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Abstract

This paper tests experimentally how preferences for redistribution of members of the general public depend on how money is earned. An experiment was designed to form of "micro-participatory-democracy" where redistribution from winners to losers is decided through a sequential strategy-proof majority voting procedure. Based on five distributive justice theories, we elicit people's preferences for redistribution when their earnings come from four factors: effort, social circumstances, brute luck, and option luck. In the aggregate, our results show that a relative majority of people agree with Dworkin's cut, namely, to compensate for social circumstances and brute luck but not effort and option luck. Participants with bad outcomes are more likely to engage in a self-serving vote, but on average, the dominant concern in voting remains people's fairness view. The knowledge of the distribution of earnings and petition for equality of opportunity make participants vote more in favor of redistribution.

Keywords: Social justice, micro participatory-democracy, equality of opportunity, responsibility, experiment

JEL codes: D63

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1 Introduction

No society can avoid discussing redistributive justice. The discussion can take place at the world level, country level, municipality level, or within a small group like a family. Scale effects count, as well as context effects, as exemplified by the pandemic crisis. The principles of justice are obviously multiple, but they are not in large numbers either. The goals of this research are threefold. First, we propose an experimental protocol that can reveal the general public's social justice preferences in a context close to the one people experience in a direct democracy. Second, we reproduce, for a small population, the conditions in which the discussion about redistribution is structured as in the general world. Finally, we experimentally test whether the way people earn money matters for their willingness to redistribute. Our choice environments feature large groups of participants and real-world framing, as in Durante et al. (2014), but the social choice decision is determined by voting, as in Tepe et al. (2021).

The salient features of a liberal economic society and a political democracy are that the redistribution is discussed and implemented after an earning phase where each individual is more or less free to endeavor what she wants, except that the lack of opportunity might limit her. Opportunities are not evenly distributed for natural and social reasons. We want to reproduce that as well, the fact that the playing field is not leveled for all individuals in a liberal society, with maybe some exceptions in Nordic countries. Four main reasons explain the difference of fate among individuals. First, the opportunities commonly associated with family and social background can be described as the birth lottery. Second, the life lottery gathers the luck factor throughout life (Franck, 2016) and long after coming out of the family cocoon. Third, actions taken by individuals also play a role. Individuals are not automats; they face choices and choose different routes. Even if the context influences their choices, they may engage in hard work or not and more or less risk-taking activities, representing the third and fourth reasons why individual destinies diverge.

We attempt to reproduce an earning phase in the lab where these four factors are clearly distinguished. If we say, social circumstances, brute luck, effort and option luck, everyone will recognize the factors that may have played a crucial role in his or her personal life. The difference between the two forms of luck is that in the latter case, people can choose (or opt) to participate in a risky event (such as a lottery), whilst they cannot do so in case of "brute" luck. These are typically events that are independent of any direct human decision or behavior. Where to draw the "responsibility cut" (Schokkaert and Devooght, 2003) is part of the philosophical debate and will depend on different fairness views that consider people more or less responsible for particular factor. For instance, Dworkin (1981) proposed that the responsibility cut leaves social circumstances and brute luck on the side of the factors to be compensated; and effort and option luck on the side of the factors for which the individual should be held responsible. This divide is now named the Dworkin cut.

In a nutshell, our lab experiment gathers people in the voting room of the Provence Regional Council in Marseilles, and each session is organized in two phases. In the first phase, each participant earns money according to each of

these four factors. In the second phase, this "micro-society"[1] is contemplating redistributing the gains obtained in the previous phase. In democratic societies, the question of redistribution is obviously the subject of debate of collective deliberation. But then, when it is time to decide, the matter is resolved by a vote that we have organized amongst the participants of this social experiment involving more than 300 individuals in three sessions of 100 each. This is far more than in many other experiments on distributive justice. If the majority of participants voted "yes", then those participants who ended up in the *good* situation in the earning phase were "taxed" and a predetermined amount of money redistributed to those who were in the *bad* situation (in the earning phase).

People consider voting as a way to express their feelings about justice. However, we know that expressing their feelings does not mean that people reveal their true preferences because many voting procedures are not truthful. A majority vote may or may not elicit the true preference of individuals, as it is well known in the social choice literature. One of the novelties of the paper and one of its main contributions from the theoretical side is to propose a sequential majority voting procedure as a strategic-proof mechanism to reveal preference. We both support the validity of this voting procedure as an elicitation mechanism from a theoretical and empirical perspective in a companion paper (Chanel et al., 2025).

Lab experiments are fine for small-population experiments, but they cannot be easily extended on a large scale. We keep the monetary incentives from the experimental design, contrary to polls or surveys. In addition, votes are not hypothetical. Our hybrid procedure, half experiment, half survey, can be viewed as an example of research action that can be developed on a large scale in the real world to reveal preferences in local justice situations à la Jon Elster (1992) such as funding local public goods such as transportation and canteens. In short, we propose a voting procedure to extract rigorous information about social preferences from the public.

In fact, this is an important point that distinguishes our experiment from other economic experiments with an earned-money and a distribution phase that mainly consists of a dictator game (e.g. Cappelen et al., 2007; Cherry et al., 2002; Frohlich et al., 2004; Konow, 2000; Ruström and Williams, 2000, etc.). That is, redistribution among people was tested with respect to pairs or small groups of people only. Yet, the scope of theories of distributive justice is not limited to those frameworks. Moreover, at least in modern democratic societies, there are no dictatorial decisions on distribution, but majority decisions of citizens (or of delegates in representative democracies). Surprisingly however, to our knowledge, there has been no other two-stage laboratory experiment that tested those theories on such a large scale. Another important distinguishing feature is that we test several earning factors in one single experiment, contrary to other papers in which the effect of only one specific factor, usually effort or luck, has been tested (Selten and Ockenfels, 1998; Cappelen et al., 2007, 2013; Mollerstrom et al., 2015; Tinghög et al., 2017). These last authors find that subjects redistribute a larger amount to unlucky losers and a smaller amount

[1] This is the wording that we have used in the instructions to participants.

to lucky winners in the brute luck treatment when compared to the option luck treatment.

Our way of interpreting the voting results is guided by a model, where a limited number of elements play a role. The first element is selfishness, the fact that people care in the first place about what they have, here in terms of money after the experiment. The second element is to stick to an idea borrowed from moral and political philosophy about distributive justice. We are very selective and allow only for five received ideas of social justice. The second contribution of the paper is to characterize by means of a simple rationality test the profile of votes and situations that are inconsistent with our model. In total, our model is capable of capturing the behavior of approximately 86% of the participants meaning that between one out of 6 or one out of 7 participants does not follow a principle of justice we have outlined combined with a possibility of self-serving bias.

The third strength of the paper comes from the econometric procedure to analyze the results of the social experiment. The structural econometric treatment is fully nonparametric and inspired by Heckman and Singer (1984). It allows us to identify the latent fairness views accounting for self-interest. We are also able, through an analytical description of the voting strategies, to detect what is called a self-serving vote (Cappelen et al., 2013). People may be caught in a conflict between their self-interest (to earn as much money as possible) and the fairness principle they hold (compensation or natural reward). A self-serving vote means that people solve this conflict in favor of their self-interest, thus voting against their fairness principle.

We conducted three additional treatments on top of the baseline. In the *prior reflection treatment*, we tested whether participants would change their views on redistribution if prior to the earned money stage, they would have to fill out a questionnaire with vignettes reflecting compensation situations they would later experience themselves during the experiment. If we observe little variation between the baseline and the variant treatments, we can conclude that fairness views expressed by participants are robust and well-established (Capellen et al., 2007). In the *petition treatment*, participants were approached before entering the council chamber and asked whether they wanted to sign a petition about the installment of an "anonymous CV procedure" to avoid nepotism and discrimination when applying for jobs or internships. The idea of signing a petition, a political act, is linked to the social psychological theory of commitment, in which a preliminary act often has shown to have strong behavioral consequences on a following act (see e.g. Jacquemet et al., 2013). Again, this treatment can be seen as a robustness check of people's views concerning compensation and redistribution. In the last treatment, half of the participants, chosen randomly, received an extra sheet prior to the voting phase with *information about other participant's earnings* in the form of the histogram of the empirical distribution of earnings. Here, we want to test whether the rough knowledge of outcome inequality in the micro participatory-democracy matters, which we will interpret as empirical evidence of consequentialism.

At the aggregated level, a majority of participants voted for compensation for circumstances and brute luck, but not for effort and option luck. However, this is not true at the individual level. There, several different views on fairness

are supported at varying degrees and depending on the treatment. In the baseline and prior reflection treatments, the modal fairness view is Dworkin's one with 28%, followed by libertarianism (*laissez-faire*) with 26% and compensation for circumstances only (25%). Hence, a large majority of participants favor a process-dependent fairness view about redistribution. What we also find is that a noticeable proportion of participants (about one-third) engage in a self-serving vote. It occurs much more often among participants who ended up in a bad situation after the earning phase than those who were in a good situation. Regarding the additional treatment effects, petition and knowledge of the earnings distribution entail a higher share of participants endorsing an egalitarian view and egalitarianism becomes the dominant view. So the votes are also influenced by transparent information about earnings and public intervention by activists.

The paper proceeds as follows. In the next section, we present the different views on fairness that are received in our framework. Section 3 focuses on the various theoretical pieces of the paper, first the voting procedure that induces people to reveal their best option, second the rationality test, and third the decision model that is the basis of our econometric model in later sections. In section 4, we explain our experimental design. Section 5 presents the empirical results, while Section 6 unveils the econometrics of voting behavior before displaying the econometric results. Section 7 discusses our results in light of the existing literature and section 8 concludes. The Appendix contains additional information in particular the instructions and supplementary tables.

2 A four-factor and five fairness-view frame

In the voting phase, participants voted either "yes" or "no" on redistributing: The question at stake is whether people who ended up in the good situation in the earning phase should compensate those who were in the bad situation. We consider a bunch of clear-cut fairness views not necessarily fully comprehensive. The options should reflect actual views defended in the public debate. A significant divide is obviously between process-independent/outcome-oriented views or process-dependent/opportunity-oriented.

We draw from two major strands of the theory of justice. They depend on whether the focus of redistribution lies on the outcome that people have achieved (*ex post* perspective) or on the opportunities people face to do what they wish to do (*ex-ante* perspective). The first strand was more standard in economics insofar as it is a consequentialist or process-independent way of looking at justice and consists of basically two opposite fairness views. One is what we will call here "libertarianism" (LIB), whose extreme version holds that, independently of any factor that may help achieve their outcome (such as effort, talent, luck, social circumstances, etc.), any achieved outcome is just; people should bear the consequences of the course of life, whatever they are, and hence, no redistribution is required. The other is "egalitarianism" (EGAL), whose extreme form holds that justice requires all to be (at least more) equal. To get there, redistribution from well-off to less well-off members in society is necessary (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Konow, 2000; Charness and Rabin, 2002).

The second strand, is widely discussed in philosophy (Dworkin, 1981; Cohen, 1989, 1990; Arneson 1989, 1990), and to some extent also in economics (Roemer, 1998; Fleurbaey, 1995, 2008; Sugden, 2004; for surveys, cf. Roemer and Trannoy, 2016; Ramos and Van de Gaer, 2016; Ferreira and Peragine, 2016). It claims that justice is dependent on the equality of opportunities. The big question here is when opportunities are equal. Responsibility plays a key role in answering this question. There are certain factors that influence achievements or outcomes for which people can be held responsible, and hence no redistribution is needed to have equal opportunities, whilst people cannot be held responsible for other such factors. In this case, redistribution from well-off or better-situated to less well-off members in a society with regard to the respective factor under consideration is necessary to guarantee equality of opportunities. It is for this reason that theories of justice based on equality of opportunity are considered to be process-dependent: it is not the outcome that matters, but whether people started with equality in those factors that influence outcomes.

A more fine-grained list depends on where people draw the responsibility cut among the factors through which they earn money. We classify the different fairness views along a responsibility line delimited by the process-independent views, from full responsibility (the libertarian (LIB) view, no redistribution for none of the factors) to no responsibility (the egalitarian (EGA) view and hence redistribution for all factors). Between these two extremes, we can introduce different versions of the process-dependent theories of justice.

One of the most well-known proponents of equalities of opportunities, Dworkin (1981), holds, for example, that people are responsible for their own effort and whether to engage in option luck or not (labeled later as EOP_2). Individuals are not, however, to be held responsible for brute luck and social circumstances. These are therefore the two factors for which Dworkin agrees to redistribute from those in the good situation to those in the bad situation. Others set the responsibility cut lower (labeled later as EOP_1) and argue that one should redistribute only for social circumstances (Lefranc et al., 2009). Their argument is that brute luck should not be compensated if it is evenly distributed with respect to circumstances. On the other hand, Fleurbaey (2001) sets the responsibility cut higher than Dworkin and favors redistribution even for option luck (labeled later as EOP_3). He argues that it is often difficult to ascertain when exactly a situation is due to brute or option luck. Moreover, a fair society cannot leave a person who made a risky choice and failed without help.

Overall, we consider five different fairness views (two outcome-oriented and three equality of opportunity-related), ranked from full responsibility to no responsibility as presented in the fairness view matrix (See Table 1). In this matrix, "0" stands for "against redistribution", whilst "1" means "for redistribution". The higher the number of 0 in a column, the higher the responsibility cut, meaning that there are more earning factors that the individual agrees not to compensate.

A last issue deserves a comment. There is a large amount of experimental literature that tests people's accordance with the idea that merit should be respected (see Konow, 2000; Almas et al., 2020, 2024; Andre, 2024). While there are, of course, important connections, it seems to us that the question of merit does not fully overlap with the ethics of responsibility. To begin with, merit has a positive moral overtone that responsibility does not. More fundamentally,

Table 1: Five different fairness views

	LIB	EOP_1	EOP_2	EOP_3	EGA
Effort	0	0	0	0	1
Option luck	0	0	0	1	1
Brute luck	0	0	1	1	1
Circumstances	0	1	1	1	1

while the ethics of merit and responsibility share the prescription to respect effort and hard work, the merit associated with risk-taking is debatable and clearly context-dependent. In the context of our experiment, there doesn't seem to be any particular merit in taking part in a lottery. It's really a question of individual preference. Another dimension not highlighted in our experiment is that of talent. For instance, standardized test requirements for university admissions are generally described as a merit-based policy. Test scores are a mix of effort and talent, and the equality of opportunity literature remains ambiguous regarding the status of talent as a responsibility variable.

3 Elicitation of preferences and rationality

The elicitation of preferences through majority voting is one of the methodological innovations. We first show that the chosen majority voting procedure has good properties for eliciting preferences. We then construct a simple rationality test showing when the individual voting behavior cannot be rationalized by self-interest nor by one of the five fairness views exposed above. Finally, we present a decision model that lays the foundations for our econometric approach.

3.1 Sequential majority rule: Strategy-proofness

Our voting procedure is made of four pairwise majority votes, the result of each ballot not being disclosed in the meantime. It is well-known that the majority rule is strategy-proof when the society has to choose between two options. A voting rule is strategy-proof if it is a weakly dominant strategy for every voter to vote for her preferred alternative. The argument goes as follows. Either I am not pivotal, and my vote does not matter; hence there is no loss in voting according to my preferences. Or I am pivotal, and I am making the social decision similar to my own choice by voting for my preferred alternative. Since I do not know whether I am pivotal or not, my best strategy is to vote according to my preferences.

This argument is sufficient for the case where preferences are separable across factors, which means the preference for redistribution for a given factor does not depend on the result of the vote for the other factors. In that case, the matter of the vote for a given factor is disjoint to know whether society is willing to

redistribute or not the outcome for other factors. Even though there is no cross-over effect between two or more factors during the earning money stage, it may be the case that individual preferences for redistribution are not separable. In Chanel et al. (2025), we demonstrate that, even in this case, the sequential majority rule with no disclosure of the results of the votes before the end of the sequence is strategy-proof. Namely, the best strategy for the participants is to vote for their preferred alternative across the Cartesian product of four factors.

Proposition 1 *The voting procedure consisting of a sequence of pairwise majority voting is truthful when the result of each ballot is not disclosed in the meantime.*

We tested the sequential majority rule mechanism in the lab using an induced value design (see Chanel et al., 2025). Our behavioral results support the theoretical prediction that our voting procedure is strategy-proof: subjects vote according to their (induced) preferences. Subjects exhibit no strategic concern, the percentage of incorrect votes being negligible.

3.2 Consistent voting behavior: Definition

Participants vote "yes" or "no" for redistributing corresponding to four earning factors. It means that there are potentially $2^4 = 16$ possible voting profiles. They cast their vote after learning whether they have been in the "good" or the "bad" situation in the earning phase for the four earning factors. Thus, again, there are potentially 16 different situation profiles. The combination of voting and situation profiles (of which there are a total of 256 possible cases) tells us whether participants adhere to their fairness views, selfish concerns, or a combination of both. However, among those 256 possible voting situation profiles, some would, when chosen, reveal inconsistent behavior. By inconsistent behavior, we mean that the vote would neither reveal selfish concerns nor a fairness view expressed in Table 1. It is the case if a participant would, for example, first reveal to adhere to one fairness view, only to contradict this fairness view at a later vote. Therefore, those voting-situation profiles may act as a form of rationality test to see whether participants behave according to their selfish concerns and particular fairness views framed in Table 1. We here need to be more formal.

Let i be the individual's index. Let j be the index for one of the four earning factors, $j = 1, .., 4$. Let V_{ij} be the vote cast for redistributing the gain obtained in the earning phase for factor j, with $V_{ij} = 0$ a vote against redistribution and $V_{ij} = 1$ a vote for redistribution. S_{ij} denotes the situation of the individual in the earning phase j, with $S_{ij} = 0$ denotes a good situation (positive gain) and $S_{ij} = 1$ denotes a bad situation (no gain).

Next, let k denote one of the five fairness views described in Table 1, with $k = 1, ..., 5$. The rank of each fairness view corresponds to its rank in Table 1. Finally, F_{jk} denotes the fairness view for factor j with the received fairness view k. According to this table $F_{jk} = 1$ (respectively 0) means that the individual agrees (resp., is against) with redistributing income from this factor.

The following definitions provide useful criteria of consistency and inconsistency for the private information context about fairness views.

Definition 1 *From the viewpoint of the observer for whom fairness thought of the participant is private information, the votes of individual i are consistent with a received fairness view, selfish concerns, or a combination thereof iff there exists k such that for any $j = 1, .., 4$, $V_{ij} = F_{jk}$ or $V_{ij} = S_{ij}$.*

We let the participant cast a vote that corresponds to either her fairness view or her self-interest. Of course, it can be both in case they coincide. When they do not coincide and even oppose, the participant will reveal her view of fairness. For example, if a participant voted against redistribution (0) for effort and option luck, even though she was in a bad situation (1), but voted for redistribution (1) for circumstances and brute luck, even though she was in a good situation (0), then this person expresses a pure fairness view that goes along with Dworkin's theory of equality of opportunity. This person acted against her selfish concerns because she gave priority to her fairness view.

The contraposition of this definition states an inconsistent behavior.

Definition 2 *From the perspective of the observer for whom fairness view of the participant is private information, the votes of individual i are inconsistent with a received fairness view, selfish concerns or a combination thereof iff for all $k = 1, .., 5$, there exists j such that $V_{ij} \neq F_{jk}$ and $V_{ij} \neq S_{ij}$.*

For example, if a participant voted against redistribution (0) for circumstances and effort, even though she was in a bad situation (1), but voted for redistribution (1) for brute and option luck, even though she was in a good situation (0), her vote can be explained neither by an underlying self-interest nor any of the five fairness views. In general, it may be difficult to describe the set of voting-situation profiles that are inconsistent according to the last definition. However, in our context, the task is easier because we can exploit the fact that the structure of admissible fairness views exhibits a specific form. Table 1 It looks like a diagonal matrix, even if it is not a square matrix.

To make this remark more formal, let us now add that the ranking of factors $i = 1, ..., 4$ goes from the bottom to the top raw, that is, from circumstances to effort. The following observation is key for the following.

Remark

(i) If for some fairness view $k = 1, ...4$, there exists a factor j such that $F_{jk} = 0$, then for all $l > j$, $F_{jk} = 0$.

(ii) If for some fairness view $k = 2, ..., 5$, there exists a factor l such that $F_{lk} = 1$, then for all $j < l$, $F_{jk} = 1$.

We can now state a proposition that gives a test to detect inconsistent voting behavior[2].

Proposition 2 *A necessary and sufficient condition for the voting behavior of individual i to be inconsistent with a fairness view in Table 1 is the existence of a factor j such that $V_{ij} = 1$ and $S_{ij} = 0$ and a factor $l < j$ such that $V_{il} = 0$ and $S_{il} = 1$.*

[2]This result is in the same spirit as that discussing consistency choice in distributive choices in a continuous setting and based on the GARP axiom (Axiom of Revealed Preference) by Fisman et al. (2007). But our context is different because participants do not have a budget constraint.

Proof

$\Rightarrow$ Inconsistency means that $\forall k = 1, .., 5, \exists\ j = 1, .., 4 \mid V_{ij} \neq F_{jk}$ and $V_{ij} \neq S_{ij}$. Then for $k = 1, \exists\ j \mid V_{ij} = 1$ and $S_{ij} = 0$ and for $k = 5, \exists\ l \mid V_{il} = 0$ and $S_{il} = 1$. Since both statements must be true simultaneously, it means that $j \neq l$. If $l > j$, then the inspection of Table 1 reveals that it is possible to rationalize this behavior with $k = 2, 3, 4$. However if $j > l$ the above remark (ii) precludes this possibility for the received fairness views and there are not received fairness views that rationalize this voting behavior.

$\Leftarrow$ The described voting behavior in the above proposition is consistent if there exist k, j and l such that $F_{jk} = 0$ and $F_{lk} = 1$ with $l > j$. But the above remark (i) precludes this possibility for the received fairness views. A visual argument is just to look at Table 1 where no column exhibits 0 for a factor and 1 for a factor ranked beyond it.

Q.E.D

To sum up, there are three batches of voting-situation profiles. The first batch (80 profiles, i.e., 31.25%) are consistent voting situations where the participant casts a vote that corresponds to a received fairness view, maybe out of the conviction of interest, we don't know. The second batch is inconsistent voting situation profiles. They cast a vote for one of the 11 fairness views not represented in Table 1, and according to our definition 2 and proposition 2, there are 96 voting-situation profiles out of 256 possible profiles (i.e., 37.5%) of this sort. Hence, if participants answer at random, more than one-third of all potential voting-situation profiles would reflect some inconsistent behavior, in which participants vote without expressing either a consistently received fairness view, their selfish concerns, or a combination of those two. From a positive viewpoint, it is good that our model cannot explain any voting behavior. Finally, there is the third batch (80 profiles, i.e., 31.25%) which represents a grey zone where the participant typically casts a vote that coincides with the 11 other fairness views than the five received ones, but her situation precludes proving that it is inconsistent. Her vote may express a partial congruence of self-serving bias and fairness view.

3.3 The voting utility model

We assume that the participants are motivated by both a desire for income and fairness. The utility function is specific for each factor since fairness consideration may view the gain obtained for each factor differently. Nevertheless, the form of the utility function is the same for each factor and is independent of the utility for another factor. This last property comes from the fact that the result of the vote for the other factors is not disclosed. Then the preference for redistribution of other factors is not useful for determining her vote for a specific factor and therefore, it is as if the utility function is additively separable across factors. Below, we omit the subscript j when describing the sub-utility for factor j.

Let's define e as a binary variable that stands for equity considerations, with

$e = 1$ for compensation and $e = 0$ for no compensation. y denotes the laissez-faire income with $\overline{y}$ the mean laisser-faire income. q is a weight parameter between $[0, 1]$ for selfish considerations. As above, V represents the vote for redistribution ($V = 1$) or against redistribution, that is laissez-faire ($V = 0$).

A major difference with the model adopted by Cappelen et al. (2006) is that the decision that the participant has to take is binary. In dictator-game models, it is a real variable, and we rely on a differentiable utility function to apply calculus and find the first-order condition.

We assume that the participant is maximizing the following utility function with respect to V:

$$U(V; y, e, s) = y + (\overline{y} - y)V\mathbb{1}_{(0,+\infty)}h(y, e, b))$$

with the sub-utility leading to the voting decision

$$h(y, e, b) = (1 - q)e + qsgn(\overline{y} - y)$$

recalling that $sgn(\overline{y} - y) = 1$ if $\overline{y} > y$,
$= 0$ if $\overline{y} = y$,
$= -1$ if $\overline{y} < y$.

The sub-utility weighs fairness considerations and selfish concerns. Ex-post, after expressing his vote, the utility level enjoyed by the participant is either given by the mean income if the participant votes for redistribution or by her laissez-faire income if the participant votes against redistribution.

We can easily deduce that the individual will vote for redistribution iff

$$(1 - q)e + qsgn(\overline{y} - y) > 0$$

This happens in the following three cases

1) $1 - q \geq 0 \wedge \overline{y} - y > 0$

2) $1 - q > 0 \wedge e = 1 \wedge \overline{y} - y \geq 0$

3) $1 - q > 1/2 \wedge e = 1 \wedge \overline{y} - y < 0$

which are equivalent to the FOCs in a continuous setting. In all other circumstances, the participant will vote 0.

Of course, any function obtained as an increasing and concave transformation of $U(.)$ will do the job as well: the voting behavior will be unchanged.

When taking this model to the data, the first remark that comes to mind is that all variables are not observable. The earnings y and the vote V are but the ethical concern e is not. The goal of the econometric strategy is to recover

Figure 1: Council chamber of the Provence-Alpes-Côte d'Azur Regional Council.

the parameter q, which can be interpreted as a probability of engaging in a self-serving bias factor by factor and to estimate the share of people endorsing a fairness view accounting for the four votes and the bad or good situation that the participant undergoes for each factor. The econometric strategy is able to recover the value of parameter q for each factor and then is structural (see Section 6).

4 Experimental Design and Procedures

4.1 Preliminaries

The experiment was implemented in October 2008 in Marseilles (0.83 million inhabitants), the second-largest city in France and the largest city of the Bouches-du-Rhône (BDR) district (1.9 million inhabitants). It was conducted in the council chamber of the Provence-Alpes-Côte d'Azur Regional Council. The council chamber is built in an *amphitheater* style for about 120 people, each seat being equipped with an individual screen on which all public information is displayed–see Figure1. Each seat is also equipped with an electronic voting device that has five voting buttons that can be programmed for the particular vote at stake (e.g. "Yes", "No", "Abstention" - the two remaining buttons can be switched off). All submitted votes were anonymous and end results can be displayed immediately on the screens.

Participants were recruited through advertisements in local newspapers and regional TV news. Flyers were handed out in the street, and faxes were sent to 6000 companies to invite people to participate at a study entitled "*To succeed in Marseilles*" in the regional council in the context of a then-ongoing Science Fair ("*Fête de la science*"), which is held in France each year. The purpose of the study was not explained any further, but the information was given that participants could earn up to *40* euros for one hour and a half. Interested participants were asked to register prior to the event using the Public Economics Institute webpage or a dedicated phone line. When participants arrived at the Regional Council for the study, they were given a seat number. Once seated, they were told that all information they would give would be dealt with anonymously. They were not allowed to communicate with each other, and any questions they had were answered privately. They were also given a 4 euro show-up fee.

We held three sessions on two successive days: the prior reflection treatment on the first day and the baseline and petition treatment on the second day. We recruited a total of 322 participants. We did not observe the same number of participants in the three sessions due to the recruitment process: 107 participants in the baseline, 120 in the petition treatment and 95 in the prior reflection treatment. Participants were not representative of the general French population - the promise of remuneration seems to have attracted relatively young educated women. The descriptive statistics by treatment (see appendix A.1) show a huge variety of individuals (an actual micro society) compared with that resulting from typical laboratory experiments. The average age was 34.9 years and 66.5% of respondents were younger than 40 (33% in the BDR population), with 32.5% under 25; 70.8% were female; 53.4% had at least a high school certificate and 31.7% were students.

4.2 Phases

The experiment consisted of two phases an earned money phase and a voting phase on redistribution. The participants were not told about the whole procedure at once but were given instructions as the experiment went along.

Earned money phase

In the baseline treatment, participants were able to earn money with respect to four independent factors: effort, circumstances, brute luck, and option luck in addition to their show-up fee (these terms were not used throughout the experiment; rather, each of the earning factors was described by the way through which participants would earn money – see appendix A.2 for the complete instructions). The difference between success and failure was 10 euros for each factor. This was necessary for the voting on the redistribution phase that followed to be able to attribute clearly differences in voting behavior to *how* participants earned their money (i.e., factor effect) and not to *how much* they earned (i.e. income effect). Moreover, the experiment was set up in such a way that the earning factors are *additive*, which means that there is no cross-over effect between two or more factors. This may not be a feature of reality (e.g., social circumstances, i.e., the fact in which family one is born may affect effort), but additivity is certainly a convenient way to test the preference for redistribution for one factor independently of others.[3]

Effort. Participants had to perform a five-minute visuospatial task. This was a modified, longer version of the Zazzo test used in the Wechsler Intelligence Scale *for* Children (WISC-III, 3rd edition). A series of 9 symbols was displayed, and each symbol corresponded to an integer number. Participants were then presented with a full page of integer numbers associated with blank cells. Participants had to copy correctly as many as possible corresponding symbols in the blank cells within these five minutes and were told that any skipped symbol would make them fail the task. Symbols were made of straight lines and

[3] As long as earning factors are independent, redistribution or no redistribution is a "yes" or "no" question for each factor. If however those factors are not independent, the situation becomes trickier and requires a case-by-case study which depends on the particular production setting (see Fleurbaey, 2008 for an extensive discussion of this issue).

blank cells were presented with a dotted grid so that the task would not require any drawing or particular skills. This kind of visuospatial task is used to measure psycho-motor skills in children. For adults, however, who have already well-established psycho-motor skills, this test serves to measure the amount of attention they (can) put into the completion of the task. We *equalize* this measure of attention with the amount of effort that is put into the completion of the task (attention-effort).[4] Absolute effort is measured in terms of the number of correct symbols drawn. Participants, however, were rewarded in terms of relative effort to keep the difference between success and failure at 10 euros, which is important to be able to make comparisons between the different sessions: participants with a score above or equal to the median score received 10 euros (good situation), all others received 0 euro (bad situation). Participants were not informed about their earnings immediately but only when they were given their payment sheets before the voting on redistribution started.[5]

Circumstances. For circumstances, we chose to use participants' place of birth. This is a typical significant variable used in empirical studies of equal opportunities, in particular, those analyzing income acquisition, education, and health outcomes (see, for instance Bourguignon, Ferreira and Menendez, 2007; Checchi and Peragine, 2010; Jusot et al., 2013; Neihues and Peichl, 2014; Chetty et al., 2014). Participants are told that "place of birth is a factor that can determine success". Before the earned money phase began, participants had to fill in a short questionnaire in which they had to indicate their place of birth. They did not know that their place of birth would matter for their earnings in the subsequent experiment, hence answers to this question were not strategic. To implement the circumstances factor, participants who were born in Marseilles received 10 euros (good situation). Those not born in Marseilles received 0 euro (bad situation).[6]

[4]We have chosen this kind of test in order to disentangle as much as possible *effort* from *talent* or *skills* as well as from *social background* or *circumstances*, something not necessarily done in other experiments. For example, in Cherry et al. (2002), participants had to perform a quiz in the earned money phase. Their performance may well be influenced by their level of education and cannot count as pure effort. In Ruström and Williams (2000), to measure effort, *participants* had to perform the Hanoi Tower puzzle, which consists of shifting several disks of different sizes onto some pegs to form pyramids. This task may well depend on some talent that participants have to visualize how best to proceed to solve this puzzle. These distinctions are important for redistributive justice: as mentioned in the introduction, some philosophers and economists think that it is just to redistribute or compensate for factors that we are not responsible for, such as talent or social circumstances, but not for those for which we are arguably responsible for, such as effort.

[5]This is due to a technical constraint: the visual-attention task was a pen and paper exercises, and the correction could not be done with computers (at least in our setting).

[6]Other variables would have been possible to account for (social) circumstances, such as, for example, the level of education of the father, or, even more randomly, the first letter of the family name of the participants. We have not done so because, for the former example, we could not foresee how many people would be in good or bad circumstances, whilst we had the experience from previous experiments conducted in the Regional Council that around 30% of participants would be likely to be born in Marseilles. We did decide against the latter example because we thought it too arbitrary, that it could be confounded with an event of brute luck and go against the legal requirement of full anonymity. Of course, as it was also mentioned in the introduction, circumstances, such as where a person is born, is a form of brute luck (an event that cannot be influenced by the person). But we make a distinction between circumstances and brute luck in our experiment, not only because this reflects a distinction made in moral philosophy, but also because people supposedly make a distinction between social factors that influence them as a person by the simple fact that they were born

Brute luck. Brute luck relates to random events that are beyond individual control and responsibility. We implemented brute luck using a random draw. Before participants took their seats in the room, we located an envelope containing a slip of orange paper on half of the seats in the room and an envelope containing a slip of white paper on the remaining seats. Participants were told not to open their envelopes until further notice. At this point of the experiment, we showed two colored balls, one orange and one yellow, to the participants and placed them into a non-transparent bag. A randomly chosen participant was invited to draw a ball and to show its color. Participants were asked to open their envelopes. Participants who had a slip of paper with the same color as the ball received 10 euros (good situation). Those who did not receive 0 euro (bad situation).

Option luck. Option luck is a risky event that individuals may or may not choose. Participants were offered the option to participate in a lottery for which they had to pay 4 euros. Even those who did not succeed in earning any money up to this point had their show-up fee to participate in the lottery. The lottery consisted of drawing a number between 0 and 9. Participants were told that they would receive 10 euros if the number drawn was odd (even) and their seat number was equally odd (even) and 0 euro otherwise. This means that those who won earned an additional 6 euros, whilst those who did not lose 4 euros. This again makes a difference of 10 euros between winners and losers. The expected value of the lottery is 1 euro to give some positive incentive to risk-averse participants to choose the lottery. However the expected value is not too large in order to keep the lottery as a risky event that participants have a preference to choose or not to choose. Those who did not participate at the lottery had their earnings unchanged and watched the lottery in the meantime. Overall, the maximum earnings is 40 euros (3x10 euros + 6 euros plus the show-up fee of 4 euros) and the minimum 0 euro. In reality, although it was never announced during the experiment, the minimum amount distributed at the end of the experiment was 15 euros to be charitable.

Voting phase on redistribution

After the earned money phase, the distribution phase followed. Participants were first invited to respond to a set of four hypothetical questions about redistribution. They were asked whether they thought it was fair to redistribute part of the gains from those who turned out to be in a good situation to those who ended up in a bad situation for each of the factors. Participants were then given the payment sheet that informed them privately about whether or not they succeeded in the effort task and reminded them about their earnings for each of the three other factors. Their total earnings were computed and stated on the payment sheet.

To find out about participants' preferences for redistribution, we used a simple sequential majority voting rule. In turn, they vote for or against part of the gains obtained in the earning phase, which is specific to each factor. Participants voted via their electronic voting devices. They could vote either for partial redistribution or for no redistribution. Partial redistribution involved

somewhere sometime, from events where they had the luck or misfortune to be at a particular time at a particular place *sometime throughout their life.*

redistributing 2.5 euros (that is, 25% of the total gains obtained for each factor taken separately) from all participants in the good situation to participants in the bad situation for the spotted factor. Participants first voted on partial or no redistribution concerning circumstances, followed by effort, brute luck, and option luck. Prior to the vote, participants were not informed that they were going to vote to redistribute each factor's income. This maintained independence between the different votes contributed to truthful revelations of preferences at each round of the vote. Moreover, results of the voting phase were only given at the end of the four votes. Hence, our majority voting procedure is strategy-proof (see section 3.1). Note that for each factor but circumstances, if participants voted for redistribution, the budget would be balanced (it is in expectation for option luck).[7] We subsidized redistribution when needed. Despite not participating in the gamble offered to them, non-bettors were also participants in the voting round about redistributing the gamble gain. After all, in the real world, it is also the case. It makes the voting phase as close as possible to an actual voting situation.

4.3 Additional treatments

Prior reflection. In this treatment, we wanted to make explicit that participants are invited to think about what they consider to be fair distributions before they start the experiment. We were willing to test whether this would change their opinion about redistribution. Similar to Cappelen et al. (2011), we gave participants a questionnaire to fill in with hypothetical questions about equality of opportunity. The motivation is relatively straightforward. Under the assumption that people do not spend a lot of their time reflecting on fair redistribution, we wanted to test whether the fact that participants were brought to think about justice and fairness by filling out the questionnaire **before** the earning and the voting phase would change their views regarding justice. These questions contained vignettes telling the story of two sellers who earn a base salary and a sales-indexed bonus. Sales depend on 5 factors: effort, talent, circumstances, brute luck, and option luck. In the questionnaire, these terms were mentioned *explicitly* (contrary to what we did in the experiment).[8] Participants were first asked whether they thought that the bonus the seller received on the basis of any of those factors were very unfair, quite unfair, quite fair, or very fair. Second, participants were confronted with a scenario in which both sellers received the same bonus, but based on different factors. They were then asked questions that contained pairwise comparisons of those factors and participants were invited to indicate whether they thought the State should intervene to tax one of the sellers much more, more, as much as, less or much less than the other. The completion of the questionnaire took about 15 minutes. Apart from the introduction of the questionnaire **before** the experiment, the treatment was the same as the baseline treatment. *Petition.* In this treatment, our aim was

[7] As stated in Footnote 6, the lesson of our previous experiments indicated that there would be less than 50 % of participants born in Marseilles. This ensured that there would be no efficiency loss.

[8] As mentioned above, in the experiment, we did not call the different factors (effort, circumstances, brute and option luck) explicitly by their name but described those factors in practical terms ("test of copying characters", "being born or not in Marseilles", "draw of the color of the ping-pong ball", "bet on the number of the seat").

to test whether people's preferences for redistribution are sensitive to prior political actions. We adopted a behavioral approach that relies on commitment theory borrowed from social psychology (Kiesler, 1971). Experiments in the social psychology of commitment have shown that when people agree to perform an initial action, even when it appears to be innocuous, can have strong attitudinal and behavioral consequences (Kiesler and Sakumura, 1966; Joule and Beauvois, 1998). In particular "[c]ommitment in the guise of signing a petition [has] a powerful effect on the expression of attitude, leading to a more extreme attitude" (Kiesler, 1971, p. 79). Ami et al. (2014) conducted a study using a petition to encourage participants to adopt a citizen perspective in a stated preference survey about air pollution. They found that signing the petition significantly influenced participants' willingness-to-pay (WTP) values. Specifically, participants reported higher WTP values when air pollution reduction was framed as a collective effort. However, when the scenarios focused on reducing air pollution through individual behaviors, participants tended to report lower WTP values. Our experiment follows this route in that participants are given the choice to sign a petition before they proceed to the baseline experiment. The petition was entitled "*Looking for a job and internship: For a true equality of opportunity*". The text people were given the option to sign called for the installment of an anonymous CV application procedure to end discrimination and nepotism for getting jobs and internships.[9] When participants signed the petition, they also had to state their family name, age, and city of residence.[10] The petition was effectively sent to the members of the French Senate in Paris after the experiment.

Four students from the Department of Psychology, who presented themselves as apolitical students, asked participants to sign the petition before entering the voting room. The students were given a script to learn by heart. The script was therefore the same each time they presented the petition to participants. To correlate the information on participants' willingness to sign the petition with their respective answers in the experiment, we identified each participant with the number corresponding to their voting seat, which we assigned to them when they registered. They were given a sticker with this number to wear on their chest. Four other experimenters, each of them working in tandem with those who approached participants to sign the petition, noted the number worn on the participant's chest, and whether or not they signed the petition (answers and behavior in the experiment were also identified using this number). Our design thus allowed us to keep track of participants throughout the experimental procedure.

Information about the earnings distribution in the experiment. In this treatment, half of the participants in the three sessions (baseline, prior reflection, and petition), chosen randomly, received an extra sheet with information about other participants' earnings. The information sheet contained the empirical distribution of earnings, using a histogram that indicated for each possible total gain the frequency of participants in the session who earned that amount of money. When we did not disclose any information about the initial distribution, we did not know what their participant prior were. Of course, participants know that

[9]The full text of the petition is reproduced in Appendix A.3.

[10]This information was not used in any way in the experiment.

there is some inequality among them after the production phase. They know that their factorial gain is between 0 and 10 euros, and so they know the maximum range of the earnings distribution support [0,40] in the room, which can in no way be appropriately compared to earnings in the real world, even if they are not negligible as a one-day gain.

5 Descriptive results

5.1 Results of the earned money phase

In the earned money phase of the experiment, none of the participants could complete successfully the attention-effort task in the baseline and prior reflection treatment. The highest number of symbols copied in the baseline and prior reflection treatments were very much alike: 63, hence a normalized absolute effort of 95% (there were 66 blank cells to fill in in total). Mean normalized absolute effort was 57.4% in baseline, 57.1% in the prior reflection, and 56.6% in the petition treatment (an average of 37.9, 37.7 and 37.4 symbols copied, respectively) and median normalized absolute effort corresponded to 38 symbols copied correctly for all treatments. Participants with a correctly copied number of symbols higher than the median absolute effort in the treatment were therefore, in the good situation, while those who had copied a lower number of symbols were in the bad situation. Good and bad relative effort groups are not totally balanced in the baseline (resp. prior reflection and petition) treatments, because five (resp. two and eight) participants equalized median absolute effort: 54.2% (resp. 50.5% and 52.5%) of participants were ranked in the good situation group and 45.8% (resp. 49.5% and 47.5%) in the bad situation group.

With respect to circumstances, 37.3% of participants were born in Marseilles and assigned to the good situation (the remaining participants were assigned to the bad situation). Proportion in baseline (33.6%) is not significantly different from the one in prior reflection (38.95%, $p = .525$), and in petition (39.2%, $p = .469$).

For brute luck, 50% of participants had a slip of paper with the same color +————————as the ball and therefore won 10 euros and were in the good situation. Proportion in baseline (48.6%) is not significantly different from the one in prior reflection (52.6% , $p = .770$), and in petition (49.2%, $p = .999$).[11]

When presented with the choice to bet on their seat number, 83 participants (77.6%) in baseline decided to participate in the lottery, 72 in the prior reflection (75.8%) and 93 (77.5%) in the petition treatment. Differences in proportions are not significantly different from the baseline ($p = .933$ and $p = .999$ respectively). Among them, 41 (resp. 38 and 47) won the lottery in the baseline treatment (resp. in the prior reflection and petition treatments) and thus were in the good situation with respect to option luck, 42 (resp. 34 and 46), 38.2% (resp. 40.0% and 38.3%), were in the bad situation group. Of the remaining 24 (resp. 23 and 27) participants, 22.4% (resp. 24.5% and 22.5%), did not bet and thus were in the group of non-bettors.

[11] Envelopes were located on 120 seats but not all the seats were occupied, hence there were not equal numbers of seats occupied with a white or orange slip of paper.

Table 2: Votes in favor of redistribution by treatment

	Overall	Baseline	Prior reflection	Petition
Circumstances	223 (72.64%)	81 (77.14%)	62 (70.45%)	80 (70.18%)
Effort	135 (44.55%)	44 (42.31%)	33 (37.93%)	58 (51.79%)
Brute luck	178 (59.14%)	61 (60.40%)	55 (62.50%)	62 (55.36%)
Option luck	106 (35.10%)	33 (32.04%)	26 (29.89%)	47 (41.96%)

On average, participants earned a total of 16.8 euros in the earned money phase in the baseline. Mean earnings are similar in prior reflection and petition treatments: 17.6 and 17.3 euros, respectively. Differences in mean earnings are not significant in comparison to the baseline ($p = .589$ and $p = .691$ respectively). Five participants (4.7%) had a maximum total earning of 36 euros in the baseline, and they were 9 (9.5%) in the prior reflection and 6 (5.0%) petition treatment. These 20 participants exerted an effort higher than the median effort, were born in Marseilles, had a slip of paper matching the ping-pong ball color, and bet and won at the seat parity lottery. On the other hand, 8 participants (7.5%) in the baseline, 7 (7.4%) in the prior reflection treatment and also 7 (5.8%) in the petition treatment, exerted lower effort, were not born in Marseilles, did not have a slip of paper matching the ping-pong ball color and bet but lost with the seat parity lottery. These participants had therefore, total earnings of zero euro at the end of the earned money phase.

5.2 Results of the voting phase on redistribution

Aggregate voting results If we look at people's aggregate voting behavior in Table 2, in this second phase, we find that in all three treatments, the majority of people adhere to Dworkin's view of equality of opportunity, that is, they vote in favor for redistribution for circumstances and brute luck (the two factors for which Dworkin claims that people cannot be held responsible), but against compensation for the other two factors, namely effort and option luck. A comparison by treatment and factor shows that votes, in the aggregate, are very much alike – proportion tests do not indicate any significant differences.

Before considering individual voting patterns, it is important to know in which situation participants vote for or against redistribution. Here, an interesting picture emerges, namely that independently of the factor through which they earned their money, participants in the bad situation voted significantly more in favor of redistribution than those in the good situation as highlighted in the average gap in Table 3 (all differences in "yes" votes are significant at 1% level). While the average difference in "yes" votes is fairly similar for circumstances, brute and option luck, it is significantly lower for effort at a 5% level when compared to the other three factors. Results in Table 3 clearly suggest that participants may not only vote in correspondence to their fairness views, but also, and not surprisingly, to protect their own interests, namely, to keep or to get as much money as possible. Thus votes can express fairness views and self-serving concerns, and depending on the situation, these are motivations that may enter into conflict with each other. Thus, in addition to the five voting profiles (Table 1), we will have those voting profiles in which people express also selfish concerns that, at least in some cases, may go against their fairness views

Table 3: Self-serving bias and voting behaviour

	Overall	Baseline	Prior reflect.	Petition	Av. Gap
Good circum.	53.51%	66.67%	48.48%	46.67%	30.43%
Bad circum.	83.94%	82.61%	83.64%	85.51%	
High effort	33.33%	33.33%	25.53%	39.34%	24.64%
Low effort	57.97%	53.19%	52.50%	66.67%	
Good brute luck	41.06%	36.73%	45.65%	41.07%	36.27%
Bad brute luck	77.33%	82.69%	80.95%	69.64%	
Option luck winner	23.53%	17.07%	20.59%	31.82%	29.01%
Option luck looser	52.54%	52.50%	51.52%	53.33%	
Non bettor	*24.62%*	*22.73%*	*10.00%*	*39.13%*	

Note: Fraction of "yes" vote for each factor.

depending on the situation in which they are.

What is also interesting to note is the case of the *non-bettors*: their vote for redistribution is much closer to those of *option-luck winners* than those of *option-luck losers*. This leads to two remarks: first, non-bettors play here the role of the "impartial spectator" (Adam Smith, 1982 [1756]). It means that given that they did not participate in the lottery, they have no personal interests involved in the vote and they thus vote according to their fairness view. This is in fact an important debate in philosophy, and also economics, whether people are closer to revealing their true fairness views when they are uninvolved or "behind the veil of ignorance" (Rawls, 1971). Second, our result can be compared to the one obtained by Cappelen et al. (2013, 2016) with an experiment with a risk-taking phase prior to a dictator game, in which they test more generally the differences in fairness views between "impartial spectators" and "stakeholders". They provide strong evidence that spectators and stakeholders express the same fairness preferences in their experiment and that their choices differ only in that the stakeholders are also motivated by self-interest, which is also fairly obvious here.
The attitude of spectators is scrutinized by Mollerstrom et al. (2015), who show they condition compensation on the agent's decision regarding controllable luck exposure, something that we did not test again in our experiment.

Results on individual fairness views

Table 4 groups individual voting patterns according to whether they correspond to the model (top part of the table) or not (bottom of the table). Basically, three individuals out of four vote for either a received fairness view or for selfish concerns. The remaining individuals either fail to pass the rationality test of proposition 2 or belong to the grey zone where there is nothing we cannot say.

We find that all five different fairness views find some representatives in roughly equal proportions among participating participants. There seems to be no dominant fairness view, but rather a plurality of fairness views. The question then is whether this voting pattern truly reflects people's fairness views.

It is thus important to study voting profiles for redistribution together with situation profiles. If the situation profile is the exact **mirror** of the voting

profile, then the person reveals a purely "self-serving vote", that is her selfish concern dominates in all cases. What we find is that there is a substantial number of participants voting according to their "pure" selfish concerns for each factor (19.6%). This is lower than in Cappelen et al. (2007) (35%), in which they have an earned money phase prior to a dictator game. We also find that a slight majority of participants (53.8%) are in a situation profile that corresponds exactly to one of the fairness views (and not purely selfish concern) and could have, therefore, potentially, expressed a **pure fairness view**, a larger fraction of the pooled sample than the 35% of purely fairness-oriented participants in the experiment by Cappelen et al. (2007). They also find that 30% of the participants hold what they call an intermediate view between interest concern and fairness view, which corresponds to our category of other behaviors with almost the same proportion (26.6%) among which more than one-half displays a voting choice inconsistent with our model.[12]

Table 4: Combination of votes: most likely voting patterns

	Overall	Baseline	Prior reflec.	Petition
Compensation for all factors (EGA)	15.30%	12.37%	15.19%	18.10%
No compensation for any of the factors (LIB)	13.17%	11.34%	15.19%	13.33%
Total Process-independent votes	28.47%	23.71%	30.38%	31.43%
Compensation for circumstances only (EOP_1)	15.66%	17.53%	16.46%	13.33%
Compensation for circ. and brute luck (EOP_2)	13.17%	12.37%	17.72 %	10.48%
Compensation for all factors but effort (EOP_3)	7.83%	11.34%	6.33 %	5.71%
Total Process-dependent votes	36.65%	41.24%	40.51%	29.52%
Total of the 5 fairness views:	65.12%	64.95%	70.89%	60.95%
Among which corresponds to selfish views	11.39%	11.34%	12.66%	10.48%
Other selfish views:	8.19%	7.22%	7.59%	9.52%
Other behaviours:	26.69%	27.83%	21.52%	29.53%
Among which Inconsistent	14.24%	13.40%	12.66%	16.19%
Among which in Grey area	12.45%	14.43%	8.86%	13.34%

5.3 Results on consistent voting behavior

And yet, we find that participants are less inconsistent (14.2%) than they could potentially be if they had answered at random (37.5%). This result is interesting insofar as it is close to the proportion of misvoting in a real-induced values referendum conducted by Taylor et al. (1998) (17.9% while Cummings et al (1997) found 18.2%). The percentage of inconsistent participants seems, therefore, to fit results from other experiments. Note that we also include the 74 non-bettors, who, as we explained above, act as "impartial spectators" in the vote for redistribution with respect to option luck in Table 5. We can thus assume that their vote directly reveals their view of fairness with respect to that factor.

If we break down the inconsistent behavior by treatment, we observe that 13.4% of participants in the baseline, 16.2% in the petition treatment and 12.7% of

[12]See Rutström and Williams (2000), Frohlich et al. (2004) or Konow (2003) for other experiments that provide evidence for self-interested behavior in games involving moral dilemmas.

participants in the prior reflection treatment are inconsistent. No difference between treatments taken in pairs is significant (all $p > .503$).

6 Econometric modelling

As explained before, participants may vote based on two different motives: a concern for their monetary gains and a concern for fairness. When both correspond, we cannot disentangle between a selfish or a given fairness view's motivation based on descriptive statistics. In that case, their fairness view is overshadowed by their interest and, econometrically, can be defined as a latent variable that we propose to recover thanks to a structural non-parametric econometric model inspired by Heckman and Singer's (1984) approach. It allows us to unveil the distribution among the population of the individual fairness views as well as the proportion of participants attracted by a self-serving bias accounting for a possible correlation of the votes across the various factors, personal characteristics of the respondents, and the sessions they participate.

6.1 Econometric strategy

Given that the voting mechanism is incentive-proof, the individual behavior will not be strategic, we can rely only on the potential conflict between the selfish concern and the fairness view that is described in sub-sections 3.2 and 3.3. Our model assumes that there is a probability q_j that people engage in a self-serving vote that may be specific to each factor.

We are writing the likelihood of a fairness view endorsed by a participant favoring redistribution for a given factor ($F_j = 1$) given the information provided by her vote on the round concerning factor j, ($V_j = 1$ or 0), her situation after the earning phase, "bad" when $S_j = 1$ and "good" when $S_j = 0$, and the parameter of the model q_j. The contribution to the likelihood depends on the four cases that can be observed in the contingency table situation vote.

If the participant is in a good situation and is voting for redistribution, it reveals that she is voting against her interest if she endorses a redistributing view. It occurs with probability $1-q_j$. Then the contribution to the likelihood of fairness view favoring redistribution is $1 - q_j$.

If the participant is in a good situation and is voting against redistribution, the two motives point in the same direction. Then, her vote reveals this type of fairness view only if she adopts a self-serving bias. This occurs with a probability q_j which gives us the likelihood contribution.

Consider now the symmetric situation where the participant is in a bad situation and is voting for redistribution. We deduce that the contribution to the likelihood of supporting an egalitarian fairness view for redistribution is given by the chance of developing a self-serving bias, that is q_j.

Finally, if the participant is in a bad situation and is voting against redistribution, the chance she favors a fairness view sympathetic to redistribution is equal to the probability that she will not prioritize her self-interest. This happens with probability $1 - q_j$. that gives the contribution to the likelihood.

Formally, the likelihood of supporting the view that redistribution is fair for factor j can be written:

$$\mathcal{L}_1^j = [(1-q_j)\times V + q_j \times (1-V)]\times(1-S) + [q_j \times V + (1-q_j)\times(1-V)]\times S \quad (1)$$

Symmetrically, using the same type of argument, the reader can check that the likelihood of supporting the view that redistribution is not fair for a particular factor j reads the same meaning that the equation (1) holds for $F = 0$ or 1.

The likelihood of behavior for each fairness view in each majority vote can be defined in Table 5 as a combination of the likelihood functions presented above and the fairness views matrix presented in Table 1.

Table 5: Likelihood contributions by factor and fairness view

	LIB	EOP_1	EOP_2	EOP_3	EGA
Effort	$\mathcal{L}_0^E$	$\mathcal{L}_0^E$	$\mathcal{L}_0^E$	$\mathcal{L}_0^E$	$\mathcal{L}_1^E$
Option luck	$\mathcal{L}_0^O$	$\mathcal{L}_0^O$	$\mathcal{L}_0^O$	$\mathcal{L}_1^O$	$\mathcal{L}_1^O$
Brute luck	$\mathcal{L}_0^B$	$\mathcal{L}_0^B$	$\mathcal{L}_1^B$	$\mathcal{L}_1^B$	$\mathcal{L}_1^B$
Circumstances	$\mathcal{L}_0^C$	$\mathcal{L}_1^C$	$\mathcal{L}_1^C$	$\mathcal{L}_1^C$	$\mathcal{L}_1^C$

Self-serving probabilities q_j can be interpreted as solving random utility inequalities. They are treatment-specific, incorporate participants' characteristics (gender, age, being a student, experimental earnings, education level) and depend on the fairness view considered. The fairness view a participant holds is unobserved and therefore defined as a latent multinomial random variable à la Heckman and Singer (1984): each fairness view k is associated with a probability p_k, $\forall k = 1, ...5$. Probabilities p_k are estimated and represent the share of each fairness view in the sample.[13]

6.2 Econometric Results

We first estimate a **homogeneous-view model**, where the proportion of fairness views remains constant across participants, while self-serving voting probabilities depend on sociodemographic factors, treatment effects, experimental earnings, and whether participants are in good or bad situations for a given factor (see appendix A.4 for the detailed econometric specification). This analysis includes only participants who consistently voted without abstaining and exhibited coherent voting patterns, resulting in 1,024 observations (256 participants $\times$ 4 votes).[14] Therefore, the econometric sample does not include participants using a blank vote for at least one factor and inconsistent behavior according to Proposition 2.

[13] Details about econometric specifications are presented further in appendix A.4.

[14] It's a pure coincidence that the number of individuals in the econometric analysis is the same as the number of profiles of votes and situations.

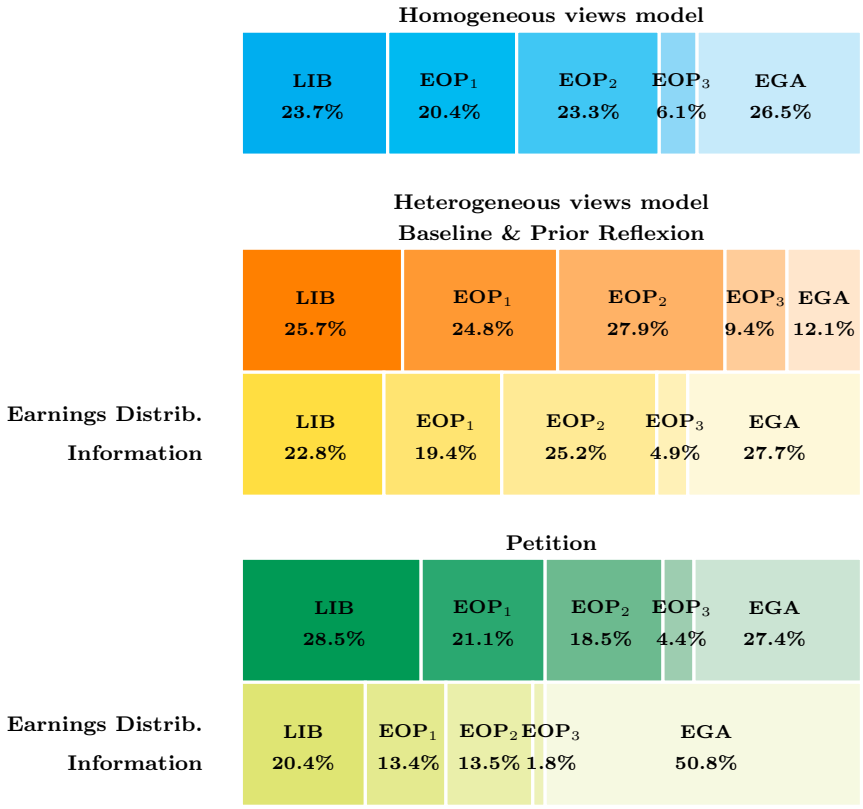

Figure 2: Shares of fairness views by model

Our results (see appendix A.5) show that none of the sociodemographic variables significantly affect self-serving votes in the homogeneous views model. Similarly, experimental variables such as prior reflection, signing a petition, and receiving information on session earnings distribution had no significant impact on self-serving votes ($p = 0.8037$, $p = 0.5375$, and $p = 0.1883$, respectively). However, experimental earnings significantly influenced self-serving votes, both directly ($p = 0.0233$) and when participants were aware of earnings distributions in the room ($p = 0.0257$). The probability of self-serving votes decreases with experimental earnings, though this effect is mitigated when participants know the earnings distribution in the session.

We also tested whether participants in a bad situation would be more likely to cast a self-serving vote than those in a good situation, consistent with Fehr and Schmidt's (1999) theory that people are more sensitive to disadvantageous inequality. The likelihood ratio test supports this, showing a significant difference in self-serving vote probabilities between favorable and unfavorable situations ($p = 0.0199$).[15]

Given the observed effect of bad situations, we further tested whether the like-

[15] We estimated an alternative model by adding a parameter for unfavorable situations, assuming it to be constant across factors. Details are available in appendix A.4.

lihood of self-serving votes in bad conditions increased when participants knew the earnings distribution. However, this interaction effect was not statistically significant according to a likelihood ratio test ($p = 0.11$), suggesting limited evidence for this additional influence.

Finally, while earnings alone had no effect on self-serving votes, holding specific fairness views (EOP_1 or EOP_3) did show a significant impact ($p = 0.0454$ and $p = 0.0219$, respectively), with participants holding these views being more likely to vote in a self-serving manner.

The estimated shares of fairness views for the homogeneous-view model are presented in the top panel of Figure 2 (see Appendix A.5 for detailed econometric results).

Participants who believe in equality of opportunity, regardless of where the responsibility cut is drawn, represent half of the participants (49.8%) compared to participants who hold a process-independent view, that is, egalitarianism (26.5%) and libertarianism (23.7%). Dworkin's fairness view (EOP_2) according to which compensation should prevail for circumstances and brute luck, is the most dominant view (23.3%) among the EOP views whereas participants who think that only effort should not be compensated for (EOP_3) are the fewest (6.1%). Based on estimated shares of fairness views, one would predict that a vast majority of participants (76.3%) would compensate for circumstances only, 55.9% for circumstances and brute luck, whereas only 32.6% would compensate for circumstances, brute luck and option luck. Given the ordering of factors from effort, option luck, to brute luck and circumstances, the majority voting would lead to draw the responsibility cut in between brute luck and option luck. In particular, a majority of participants think that effort should not be compensated.

Previous experiments have shown that "earning money" *per se* matters for redistribution with respect to a situation in which subjects receive windfall money (Cherry et al., 2002) in the former case, subjects tend to give nothing in a following dictator game. Rutström and Williams (2000) conducted an experiment with an earned money phase (a Tower of Hanoi game) and dictator game, in which they tested whether people made a difference between a "productivity rule" and an "effort rule". They did not find a significant change in giving behavior. Our experiment cannot tell us something about this distinction. As a robustness check, we computed a LR test with purely random fairness views as the null, i.e. each fairness view is associated with a probability $p_v = .2$. The test strongly rejects the null of purely random fairness views with $p < .0091$. This clearly indicates that how money was earned matters for redistribution.

We have considered so far that participants' selfish monetary concerns and fairness views could conflict in certain situations. There are however reasons to think that participants could also opportunistically adapt or change their view about fairness to what serves best their monetary interest, what Babcock and Loewenstein (1997), Dana et al. (2007) and Cappelen et al. (2007), amongst others, call self-serving biases or moral wriggling. In econometric terms, this means that the latent variable that models fairness views could depend on experimental earnings or settings.

We therefore estimate a new specification, **the heterogeneous-view model**,

in which fairness views differ with earnings (see Appendix A.6 for details on the econometric tests). Likelihood ratio tests indicate that earnings do not influence the likelihood of holding one fairness view or the other ($p = .6826$). In other words, the shares of fairness views are immune to how much people earn. This result is in line with Cappelen et al. (2007), who found no evidence of moral wriggling in their dictator game setting.

An obvious extension of this is to test if experimental settings influence the probability to hold one or the other fairness view. Two variables have a statistically significant effect on the share of fairness views. First, we observe that participants who received information about the distribution of earnings in the room expressed a different distribution of fairness views from those who didn't ($p = .0551$). Second, this is also the case for participants who were asked to sign a petition ($p = .0429$).[16]

The bottom panel of Figure 2 shows the distribution of fairness views in the heterogeneous-view model. When participants receive information about the distribution of earnings in the session, we see a notable shift toward an egalitarian, process-independent fairness view, which becomes the dominant perspective among these participants (indicated by shares in yellow). This shift suggests that, when informed about the distribution of earnings, participants tend to favor compensation regardless of the factor involved.

A similar pattern emerges for participants in the petition treatment, where the egalitarian view also becomes more prominent (shares in green). This finding is notable because psychological theories of commitment suggest that signing a petition advocating for greater equality of opportunity (using an anonymous CV procedure) would likely increase support for process-dependent fairness views. Instead, we observe an increased preference for an egalitarian view, potentially because participants focused on the word "equality" without fully grasping the concept of equality of opportunity.

When both the petition and information about earnings distribution are provided, this shift is even more pronounced (shares in light green): support for the egalitarian view rises to 50.8%, and process-independent views make up 71.2% of total shares.

The result of the petition treatment can be challenged since it was conducted in a separate session; it is therefore difficult to disentangle treatment effects from session effects. Despite these legitimate concerns, we think that three elements mitigate them. First, the design of each session was strictly similar because all that was said to the participants in every session was written and read by the same person. Second, we controlled for the observables of each sample's session in the econometric model, and no covariate was found to be significant[17]. If we go into detail, the most numerous significant differences in terms of observable variables of the participants (see Appendix A.1) are between the baseline and

[16] Cappelen et al. (2011), in their experiment with a hypothetical questionnaire prior to a dictator game with an initial production phase, found that prior reflection moderately increases the weight people attach to their fairness view and thus makes them less self-interested. They provide, however, no rationality test.

[17] As a robustness check, all demographic variables were also tested and none of them appeared to significantly influence the shares of fairness views (see Appendix A.6 for the tests).

prior refection treatment. Yet, the econometric results do not indicate a difference in behavior with this treatment. The story is different for petition. The results for this treatment are found to be different but the population structure is very similar to the baseline. Only two variables, bachelor's degree or higher degree and living in a couple, are significant, but the econometric results control for education (see Appendix A.5 and Appendix A.6). Finally, peer-group effects were minimal since the participants were not allowed to talk.

Finally, accounting for heterogeneity in fairness views reveals that the homogeneous-view model overestimated support for the egalitarian view. In the baseline and prior reflection sessions, without information on earnings distribution (shown in orange), the egalitarian view accounts for only 12.1% of shares. The overestimation in the homogeneous model is due to the increase in egalitarian views triggered by the petition and/or earnings distribution information. Consequently, in the baseline and prior reflection sessions, the share of process-independent fairness view falls to 38% and represents only a large third of the sample. Among the process-dependent stances, Dworkin's vision is still ahead of the view of compensating only for circumstances by a narrow margin (28% against 25%).

From the heterogeneous-view model, we can compute the mean probabilities of engaging in self-serving votes, denoted as $\bar{q}_f$, where individual probabilities by factor are averaged based on the probabilities of fairness views (all significant results for self-serving probabilities are preserved as compared to the homogeneous views model). Overall, the mean probability of engaging in a self-serving vote is 0.325 (standard deviation (SD) = 0.199). This probability is dramatically higher when the participant is in a bad situation (0.496, SD=.0126). In contrast, mean probabilities are lower when the participant is in a good situation, at 0.155 (SD = 0.074). These figures are in line with raw experience results gathered in Table 4.

7 Discussion

A lot of papers have investigated people's views about redistribution. Many questionnaire experiments have been conducted, and most of them containing vignettes that tell little stories about different aspects of life in order to inquire whether people's opinion about justice coincides with the theoretical propositions put forward by philosophers and economists. Other papers have conducted experiments to study explicitly what happens to people's distributive preferences by introducing an earned-money or production phase (e.g., Cappelen et al., 2007, 2022; Cherry et al., 2002; Frohlich et al., 2004; Konow, 2000; Rutström and Williams, 2000) or a risk-taking phase (Cappelen et al., 2013, Selten and Ockenfels, 1998) before a distribution phase. The redistribution phase in those experiments mainly consisted in a dictator game (for references and overviews, see Schokkaert, 1999; Konow, 2000; Gaertner and Schokkaert, 2012; Schokkaert and Tarroux, 2022; Trautmann, 2023).

We discussed several points of our research that deserve particular attention in link with this literature.

Firstly, placing this experience in its geographical and national context matters. France has a particular tropism for equality because of its history, notably the

French Revolution, or rather the French Revolutions of 1789, 1830, 1848, and 1871. In fact, according to the comparative study conducted by Almas et al. (2024) using the same experimental protocol in 60 countries, it emerges that while among developed countries, France's egalitarian tropism is strong, on par with Norway's, it is far from dominant. 35% of the participants declared egalitarian preferences, a proportion close to the range of votes obtained for all left-wing political parties in 2024's national election. The relative majority are meritocratic (45%), but France stands out for its relatively low proportion of libertarians (20%), whereas they are in the majority in Germany, according to this study. We have never claimed any representativeness of our sample, either obviously at the national level or at the level of the city of Marseilles (1 million inhabitants), which is undoubtedly biased downwards in terms of the socio-professional categories represented. Almas et al. (2017) find a systematic difference in fairness view between children from low-socioeconomic status (SES) families and the rest of the participants; more than 50 percent of the participants from low-SES families are egalitarians, whereas only about 20 percent of the rest of the sample hold this fairness view. Nevertheless, our results are in the broad range around those of Almas et al. (2024).

Precisely, a second issue deals with the sample selection, in particular the potential effects of the advertisements that participants could earn between 15 and 40 euros. Such monetary incentives were effective in recruiting participants considering that participation is worth the opportunity to earn up to 40 euros, especially low-income or less-educated respondents, for instance that may hold different fairness views than the general population and/or react differently in the redistribution voting phase. We first point out that other motivations were at stake that explain respondents' participation: to work on-site at the Regional Council (hence having a minimal opportunity cost), the curiosity of being able to visit an official building generally closed to the public, an interest in the topic of the survey ("To succeed in Marseilles") or in an event organized during the French National Science Fair. Second, the empirical evidence shown in appendix A.1 exhibits that the small societies are more heterogeneous than what standard laboratory experiments generally propose with groups of students. According to the findings of Cappelen et al. (2015) for the dictator game and the trust game, student subject samples might not be informative about the social preferences in society at large. They find that students differ fundamentally from a representative sample in the relative importance assigned to different moral motives and at the pro-social level. In particular, one should note that students are much more selfish.

A third issue deals with the impact of monetary incentives on the results of a survey (see Gneezy et al., 2011; for impacts on behaviors in economics). Economists generally prefer paying participants based on a clearly *ex-ante* defined performance criterion (or play at real one of the hypothetical choices proposed) whereas social (and economic) psychologists usually pay a lump sum or valid course credit for students. This difference stems from different ideological considerations: the former consider that real-world behaviors are motivated by the analysis of the costs and benefits of every action, so that the monetary incentives help participants be close enough to the corresponding situations in real life and answer accordingly. The latter claim they are unnecessary, arguing that the participants should be intrinsically motivated enough to answer

truthfully the experiment, that the costs and benefits of different actions in real life are often unclear and similar behaviors are observed in experiments with and without monetary incentives. We consider that it is crucial to have monetary incentives directly related to the choices and votes of our respondents to make them properly account for the cognitive burden and the consequences of their choices/answers. Especially because fairness issues involving others require more cognitive effort than an individual maximization exercise in standard decision-making lab experiments (Epley et al., 2004). Consequently, our monetary incentives allow participants to be motivated during the whole experiment, especially during the effort task for which the mark they obtained could be considered as a valid indication of their intrinsic level of effort.

A fourth issue questions the impact of the order of the 4 factors in the earned money as well as in the voting phases. It remains unchanged during the three sessions because we prefer exploring the impact of two treatments (Prior reflection and Petition), and doing both was intractable.
During the earned money phase, respondents must take action on two tasks: Effort and Option Luck (participation in the lottery). The former was the first factor proposed and cannot obviously be affected by the outcome of the subsequent factors. The two other factors (Circumstances and Brute Luck) are exogenous to the respondent. Finally, only the decision to participate in the lottery might depend on the expectations regarding the performance of the effort task and the gains at the Circumstances and Brute luck phases (not yet known at the time of the decision). But the same may be true in real life. Due to the specific role of effort in the moral philosophy of responsibility, it seems of utmost importance to let effort immune from any interference with other factors, and it is why we decided to begin with the effort task.
It must be noted that the factor's rank in the earning phase was not entirely the same as the factor's rank in the voting procedure. Effort and circumstances permute their rank, effort being first in the earning phase and second in the voting phase. Hence in the voting phase we found it wise to alternate factors that individuals do not control and factors that individuals should be held responsible for according to the moral philosophy of individual responsibility. Hence, the order, first circumstances, next effort, then brute luck, and finally option luck, to avoid putting participants on the trail of the ethics of responsibility. This was maintained for the three sessions.

In the same vein, it is unlikely that the order affects the elicitation of fairness views for at least two reasons. First, the order of votes was not announced in advance. Second, the results of the votes for the redistribution of the 4 factors are only given at the end of the last vote. Of course, it can be objected that a participant may anticipate the vote of others for redistribution for a given factor for which she won and consequently decides to vote for redistribution for any another factor for which she was a loser, not based on her fairness views for this factor, but as a preventive retaliation to the vote for redistribution of others. However, such a behavior would not be order-dependent and would occur anyway. But we would like to add one thing. The solemnity of the place, the fact that their elected representatives make decisions every day that concern them in this very place, may have added to the seriousness with which the participants took part in the experiment.

Finally, we would like to emphasize that our experimental protocol can account for 86% of the individual behaviors in the micro-democracy. Perhaps in the remaining 14%, there are people who have confused the factors, others who have not been able to memorize them or who answered nonsense because the protocol was too complicated or because of order effects, and others because they had other conceptions of "fairness" that weren't represented. But overall, these factors account for only 14% of the sample, so the cumulated impact of all these effects is framed by a fairly low upper bound.

8 Conclusion

We have built three micro-participatory-democracies where participants were experimenting with a condensed version of economic and political life in a liberal democracy. First, they earn money through luck or actions they may or may not decide to take, and then they get together to vote on whether or not to tax the various gains they've made. The sample selection implies that the sample is not representative. Nevertheless, the results that we found are not at bay with what we know about the distribution of true ethical preferences in the French population. Our findings support the view that the five selected fairness views are meaningful for ordinary people and that Dworkin's cut is highly regarded among those who support process-dependent fairness views. Schokkaert and Tarroux (2022) have noted that economists and social scientists have often found a significant gap between the public's ethical preferences and stances discussed and defended in political and moral philosophy or normative economics. Our experience adds a more optimistic nuance to this global picture.

And yet, as econometric results show, the participants mainly express their fairness view, but here and there, in roughly a third of the cases, they tend to support their selfish concerns. However, what we also see is that if participants are informed about the distribution of earnings, they tend to switch from an equality of opportunity, process-dependent view of justice (in particular, Dworkin's version) to a more egalitarian, process-independent appreciation of justice. We observe the same significant effect in the petition treatment. Only in those two cases do the majority of people tend to support process-independent theories of justice more than equalities of opportunities. In our baseline and prior reflection treatment, however, a clear majority of people support equalities of opportunities, and in particular, Dworkin's view, which supports redistribution for circumstances and brute luck, but not for effort and option luck.

Another interesting aspect of our experiment is that we could also see whether people voted consistently according to our rather parsimonious ethical frame, their selfish concerns, or a combination thereof. In fact, a key result is that a very large majority of people see their voting behavior explained by our frame. We find that only a tiny proportion of participants (14%) engage in inconsistent voting once the five fairness views are taken into consideration, as well as people's selfish concerns.

A further possible extension of our experimental framework could be to see whether, for example, not only how people earn their money, but also how

much with respect to each factor matters for redistribution. This is certainly an appealing question, especially in times like ours, where the concern about the gap between rich and others (the "1%" versus the "99%") becomes more and more vocal. Another direction for further research would be to look at a configuration where the earnings stage does not assume additive effects of the different factors (see Andre, 2024; Cappelen et al., 2024; Dong et al., 2024; Preuss et al., 2024). For instance, effort and luck are intertwined in Bhattacharya and Mollerstrom (2022). In this paper, luck precedes the decision to work, but Lefranc and Trannoy (2017) have also emphasized the situation where luck partially determines the fate of the work outcome, a situation they depicted as moral hazard luck where effort precedes luck. However, the results obtained by Andre (2024), according to which people's merit judgments do not factor into the circumstances under which choices are made, may indicate that this route is perhaps less promising than it seems at first glance.

And, of course, this large-scale lab experiment (the micro participatory-democracy) supported by the result of strategy-proofness of sequential voting, the analysis of conflict between ethical values and selfishness condensed by a rationality test, and the econometric methodology can be used to reveal political choices of people for other purposes.

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A Appendix

A.1 Descriptive statistics

Variables	Baseline (n=107)	Prior reflec. (n=95)	Petition (n=120)
Sociodemographic			
Age (years): mean ± sd	35.3 ± 12.8	35.0 ± 15.5 (.883)	34.4 ± 13.7 (.231)
Female	76.4%	67.4% (.159)	69.2% (.231)
Live in couple	49.5%	24.2% (<.001)	35.0% (.023)
Students	27.9%	34.4% (.309)	35.0% (.237)
Monthly income (euros) mean ± sd	1242 ± 828	962 ± 806 (.018)	1036 ± 714 (.067)
Highest level of education			
Below Secondary School Certificate	3.8%	9.9% (.100)	10.4% (.060)
Secondary School (Certificate or Baccalaureat)	31.4%	36.2% (.486)	42.2% (.098)
Bachelor degree and higher	64.7%	53.8% (.125)	47.4% (.010)
Last occupation			
Higher intellectual professionals	24.7%	26.8% (.769)	21.0% (.551)
Associate professionals	27.8%	12.7% (.016)	19.0% (.121)
Employees	26.8%	45.1% (.013)	31.0% (.531)
Others	20.6%	15.5% (.416)	29.0% (.145)
Factors			
Good circumstances (Born in Marseilles)	33.7%	38.9% (.441)	39.2% (.395)
Normalized absolute effort: mean ± sd	57.4 ± 17.8	57.1 ± 16.4 (.907)	56.6 ± 20.7 (.731)
Good Effort	54.2%	50.5% (.603)	52.5% (.798)
Good brute luck	48.6%	52.6% (.569)	49.2% (.932)
Bettors in option luck	77.6%	75.8% (.763)	77.5% (.990)
Good option Luck	38.3%	40.0% (.808)	39.2% (.897)
Earnings			
Earning phase (show up excl.) (euros): mean ± sd	16.8 ± 9.5	17.6 ± 9.8 (.572)	17.3 ± 9.1 (.690)
Final earnings (total) (euros): mean ± sd	19.3 ± 8.1	19.6 ± 8.5 (.742)	19.4 ± 6.6 (.920)

Note: P-values of equality tests with respect to the baseline session in brackets.

A.2 Complete instructions

INTRODUCTION TO MARSEILLES SURVEY ON SUCCESS

A translation of the survey presented to respondents and relevant to the study is reproduced below. Italics parts were not read.

Please make sure your mobile phones are switched off during the survey.

Thank you very much for taking part in this survey. Its objective is purely scientific, and it is being conducted jointly by a team from an economics research centre (GREQAM) and from a government economics policy research institute (IDEP). The survey is financed by the national government; the regional government (Conseil Régional), which is not directly involved, has allowed us to use its council chamber in honour of the current Festival of Science. This survey is part of a European-wide programme and your answers are therefore very important, representing the French part of the programme. It is thus vital that you reply as carefully as possible, even when this is tiring and appears difficult, so that your replies can be processed meaningfully.

The objective of this survey is to clearly determine your preferences and your opinions on success and equal opportunities. Gathered here in the council chamber, you form a micro-society of differing individuals. Each one of you is a member of this society, identified by your badge number (which is also your seat number) throughout the survey. During the survey, we are going to explore

the importance of various factors which affect individual success. In a little while, you will be asked to use the voting buttons that regional councillors use to give certain replies and to take decisions. Depending on your replies, on your decisions and on other factors that will be explained later, you will earn a sum of between 15 and 40 euros. Your earnings will therefore differ, and will be paid out to you individually at the end of the session in the form of gift vouchers, redeemable in over 35,000 shops and 350 national retail chains.

You have all already automatically earned 4 euros just for being present in this room.

During this survey, we are also going to ask you some personal questions, concerning your family and your behaviour in everyday life. Your replies to each of these questions are extremely important not only to us, but to you as well, since they give you the opportunity to express your preferences and your opinions. Some of the questions may surprise you, yet every one of them is important. There are no right or wrong answers; everyone has his/her own opinions and his/her own reasons for the choices made. Take the time to think through each of your replies carefully. Throughout the survey, we ask you not to communicate with each other and to take your decisions alone. It is your personal opinion that matters to us.

If you have any questions or need any help or clarification, raise your hand and one of the team members who are in the rows will come over and reply to you individually.

We guarantee the absolute confidentiality of your replies, which are fully anonymous and will only be used for the purposes of scientific research. At no time will we be able to identify you with your replies; only your number links your replies to the different parts of the survey. Whatever you do, do not lose this badge, which you will have to return in order to collect your earnings at the end of the survey.

Some of you may perhaps be disappointed, having expected something different. This is unavoidable, because in a survey like this it is impossible to question each of the 500 participants without using a common framework. Most of the questions will therefore require you to choose one possibility from among several. It is only when we cross-check your replies with those from the three other sessions, which are all different, that we will be able to determine the factors that you consider important regarding success.

At the end of the second sheet in this survey, there is a space for you to make any comments or say anything you feel you didn't get a chance to express. We will take these comments into account in our analysis, and will also use them in the report on the survey that we will be making in a few months from now (the IDEP website address will come up at the end of the session).

****

PRIOR REFLECTION TREATMENT Phase 1

We are now going to hand out PAPER 4 containing a story about two salesmen, and a series of questions. You will need to try to imagine these situations as clearly as possible in replying. THESE REPLIES REQUIRE YOUR FULL

ATTENTION. If you have any questions, raise your hand and one of the team members will come over and answer.

Now let's read the first part of the paper together.

We are going to ask you a series of questions concerning a tax to be applied to the bonuses earned by two salesmen, Pierre and Jacques.

These two door-to-door salesmen sell the same type of product. In addition to a fixed salary, they receive an annual bonus depending on their total sales figures. **There are five reasons accounting for their sales figures,** as follows:

- **The salesman's hard work:** how many customers he visits per day.
- **The salesman's skill:** how easily he manages to sell the product to his customers
- **The salesman's social background,** which determines his parents' network of acquaintances and the direct and indirect contacts this network offers him. If the network is good, it leads to a job with **LaMeilleure**, a company selling a very high quality product. If the network is not good or doesn't exist, the salesman gets a job with **LaMoyenne**, a company selling a lower quality product. The bonuses at **LaMeilleure** are higher than those at **LaMoyenne**.
- **The salesman's luck**: This depends on the sales territory (a geographical area) each salesman is assigned to. A salesman with a **GoodTerritory** has a headstart over a salesman with a **BadTerritory.**
- **The risks the salesman takes:** the salesman has to choose between selling an old product that has been on the market a long time and is familiar to customers, or a more recent product with unknown customer reaction. At the time he chooses his product, therefore, the salesman does not yet know whether the product is going to sell well. So he is taking a risk by choosing to sell the new product.

If you have any questions, you can raise your hand and one of the team members will come over and reply to you individually.

You can turn the page and answer the five questions on the second page, then wait for instructions."

Wait

We are going to read the top of page 3 of this paper.

Now let's imagine that JACQUES and PIERRE have the *same fixed salary* and have earned the *same bonus*. They are identical in every way, except that each has *one advantage* over the other.

For example, Jacques is more skilled than Pierre but Pierre is luckier than Jacques. Each advantage pays off identically in bonus terms, which is why in the end they both receive the same bonus.

Imagine that the Government taxes the bonuses of each salesman. We are seeking your opinion on the best way to *vary the amount*

***of tax due* according to the advantage that enabled the salesmen to obtain their bonus.**

Do you have any questions at this stage?

We are going to read the questions together. Let's start by question 4-6.

***Q4-6* Jacques got the job at LaMeilleure through his parents' contacts. He therefore has an advantage over Pierre in selling a product which sells better. This advantage is compensated for by the fact that Pierre works harder, visiting more customers. Do you think that, compared to Pierre, Jacques should pay: a)a lot more tax b)a little more tax c)the same amount of tax d)a little less tax e)a lot less tax**

Do you have any questions at this stage?

We are going to continue reading the other questions together, and you are going to reply, trying to imagine the situations as clearly as possible.

Take a questionnaire and read out one by one Q4-6 to Q4-15.

If there's any problem, don't hesitate to ask the team members who are in the rows for clarification."

Collect PAPER 4.

END OF PRIOR REFLECTION TREATMENT Phase 1

We are going to take in PAPER 4, and hand out a large beige envelope. Inside your envelope there are a sheet of paper and two envelopes, which will be used to determine the success factors for each of you as a member of this micro-society. It is essential that you wait for instructions as to what you should do. Your compliance with instructions is crucial to the results of our survey and we will have to exclude from the survey anyone who does not respect the instructions.

Hand out ENVELOPE.

You can now open the large envelope. Do not open the two envelopes that are inside; place them in front of you so that they are visible to the team members. Now take paper 1. You are going to answer the first question and wait for instructions.

Wait 20 seconds.

We are going to ask you to carefully copy out as many characters from the first page as you can, starting from the left and without skipping any characters. Use the pre-printed grid.

We will divide the room into two groups according to the results of this copying test, and the money you are going to receive will depend on which group you are placed in. If you are ranked in the 50% of people in the room who copied **the most *characters correctly, you will receive* 10 euros extra.** If you are ranked in the 50% of people in the room who copied the fewest characters, you will receive 0 euros. If several participants are at the borderline between the two groups, they will be ranked with the top 50%.

If you skip a character, you will automatically be ranked among the bottom 50%. You can choose not to copy the characters, which means you will automatically be ranked with the bottom 50%. A chronometer will appear on the screens and will count 5 minutes. At the end of this time; we will ask you to raise your hands, even if you haven't finished. In fairness to the other participants, if you continue to copy, the last character you copy will not count. Do you have any questions before we start?

Start.....Raise your hands.

We are going to take in PAPER 1, and our team is going to correct the copying test and enter your individual results on the computer.

Collect PAPER 1.

We have an important announcement to make at this point.

Because place of birth is a factor that can determine success, we have decided to give 10 euros to every participant born in Marseilles. Those not born in Marseilles earn nothing for the moment.

Now take the small white envelope that was inside the large envelope but do not open it. Inside this small white envelope, there is a slip of paper that is either white or orange. The slips of paper were distributed at random in the envelopes.

We are going to put two ping-pong balls, one white and one yellow, into a bag, and we are going to have a person from this room draw one of them. If the ball drawn is the same colour as your slip of paper, you win ***10 euros***. If the colour is not the same, you win nothing.

Carry out the draw, announce the result.

You can now open the white envelope and see the colour of your slip of paper.

We now offer you the chance to place a bet. This bet is optional, you are free to choose whether to bet or not.

As you know, every number can be odd or even; this is called parity. Even numbers end in 0,2,4,6,8 and odd numbers in 1,3,5,7,9. Your seat number is therefore either odd or even. We are going to draw at random one number between 0 and 9, which will be odd or even. You are free to bet 4 euros that the parity of the number drawn will be the same as that of your seat number.

If you decide to bet and you win your bet, we will give you 10 euros and you will therefore win 6 euros (10 euros less the 4 euros you put down).

If you decide to bet and you lose your bet, you will lose the amount you put down, so your earnings will be reduced by 4 euros.

If you refuse to bet, the draw is of no consequence for you and *your earnings remain unchanged* at this stage, you will not be winning or losing any money.

Let's take an example: if you are sitting in seat number 44, which is an even number because it ends in 4, and the number drawn is 0,2,4,6 or 8, you win 10 euros if you agreed to bet. In total, you have therefore won 10-4=6 euros. If an odd number is drawn, you lose your initial 4-euro bet if you agreed to bet. If you refused to bet, whatever the number drawn, your earnings are unchanged at this stage.

To find out whether you want to bet, we are going to ask you to use the regional council interactive voting pads. To set the interactive voting system in operation, we need to open a voting session. Every time a voting session is opened (the PRESENT or REPRESENTED light flashes) you have to press this button, which will stop it flashing. You will then have twenty seconds to press one of the two other buttons: YES to the question put to the vote, NO to the question put to the vote. **Always** press one of the two buttons to stop the lights from flashing. At the end of the twenty seconds, we will announce that "voting is closed" and you will no longer be able to vote. If you have made an error in your vote, we will not be able to go back and your vote will count as your final decision in our computer system.

The question you have to answer is the following:

Do you want to bet on your seat number? a Yes b No

The vote is open. . . . . ..the vote is closed.

A programme showing numbers randomly between 0 and 9 is going to appear on the screen. It will enable us to determine the winners and losers of the bet among those who decided to bet.

Carry out the draw . . . . . announce the result

For those who chose to take part in the betting, the winners are those whose seat number is even (/odd), that is those ending in 0.2.4.6.8 (/1.3.5.7.9)

Now we are going to hand out a second paper that is intended to tell us more about you. You are going to fill in the questionnaire alone while we correct the copying test to determine the two groups and calculate your earnings at this stage. You will be informed about them later in the survey when the correction is finished. **If you have any problems, you can raise your hand and ask the team members who are in the rows for clarification.**

Hand out PAPER 2

FILL OUT PAPER 2

Collect PAPER 2

Now you are going to take the small beige envelope that was inside the large envelope and take out PAPER 3. You are going to reply to the first four questions (front).

End of time allowed for answering the questions on the front of Paper 3.

We are now handing out to each of you a sheet of paper showing your earnings at each stage and your total earnings. Also, half of

you are going to receive an extra sheet with a breakdown of earnings throughout the room. This is part of the experiment and has no effect on your final earnings.

Distribution of individual results to all participants.

****

TREATMENT KNWOLEDGE OF DISTRIBUTION OF EARNINGS

Distribution of whole-room earnings to half the participants in the session.

END OF TREATMENT KNWOLEDGE OF DISTRIBUTION OF EARNINGS

We are now going to move on to a group-decision stage, where you have the opportunity to *redistribute* earnings to date among the participants. In this experiment, "redistribute" means transfer money from those who have earned most to those who have earned least.

You will once again use the voting pads to signal your choices. In the following votes, *the majority of votes expressed by the room will apply to each of you*, whatever your own individual vote was. In other words, the majority decides. You now have the opportunity to abstain by choosing the ABST button if you don't know or wish to abstain. As in any election, an abstention does not count as a vote, meaning it will not be taken into account when the majority is calculated. The results will only be announced after all the voting is finished.

The first vote is going to be on the following question (appearing on the individual screens):

VOTE 1: Some of you earned 10 euros because you were born in Marseilles, while the others didn't earn anything. You are going to vote for one of the two following redistribution options:

***No redistribution*: those born in Marseilles keep their 10 euros and the others are left with 0 euro.**

***Partial redistribution*: those born in Marseilles earn 7.5 euros instead of 10 euros and the others earn 2.5 euros instead of 0 euro.**

YES=No redistribution ABSTention NO=partial redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

The second vote is going to be on the following question (appearing on the individual screens):

VOTE 2 Some of you earned 10 euros because they did better in the test of copying characters in 5 minutes while the others earned nothing. You are going to vote for one of the two following redistribution options:

***No redistribution*: those who did better in the copying test keep their 10 euros and the others are left with 0 euro.**

***Partial redistribution*: those who did better in the copying test earn 7.5 euros instead of 10 euros and the other participants earn 2.5 euros instead of 0 euro.**

YES=No redistribution ABSTention NO=Partial redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

The third vote is going to be on the following question (appearing on the individual screens):

VOTE 3 Some of you won 10 euros through the luck of the draw for the colour of the ping-pong ball, while the others won nothing. You are going to vote for one of the two following redistribution options:

***No redistribution*: those who were lucky in the draw for the colour keep their 10 euros and the others are left with 0 euro.**

***Partial redistribution*: those who were lucky in the draw for the colour win 7.5 euros instead of 10 euros and the other participants win 2.5 euros instead of 0 euro.**

YES=No redistribution ABSTention NO=Partial redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

The fourth vote will be on the following question (appearing on the individual screens):

VOTE 4 Of those of you who chose to bet 4€ on their seat number, some won 10€ and others nothing. The participants who chose not to bet neither won nor lost, their earnings will not therefore be affected by this vote, but they must take part in voting. Vote for one of two options:

***No redistribution*: those who won their bet keep their 10€, the others are left with 0€.**

***Partial redistribution*: those who won their bet win 7.5€ instead of 10€ and the other betters win 2.5€ instead of 0€.**

YES=No redistribution ABSTention NO=Partial redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

VOTE 1a *For the first vote concerning place of birth*, the majority of you voted for partial redistribution. You will now be asked to choose between partial redistribution and total redistribution;

***Partial redistribution:* those born in Marseilles earn 7.5 euros instead of 10 euros and the other participants earn 2.5 euros instead of 0 euro.**

***Total redistribution*: every participant earns 5 euros, whether or not he was born in Marseilles.**

YES=Partial redistribution ABSTention NO=Total redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

VOTE 2a *For the second vote concerning copying characters*, the majority of you voted for partial redistribution. You will now be asked to choose between partial redistribution and total redistribution.

***Partial redistribution*: those who did better in the copying test earn 7.5 euros instead of 10 euros and the other participants earn 2.5 euros instead of 0 euro.**

***Total redistribution*: every participant earns 5 euros, whether he did better in the copying test or not.**

YES=Partial redistribution ABSTention NO=Total redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

VOTE 3a *For the third vote concerning the luck of the draw for the coloured ball*, the majority of you voted for partial redistribution. You will now be asked to choose between partial redistribution and total redistribution.

***Partial redistribution*: those who were lucky in the draw for the colour win 7.5 euros instead of 10 euros and the other participants win 2.5 euros instead of 0 euro.**

***Total redistribution*: every participant wins 5 euros, whether or not he was lucky in the draw for the colour.**

YES=Partial redistribution ABSTention NO=Total redistribution

Voting is open.....press "Present or represented", then press YES or NO or ABSTENTION (DON'T KNOW) Voting is closed.

VOTE 4a For the fourth vote concerning the bet on the seat number, the majority of you voted for partial redistribution. You will now be asked to choose between partial redistribution and total redistribution.

***Partial redistribution*: those who won their bet win 7.5€ instead of 10€ and the other betters win 2.5€ instead of 0€.**

***Total redistribution*: every better wins 5€, whether or not he was lucky in the draw for the seat number.**

YES=Partial redistribution ABSTention NO=Total redistribution

For the vote concerning place of birth, there were x Yes (option A), y No (option B), z (abstentions) out of the number of participants: the majority has therefore decided that .....

For the second vote concerning the task, there were x Yes (option A), y No (option B), z (abstentions) out of the number of participants: the majority has therefore decided that .....

For the third vote concerning luck with the colour, there were x Yes (option A), y No (option B), z (abstentions) out of the number of participants: the majority has therefore decided that .....

For the fourth vote concerning the bet, there were x Yes (option A), y No (option B), z (abstentions) out of the number of participants: the majority has therefore decided that .....

Each person's final individual earnings according to the result of these votes is now being calculated by our team, and prepared for final payment.

You are now going to take PAPER 3 again and answer the two questions on the back.

Collect PAPER 3

PRIOR REFLECTION TREATMENT Phase 2

Hand out PAPER 4.

We are going to hand out to you again PAPER 4, which you filled in at the beginning of the survey, with the story of the two salesmen, together with a black ballpoint pen. Having taken part in the test and in the preceding votes, you may now want to change your answers. You can do so if you wish on this same paper, circling your new answers (and leaving the old ones visible).

END OF PRIOR REFLECTION TREATMENT Phase 2

We are going to hand out one last paper, which you are going to fill in alone. Once again, if you have any problems answering one of the questions, don't hesitate to ask for clarification. There is a space at the end of the questionnaire for you to give any comments you may have about the survey, for anything you may want to tell us. We are also handing out a sheet confirming that you took part in the survey and received a sum in gift vouchers. You must fill in this paper and hand it in because our accounting department will ask for them. We would like to remind you that we have no means of identifying you with your replies.

Hand out PAPER 5 and the confirmation of participation.

Collect PAPER 5.

Once again, thank you for your presence here and for your attention.

You can collect your earnings at the three payment windows, in exchange for your badge and your confirmation of participation. Following which, we would ask you to leave the assembly rooms, so as to keep to schedule. A preliminary report on this survey will be online within a few months on the Idep website, whose address is now appearing on the screens.

A.3 Text of the petition

"Soon, all candidates for the upcoming presidential election will be announced. You may be aware that a petition has been circulating in France over the past few days. The goal of this petition is to urge each candidate, regardless of their political affiliation, to openly communicate their plans and commitments

regarding environmental preservation. It is essential that each of us has the information needed to make informed choices.

We need widespread support, and every signature matters. Therefore, if you believe, as we do, that environmental preservation is a vital issue on which presidential candidates should take a clear stance, we invite you to sign this petition. Thank you for your support."

A.4 Econometric specification

Model with homogeneous fairness views

The self-serving probability q_j for factor j for a participant in a good situation g is defined such that:

$$q_j^g = \Phi(X\beta + \nu_j + \theta_k) \quad \forall j = 1, \ldots, 4 \quad k = 1, \ldots, 5 \tag{2}$$

Where $\Phi(.)$ is the cumulative normal distribution function, X is a set of explanatory variables such as sociodemographics and treatment effects variables, β its associated vector of coefficients and ν_j a factor specific constant term that allows for heterogeneity of self-serving probabilities between factors (parameter ν_1 that corresponds to the circumstances earning factor is omitted for identification purpose). Parameters θ_k control for heterogeneity of self-serving probabilities with respect to fairness views (parameter θ_1 that corresponds to the liberal view is omitted for identification purpose). When the participant is in a bad situation, self-serving probabilities are such that:

$$q_j^b = \Phi(X\beta + \nu_j + \theta_k + \delta) \tag{3}$$

where δ is a scalar constant parameter which is common to all earning factors for identification purpose. The probabilities of not engaging in self-serving votes whether the participant is in a good or bad situation for factor j are simply defined as $1 - \Phi(X\beta + \nu_j + \theta_k)$ and $1 - \Phi(X\beta + \nu_j + \theta_k + \delta)$ respectively.

The unobserved fairness view the participant holds is defined as a latent multinomial random variable à la Heckman and Singer (1984). Each fairness view k is associated with a probability p_k such that:

$$p_k = \frac{\exp(\gamma_k)}{1 + \sum \exp(\gamma_k)}, \forall k = 1, \ldots, 4 \quad \text{and} \quad p_5 = \frac{1}{1 + \sum \exp(\gamma_k)} \tag{4}$$

where γ_k are scalar coefficients and fairness view 5, i.e. the egalitarian view, is used as the reference for identification purpose. Probabilities in this framework can be interpreted as the respective shares of fairness views in the observed sample. Likelihood contributions by factor and fairness views presented in equation **??** and Table 5 can then be combined with fairness views probabilities such that:

$$\mathcal{L} = \prod p_k \times \mathcal{L}_k, \forall k = 1, \ldots, 5 \tag{5}$$

and the model can be estimated by maximum likelihood.

Model with heterogeneous fairness views

In the previous model, fairness views probabilities only rely on constant terms. It is possible to control for observed heterogeneity in fairness views probabilities

by introducing covariates (socio-demographic characteristics, treatment effects and earnings) in fairness views probabilities:

$$p_k = \frac{\exp(\gamma_k + Z\alpha_k)}{1 + \sum \exp(\gamma_k + Z\alpha_k)}, \forall k = 1, \ldots, 4 \quad \text{and} \quad p_5 = \frac{1}{1 + \sum \exp(\gamma_k + Z\alpha_k)} \tag{6}$$

where Z is a set of explanatory variables such as sociodemographics and treatment effects variables, α_k its fairness view specific associated vector of coefficients.

A.5 Estimates (sample size=256)

	Model 1 Homogeneous Views		Model 2 Heterogeneous Views	
	Coeff.	p-value	Coeff.	$p-$value
Self-serving probabilities coefficients				
Sociodemographic (β)				
Constant	-0.9258	.1529	-0.8492	.1921
Age (divided by 10)	-0.0234	.7375	-0.0259	.7096
Gender (Male=1)	0.0602	.7279	0.0770	.6541
Student	0.2840	.1553	0.3103	.1177
Baccalaureate (A levels)	-0.0529	.7311	-0.0758	.6222
Treatment effects (β)				
Prior reflection	-0.0463	.8037	-0.0676	.7146
Petition	-0.1197	.5375	-0.1816	.3490
Earnings distribution	-0.4641	.1883	-0.6015	.0924
Exp. Gains (divided by 10)	-0.3695	.0233	-0.3927	.0180
Earnings distribution $\times$ Gains	0.4115	.0257	0.4679	.0119
Bad situation (δ)	1.1611	.0199	1.1983	.0131
Fairness views constant terms (θ_k)				
Liberal	0.0575	.8832	-0.0053	.9889
EOP_1	0.9496	.0454	0.8601	.0574
EOP_2	0.4820	.3626	0.3175	.5390
EOP_3	1.3057	.0219	1.3350	.0159
Earning factors constant terms (ν_j)				
Brute luck	0.0477	.8535	0.0748	.7713
Option luck	-0.3621	.2356	-0.3548	.2364
Effort	-0.3624	.2405	-0.3554	.2338
Fairness views coefficients (Ref. Egalitarian)				
Constant terms (γ_k)				
Liberal	-0.1153	.6535	0.7575	.0770
EOP_1	-0.2605	.3320	0.7202	.1013
EOP_2	-0.1292	.7069	0.8403	.0724
EOP_3	-1.4675	.0015	-0.2425	.6856
Treatment & earnings effects (α_k)				
Petition (Liberal)			-0.7174	.0922
Petition (EOP_1)			-0.9813	.0512
Petition (EOP_2)			-1.2317	.0192
Petition (EOP_3)			-1.5707	.1368
Earnings Distrib. (Liberal)			-0.9513	.0310
Earnings Distrib. (EOP_1)			-1.0738	.0366
Earnings Distrib. (EOP_2)			-0.9348	.0740
Earnings Distrib. (EOP_3)			-1.4829	.0897

A.6 LR tests for fairness views heterogeneity

Variable	p-value
Sociodemographic	
Age	0.2011
Gender	0.3867
Student	0.3867
Baccalaureate (A levels)	0.6376
Treatment effects & earnings	
Prior Reflection	0.8146
Petition	0.0429
Earnings distribution Provis.	0.0551
Experimental earnings	0.6826