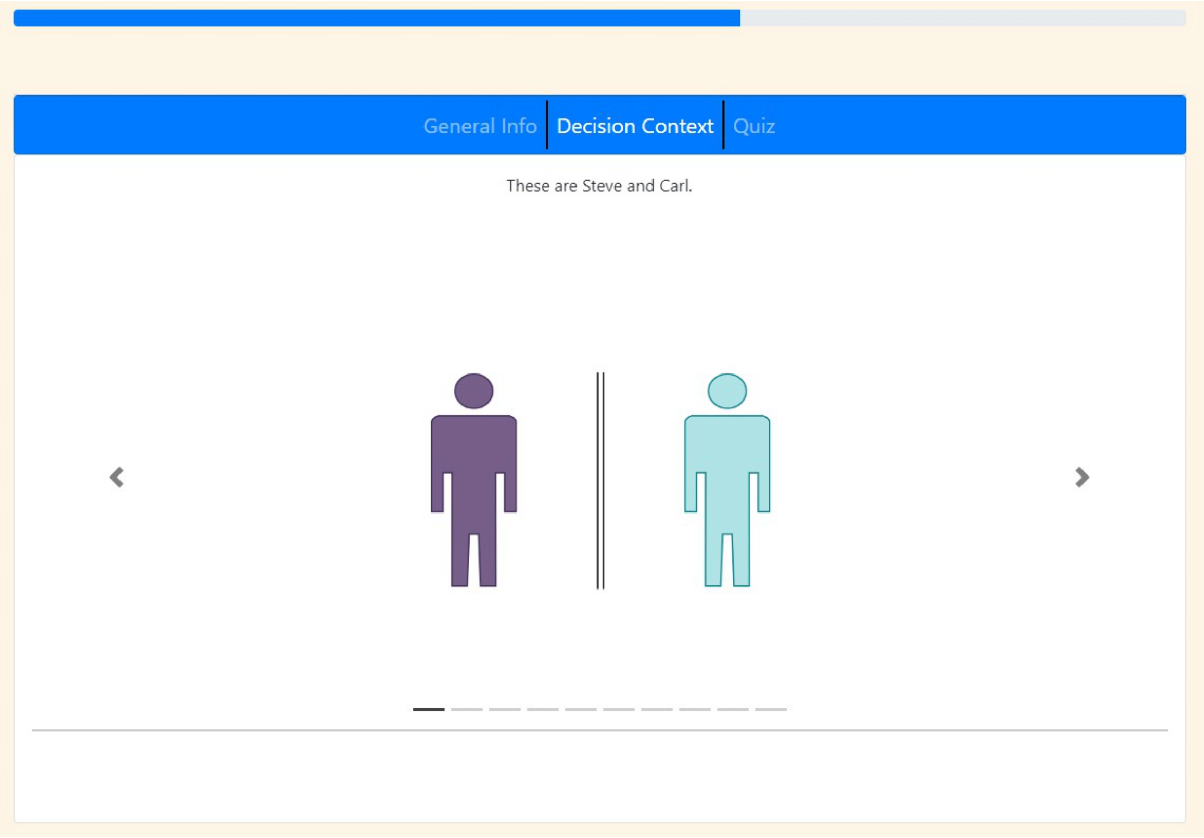
Your Considerations

To help us understand why you consider the final payments you implemented in the past six decisions appropriate, please briefly describe the reasoning behind your decisions.

Next

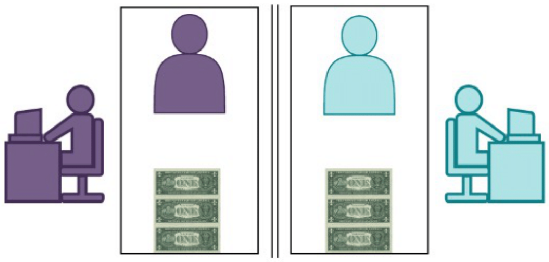
Block 4


General Info
Decision Context
Quiz
Again, please refer to the slideshow in the "Decision Context" tab to learn what happened in **version four** of the other study.
Even though the general structure does not change, please carefully look at all slides before you proceed to understand how this version differs from what you have seen before. A short quiz will test your understanding.
Next


General Info
Decision Context
Quiz
These are Steve and Carl.

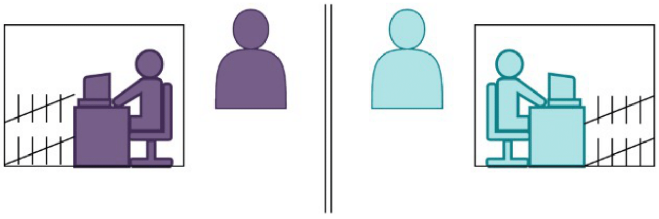
General Info | Decision Context | Quiz

Steve and Carl participated online in a different study. Before participating, they each selected a **real-life friend** who would profit from their participation and receive a fixed payment of $3.



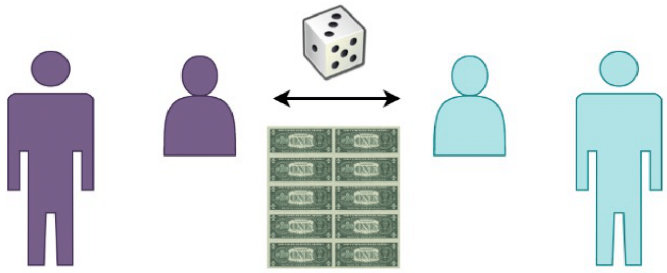
General Info | Decision Context | Quiz

In the study, Steve and Carl worked on a task to earn additional money for their friends. They were not paid for their work themselves. The task required no special qualification or ability, but time and effort. Click here to try out the task. **Both of them completed the same fixed number of tasks. Their friends did not work.**



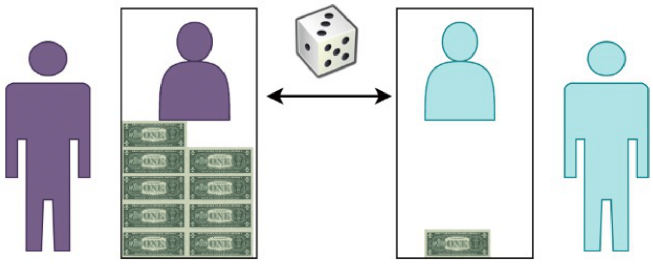
General Info | Decision Context | Quiz

After they had finished working, **$10** was initially **distributed between their friends** based on a **random draw**.
Steve and Carl knew about this procedure when they started working.



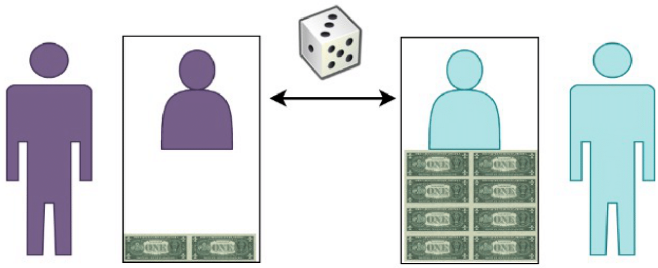
General Info | Decision Context | Quiz

For example, the random draw might have awarded $9 to Steve's friend and $1 to Carl's friend.



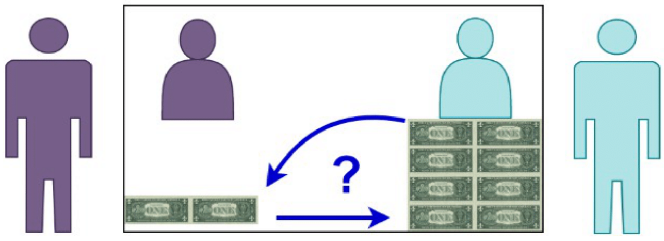
General Info | Decision Context | Quiz

Likewise, the random draw might have awarded $2 to Steve's friend and $8 to Carl's friend. Each distribution was equally likely.



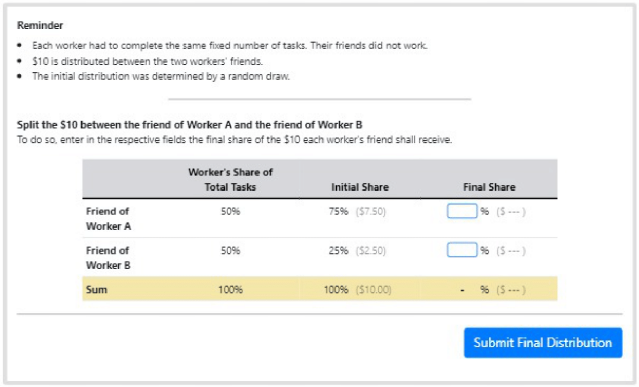
General Info | Decision Context | Quiz

You may find the resulting distribution of the $10 fair or unfair. Your task is to **confirm the distribution or redistribute the $10 as you deem appropriate**.



General Info | Decision Context | Quiz

The figure below displays the decision screen. The upper part contains a reminder about central aspects of the other study. The lower part contains a table that refers to the specific situation for which you make a decision.



Reminder

- Each worker had to complete the same fixed number of tasks. Their friends did not work.
- $10 is distributed between the two workers' friends.
- The initial distribution was determined by a random draw.

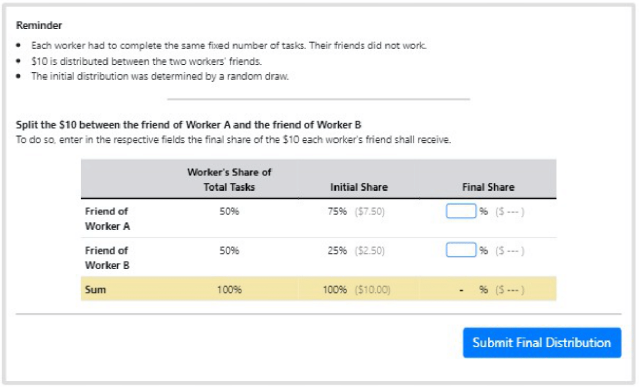
Split the $10 between the friend of Worker A and the friend of Worker B
To do so, enter in the respective fields the final share of the $10 each worker's friend shall receive.

	Worker's Share of Total Tasks	Initial Share	Final Share
Friend of Worker A	50%	75% ($7.50)	% ($ ---)
Friend of Worker B	50%	25% ($2.50)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

General Info | Decision Context | Quiz

The table provides information on the share of total tasks each worker solved and the share of the $10 each worker's friend receives according to the initial distribution. Your task is to enter each friend's final share of the $10 (as a percentage share) as you deem appropriate.



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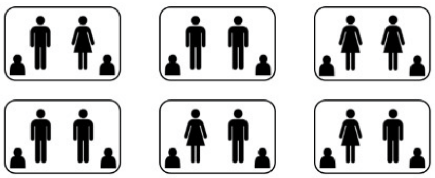
Submit Final Distribution

General Info | Decision Context | Quiz

Steve and Carl were just example characters. In the actual study, there were many pairs of participants who generated a payment for their friends. Each of these pairs faced the same situation as Steve and Carl. You will have the opportunity to redistribute $10 within 6 pairs of participants' friends.



Previous Next

General Info | Decision Context | Quiz

The subsequent quiz questions refer to the situations that were just described. Please select for each question the alternative that correctly completes the sentence.

Quiz Question 1: Each worker generates earnings for ...

- ... a friend of his or her choice who did not work him- or herself.
- ... another worker.
- ... a randomly assigned participant who did not work him- or herself.
- ... him- or herself.

Quiz Question 2: If Worker A's friend initially received a higher share of the $10 than Worker B's friend, this reflects that ...

- ... Worker A completed more tasks than Worker B.
- ... the friend of Worker A had better luck than the friend of Worker B.

Previous Next

Proceed to Decisions

On the following six pages, you will make your redistribution decisions for six different pairs of friends.

Before you proceed, please take a short moment to deliberately think about which distribution you find appropriate in this kind of situation.

Proceed to Decisions

Situation 1

Reminder

- Each worker had to complete the same fixed number of tasks. Their friends did not work.
- $10 is distributed between the two workers' friends.
- The initial distribution was determined by a random draw.

Split the $10 between the friend of Worker A and the friend of Worker B
To do so, enter in the respective fields the final share of the $10 each worker's friend shall receive.

	Worker's Share of Total Tasks	Initial Share	Final Share
Friend of Worker A	50%	0% ($0.00)	% ($ ---)
Friend of Worker B	50%	100% ($10.00)	% ($ ---)
Sum	100%	100% ($10.00)	- % ($ ---)

Submit Final Distribution

Your Considerations

To help us understand why you consider the final payments you implemented in the past six decisions appropriate, please briefly describe the reasoning behind your decisions.

Next

The following pages were shown to all subjects in the same order as in this document.

Make a Guess

To conclude this section, we have two guessing questions for you.

Context
Unrelated to their work on the task, we asked workers in the other study to make another decision.

- We asked those workers who could earn money for themselves how they would distribute $10 between themselves and the worker they were matched to if they could freely decide.
- Similarly, we asked those workers who could earn money for their friends how they would distribute $10 between their own friend and the friend of the worker they were matched to.

As we had announced to the workers before, we will randomly select one of them and implement his or her choice.

Your Task & Reward for Correct Guesses
Your task is to guess for both groups of workers how they distributed the $10 on average. For each correct guess, you are rewarded with a bonus of $0.20. A guess will count as correct if it is at most $0.20 away from the corresponding true average distribution.

Guessing Question 1
Please use the slider below to make your guess about the group of workers who earned money for themselves.

On average, how much of the $10 did these workers keep for themselves, and how much did they give to the other worker?

$x for themselves — $x for the other worker

Guessing Question 2:
Please use the slider below to make your guess about the group of workers who earned money for their friends.

On average, how much of the $10 did these workers give to their own friend, and how much did they give to the friend of the other worker?

$x for their own friend — $x for the friend of the other worker

Previous Next

Instructions

You have reached the final part of this study!

In this part, we are mostly asking for **your personal view** – in these cases, there are no right or wrong answers.

Please click on the "Next" button to proceed.

Next

Your Beliefs and Assessment

Please complete the statements below by selecting the option which corresponds to your view most closely.

If one person receives more than another due to **having better luck**, I find that ...

clearly unfair | unfair | rather unfair | rather fair | fair | clearly fair

If one person receives more than another due to **exerting higher effort**, I find that ...

clearly unfair | unfair | rather unfair | rather fair | fair | clearly fair

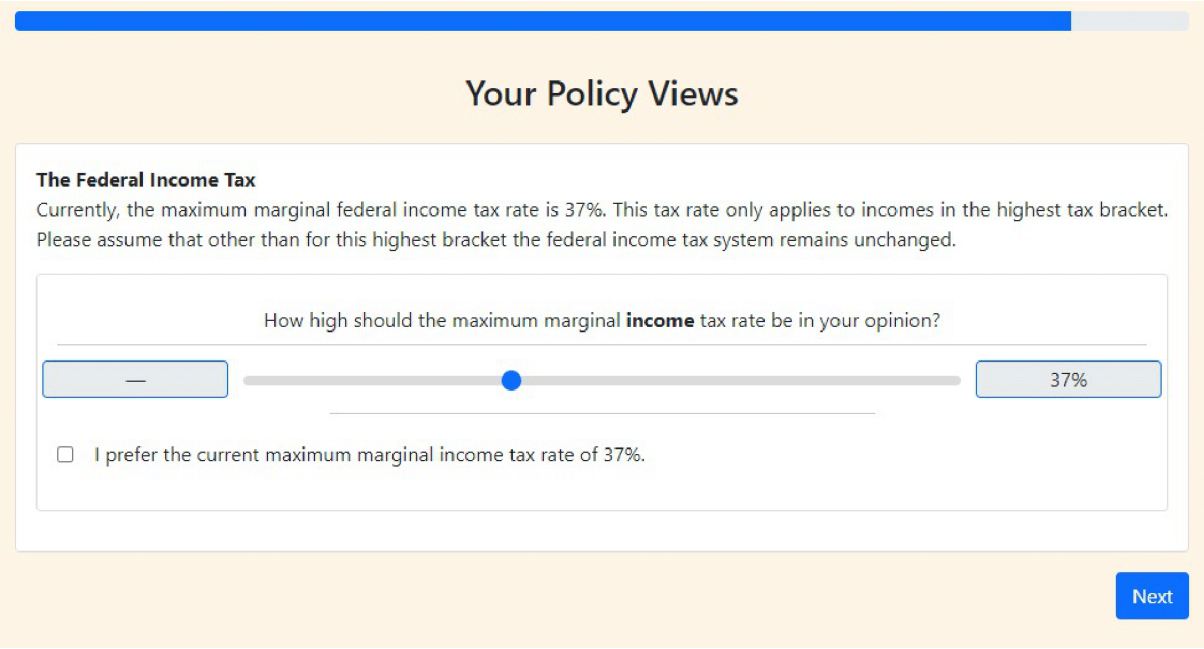
If children born to affluent parents are more likely to be affluent themselves later in life compared to children born to less well-off parents, I find that ...

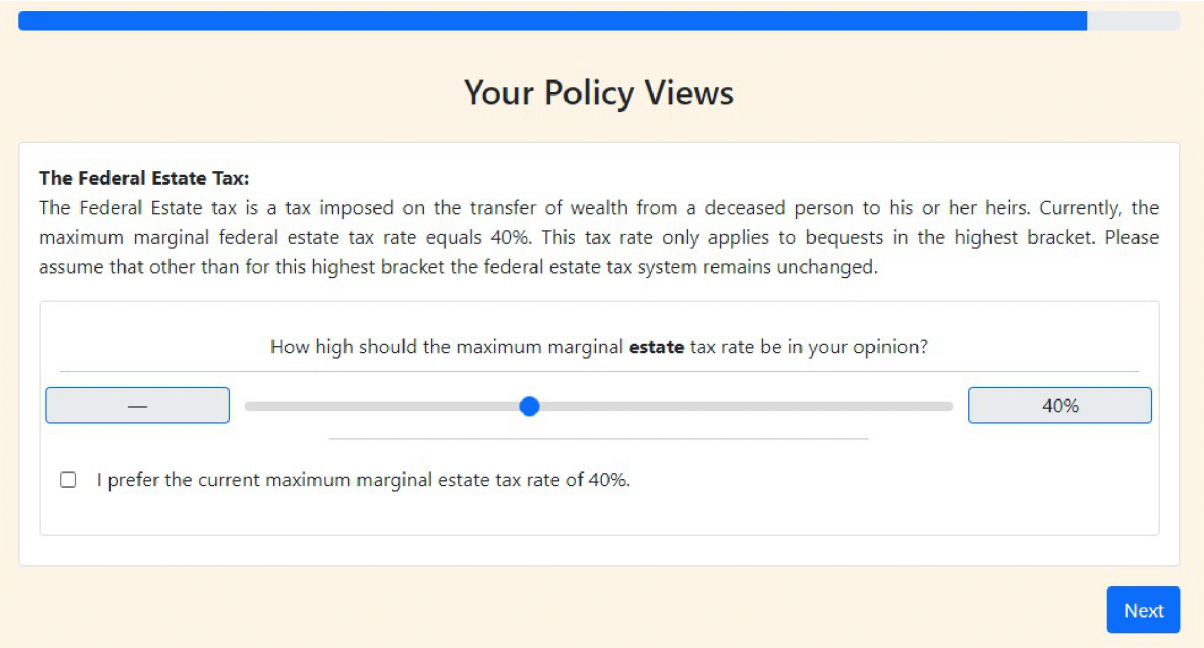
clearly unfair | unfair | rather unfair | rather fair | fair | clearly fair

How much do you agree or disagree with the following statement? "Last year all citizens of the USA received exactly the same income."

strongly disagree | disagree | agree | strongly agree

Next


Your Policy Views
The Federal Income Tax
Currently, the maximum marginal federal income tax rate is 37%. This tax rate only applies to incomes in the highest tax bracket. Please assume that other than for this highest bracket the federal income tax system remains unchanged.
How high should the maximum marginal income tax rate be in your opinion?
—
37%
I prefer the current maximum marginal income tax rate of 37%.
Next


Your Policy Views
The Federal Estate Tax:
The Federal Estate tax is a tax imposed on the transfer of wealth from a deceased person to his or her heirs. Currently, the maximum marginal federal estate tax rate equals 40%. This tax rate only applies to bequests in the highest bracket. Please assume that other than for this highest bracket the federal estate tax system remains unchanged.
How high should the maximum marginal estate tax rate be in your opinion?
—
40%
I prefer the current maximum marginal estate tax rate of 40%.
Next

Your Policy Views

For the questions on this page, please complete the sentences by selecting the option that most closely corresponds to your view.

The federal-state unemployment insurance (UI) system uses tax money to provide assistance to people who have lost their jobs and are eligible for benefits by temporarily replacing part of their wages.

The unemployment insurance (UI) system should be ...

significantly reduced	reduced	moderately reduced	neither reduced nor extended	moderately extended	extended	significantly extended
○	○	○	○	○	○	○

The government uses tax money to run programs such as the Social Security program and the Supplemental Security Income disability program which provide assistance to people with disabilities.

Government funding for programs that provide assistance to disabled people should be ...

significantly reduced	reduced	moderately reduced	neither reduced nor extended	moderately extended	extended	significantly extended
○	○	○	○	○	○	○

The government uses tax money to finance institutions and runs programs to – among other things – provide assistance to children from less well-off families; examples include public schools, colleges and universities, tuition waivers, and health coverage programs such as Medicaid and the Children's Health Insurance Program (CHIP).

Government funding for these institutions and programs should be ...

significantly reduced	reduced	moderately reduced	neither reduced nor extended	moderately extended	extended	significantly extended
○	○	○	○	○	○	○

Next

About Yourself

Now we would like to ask you a few things about yourself.

Please select your state of residence.

Please select your educational attainment.

- No High School degree
- High school diploma equivalent
- Bachelor's or Associate's degree
- Master's degree or higher

How much was your pre-tax (gross) household income between January and December 2021? In case you are not sure, please provide your best estimate.

- Below $34,000
- Between $34,000 and $68,000
- Between $68,000 and $125,000
- More than $125,000

Please estimate your household's net worth (value of all assets - sum of all liabilities) and indicate in which of the below categories your estimate falls.

- Less than $13,000.
- More than $13,000 but less than $124,000.
- More than $124,000 but less than $410,000.
- More than $410,000.

If you had to use one of these five commonly-used terms to describe your social class, which one would it be?

- Lower Class or Poor
- Working Class
- Middle Class
- Upper-middle Class
- Upper Class

On economic policy matters, where do you see yourself on the liberal/conservative spectrum?

- Very liberal
- Liberal
- Rather liberal
- Moderate
- Rather conservative
- Conservative
- Very conservative

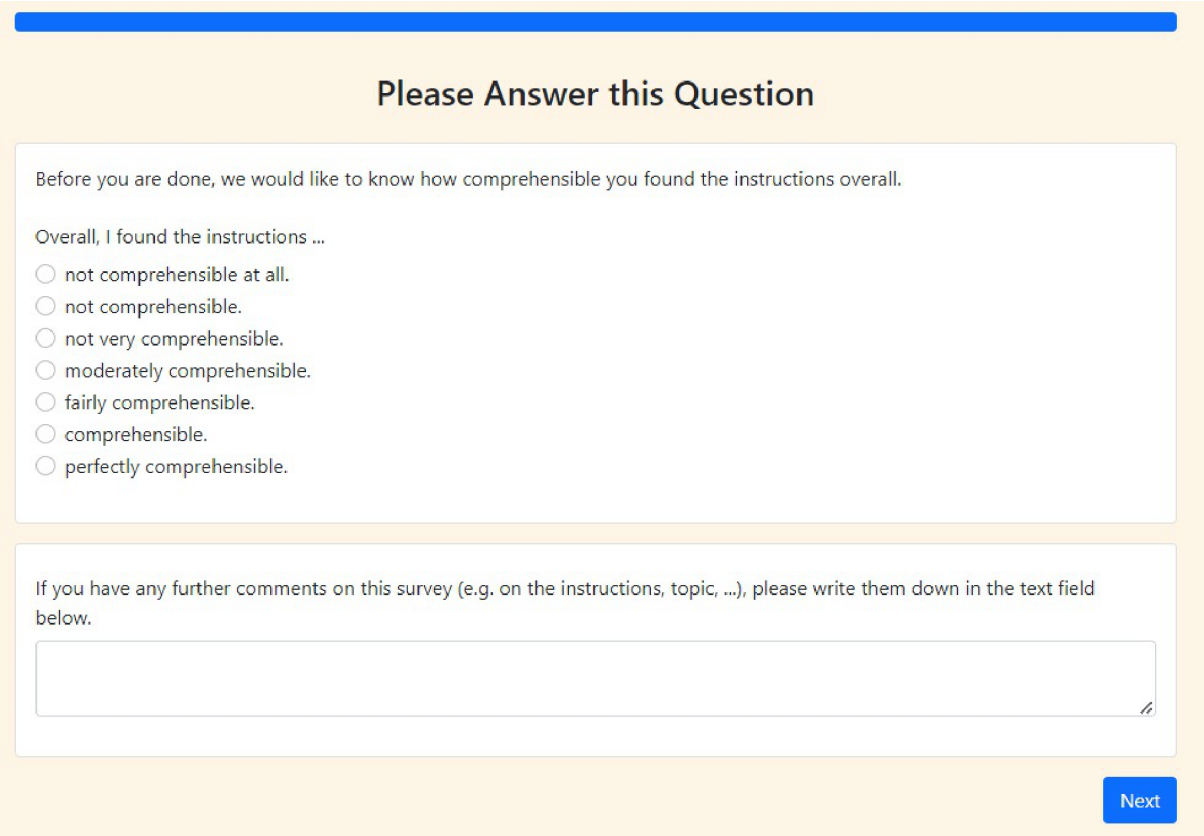
Generally speaking, where do you see yourself on the Republican/Democrat spectrum?

- Clearly Republican
- Republican
- Rather Republican
- Neither Republican nor Democrat
- Rather Democrat
- Democrat
- Clearly Democrat

Which of the options below best describes how regularly you vote?

- I do not vote in elections
- Rarely
- Some elections
- Approximately every other election
- I may have missed a few
- Almost every election
- Every election without exception

Next



After spectators clicked the "Next" button on the last page, they were redirected to the Prolific platform.