Beliefs in Merit, Trickle-Down Economics, and Preferences for Redistribution: An Experiment with the Top and Bottom 20%

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Pre-Analysis Plan

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1 Introduction

Despite rising inequality in both the US and other high-income countries (Chancel et al., 2021), demand for redistribution seems stagnant (Kenworthy and McCall, 2008; OECD, 2021; Stantcheva, 2021a). Some scholars claimed that this fact could be partly explained by people's lack of knowledge of actual inequality patterns. Nevertheless, survey experiments do not support this view. Informing a randomly selected group of respondents either about the overall extent of inequality or about their position in the income distribution does not significantly affect demand for redistribution (Ciani et al., 2021).

The above pattern starkly contrasts with the predictions of the standard rational choice model of political competition in democracies (Meltzer and Richard, 1981). Accordingly, the income tax rate should be determined by the median voter in the income distribution. Since the median income is typically lower than the mean income, a self-interested median voter should benefit from a greater level of redistribution. On the contrary, low-income earners often vote against redistribution (Kuziemko et al., 2015; Blanchard and Rodrik, 2021), or do not go to vote at all (Mahler et al., 2014). It is also surprising that many high-income earners favor some degrees of redistribution, seemingly in contrast with their self-interest (Fong, 2001; Broockman et al., 2019). Hence, it is clear that accounts based on self-interest alone cannot explain the puzzle of redistribution.

The present study focuses on people's beliefs about the merit of the rich and the poor, namely how people judge the factors determining fair and legitimate income differences between rich and poor. These beliefs are likely to shape inequality acceptance and support for redistribution in society. More specifically, we analyse two interrelated theoretical accounts to explain such a puzzle.

The first account looks at people beliefs' on the rich's and the poor's effort as a factor determining the preferred amount of redistribution. It is well known that the belief in meritocracy leads Americans to praise the success of the rich and blame the poor because of the different amount of effort exerted in productive activities (McCall, 2013; Atkinson, 2016; Kim, 2021). The belief in the "deserving rich" leads to lower demand for redistribution, as people tend to believe that higher incomes reflect higher effort (Krawczyk, 2010; Lefgren et al., 2016; Almås et al., 2020). A symmetric narrative to the "deserving rich" is the "undeserving poor" (Petersen et al., 2011; Brown-Iannuzzi et al., 2017; Alesina et al., 2018). According to this idea, the poor ultimately does not deserve help because of his/her lack of effort in productive activities or limited talent or skills.

A second account for the limited demand for redistribution refers to individuals' beliefs in a common narrative in economics, the "Trickle-down Hypothesis" (Aghion and Bolton, 1997;

Stantcheva, 2021b). We consider two aspects of the trickle-down hypothesis which we deem as relevant: The rich Employment activities and their Philanthropic donations. A growing share of income and wealth owned by the richest is deemed to be beneficial to society because rich people can sustain economic growth by creating employment and supporting several social activities through their charitable foundations. In other words, the rich (especially self-made entrepreneurs) are seen as job producers and philanthropists who devote a share of their profit to charitable giving.[1]

Our experimental approach - described in the next Section - enables us to measure the relevance of each theoretical account on a common scale, thus enabling us to assess their cogency. We expect that the higher the relevance of a certain characteristic related to the merit of a stakeholder, the higher the share of experimental earnings that a decision-maker will allocate to stakeholders holding such a characteristic.

2 Research strategy

2.1 The redistribution interaction

Our experimental framework builds on Almås et al. (2020). It involves two stakeholders matched together - labeled Person 1 and Person 2 - and one decision-maker, whom we call the spectator. In the first stage, Person 1 performs a task for us for which he is assigned \$50. Person 2 does not perform any task and is assigned \$1.[2] This money adds to the standard show-up fee that survey participants receive. The stakeholders are told that the final amount of money that they will eventually receive may depend on the decision of another participant in a second-stage of the study. In this second stage, the spectator is asked to decide how much money to transfer from Person 1 to Person 2. One decision of one spectator is randomly selected and actually implemented to determine the payoffs for one randomly selected Person 1 and one randomly selected Person 2. The spectator's decision is our measure of redistribution and main dependent variable in the analysis. All participants are US residents. In addition, spectators are also selected among US citizens. Spectators are administered 16 different redistributive choices matching eight different profiles for Person 1 and two different profiles for Person 2. Using conjoint analysis, the real-life

[1] We find that our proposed two mechanisms of trickle-down (greater employment and philanthropic donations) cluster together in a comprehensive study on the people's beliefs on the rich by Ragusa (2015): rich are often described as both job producers who earn their income through hard work and having pro-social behaviour like charitable giving. However, other factors, such as consumption, investment, and innovation, are possible channels of the trickle-down economics. Since we lack a clear theorization of what is meant to be included under the trickle-down mechanism, one of our survey questions aims to address which aspects of the trickle-down narrative are most relevant for participants.

[2] The task performed by Person 1 consists of answering four general questions about the role of merit and luck in people's economic success (or lack of success), the evolution of inequalities, and of preferences for redistribution. Such task details are not revealed to the spectator.

characteristics of sixteen Person 1s and four Person 2s are used to determine the attributes of such profiles. Person 1 is described as being an entrepreneur earning more than $100,000 in real life, while Person 2 is presented as earning less than $10,000. In other words, we aim at reproducing a situation where spectators have to transfer money from a high-earner to a low-earner. Additionally, in order to test the two accounts above, we manipulate the characteristics of both the rich and the poor stakeholder. We vary their real-life merit by manipulating the effort exerted, and the rich's potential to benefit the poor through either their entrepreneurial or philanthropic activities. More specifically, we manipulate the following characteristics:

- The number of **working hours** that the two stakeholders normally exert in their daily life.

  This characteristic taps into the meritocratic idea that people working longer hours are perceived as being more deserving than others. Stakeholders are portrayed as working either less than 6 hours or more than 10 hours per day.

- The **origin of the firm ownership** by the rich stakeholder.

  The rich stakeholder can have either founded or inherited the firm they own. This second manipulation taps directly into the assessment of the entrepreneur's own talent in setting up their own business.

- The **number of employees** of the rich stakeholder's firm.

  The firm can either provide work to less than 5 or to more than 1,000 employees. This manipulation captures one aspect of the trickle-down hypothesis. An employer providing job to 1,000 employees clearly provides more benefit to the economy and the society than one employing less than 5 employees.

- The amount of **donations to charity** by the rich stakeholder.

  In addition to the above characteristics, we also manipulate the amount of donations that the rich stakeholder performs during a year. The rich stakeholder either donates more than $3600 or less than $20. This is an alternative mechanism for the trickle-down hypothesis.

2.2 Sample characteristics

In order to avoid deception, we recruit stakeholders matching the above attributes in real life prior to the spectators' decisions in the first stage. We do so through two specifically designed surveys in which stakeholders are screened according to the attributes described below in order to test the two above discussed channels of the trickle-down economics (see section 4.1 for survey).

While the recruitment of stakeholders is limited to 20 participants satisfying the attributes listed above, spectators are recruited to satisfy characteristics of representativeness with respect

Table 1: Attribute values for rich and poor stakeholders in the survey on Employment activities

The rich profile Income > $100,000	**The poor profile**: Income < $10,000
Works less than 6 hours during a weekday / Works more than 10 hours during a weekday	Works less than 6 hours during a weekday / Works more than 10 hours during a weekday
Inheritor and owner of a firm / Founder and owner of a firm	Does not own a business
The firm has less than 5 employees / The firm has more than 1000 employees	

Table 2: Attribute values for rich and poor stakeholders in the survey on Philanthropic donations

The rich profile Income > $100,000	**The poor profile**: Income < $10,000
Works less than 6 hours during a weekday / Works more than 10 hours during a weekday	Works less than 6 hours during a weekday / Works more than 10 hours during a weekday
Inheritor and owner of a firm / Founder and owner of a firm	Does not own a business
Donated less than $20 to charity in the last 12 months / Donated more than $3600 to charity in the last 12 months	Did not donate any money to charity in the last 12 months

to the top 20% and the bottom 20% of the US population.[3] Our spectators' sample is recruited in two separate waves. In the first wave, 150 low-income and 150 high-income participants have been recruited. This wave was intended to be a pilot for the second wave. However, these observations will enter the dataset. In the second wave, 750 low-income and 750 high-income spectators will be recruited. We set out to recruit samples of rich and poor spectators to be representative of both income groups in terms of age, gender and region of residence. We are, however, prepared to drop the quota requirements for representativeness in case of lack of available participants. Additionally, we recruit spectators through two separate surveys. Survey 1 refers to the trickle-down hypothesis related to the Employment activities of rich people according to the attributes in Table 1 while Survey 2 refers to the trickle-down hypothesis related to the Philanthropic donations of rich people according to the attributes in Table 2.

The spectators are informed that the high-income stakeholders earned the initial endowment by carrying out a task for us. The low-income stakeholders, conversely, carried out no task. Before choosing how much to redistribute between the two stakeholders, the spectator reads the profile of both stakeholders.[4] Different characteristics of the stakeholders are combined randomly for a

[3]Spectators do not participate as stakeholders to rule out any self-interest or wishful thinking from their motivations.

[4]We wrote the instructions in the simplest language possible by using www.rewordify.com. Moreover, a native English American speaker proofread the entire survey.

total of 16 conjoint tables that are administered in a within-subject design. That is, the spectator chooses 16 times for each possible combination of rich and poor profiles.[5] The profiles' order is randomized to rule out any order effect. The surveys' links, the list of questions, and an example of the redistributive task are reported in section 4.

3 Empirical framework

3.1 Main analysis

Our aim is to disentangle the effect of the different attributes of the poor and rich stakeholders on spectators' redistribution decisions. With this aim, we pool the samples of both rich and poor spectators, and we estimate the following model:

$$\begin{aligned} Red_{it} =& \alpha_0 + \alpha_1 MP_{it} + \alpha_2 MR_{it} + \alpha_3 F_{it} + \alpha_4 T_{it} + \alpha_5 R_i + \alpha_6 R_i \cdot MP_{it} + \\ & \alpha_7 R_i \cdot MR_{it} + \alpha_8 R_i \cdot F_{it} + \alpha_9 R_i \cdot T_{it} + \gamma X_{it} + \epsilon_{it}, \end{aligned} \tag{3.1}$$

where Red_{it} is the percentage of the rich stakeholder's income transferred to the poor stakeholder by spectator i, who is shown a conjoint table t (with $t = 1, ...16$). MP_{it} and MR_{it} are dummy variables equal to 1 if the poor and the rich stakeholders are described as working more than 10 hours during a normal working day; F_{it} is a dummy equal to 1 if the rich spectator founded the firm that he currently owns and T_{it} is a dummy equal to 1 if the same firm has more than 1000 employees. In survey 2, T_{it} will represent a dummy equal to 1 if the rich stakeholder donated more than \$3600 to charity in the last 12 months and 0 if she donated less than \$20. R_i is equal to one if spectator i is part of the top 20% of the income distribution and 0 if the spectator belongs to the bottom 20%. We also include the interactions between the attribute values dummies ($MP_{it}, MR_{it}, I_{it}, T_{it}$) and the income group dummy (R_i) to study how the marginal effect of each attribute varies with spectators' income groups. X_{it} is a vector of demographic and attitudinal variables that we use as basic demographic controls - namely, gender, age, self-reported ethnicity, region of residence - other controls - namely, education, religious denomination and importance of religion in one's life - possible moderating factors - namely, political affiliation and attachment to political and economic ingroup (see section 3.2) as well as the beliefs over the real-life distribution of the stakeholders' attributes. A set of variables is used to evaluate the external validity of the experiment and to appreciate which underlying factor is most relevant for the trickle-down hypothesis (see sections 3.3 and 3.4). Although our main specification will include all the control variables, we also report and discuss results for regressions without control variables. Finally, ϵ_{it}

[5] Bansak et al. (2018) finds that even when respondents are exposed to 30 conjoint tables, there is no substantial survey satisficing, that is, respondents process the conjoint profiles in similar ways and provide similar, sensible results.

is the error term. In the estimation, we will cluster standard errors at the individual level to take serial correlation into account. We use Tobit regressions censored at 0 and 1 to take into account the censored nature of the dependent variable.

Coefficients α_1, α_2, α_3 and α_4 represent the effects of each attribute value against the alternative value of the same attribute while holding equal the joint distribution of the other attributes (Bansak et al., 2021). This value is known in the literature as the average marginal component effect (AMCE).

Extensive experimental literature has found that people in the US - as well as Western countries- are deeply meritocratic. We then expect that the attributes and values that highlight a stakeholder's merit will increase the final amount she will receive. We thus expect:

- $\alpha_1 > 0$ as the effort of the poor is rewarded by the spectator by redistributing more towards the poor (McCall, 2013; Atkinson, 2016; Kim, 2021).

- α_2, α_3 and $\alpha_4 < 0$ as the different dimensions of the rich stakeholders' merit increase their entitlement over the endowment while decreasing the spectators' propensity to redistribute (Krawczyk, 2010; Lefgren et al., 2016; Almås et al., 2020; Aghion and Bolton, 1997; Stantcheva, 2021b).

- $\alpha_6 > 0$ and α_7, α_8, and $\alpha_9 < 0$. On the grounds of existing literature (Khan, 2011; Kuusela, 2020; Atria et al., 2020; Suhay et al., 2020), the rich may be expected to hold beliefs that are more meritocratic than the rest of the population. In other words, we expect the impact of the poor and rich stakeholders' merits on redistribution choices to be stronger for rich spectators.

The main advantage of the conjoint analysis, that is, being able to test the relative importance of different individual characteristics, comes at a cost: multiple hypothesis testing (Liu and Shiraito, 2022). We will employ the sharpened q-value approach in the main analysis, but we will also show the Bonferroni approach and the Holm-Bonferroni approach for comparison purposes.

Finally, we apply standard checks to ensure the quality of the observations. We will exclude observations whose survey completion time is less than a quarter of the sample median duration time, as well as those following a clearly predictable pattern (such as surveys in which the first option to every question has been selected). We have included an attention check common in this field of research (Haaland et al., 2020), in which the participant is asked to answer a question according to what indicated in the text of the question rather than according to their own preferences. We will use the answer to this question to flag out possible low-quality answers. We will then perform a robustness check to evaluate if the results of the study are affected by the exclusion of low-quality answers.

3.2 Secondary analyses

In addition to the main hypotheses described above, we plan to test the following two hypotheses:

- The higher the participant's identification with a stakeholder's perceived political group, the higher the money allocated to that stakeholder.
- The higher the participant's identification with a stakeholder's economic group, the higher the money allocated to that stakeholder.

The above hypotheses rely on the assumption common in social psychology that individuals treat more favorably others perceived as belonging to the same 'ingroup' in comparison with others perceived as belonging to the 'outgroup' (Tajfel and Turner, 2004; Brewer, 1999; Balliet et al., 2014). Political affiliation may induce ingroup attachment (Rand et al., 2009; Finkel et al., 2020) as well as belonging to the same income group (Ghiglino et al., 2021). We measure the distribution of the beliefs that Person 1 and Person 2 were supporters of either Donald Trump or Joe Biden in the questionnaire. We also elicit the participant's own political affiliation. Finally, we extend the social identity scale developed by Buchan et al. (2011) to measure identification with people sharing the same political orientation and income class. We use a four-item scale using two of the questions originally used in Buchan et al. (2011), a thermometer scale adapted from Moore-Berg et al. (2020) and one question on trust. Using these two scales, we test whether political identity matters more than economic identity in triggering ingroup solidarity. We probe into these hypotheses using the same model set out in equation (3.1) including the variables just described as moderating factors in the vector X_{it}.

3.3 Moderating factors

We measure participants' beliefs over the real-life distribution of a certain attribute of the stakeholders' profile, that is:

- Number of hours worked per day by the rich and the poor stakeholder;
- Number of rich people who founded or inherited their firm;
- Number of employees in Person 1's firm;
- Amount of donation made by rich people in a year.

We believe that a participant's expectation that a stakeholder may have a certain attribute may be an important moderating factor. For this reason, items measuring such expectations will be included in the vector X_{it} in the model of equation (3.1). Our assumption is that the higher

the difference between a certain attribute - as presented in the stakeholder's profile - and the belief over the same attribute, the higher the allocation reserved for the stakeholder. For instance, if participant A (participant B) expects Person 2 to work ten hours per day (four hours per day), while Person 2 works in fact six hours, participant A will, *ceteris paribus*, assign a smaller share of money to Person 2 than participant B. In other words, the more (less) a participant is matched with stakeholders whose behavior is more (less) deserving than they expect, the higher their reward to such stakeholders.

3.4 External validity

We also included a set of questions tapping into the participant's beliefs that economic success in life is due to factors under one's control rather than circumstances beyond one's control. These beliefs are captured by questions asking:

- Reasons why a person is poor;
- Reasons why a person is rich;
- Relevant factors to get ahead in life.

On the basis of the existing literature (Alesina et al., 2018; Mijs, 2021), we posit that those believing that economic success is due to factors under one's controls have lower propensity to redistribute. Hence, they will also redistribute less in our experiment. An index will be created from the items pertaining to participants' beliefs about economic success.

Another set of items inquire about the relevance of several factors for the 'trickle down' mechanism - namely, the rich's ability to provide jobs, their philantropic activities, consumption, innovation, and investment. Such variables will be used mainly for descriptive purposes. They will also be included in the vector X_{it} in the model of equation (3.1) to check whether people believing that a certain attribute is the most relevant for the trickle-down hypotesis (e.g., donating to charities) allocate more money to a stakeholder holding such an attribute. Other items inquiring about aspects of trickle-down will serve the same purpose.

Finally, we include an incentivized donation question at the end of the survey to further probe into the external validity of the experimental decisions. Participants are assigned a $50 bonus and are asked which portion of it they want to donate to the charity "Feeding America", assisting the poor in the US. The choices of ten participants will actually be implemented. We expect to find a significant correlation between the amount of money transferred to Person 2 in the experiment and the donation to this charity.

3.5 Heterogeneity analysis

We focus on the following sources of heterogeneity. We expect to replicate the results found in existing studies on these variables.

- Political orientation (Liberal versus Conservative): An extensive body of literature has found that right-wing people are less likely to support redistributive policies toward the poor(Alesina et al., 2018; Karadja et al., 2017).
- Gender (male vs female): A long-standing literature in experimental economics show that women tend to favor more progressive redistributive policies (Alesina and Giuliano, 2009; Funk and Gathmann, 2015). However, this propensity may be related to their level of overconfidence (Buser et al., 2020), which should not be relevant in a spectator's setting.
- Prospect of upward mobility: Benabou and Ok (2001) conjectured that individuals currently on low income who expect to earn above the mean income in the future may rationally prefer to demand low income taxation in the present. This thesis has received empirical support (Alesina et al., 2018; Page and Goldstein, 2016). Our survey includes questions on the participants' expectation over their household's economic mobility. Even if the spectator's decisions in the experiment is irrelevant in affecting their own income, we expect that participants expecting to be upwardly mobile will transfer less in our experiment.

3.6 Power analysis

We use a simulation approach for the power analysis as described in Arpinon and Espinosa (2022). We simulate our dependent variable, the percentage of income redistributed by spectators (*Red*), using a normal distribution censored at 0 and 1. The distribution of our dependent variable is calibrated using the mean (0.47) and the standard deviation (0.32) computed using the pilot data. Given that in the pilot we find that the AMCEs range between 0.013 and 0.084 (without considering the T variable, for which we find an effect close to null), we keep 0.02 as smallest effect size of interest.[6] Further, we set $\alpha = 0.05$. However, given that in our main regression (model 3.1) we test for 9 hypotheses, we apply a Bonferroni correction for multiple hypothesis testing and retain $\alpha/9 = 0.0055$ as significance threshold.

In 10,000 simulations, we estimate a Tobit model where the dependent variable is *Red* and the independent variable is the treatment with the assumed effect size. Statistical power (β) is then

[6] Analyzing 15 highly-cited papers using conjoint analysis, Schuessler and Freitag (2020) show that only 25% of estimated AMCEs are lower than 0.02. Thus, our choice of keeping 0.02 as smallest effect of interest can be viewed as conservative.

the share of times in which the resulting $pvalue < 0.0055$. With a sample of 900 participants who choose 16 times (therefore a total of 14,400 observations),[7] we obtain a statistical power of 80%.

3.7 Ethical approval

The research received ethical approval from the Presidium of the Kiel Institute for the World Economy (EP-3-2022).

4 Surveys details

4.1 Survey - STAKEHOLDERS

Answer options are in *italic*, separated by a semicolon.

- Were you born in the United States? *Yes; No*
- Do you currently live in the United States? *Yes; No*
- "In which of these groups did your total PERSONAL income, from all sources, fall last year? That is, before taxes. Total income includes interests or dividends, rents, social security, other pensions, alimony or child support, unemployment compensations, public aid (welfare), armed forces or veteran's allotment." *$0 - $9,999; $10,000 - $14,999; $15,000 - $19,999; $20,000 - $29,999; $30,000 - $39,999; $40,000 - $49,999; $50,000 - $69,999; $70,000 - $89,999; $90,000 - $99,999; $100,000 - $149,999; $150,000 - $199,999; $200,000 +*
- "How much do you work on a normal weekday?" *I normally work less than 4 hours; I normally work between 4 and 6 hours, I normally work between 6 and 8 hours; I normally work between 8 and 10 hours; I normally work between 10 and 12 hours; I normally work more than 12 hours.*
- Do you own a business? *Yes; No*
- (Only in the survey on Philanthropic donation) How much, if anything, did you donate to charity in the last 12 months? *Nothing; $1 - $ 20; $21 - $ 100; $101 - $1,000; $1,001 - $3,60; $3,601 - $10,000; $10,001 - $100,000; More than $100,000*

For rich profiles only (Personal income higher than $100,000)

[7] In the previous version of this pre-analysis plan, there were two typos: we wrongly reported 28,800 observations instead of 14,400 observations (that is, 900 × 16) and the smallest effect size of interest = 0.013 instead of 0.02.

- How did you initially acquire ownership of this business? *Founded; Inherited; Purchased or received transfer of ownership/gift*
- (Only in the Survey on Employment activities) We would like now to ask you how many employees does your business have. Please include full-time, part-time, temporary, unpaid, and family members working for this business. *0 to 5; 6 to 10; 11 to 50; 51 to 100; 101 to 250; 251 to 500; 501 to 1000; More than 1000*
- According to you, what are the reasons why some people are persistently poor in the United States?
- According to you, what are the reasons why some people are persistently rich in the United States?
- In the last 30 years income differences among the rich and the poor sharply increased in the US. Available studies suggest that most people did not demand for more income redistribution to offset this trend. Why do you think this has been the case?
- According to existing studies, many poor people do not demand more income redistribution from the rich to the poor. Why do you think this is the case?

4.2 Survey - SPECTATORS

- We are a group of academic researchers not affiliated to any political party. Our goal is to study how people make decisions. By completing this survey, you are adding to our knowledge as a society.

  It is very important for our research that you answer honestly and read the questions very carefully before answering. Anytime you don't know an answer, give your best guess. However, please be sure to spend enough time reading and understanding the question. To make sure of the quality of the survey data, your responses will be subject to statistical control methods. Responding without good enough effort may result in your responses being flagged for low quality.

  It is also very important for our research project that you complete the whole survey once you have started. This survey should take (on average) about 20 minutes to complete.

  If you decide to participate, you will be asked to answer questions about your views on American society. You will also perform a series of decisions affecting two other participants in this study.

  Your participation in this study is purely voluntary and anonymous. Payments for the survey are managed through the survey company with the possible collaboration of the

administrative offices of our university. The data we receive from the survey company are fully anonymized meaning that no one, not even the research team, will know who you are. The results of the study may be published or presented at professional meetings, but only group characteristics will be discussed.

We will be happy to answer any questions you have about the study or to address your potential concerns. You may contact the principal investigator of this project at: roberto.brunetti@univ-rennes1.fr

- By selecting the "I agree" option below, you confirm that: You are 18 years of age or older. You have read the information provided above. You understand that you can withdraw from the study at any time. You know that you can raise a concern or make a complaint by writing to: roberto.brunetti@univ-rennes1.fr. You are aware you can only participate in this study once. You are aware that close attention to the survey is required for your responses to count. *I agree; I disagree*
- Are you responding to this survey on a cell phone? *Yes; No*
- Where you born in the United States? *Yes; No*
- Do you have US citizenship? *Yes; No*
- Do you currently live in the United States? *Yes; No*
- What was your TOTAL household income, before taxes, last year (2021)? *Less than $10,000; Between $10,000 and $14,999; Between $15,000 and $19,999; Between $20,000 and $29,999; Between $30,000 and $39,999; Between $40,000 and $49,999; Between $50,000 and $69,999; Between $70,000 and $89,999; Between $90,000 and $109,999; Between $110,000 and $149,999; Between $150,000 and $199,999; More than $200,000*
- What is your gender? *Male; Female; Non-binary*
- What is your age?
- In which state do you live?

4.2.1 Redistribution choice

We now ask you to make different choices that might have real consequences for people in real life.

Some days ago, we recruited some people via an online website. These people are all from the US and have different personal traits. We matched them in pairs. Within each pair, one

person (who will be called Person 1) did a job for us, while the other person (who will be called Person 2) did not do any job for us. Both were paid a participation fee.

Person 1 has been given $50 on the top of the participation fee for the job she/he did, while Person 2 has been given $1 on the top of the participation fee. They both have been told that a third person may transfer some money from Person 1 to Person 2 to determine their final earnings.

You will now have to choose how much money you want to transfer from Person 1 to Person 2. You can transfer any amount from $0 to $50. You will make many decisions for different pairs of people who differ in some traits.

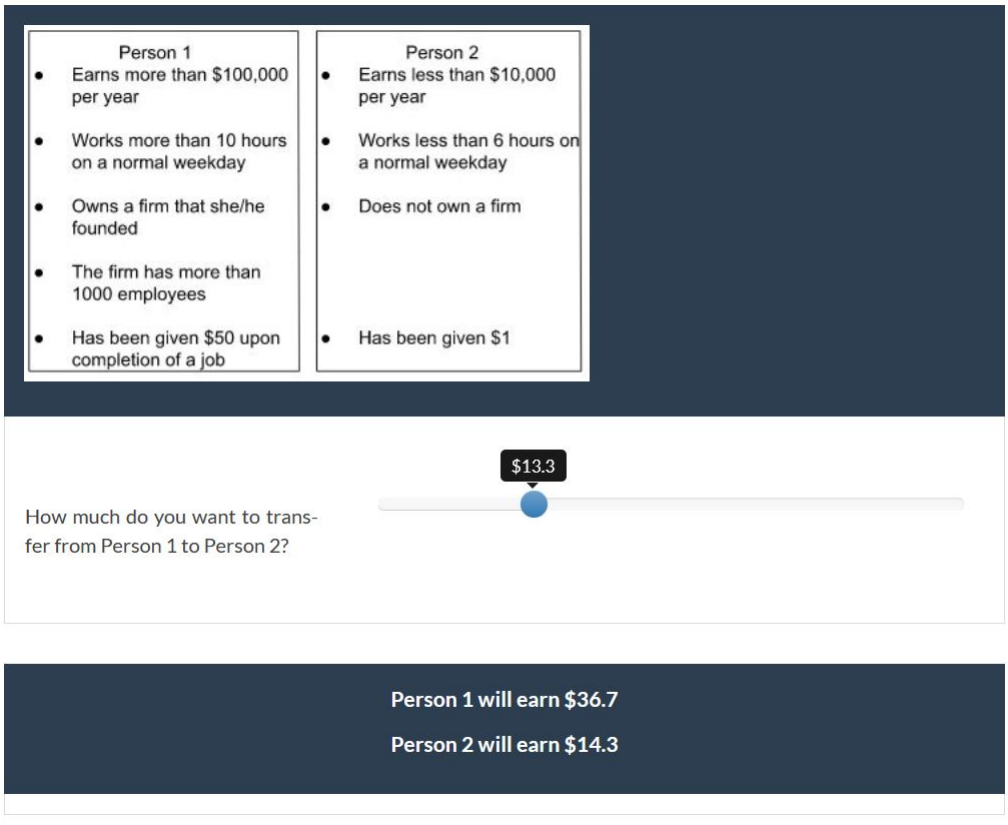
One decision from all the decisions made by the participants in this study will be randomly selected by our computer and applied in reality. Please make your choices carefully, because one of them may decide the final earnings for two other people.

Please remember that your decisions are completely anonymous.

If everything is clear, please click on the "next" button.

Redistribution choice - see figure 1

Figure 1: Example of redistribution choice



4.2.2 Additional questions

- Please think again about your decisions about how much money to transfer from Person 1 to Person 2. Briefly state the reasons for the decisions you made.

- When choosing how much money to transfer from Person 1 to Person 2 in the previous pages, how important have the following factors been? 1) The real-life income differences between Person 1 and Person 2. 2) The difference in money received in this study between Person 1 and Person 2 before your decision. 3) The hours worked on a normal weekday by Person 1. 3) The hours worked on a normal weekday by Person 2. 4) Whether Person 1 founded or inherited his/her firm. 5) (In survey 1) The number of employees' of Person 1's business. or 5)(in survey 2) The amount of money donated to charity by Person 1 *Not at all important; Slightly important; Moderately important; Important; Fairly important; Very important; Extremely important*

- The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions. This means that there are a lot of random answers which compromise the results of research studies. To show that you read our questions carefully, please choose orange as your answer to the next question regardless of your favorite color. What's your favorite color? *Red; Yellow; Blue; Orange; Green; Turquoise; Black; White; Purple*

- On the following screen, you will be asked some guess questions. Think about all people living in the United States and earning less than $10,000 per year. How many hours do you think this group of individuals work on average on a normal weekday? *0-12; More than 12*

- Now think about all people living in the United States and earning more than $100,000 per year. How many hours do you think this group of individuals work on average on a normal weekday? *0-12; More than 12*

- Think about all people living in the United States and earning more than $100,000 per year. According to your best estimate, how much has this group donated to charity on average in the last 12 months? *Nothing; $1-$20; $21-$100; $101-$1,000; $1,001 - $3,600; $3,601 - $10,000; $10,001 - $100,000; More than $100,000*

- Now think about all people living in the United States earning more than $100,000 per year and owning a firm. According to your best estimate, out of 100 people in this group 1) how many INHERITED their own enterprise? 2) How many FOUNDED their own enterprise? 3) How many PURCHASED their own enterprise? 4) How many RECEIVED their own enterprise from a transfer of ownership/gift? *0-100*

- Think about people earning more than $100,000 and owning a firm. According to your best estimate, how many employees do their firms have on average? *From 0 to 5 employees; From 6 to 10 employees; From 11 to 100 employees; From 101 to 1,000 employees; From 1,001 to 5,000 employees; From 5,001 to 10,000 employees; More than 10,000 employees*

- In the first part of this study, you were asked to make decisions for several Person 1. All these Person 1 had a yearly income higher than $100,000 in 2021. Let us now consider ten Person 1. In your opinion, How many of them supported Donald Trump? How many of them supported Joe Biden? How many of them did not support either Donald Trump or Joe Biden? *[0-10]*

- In the first part of this study, you were asked to make decisions for several Person 2. All these sixteen Person 2 had a yearly income lower than 10,000 in 2021. Let us now consider ten Person 2. In your opinion, How many of them supported Donald Trump? How many of them supported Joe Biden? How many of them did not support either Donald Trump or Joe Biden? *[0-10]*

- Assume the total American population is broken into 5 income groups from the poorest to the richest, each with the same number of people. These groups are: the poorest households, the second poorest households, the middle households, the second richest households, and the richest households. In which of these income groups do you place your household? In which of these income groups would you place the household in which you grew up? Thinking ahead 10 years from now, in which of these income groups do you think your household will be? *Richest;* 2^{nd} *Richest; Middle;* 2^{nd} *Poorest; Poorest*

- Which has more to do with why a person is rich? *Factors under their control (e.g. rich people have worked harder than others, or they are more talented than others, etc.); Factors beyond their control (e.g. rich people have had more advantages than others, they have acquired more wealth from their families than others, etc.)*

- Which has more to do with why a person is poor? *Factors under their control (e.g. poor people have worked less hard than others, or they are less talented than others, etc.); Factors beyond their control (e.g. poor people have had less advantages than others, they have acquired less wealth from their families than others, etc.)*

- For each of the factors below, please tick one box to tell us how important you think it is for getting ahead in life. Coming from a wealthy family. Having well-educated parents. Hard work. A person's race or ethnic group. A person's religion. Being born a man or a woman. The ability or talent a person is born with. Good luck, being in the right place

at the right time. Physical appearance and good looks. Where a person grew up. *Not at all important; Slightly important; Moderately important; Important; Fairly important; Very important; Extremely important*

- In the US, one of the main reasons for the rich being rich is that the rich have been selfish. *Strongly disagree; Disagree; Neither Agree nor Disagree; Agree; Strongly Agree*
- In general, do you have a favorable or an unfavorable opinion of those who own businesses? *Very favorable; Somewhat favorable; Fairly unfavorable; Very unfavorable*
- Please indicate if you agree or not with the following statements: Allowing business to make good profits is the best way to improve everyone's standard of living. The existence of rich people in the US benefits society as a whole. Setting low tax rates on rich people will benefit the whole economy. *Strongly Disagree; Disagree; Neither Agree nor Disagree; Agree; Strongly Agree*
- In your opinion, how important is each of the following aspects for how the rich people benefit the economy? High consumption levels by the rich. High investment levels by the rich. Technological innovations. High employment in the firms owned by the rich. High levels of donations to charity by the rich. *Not at all important; Slightly important; Moderately important; Important; Fairly important; Very important; Extremely important*
- How strongly do you agree with the following statement? Income differences between the rich and the poor in this country should be reduced. *Strongly Disagree; Disagree; Neither Agree nor Disagree; Agree; Strongly Agree*
- Consider the tools below to address inequality in the United States. In your opinion, how important should each of them be? Education policies. Private charity. Progressive taxes. Government transfers (e.g., food stamps, Medicaid,..). Government regulation (e.g., min wage, caps on top compensation,...). *Not at all important; Slightly important; Moderately important; Important; Fairly important; Very important; Extremely important*
- Did you vote in the last presidential elections? *Yes; No*
- In the last presidential election, you supported *Donald Trump; Joe Biden; Neither*
- How strong was your support for [Joe Biden/Donald Trump]? *Very strong; Strong; Somewhat strong; Not strong at all*
- In political matters, people often talk of "Liberal" and "Conservative". Generally speaking, how would you place your views on this scale? *Very liberal; Liberal; Moderate; Conservative; Very conservative*

- How Much of the time do you think you can trust the federal government in Washington D.C. to do what is right? *Never; Only some of the time; Most of the time; Always*

  You said that you supported [Trump/Biden] / supported neither Trump nor Biden in the previous presidential elections. [Questions about Trump displayed before for supporters of Trump, same with Biden. If the respondent did not support either Trump or Biden, the order of the two blocks in randomized]

- How strongly do you feel attachment to people who supported Donald Trump? *Not at all; Somewhat; Strongly; Very strongly*

- How strongly favorable do you feel toward people who supported Donald Trump? *Not at all favorable; Somewhat favorable; Strongly favorable; Very strongly favorable*

- How close do you feel to people who supported Donald Trump? *Not at all; Somewhat; Strongly; Very strongly*

- How much do you trust people who supported Donald Trump to do what is right for the country? *Not at all; Somewhat; Strongly; Very strongly*

- How strongly do you feel attachment to people who supported Joe Biden? *Not at all; Somewhat; Strongly; Very strongly*

- How strongly favorable do you feel toward people who supported Joe Biden? *Not at all favorable; Somewhat favorable; Strongly favorable; Very strongly favorable*

- How close do you feel to other people who supported Joe Biden? *Not at all; Somewhat; Strongly; Very strongly*

- How much do you trust people who supported Joe Biden to do what is right for the country? *Not at all; Somewhat; Strongly; Very strongly*

  In one of the previous questions you said that your household gross yearly income is [less than $30,000/higher than $150,000].

- How strongly do you feel attachment to people whose yearly income is less than 30,000? *Not at all; Somewhat; Strongly; Very strongly*

- How strongly favorable do you feel toward people whose yearly income is less than 30,000? *Not at all favorable; Somewhat favorable; Strongly favorable; Very strongly favorable*

- How close do you feel to other people whose yearly income is less than 30,000? *Not at all; Somewhat; Strongly; Very strongly*

- How much do you trust people whose yearly income is less than 30,000 to do what is right for the country? *Not at all; Somewhat; Strongly; Very strongly*
- How strongly do you feel attachment to people whose yearly income is higher than $150,000? *Not at all; Somewhat; Strongly; Very strongly*
- How strongly favorable do you feel toward people whose yearly income is higher than $150,000? *Not at all favorable; Somewhat favorable; Strongly favorable; Very strongly favorable*
- How close do you feel to other people whose yearly income is higher than $150,000? *Not at all; Somewhat; Strongly; Very strongly*
- How much do you trust people whose yearly income is higher than $150,000 to do what is right for the country? *Not at all; Somewhat; Strongly; Very strongly*
- Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out. *[0 None at all - 10 A great deal]*
- How satisfied are you with your life, all things considered? *[0 Completely dissatisfied - 10 Completely satisfied]*
- In which ZIP code do you live?
- Which category best describes your highest level of education? *Eighth Grade or less; Some High School; High School degree / GED; Some College; 2-year College Degree; 4-year College Degree; Master's Degree; Doctoral Degree; Professional Degree (JD, MD, MBA)*
- How would you define your ethnicity? (Choose all that apply) *White; African American / Black; White Hispanic; Other Hispanic; South Asian or Asian American; East Asian; Native American; Middle Eastern or Arabic; Other (Please specify)*
- Do you belong to a religion or religious denomination? If yes, which one? *No denomination; Roman Catholic; Protestant; Orthodox (Russian/Greek/etc.); Jew; Muslim; Hindu; Buddhist; Other (Please specify)*
- How many times do you attend religious services or ceremonies at your place of worship? *Never; Less than once a year; Once or twice a year; Several times a year; Once a month; 2-3 times a month; About once a week; Several times a week; Every day*

- Do you feel that this survey was biased? *Yes; No*
- (If Yes to the previous question) Which of the following statements is closest to the truth according to you? *The researchers preferred that I transferred a large amount of money from Person 1 to Person 2; The researchers preferred that I transferred a low amount of money, or nothing, from Person 1 to Person 2.*
- Was the survey clear to you? *Very clear; Quite clear; Quite unclear; Very unclear*
- (If *Quite unclear* or *Very unclear* to the previous question) Please, explain us why it was not clear and give us some suggestions to improve it.
- By taking this survey, you are automatically enrolled in a lottery. Ten participants will receive a bonus of $50. You will learn whether you have been selected at the end of this survey. You now get to decide how much of the $50 you want to donate to the charity Feeding America and how much to keep for you in case you receive this bonus. Feeding America is a United States–based nonprofit organization that supports poor people in the USA. If you are selected in the lottery, we will pass your contact details to our university administration offices, which will take care of the payment. We will not see your contact details. You will also receive a proof of the donation made to Feeding America, which will include the sum of your donation and the other 9 participants' donations Please let us know how much you would like to donate to Feeding America by filling in your preferred donation amount in the following field. (Please note, your answer must be a whole number between $0 and $50.) *Slider between 0 and 50*

5 Updated pre-plan

Following some of the findings in the previous wave[8], we test the contribution of an additional mechanism related to the trickle-down hypothesis in a new survey wave (N=900 divided as in the previous waves between 450 high-income respondents (> $150,000) and 450 low-income respondents (< $30,000)). Specifically, we examine how beliefs about the merit of rich people related to their role as promoters of technological innovation affect preferences for redistribution. To compare this new mechanism with the Employment and Donation treatments, we replicate the above experimental design but we now manipulate the number of patents obtained by the firm owned by the rich stakeholder. The rich stakeholder either owns a firm that did not obtain any patent

[8]In one of the survey questions, we asked respondents in which ways rich people benefit the economy. We find that 42.55% of respondents believe that technological innovation is an extremely and very important aspect of how the rich people benefit the economy.

in the last 12 months or obtained more than 180 patents for inventions in the last 12 months (see table 3).

Table 3: Attribute values for rich and poor stakeholders in the Treatment on Innovation

The rich profile Income > $100,000	**The poor profile**: Income < $10,000
Works less than 6 hours during a weekday / Works more than 10 hours during a weekday	Works less than 6 hours during a weekday / Works more than 10 hours during a weekday
Inheritor and owner of a firm / Founder and owner of a firm	Does not own a business
The firm did not obtain any patent for inventions in the last 12 months / The firm obtained more than 180 patents for inventions in the last 12 months	

In the new wave, we also add five new questions:

- Think about people earning more than $100,000 and owning a firm. According to your best estimate, how many patents do their firms obtain every year on average? *None; Between 1 and 10; Between 11 and 100; Between 101 and 180; Between 181 and 300; More than 300*

- How strongly do you agree with the following statement: "We need modern technology because only this can help to solve future problems" *Strongly disagree; Disagree; Neither agree nor disagree; Agree; Strongly agree*

- People sometimes consider themselves as being part of a certain group of people. Could you tell us, for each of these groups, to what extent it is important to you to belong to this group? People who belong to one nation, People who live in the same territory, People who have the same religious beliefs, People who belong to the same ethnic group, People who belong to the same income group, People who have the same political affiliation. *Not at all important; Slightly important; Moderately important; Important; Fairly important; Very important; Extremely important*

- According to your opinion, why do rich people donate to charity? *Because they are altruist; For tax purposes; To promote their self-image; Because people from their social network also donate; Other:*

- In which of the following categories does the net value of your assets, after deducting debt, fall? *Less than $0; Between $0 and $999; Between $1,000 and $9,999; Between $10,000*

and $99,999; Between $100,000 and $699,999; Between $700,000 and $999,999; Between $1,000,000 and $9,999,999; More than $10,000,000

The hypotheses we aim to test in the new treatment are in line with Section 3 and we expect that the attributes and values that highlight a stakeholder's merit (i.e., being a more innovative entrepreneur) will increase the final amount she will receive. As above, we also expect the rich to hold beliefs that are more meritocratic than the rest of the population being thus less likely to redistribute from the rich to the poor the greatest the stakeholder's merit.

Finally, although not directly related to the trickle-down hypothesis and with a more general exploratory scope, we also include - in the last part of the questionnaire - 8 novel redistributive choices to examine how redistributive choices are affected by the belief that individuals who have climbed the social ladder are more deserving. This hypothesis is related to another strand of literature trying to explain the limited demand for redistribution through the belief in the prospect of upward mobility (POUM) (Benabou and Ok, 2001) or in the American dream (Alesina et al., 2004; Alesina and La Ferrara, 2005). Both concepts claim that individuals moving up the social and economic ladder, achieving higher social status, and increasing their income and wealth over time through hard work, education, and individual effort, should not be discouraged by the imposition of a higher taxation. Such mechanisms has received a lot of empirical support in the literature (Checchi and Filippin, 2004; Cojocaru, 2014; Laméris et al., 2020; Alesina et al., 2018; Hoy and Mager, 2021).

By introducing this new mechanism, we want to test whether the merit of the rich can be related to the POUM (prospect of upward mobility) and to the "American Dream" belief. With respect to the POUM Hypothesis, we believe that spectators may be more sympathetic with the idea that successful individuals who have climbed the social ladder should retain a larger share of their earnings. This is so since they also aspire to achieve success and wealth, and they may envision themselves in a similar position one day. The belief in the American Dream can similarly influence people's attitudes towards redistribution. These deeply ingrained American cultural beliefs in the United States, which suggests that anyone can achieve success and prosperity through hard work, determination, and talent, make people think that successful individuals deserve to keep a larger share of their earnings.

To test the above hypothesis, we partially replicate our main design but we now manipulate the information on the economic origins of the rich individual, who was either born into a family from the richest 20% or from the poorest 20% in the United States (Table 4).[9]

[9]Note that we only have 8 choices since we hold constant the attribute on whether the firm is inherited or founded.

Table 4: Attribute values for rich and poor stakeholders in the Treatment on Social Mobility

The rich profile Income > $100,000	**The poor profile**: Income < $10,000
Works less than 6 hours during a weekday / Works more than 10 hours during a weekday	Works less than 6 hours during a weekday / Works more than 10 hours during a weekday
Founder and owner of a firm	Does not own a business
Was born into a family from the richest 20% in the US / Was born into a family from the poorest 20% in the US	

Once again, we expect that the attributes and values highlighting a stakeholder's merit (i.e., having climbed the social ladder) will increase the final amount she will receive.

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