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Spectators versus stakeholders with or without veil of ignorance: The difference it makes for justice and chosen distribution criteria*

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Abstract

We document with a randomized experiment that being spectators and, to a lesser extent, stakeholders with veil of ignorance on relative payoffs, induces subjects who can choose distribution criteria to prefer rewarding talent (vis-à-vis effort, chance or strict egalitarianism) after guaranteeing a minimal egalitarian base. The removal of the veil of ignorance reduces dramatically such choice since most players opt or revise their decision in favour of the criterion which maximizes their own payoff (and, by doing so, end up being farther from the maximin choice). Large part (but not all) of the stakeholders' choices before the removal of the veil of ignorance are driven by their performance beliefs since two thirds of them choose under the veil the criterion in which they assume to perform relatively better.

Keywords: Distributive Justice; Perceived Fairness; Talent, Chance and Effort; Veil of Ignorance.
JEL Classification: C91, D63.

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It is quite common to find reference in the popular press and in the political debate to the concept of "meritocracy". In such concept what people deserve is generally measured with reference to effort and/or talent. But what people think of different types of meritocracy[1] and does their preference for effort and talent depends on their rank in the society according to such criteria ? The main goal of this paper is to give an answer to these questions with an original contribution to the existing literature.

The issue of distributive justice has a long tradition in the literature around three main fairness ideals: strict egalitarianism, libertarianism and liberal egalitarianism (Cappelen et al. 2007). Strict egalitarianism stresses that no inequalities in wealth distribution should be allowed even when people contribute in different ways to wealth creation. Libertarianism argues that individuals should be considered totally responsible for their contributions in producing wealth and a fair distribution should precisely reflect the different contributions. Liberal egalitarianism can be intended as an intermediate position as it argues that only inequalities in wealth distribution arising from factors under individual control may be accepted (while inequalities arising from factors not under individual control should be avoided) (Cappelen et al. 2007). If strict egalitarianism is ruled out, the debate on fairness ideals becomes essentially related to the idea of meritocracy or desert and is therefore associated to the role of talent and effort as possible criteria to determine the "merit" of people in different contexts. This is because the idea that distributions which reflect individual achievements or contributions are fair (and do not, or only partially, need to be redistributed) strictly depends on the assumption that such achievements/contributions have been deserved by individuals. In this perspective, many researchers have analyzed from a theoretical and an empirical point of view how differences in talent, chance and effort may affect (perceived) fairness of income and wealth distribution (see section 2).

Our paper contributes to the debate on criteria of fairness and justice by carrying out an experimental and empirical analysis aimed at:

[1] Merit is actually an "empty" concept which establishes that people must have what they deserve. The criterion used to evaluate what they deserve may be effort, talent but also need. We however use such concept in the paper as in the popular meaning in which the criteria considered are generally effort and talent.

1. analyzing the criteria preferred by subjects in order to allocate resources within a society when they may choose among allocations giving different importance to proxies of talent, effort, partial or full egalitarianism, and luck;
2. verifying whether people preferences for some criteria are affected by their position and (actual or perceived) ranking and payoffs in the society according to such criteria. More specifically, we identify five positions for allocators allowing them to be: i) spectators[2] with veil of ignorance (i.e. before knowing the distribution of outcomes in relation to each possible criterion that may be used to allocate resources within a group); ii) spectators after the removal of the veil of ignorance; iii) informed stakeholders (i.e. players choosing the criterion while being part of the group of players to which the money is allocated and being informed about their ranking and the distribution of outcomes in respect to each possible criterion); iv) stakeholders with a veil of ignorance on the distribution of outcomes; v) stakeholders after the removal of the veil of ignorance.[3]
3. analyzing whether stakeholders who choose behind a veil of ignorance select the criterion they think will maximize their monetary payoffs or whether they choose according to some fairness (or, more in general, non self-interested) ideal principles.

The main feature of our design is therefore in the combination of three elements: i) task performance; ii) direct choice of allocation criteria; iii) different (stakeholder or spectator with/without veil of ignorance) role in the game.

Our main findings document that:

[2] As it will be clear in the design described in section 3 for "spectators" we mean subjects who decide allocation criteria for other players involved in the experiments without being affected for such decision in their own monetary payoffs. Even though it is difficult to conceive how they can take parts of some of the anonymous players for which they decide, we prefer not to call them impartial spectators since we see impartiality more as an ex post judgment on their choice than an ex ante attribute generated by our specific treatment.

[3] As noticed by Konow (2003) the difference between stakeholders with veil of ignorance and spectators is that the self interest of the former (but not of the latter) is affected by their decisions. Notice as well that the characteristics of our design are such that we have two main differences with the Rawlsian veil of ignorance: our players are not "fully blind" since they can formulate expectations about their own relative capacities and ranking under the different tasks. Furthermore, the uncertainty is not about the role played but about their ranking in the selected criterion. We therefore remove the adjective Rawlsian but maintain the veil of ignorance denomination.

1. spectators and stakeholders with veil of ignorance choose to reward talent, after guaranteeing a minimal base equal for every player, significantly more than stakeholders who are informed ex ante or choose after the removal of the veil of ignorance;
2. the removal of the veil of ignorance induces the large majority of stakeholders (84.2 percent of them) to switch to the criterion which maximizes their payoff (making in this way them farther from the maximin choice), and, more in general, stakeholders informed about the payoff distribution across criteria tend to select the criterion that maximizes their own monetary gain;
3. In around two/third of cases stakeholders choices under the veil of ignorance are those in which they believe to perform relatively better so that their decision under the veil of ignorance may be explained by the willingness to maximize their own payoff.

Comparison of results 2 and 3 documents that the presence of the veil of ignorance reduces only in part self interest in stakeholders' decisions.

The paper is divided into six sections (introduction and conclusions included). In the second section we discuss the state of art in the literature and how it relates to our paper, also by specifically considering the idea of veil of ignorance. In the third section we present our experiment design. In the fourth section we specify the research questions inspiring our analysis. In the fifth section we provide descriptive and econometric findings aimed at answering such questions. The sixth section concludes.

2. The state of art

2.1. The theoretical contributions

The debate on justice has a long tradition in economics (for a detailed survey see Konow (2003)).

According to Buchanan (1986)**,** among the four factors determining the distribution of claims on economic income and wealth, i.e. luck, choice, effort, and birth, only differences attributable to effort are fair. Dworkin (2000) proposes a political theory that emphasizes equality but tolerates limited inequality that he argues would follow by allowing the effect of choices to operate. He states that "individuals should

be relieved of consequential responsibility for those unfortunate features of their situation that are brute bad luck, but not from those that should be seen as flowing from their own choices" (Dworkin (2000), p. 73). Roemer (1998) stresses that the "true" meritocracy should be based on and reward only effort. The key aspect here is to be able to discriminate between chance and voluntariness, making ineffective the role of the former and allowing only choices due to voluntary people's decisions to have a role in generating different results.[4]

In this strand of literature, the role of market forces in rewarding merit and in providing the good incentives to invest in their promotion has been stressed by some authors. However, various authors have also focused their attention on the possible unfair consequences in terms of socio-economic inequality connected with the implementation of pure meritocracy (e.g. Sacconi, 2009; Granaglia, 2008). For example, by adopting the perspective of the liberal egalitarianism, Granaglia (2008) proposes some critics to meritocracy such as: i) meritocracy legitimates the consequences and effects of chance; ii) meritocracy could create differences in terms of socio-economic positions that undermine social cohesion and reduce trust and respect towards subjects who do not have success. In order to be fair, a distribution of resources should guarantee opportunities and capacities in relation to the need – so that each agent could achieve through his/her resources, talent and effort what s/he needs (according to his/her desires). In case capabilities cannot be made equal, differences should be accepted only if they are in favor of the most disadvantaged persons (Sacconi, 2011). In the Rawlsian egalitarianism (1971) a criticism of talent-based principles of justice is significant. Since talents are the consequence of a morally arbitrary natural lottery, if the casual distribution of talents were reflected by the distribution of goods or rights, then, also the final distribution of resources and the associated social structure would be morally arbitrary (see also Sacconi, 2011). According to Rawls (1971) the only acceptable solution is an equal income distribution and talented persons should be rewarded if, by using their abilities, they may improve the general situations of the society thus allowing also poorest people to improve their condition. A completely different perspective is

[4] To this aim, the "relative" voluntary effort, as defined by Roemer, would be identified by considering the individual position in the effort distribution for each type, i.e. the set of not relevant characteristics and rewards should vary positively with effort and should not differ for those who exert the same effort.

adopted by Robert Nozick (1974). According to his entitlement theory, if a person acquires a holding without breaking the principle of justice in acquisition, or in accordance with the principle of justice in transfer[5] then he is entitled to the holding. On this basis it is clear that interventions aimed at preventing and/or modifying acquisitions that are in accordance with these principles are not justified, even if based on some ideas of meritocracy.

Finally, among other approaches to the notion of distributive justice, a central role must also be recognized to the approach based on the concepts of capabilities and functionings proposed by Sen. Sen (1999) proposes an idea of equality of opportunity to reach some essential conditions of "beings and doings" (such as being healthy, having self-respect etc.) independently from individual life plans. This idea of equality of opportunity clearly mitigates the previously stressed undesirable consequences of meritocracy.

2.2. The experimental contributions

The role of the experimental literature in this debate has been to verify which of these visions of justice find consensus among people (not just in their survey answers but also in their actual behaviour in randomized experiments where their choices affect monetary payoffs) and how and whether their decisions change according to their (spectator, stakeholder) role in the game.

An important part of these contributions (e.g. Leventhal and Michaels, 1971; Hoffman and Spitzer, 1985; Ruffle, 1998; Burrows and Loomes, 1994) essentially show that subjects seem to perceive as fairer differences when they are based on effort or skills (for example related to quiz knowledge or search tasks) but not on luck.

Other studies (e.g. Schokkaert and Lagrou, 1983; Kluegel and Smith, 1986; Overlaet, 1991) confirm that people reward individual contribution, but disregard birth, (brute) luck, and choices that do not affect productivity. In fact, in these analyses respondents choose equal splits when the descriptions of education

[5] Nozick prefers the term "justice in holdings" instead of "distributive justice" that is not a neutral term: "Hearing the term "distribution", most people presume that some thing or mechanism uses some principle or criterion to give out a supply of things" (Nozick 1974, p. 149).

and position suggest they do not impact on productivity, but opt for a greater contribution, and therefore a reward, when individuals exerts greater effort.

To the aim of this contribution, among various recent studies (see for example Chavanne, McCabe and Paganelli (2009), Riyanto and Zhang (2010)), it is worth referring in particular to those by Cappelen, Hole, Sørensen and Tungodde (2007), and to those by Durante and Putterman (2007), the latter being particularly close to ours (even though it also differs from it in many respects – see section 2.4). Cappelen, Hole, Sørensen and Tungodde (2007) take into consideration the three fairness ideals we mention in the introduction (Strict egalitarian, Libertarian and Liberal egalitarians) in order to show how one may estimate simultaneously the prevalence of different fairness ideals and the degree of importance people attach to fairness considerations in an experiment in which participants have a stake in the outcome. The authors implement a dictator game where the distribution phase is preceded by a production phase where the latter depended on both factors within and factors beyond personal control. They essentially find that "different fairness ideals provide different answers to the question of what is a fair distribution of the total production" (Cappelen et al.2007, pag.3).

Durante and Putterman (2007) study the relative importance of different fairness preferences, risk aversion, and self-interest in determining support for redistribution. With their experimental design they implement the opportunity to fix a tax rate and aim at studying how support for redistribution varies according to different aspects: i) whether or not the subject who decides the tax rate is part of the group affected by it; ii) whether or not the subject has perfect information on his relative position in the distribution; iii) whether or not the initial distribution depends on task performance; iv) the cost of redistribution; v) the deadweight loss related to the taxation. The authors find that: i) most subjects prefer a more equalitarian distribution; ii) both the cost of taxation and the deadweight loss associated with it affect redistribution; iii) when income is not certain, higher demand for redistribution is associated with risk aversion; iv) less redistribution is supported by subjects when the initial distribution is determined by task performance.

2.3 The role of the veil of ignorance

The concept of veil of ignorance (hereafter also VOI) has been proposed by Rawls (1971) and concerns a hypothetical state in which self-interested individuals initially choose the principles that guide the basic structure of society behind a "veil of ignorance" of any information related to themselves, including that about their future position in that society. According to Rawls, a veil of ignorance is the adequate way to achieve impartiality. If people do not know their own positions in the society they will take an impartial position when assessing different principles of justice. Behind the veil, an individual does not know her/his position in the income distribution or her/his talents, skills, education, social background, sex, etc. According to Rawls, self-interested individuals, deciding how to distribute resources across different positions behind a veil of ignorance, will unanimously choose a principle of income distribution that maximizes the income of the lowest income group (maximin principle).

Various experimental contributions have been aimed at testing the consequences of the veil of ignorance and its effect in terms of the application of the maximin rule in different contexts (see, among others, Sutter and Hannelore Weck-Hannemann, 2003; Herne and Suojanen, 2004; Vyrastekova and Onderstal, 2005; Horisch, 2007; Frignani and Ponti, 2008 and Herne and Mard, 2008). However, the experimental contributions aimed at implementing the idea of the original position (i.e. the position behind the veil of ignorance) in the lab which seem to be closer to ours are those conducted by Frohlich, Oppenheimer and Eavey (1987) and Frohlich and Oppenheimer (1990 and 1992). In these experiments, students form small societies in which they have to make ex-ante decisions about different distributive rules to be implemented in the society that they are going to be part of, without knowing what their ex-post absolute and relative income position in this society would be. The main result reveals that subjects show a preference for a utilitarian society and that most of participants choose a principle that maximized average income with some lower bound on the minimum income that the (ex-post) worst-off participant

would receive even though, in general, these studies show that the maximin principle is not selected. In this respect however, as stressed by Konow (2003) it must be noticed that the lab situation does not correspond exactly to the veil of ignorance (in particular because previously formed knowledge and expectations might affect subjects' reasoning in the lab) and, consequently, these results do not necessarily represent a rejection of the empirical validity of the Rawls principle.

2.4 Our contribution in respect to the existing literature

After this synthetic reference to the existing literature we may say that that the contributions which are closer to ours are those of Durante and Putternam (2007) and the ones by Frolich and al., with particular reference to Frolich and Oppenheimer (1990).

However, the specificity of our work is that: i) differently from the previous papers we introduce a different and wider range of choices and the position of the spectator comparing her/his choices with those of the informed/uninformed stakeholder; ii) differently from Durante and Putternam (2007) we allow players to choose directly an allocation criterion and not to express their preferences indirectly by choosing a tax rate ex post. In respect to the second point, notice that the opportunity to modify a distribution only by imposing taxation allows subjects to correct distributions perceived as unfair only by moving towards a more egalitarian situation. It does not allow a specific comparison between criteria determining the initial distributions that subjects can modify. By contrast, our experimental design allows us to verify the preferred criterion people choose to allocate resources within a group.

3. Experimental Design and Procedure

In what follows we describe in detail our experiment with special reference to: i) the description of different tasks on which allocation criteria chosen by players are based; ii) the position of players (spectators or stakeholders with/without veil of ignorance) in the game.

A further section is devoted to the description of the socio-demographic questionnaire.

3.1 The task and the criteria

The task consists of distributing a sum of money (S) among N participants. The sum may be allocated through seven criteria.[6]

Criterion 1 - LUCK. It is based on a random draw. For each participant, the computer draws a number between 1 and 100. Each participant receives part of the sum that is proportional to the number drawn by the computer.[7]

Criterion 2 - EQUAL. The sum is equally distributed among the N participants. This implies that each subject receives $\frac{S}{N}$.

Criterion 3 - EFFORT. It is based on subjects' relative performance on a secretarial task. In particular, experimental subjets are asked to copy information about fictitious students (enrolment number, name, surname and mark) into a file (See Appendix for an example). Participants are informed that the computer signals mistakes and waits for corrections, and therefore the data have to be copied in the correct way. Each participant receives part of the sum that is proportional to the number of copied lines.[8]

Criterion 4 - TALENT. It is based on subjects' relative performance on a pool of tasks aimed at measuring subjects' capabilities. In particular, they are asked to perform some tasks based on the WAIS-R test (the

[6] Whatever the task and the criterion selected our one is a fixed cake experiment as many other in this literature (see Durante and Putterman, 2007). This implies that players' abilities have redistributive and not aggregate value creating effects. It may be reasonably inferred that individuals are more inclined to opt for talent and effort versus full egalitarianism if higher performance in terms of talent and effort has aggregate value enhancing effect, that is, that they are willing to accept more inequality if this helps to increase the total cake. In this sense a fixed cake experiment may be considered as the least favourable environment (among the fixed and value enhancing settings) for evaluating preferences for effort and talent.

[7] Consider N players. For each player $i \in \{1,...N\}$, the computer draws an number e_i. Player *i* receives $\frac{e_i}{\sum_{j=1}^{N} e_j} S$.

[8] Consider N players. Each player $i \in \{1,...N\}$ copies a number l_i of lines . Player *i* receives $\frac{l_i}{\sum_{j=1}^{N} l_j} S$.

tasks are: finding missing details in various pictures, putting some pictures in the right order in order to create stories with logical meaning - between 3 and 6 pictures in relation to each story, to identify the analogies characterizing different pairs of words such as "car-bicycle") as well as Raven's matrices. Each participant receives part of the sum that is proportional to the number of correct answers.[9]

Criterion 5 - PROTECTION+LUCK. It is a mixed criterion according to which 30% of S is equally distributed among participants, while the remaining part is allocated through random draw (as criterion 1). Each participant receives a payoff that consists of both a fixed and a variable part[10].

Criterion 6 - PROTECTION+EFFORT. It is a mixed criterion according to which 30% of S is equally distributed among participants, while the remaining part is allocated on the basis of subjects' relative performance on a secretarial task (as in criterion 3). Each participant receives a payoff that consists of both a fixed part and a variable one[11]

Criterion 7 - PROTECTION+TALENT. It is a mixed criterion according to which 30% of S is equally distributed among participants, while the remaining part is allocated on basis of subjects' relative performance on a pool of tasks aimed at measuring subjects' capabilities. (as criterion 4). Each participant receives a payoff that consists of both a fixed part and a variable one[12].

The seven criteria are designed to mimic different ideas of redistribution. In particular:

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[9] Consider N players. Each player $i \in \{1,...N\}$ solves a number qi of quiz. Player *i* receives $\frac{q_i}{\sum_{j=1}^{N} q_j} S$.

[10] The fixed and the variable parts are respectively $F_i = \frac{0.3S}{N}$ and $V_i = \frac{e_i}{\sum_{j=1}^{N} e_j} 0.7S$.

[11] The fixed and the variable parts are respectively $F_i = \frac{0.3S}{N}$ and $V_i = \frac{l_i}{\sum_{j=1}^{N} l_j} 0.7S$.

[12] The fixed and the variable parts are respectively $F_i = \frac{0.3S}{N}$ and $V_i = \frac{q_i}{\sum_{j=1}^{N} q_j} 0.7S$.

a) Criteria LUCK, EFFORT and TALENT are aimed at mimicking scenarios where luck and/or meritocracy determine economic success. The two labels assigned to the secretarial task and to the psychological test imply that we consider results from these activities as a proxy – not a pure measure – of (untalented) effort and talent respectively. Of course, we are aware that our two selected tasks do not identify orthogonal proxies of effort and talent. In fact, it is not possible to exclude that ability and writing speeds required to perform in the secretarial task are not affected by innate talent. On the other hand, it is plausible to suppose that a good performance in the psychological test implies a certain level of effort (also effort related to previous school or other activities through which the abilities measured by the psychological tests may be developed[13]). However it is reasonable to assume that effort is more important in the secretarial task and talent more important in the psychological tests. b) Criterion EQUAL simply replicates a perfectly egalitarian society where the whole surplus is equally divided among participants, irrespective of their actions.

c) The three mixed criteria – PROTECTION+LUCK, PROTECTION+EFFORT and PROTECTION+TALENT – are designed in order to mimic a society where luck or meritocracy determine wealth differences, given that each citizen is provided the basic needs (i.e. health, instruction).

[13] J. Raven (2000) provides a survey that takes into consideration also the stability and the variation in the norms for the Raven's Progressive Matrices Test (the Raven's matrices are a tool used in our experiment) for various cultural, ethnic, and socio-economic groups. Various factors seem to affect the "eductive" ability (the ability to make meaning out of confusion, to produce high-level, normally nonverbal, schemata that make it simple to handle complexity), and the "reproductive" ability (the ability to absorb, recall, and reproduce information made explicit and communicated from a person to another one) that are measured by using the Raven's Matrices (Raven 2000, p.2). Among other factors, a role is played by parents' behavior concerning education, (e.g. if parents "involve their children in their own attempts to make sense of difficult situations, as they use their feelings as a basis for ''experimental'' action, as they resolve value conflicts, and as they consider the long-term social consequences of their actions" (Raven 2000, p.33)) and other experiences related for example to "the undertaking of more complex educational activity (e.g., project-based, enquiry-oriented work)" (Raven 2000, p.34). Matarazzo and Herman (1984) and Kaufman, McLean, Reynolds (1988) show that the subjects' performance in the WAIS-R test (and also in respect to the single sub-tests used in our experiment, Kaufman, McLean, Reynolds (1988)) is strictly correlated with their educational level.

3.2 The treatments

The experiment consists of three treatments – VOI, INFO and NEUTRAL - where the distinguishing factor is either the level of information or the involvement of subjects who have to choose the criterion to be implemented (see Figures 1a and 1b). In all the treatments the task is the same - choosing among the above described criteria how to distribute a sum of money (S) among N participants. In all scenarios, participants are informed that each subject is asked to indicate her preferred criterion, but at the end of the session only one subject will be randomly drawn by the computer and her choice will be implemented.
In the VOI treatment, subjects are asked to choose the criterion they want to implement both behind and without veil of ignorance in respect to their payoff in the different scenarios. In the first stage they are told to define how to allocate the sum (S) and they are instructed about the seven available criteria they will have to choose among. At that point, players are provided some examples of both the secretarial task and the quiz aimed at measuring their capabilities. The aim is to let them choose without knowing their performance, but without any doubt concerning the tasks. The idea is that, if they do not know the nature of the task they will be asked to perform, each participant will develop a subjective forecast of what the activities will be. Consequently, both their decisions and their expectations will be based on uncontrolled factors.

In the second stage, participants are asked to choose the criterion they want to implement (VOI EX ANTE). After their choice, they participate in the activities – they take the quiz for 15 minutes and perform the secretarial task for further 15 minutes – and the computer draws a number for each participant. Then, results are provided. In particular, each subject is informed about both her performance on the different activities and the performance of all the other players. Moreover, each participant is provided the complete payoffs distribution for each possible criterion. This implies that each player perfectly knows her position within the society for each possible criterion.

In the third stage, a replay of the choice procedure is held – subjects are given the opportunity to either confirm their first choice or to change the voted criterion (VOI EX POST). After that, the computer draws the decisive player and the payoffs are displayed.

In the INFO treatment, subjects choose the criterion without veil of ignorance. This means that the only difference with respect to the VOI treatment is that, after reading the instructions, players directly participate in the activities. Consequently, they choose their preferred criterion only once - after being informed about their actual ranking in each possible scenario.

In the NEUTRAL treatment, two types of participants are involved – A-players and B-players. In this treatment, M A-players have to allocate a sum (S) among N B-players. This means that, after reading the instructions, A and B-players are involved in different activities. B-players have to perform both the secretarial task and the quiz as in the first two treatments, while A-players are asked to choose a criterion to distribute the sum (S) among B-players both before (NEUTRAL EX ANTE) and after knowing B-players' complete payoffs distribution (NEUTRAL EX POST). It is common knowledge that A-players' choices affect B-players' payoffs only. At the same time, each participant knows that at the end of the session one A-player is randomly drawn by the computer and her choice made when knowing the complete payoffs distribution is implemented.

In each treatment, before exiting the session, subjects are asked to participate in a typical Holt and Laury lottery in order to elicit their risk attitudes. Finally, before receiving their payment, they fill in a socio-demographic questionnaire. These last two activities provided an extra payment and are not pre-announced to the subjects in order to avoid any kind of influence on their decisions. In three sessions out of six in the VOI and in the NEUTRAL treatment, an additional payment is given to players (only to B-players in the Neutral treatment) as a the result of their beliefs elicitation. In particular, we asked them to declare how many participants they think will have a better performance under each possible criterion. They are

paid on their expectation concerning the implemented criterion through the Quadratic Scoring Rule method[14].

3.3 The questionnaire

The questionnaire filled in by subjects at the end of the experiment is a structured questionnaire of 69 questions relative to different socio-economic aspects. It collects information about: a) socio-demographic characteristics (e.g. date of birth, sex, nationality, number of family members, etc.); b) social status (education of parents, their job, family income, etc.); c) social capital (social capital has been considered in terms of network – e.g. number of friends and acquaintances etc. -, trust – both generalized and specific trust towards some institutions such as banks, the judicial system, etc. -, and civicness – e.g. political participation, how often one reads newspapers, etc.); d) risk aversion. Compilation of the questionnaire lasts on average 30 minutes.

3.4 The payoffs

In each treatment, subjects payoff is the sum of the payments obtained over the session through different activities. Both in the VOI and in the INFO treatment, each player *i* receives a payoff

$$P_i = \alpha_i S + \omega + RA_i$$

that consists of three elements: i) the part α_i of S that she receives on the basis of the implemented criterion, taking account that S = 14€*N; ii) the amount (*W* = 3€) received by each player for filling in the questionnaire; iii) the amount $RA_i \in \{0.10 \quad 1.60 \quad 2.00 \quad 3.85\}$ received as the result of the Holt and Laury lottery. In three sessions out of six in the VOI treatment, we elicited players' beliefs. Consequently, in this case their payoff is: $P_i = \alpha_i S + \omega + RA_i + B_i$ where $B_i \in [0, \quad 1.50]$€ is the earning due to beliefs elicitation.

[14] Belief elicitation using a quadratic scoring rule is widely employed in experimental economics (see for instance Nyarko and Schotter, 2002; Offerman et al.,1996,2009; Bhattacharya and Pfleiderer, 1985; Holt, 1986; Selten, 1998; Huck and Weizsacker, 2002)

In the NEUTRAL treatment we have to distinguish between the two types of players. For each A-player the payoff is: $PA_i = A_i + \omega + RA_i$ where A_i is the show-up fee equal to 7€ while *W* and RA_i are the same as in the first two treatments. Finally, for each B-player the payoff is: $PB_i = \alpha_i S + \omega + RA_i + B_i$

3.5 The procedure

Overall, 265 undergraduate students of the University of Milano-Bicocca participated in the experiment. 87 participated in the VOI treatment – and for 42 of the we elicited their beliefs concerning other players' performance. 59 participated in the INFO treatment, while 119 took part in the NEUTRAL – 60 players A and 59 player B). No student took part in more than one session. We ran one session for each treatment at the Experimental Economic Lab (EELAB) of the University of Milano-Bicocca, Italy[15]. Decisions and performance are recorded through the computer and the experiment is programmed and conducted with Z-tree.

Participants enter the Lab and take a seat in front of a computer. They are immediately asked to switch off their mobiles and to stop talking to their colleagues. Instructions are read by participants on their computer screen, while an experimenter reads them out loudly. They are handed out too, in order to let people refresh the criteria before taking their decisions. After subjects are informed about the task of the experiment, the criteria and the nature of the activities they will perform, a set of control questions is asked in order to be sure that players understand the rules of the game when taking decisions.

The average duration is 1 hour and a half for the VOI and INFO treatments and 2 hours for the NEUTRAL treatment. The complete experiment preserved anonymity among participants.

4. Research questions

The experimental and empirical analysis carried out in our paper aims at investigating three main research questions.

QUESTION 1: *What is the preferred criterion chosen by people in order to allocate a sum within a group when criteria based on meritocracy (based on talent or effort), equality and luck are allowed?*

[15] The program was written by the programmer of the AL.EX, Dr. Marie-Edith Bissey.

In particular, how does the choice change when:

- **1A:** the criterion selected does not affect the payoff of subjects who make the choice (NEUTRAL vs. VOI and INFO)?
- **1B:** the decision is taken by stakeholders under a veil of ignorance on their relative payoffs under the different criteria (VOI ex ante vs. VOI ex post, INFO, NEUTRAL)?

QUESTION 2: *Do subjects informed about their possible gains under the different criteria choose the criterion that maximizes their monetary payoff, behaving as the standard "homo oeconomicus" approach would predict, or do they choose by following some other ("ideal" or, more in general, not self-interested) principles ?*

QUESTION 3: *Do stakeholders who choose behind a veil of ignorance select the criterion they think will maximize their monetary payoff?*

The answers to the three previous questions may improve our understanding of how people behave when decisions concerning distributive criteria have to be taken under different conditions. Consequently, they could be useful in the normative process that characterizes all the societies when rules concerning the distribution of resources (and characteristics of subjects who are in the better position to take decisions over such rules) within the community have to be designed. Our analysis could, for example, contribute to identify: i) criteria aimed at defining career access in relation to public organizations (e.g. universities, local public authorities etc.) or access to public grants coherent with people's preferences on distributive justice; ii) desired attributes of those who should be in charge of defining such criteria.

5.Experimental evidence

5.1. Descriptive findings on socio-demographic-variables

Tables 1 and 2 provide legend and summary descriptive findings for the main socio-demographic controls used in our empirical analysis for all participants to the experiments (including those in the spectator treatment who do not choose the criterion). They document that age variation of players is wide

(more than 20 years) and around 60 percent of them are males. The average size of their households is of 3.9 members and around 25 (20) of them have a father (mother) with a University degree. Only 5 percent have an Erasmus experience while around 21 percent declare that they have lived abroad for for at least more than 1 month. The average score of their school leaving examination is 78 (out of 100), while that of their university exams is 25 (18 is pass and 30 the top mark according to the Italian grading system).

When we control with Chi square, Wilcoxon and Kolmogorov Smirnov nonparametric tests the balancing properties of our three (VOI, INFO and NEUTRAL) treatments we find that the null of no significant difference in means and distributions of socio-demographic controls is rejected in none of the three possible two-by-two combination comparisons (Table 3) at 5 percent level.

5.2. The results

Result 1. Two crucial factors significantly modify players' choices: a) the removal of the veil of ignorance for stakeholders; b) the difference between the condition of informed stakeholder and that of spectator. In fact, both stakeholders under the veil of ignorance and spectators tend to prefer meritocratic criteria, while informed stakeholders tend to prefer luck and disregard protection.

***5.2.1 Descriptive and statistical findings*.** A descriptive inspection on criteria chosen by players under the different treatments is provided by Table 4. In the same Table 4, we also create the following four combined choices: at least talent (which includes choices of talent or protection plus talent), at least effort (which includes choices of effort and protection plus effort), at least protection (which includes equal, protection plus effort and protection plus talent) and desert (which includes effort, talent, protection plus effort and protection plus talent).

When we analyse players' preferences, we observe that a large number of both stakeholders under the veil of ignorance and spectators choose "meritocracy" – specifically, protection plus talent (around 30 and 45 percent respectively) - while stakeholders who are informed or have removed the veil of ignorance

prefer e luck.[16] Among the meritocratic criteria, effort is the least preferred by both stakeholders under the veil of ignorance and spectators, while informed stakeholders almost disregard meritocratic criteria with protection. Generally, protection is strongly preferred from both stakeholders under the veil of ignorance and spectators. Overall, very few players opt for strict egalitarianism (their share varies from 10 to 17 percent across treatments). Note as well that almost no player chooses protection plus luck (with the exception of one player in the INFO treatment) suggesting that protection and chance are mutually exclusive in players' preferences.

In order to analyze in depth subjects' decision in respect to the different criteria, we investigate in which direction the differences in the choices operate or what choices are more or less preferred under different conditions. We observe that two crucial factors significantly modify players' choices: a) the removal of the veil of ignorance for stakeholders; b) the difference between the condition of informed stakeholder and that of spectator. In other words, there is no difference between knowledge and removal of ignorance – VOI ex post and INFO - and not much difference between the spectators and the stakeholders with the veil of ignorance – NEUTRAL and VOI ex ante. On the contrary, the removal of the veil of ignorance does not make a big difference for spectators (except for the effect on protection plus talent). Effects of changes (in Table 5) in two-by-two comparisons of different positions are discussed in detail in what follows:

i) *VOI ex ante vs VOI ex post*. This comparison documents the within effect of the veil of ignorance for stakeholders, that is, the removal of the veil of ignorance for them. After the removal of the veil of ignorance stakeholders reduce significantly protection plus talent (from around 30 to 4 percent), protection plus effort (from around 16 to 5 percent) and increasing significantly effort (from around 8 to 20 percent) and luck (from around 6 to 32 percent) among selected choices. In terms of combined choices, stakeholders after the removal of the veil of ignorance reduce significantly preference for protection, at least talent and desert (meritocracy)..

[16] Note that, by having chosen this criterion ex post, there is no more uncertainty involved in such choice. We however keep on calling it random with reference to the original decision rule used to allocate the money.

ii) *VOI ex ante vs INFO*. This comparison documents the between effect of the veil of ignorance for stakeholders. Stakeholders before the removal of the veil of ignorance opt significantly more for protection plus talent (around 30 vs 3 percent), protection plus effort (around 16 vs less than 2 percent) and significantly less for luck (around 6 vs 42 percent). In terms of combined choices, stakeholders before the removal of the veil of ignorance prefer significantly more protection, at least talent and desert (meritocracy).

iii) *VOI ex post vs INFO*: there are no significant differences in choices between stakeholders after the removal of the veil of ignorance and ex ante informed stakeholders, that is, removal of ignorance and ex ante information produce the same results in terms of stakeholders' choices (or having been ex ante ignorant has no effect on stakeholders informed choices).

iv) *NEUTRAL ex ante vs VOI ex ante*: there are no highly significant differences between stakeholders and spectators with veil of ignorance. The only interesting slight difference concerns protection plus talent since a higher number of spectators choose this criterion. These findings imply that the veil of ignorance levels the differences between the spectator and the stakeholders (their choices are substantially different after the removal of the veil of ignorance (see point v), while they are not so ex ante).

v) *NEUTRAL ex ante vs VOI ex post*: spectators before the removal of the veil of ignorance choose significantly more protection plus talent (45 vs less than 4 percent) and significantly less luck (15 vs around 32 percent) and effort (around 3 vs 20 percent) than stakeholders after the removal of the veil of ignorance. Choice aggregation documents that spectators before the removal of the veil of ignorance choose significantly more protection, at least talent and desert. These findings may be viewed as the combined effect of veil of ignorance plus stakeholdership.

vi) *NEUTRAL ex ante vs INFO*: spectators with the veil of ignorance choose significantly more protection plus talent (45 vs less than 4 percent) and significantly less luck (15 vs around 42 percent) and effort (around 3 vs 17 percent) than ex ante informed stakeholders. Choice aggregation documents that

spectators before the removal of the veil of ignorance choose significantly more protection, at least talent and desert. These findings may be viewed as the combined effect of stakeholdership and veil of ignorance.

vii) *NEUTRAL ex ante vs NEUTRAL ex post*: the removal of the veil of ignorance leads spectators to chose slightly less protection plus talent (from 45 to around 33 percent - this finding is compensated by a slight increase in the equal, the luck and the protection plus effort choices).

viii) *NEUTRAL ex post vs VOI ex ante*: spectators after the removal of the veil of ignorance choose significantly less talent (10 vs around 24 percent) and significantly more luck (around 18 vs around 6 percent) than stakeholders with the veil of ignorance. This comparison provides the net effect of the countervailing forces of the veil of ignorance and stakeholdership (vs spectatorship) and, in a sense, shows that the veil of ignorance dominates the stakeholdership effect in promoting talent.

ix) *NEUTRAL ex post vs VOI ex post*: stakeholders after the removal of the veil of ignorance opt significantly less for protection plus talent (33 vs around 4 percent), but significantly more for pure effort (5 vs around 20 percent) and pure talent (10 vs around 24 percent) than spectators after the removal of the veil of ignorance. Choice aggregation documents that stakeholders after the removal of the veil of ignorance choose significantly less protection (the difference is almost 40 percent) and at least talent. This comparison documents the effect of stakeholdership on the removal of the veil of ignorance.

x) *NEUTRAL ex post vs INFO*: spectators after the removal of the veil of ignorance opt significantly more for protection plus talent (33 vs around 4 percent) and protection plus effort (13 vs around 2 percent) and significantly less for chance (18 vs around 42 percent) and effort (5 vs around 17 percent) than ex ante informed stakeholders. Choice aggregation documents that informed stakeholders choose significantly less protection and at least talent. These findings may be viewed as the combined effect of stakeholdership without veil of ignorance and removal of veil of ignorance for spectators.

Finally, even though we do not include an explicit maximin criterion among allocating options we can indirectly check how players' decisions impact on the distance from the maximin. More specifically, we look

at the change of players' choices before and after removal of veil of ignorance in the VOI treatment and calculate the distance of the minimum player payoff in a given choice from the maximum minimum payoff achievable with one of the 7 allocating choices. Our null hypothesis that the distance from the maximin is unchanged before and after the removal of the veil of ignorance in the VOI treatment is rejected (the z-stat of the Wilcoxon test -3.559, p = 0.000) documenting that the removal of the veil of ignorance increases the distance from the maximin. More interestingly, when we compare the spectator and the stakeholder before the removal of the veil of ignorance we find that the former is significantly closer to the maximin choices (Mann-Whitney test, z = -5.975, p = 0.000). This documents that absence of conflicts of interest in our experimental setting is a more powerful tool than the veil of ignorance to make decision makers closer to the Rawlsian maximin criterion.

Another indirect effect which may be measured by looking at our treatment is whether players' position and veil of ignorance affect through chosen criteria the distribution of income in the game. By using the standard Gini index and looking at the ten different cases described above we find no significant differences in the Gini index in no case with the exception of one. Spectators after the removal of the veil of ignorance reduce (at five percent significance level) inequality according to the Gini index.

5.2.2. Econometric findings (robustness check). Since our check on balancing properties among treatments is successful, tests presented above are generally deemed sufficient to verify the significance of differences in players' choices across states under the three treatments. Econometric estimates however allow to check for the significance of such states net of the impact of socio-demographic controls and, in addition to it, the correlation between such controls and players' choices.

Our strategy is to propose for each test on the significance of the difference in the choice of a given criterion between two treatments in Table 5 a corresponding regression where the significance of the treatment dummy is tested after controlling for sociodemographic variables. An added value of this check with respect to the tests is that it gives us an idea of the economic significance (magnitude of the impact) which we can compare with descriptive findings in Table 4.

This implies that we run: a) probit regressions for both each criterion and each combination of choices on samples of two conditions at time - for a total of 100 regressions; b) OLS regressions for both each measure of inequality and each combination of choices on samples of two conditions at time - for a total of 20 regressions. Results are displayed in Table 6.

Our base probit specification (estimated for each j-th criterion) is

$$CHOICE_{ij}=\alpha_{0j}+\beta_k CONDITION_{kij}+\sum_l \gamma_l CONTROLS_{lij}+\varepsilon_{ij} \quad (1)$$

where $CHOICE_{ij}$ is equal to 1 if subject *i* chooses criterion *j,* 0 otherwise; $CONDITION_{kij}$ is a dummy variable equal to 1 if the observation belongs to the control treatment (that is, the alternative treatment with which each benchmark treatment is compared); $CONTROLS_{lij}$ are socio-demografic controls and include: a gender dummy, age, the number of household members and a dummy for students having no brothers or sisters, the average score at university exam, the score at the school leaving exam, two dummies taking value one if the mother (the father) has at least a high school degree, a dummy for those attending religious services, a dummy for worker students, for those who volunteer and two discrete qualitative variables measuring the town size and income.[17]

Our base OLS specification is

$$INEQUALITY\ MEASURE_{ij}=\alpha_{0j}+\beta_k CONDITION_{kij}+\sum_l \gamma_l CONTROLS_{lij}+\varepsilon_{ij} \quad (2)$$

where $INEQUALITY\ MEASURE_{ij}$ is either the distance from the Rawlsian maximin or the Gini index; and $CONDITION_{kij}$ *and* $CONTROLS_{lij}$ are defined as in (2).

Based on these specifications, the coefficient of the first cell in Table 6 can be read as the result of the regression run on the sample made by observations in the VOI ex ante and VOI ex post conditions. The dependent variable is the choice of the luck criterion and the control treatment is VOI ex ante. The first number in the mentioned cell is the reduction of the probability of choosing the luck criterion when the stakeholder chooses under the veil of ignorance rather than without. The second number is the p-value.

In what follows we briefly summarize regression findings:

[17] We also use alternatively the number of previous experiments to which the subject participated and the Holt&Laury criterion to classify risk averse, risk lover and risk neutral players. Both variables are not significant. Results are omitted for reasons of space and available upon request.

i) *VOI ex ante vs VOI ex post* luck, protection plus effort and protection plus talent confirm their significance. In terms of magnitude the impact of the removal of the veil of ignorance is substantially similar to what found in the descriptive Table 4.1 in the base plus talent case (20 percent) , while it remains significant but substantially lower in the other two cases. Furthermore, the removal of the veil of ignorance reduces the distance from the maximin and leads players to reduce by 47 percent criteria including protection, 27 percent those including talent and 24 percent those including desert. ii) *VOI ex ante vs INFO:* as a confirm to previous findings stakeholders before the removal of the veil of ignorance choose significantly more protection plus talent (around 21 percent), protection plus effort (around 13 percent) and significantly less chance (38 percent) than ex ante informed stakeholders. This translates into a stronger preference for criteria including protection (55 percent), at least talent (31 percent) and desert (43 percent). A lower distance from the maximin for uninformed stakeholders is confirmed. iii) *VOI ex post vs INFO* we find confirmation that ex ante information or removal of veil of ignorance generate the same effects on stakeholders; iv) *NEUTRAL ex ante vs VOI ex ante*: our regression confirms that the relevant difference between stakeholders and spectators before the removal of the veil of ignorance is only in the distance from the maximin - significantly lower for spectators; v) *NEUTRAL ex ante vs VOI ex post*: we find confirmation that spectators before the removal of the veil of ignorance choose significantly more protection plus talent (around 43 percent) and significantly less luck (16 percent) or pure effort (19 percent) than stakeholders after the removal of the veil of ignorance. This translates into a stronger preference for criteria including protection (55 percent), at least talent (38 percent) and desert (21 percent); vi) *NEUTRAL ex ante vs INFO*: when looking at the comparison between stakeholders before the removal of the veil of ignorance and ex ante informed stakeholders we find that significant effects on protection plus talent and chance are confirmed with magnitudes which are quite close to those in descriptive tables. The former chose 55 percent more protection, 48 percent more talent and 45 percent more desert than the latter and their distance from the maximin is significantly lower; vii) *NEUTRAL ex ante vs NEUTRAL ex post :* it is confirmed that uninformed spectators choose significantly more protection plus talent; viii) *NEUTRA L ex*

post vs VOI ex ante: it is confirmed that spectators after the removal of the veil of ignorance choose significantly less talent (12 percent) and significantly more chance (7 percent) than the stakeholder under the veil of ignorance; ix) *NEUTRAL ex post vs VOI ex post*: it is confirmed that differences between spectators and stakeholders after the removal of the veil of ignorance are strong. The former choose significantly more protection plus talent (24 percent) and protection plus effort (2 percent) but significantly less pure talent (17 percent) and pure effort (15 percent). Moreover, as a result of these combined differences significantly more protection (49 percent) than the latter. Finally, informed spectators are closer to the maximin; x) *NEUTRAL ex post vs INFO*: spectators after the removal of the veil of ignorance choose significantly less chance (33 percent) and significantly more base plus talent (23 percent) than ex ante informed stakeholders. This translates into a significantly stronger preference for criteria including protection (48 percent more) and desert (23 percent). Significant differences on effort and protection plus effort previously found in Table 5 are not robust to the introduction of sociodemographic controls. On the other hand, a significant lower distance to the maximin for informed spectators emerges.

As a final check, we run the same probit and OLS regressions for both each criterion and each measure of inequality on the complete sample. In this way we may have a general idea of the overall impact of the veil of ignorance and of (net of) that of the given player's position (stakeholder or spectator), beyond what happens in each two-by-two treatment combinations as described in Table 6. Results are displayed in Tables 7a and 7b.

Our base probit specification is now:

$$CHOICE_{ij}=\alpha_{0j} + \alpha_1 STAKEHOLDER_{ij} + \alpha_2 EXPOST_{ij} + \alpha_3 INFO_{ij} + \sum_l \gamma_l CONTROLS_{lij} + \varepsilon_{ij} \quad (3)$$

Our base OLS specification is now:

$$INEQUALITY\ MEASURE_{ij}= \alpha_{0j} + \alpha_1 STAKEHOLDER_{ij} + \alpha_2 EXPOST_{ij} + \alpha_3 INFO_{ij} + \sum_l \gamma_l CONTROLS_{lij} + \varepsilon_{ij} \quad (4)$$

where $STAKEHOLDER_{kij}$ is a dummy variable equal to 1 if the allocator is a stakeholder (her/his payoffs are affected by her/his decision); $EXPOST_{kij}$ is a dummy variable equal to 1 if the choice is made without the veil of ignorance; $INFO_{kij}$ is a dummy variable equal to 1 if the choice is made by an ex ante informed stakeholder and all other variables are defined as in (2).

By model construction significant results express deviations from the choice of the presumedly most disinterested player (the uninformed spectator). They show that the removal of the veil of ignorance (EXPOST) significantly adds an 18 and an 8 percent to the sample share of participants who chose luck and pure effort criteria, respectively, and significantly subtracts a 22 percent to those who chose protection plus talent (Table 7a). Moreover, and always with respect to the benchmark of the uninformed spectator, stakeholdership adds a 9 percent to the pure effort and a 13 percent to the pure talent choices, while it subtracts a 29 percent to the protection plus talent choices These findings imply that the combined effect of stakeholdership and of the removal of the veil of ignorance subtracts a 50 percent of experiment participants to the sample share of those who chose protection plus talent. Finally, the condition of ex ante informed stakeholders, independently from the other two effects, subtracts a 6 percent to the protection plus effort choice. This supports the hypothesis that preference for rewarding effort is higher after than before players exert effort.

With regard to the combined criteria the removal of veil of ignorance subtracts shares of 30, 24 and 22 percent to criteria involving protection, talent and desert respectively. Finally, the stakeholder status subtracts a 27 percent to the protection criterion. This implies that the combined effect of removal of VOI and stakeholdership, subtracts a 57 percent to the sample share of participants who choose protection.

Overall, our first descriptive findings document some results in line with the previous literature (small preference for egalitarianism with concern however for minimal share to least advantaged and self-serving bias as documented by Konow 2000). The most relevant result is probably that veil of ignorance and the

position of spectators are strongly associated with the desire to reward talent but also to ensure a minimal base equal for every player.[18]

Result 2. The vast majority of(but not all) informed stakeholders choose the criterion that maximizes their payoff.

In this section we investigate if the decision taken by stakeholders in the two treatments where they have full information about their payoffs across criteria, that is the INFO and the VOI ex post treatments, is aimed at maximizing their own payoff or if other motivational drivers matter.

As already discussed in the previous section, the preferred criterion by stakeholders in the INFO treatment and in the VOI treatment after the removal of the veil of ignorance is the luck one. By contrast, the criteria including protection (protection plus luck, protection plus effort, and protection plus talent) are chosen much less than the other criteria.

Table 8 shows descriptive statistics for payment distributions related to the different criteria (named pay_1 - LUCK, pay_2 - EQUAL etc.) under the two treatments. Column 3 shows the standard deviation, columns 4 and 5 the minimum and maximum value respectively, and column 6 shows how many subjects would have maximized their payoff by choosing the criterion connected to each distribution of payments. It tells us that the distribution of payments associated with the luck criterion maximizes the payoff for the greatest number of subjects both in respect to the VOI ex post treatment and to the INFO treatment. This is a consequence of the fact that the payoff distribution under the luck choice has more variability than those under the other criteria (see Figure 3a and 3b showing the cumulative probability related to the distributions of payments of different criteria in the VOI ex post and INFO treatment).

By comparing players' decisions and their payoff in the two treatments, we find out that: 73 out of 87 subjects in the VOI ex post treatment and 50 out of 59 subjects in the INFO treatment chose the payoff maximizing criterion.

[18] This result obviously depend crucially on the choices of selected criteria and on the share of income which has to be equally divided among players in mixed criteria which involve some form or protection. It would be interesting to see whether decisions change when the share of protection is different and how this affect extreme (egalitarian, pure talent and pure effort) choices.

Both in the VOI ex post and in the INFO treatment, the criterion that was more frequently selected by subjects when they did not opt to maximize their payoff is the egalitarian one (Table 9).

In respect to the VOI treatment, where subjects had the opportunity to revise their decision, one may wonder if the decision to maximize or not the monetary payoff is due to the value of the difference between the payoff associated with the criterion chosen ex ante and the maximum payoff ex post (if the increase in the payoff obtained by changing the criterion was low, a player could decide not to change her decision). This seems not to be the case: players who did not maximize their payoff "gave up" 1.9 euro on average, while there were 20 subjects (22.99% of the total sample of subjects in the VOI ex post) that decided to change the criterion even though it generated a payoff increase lower than 1.9 euro.

With regard to our second research question, we may conclude that the great majority of players (84.2%)[19] behaved, under perfect information on payoff distribution, as the standard "homo oeconomicus" approach would have predicted, by choosing the criterion only in order to maximize their monetary gain.

This behaviour is consistent with results from several studies documenting self-serving bias in fairness judgment (Forsythe et al. 1994; Hoffman et al. 1994; Babcock et al. 1996; Kagel et al. 1996; Konow 2000; Messick and Sentis 1979) even when payments are hypothetical.

Result 3. Around 2/3 of subjects tend to choose the criterion where they believe they will obtain the highest payoff

In this section we investigate two main strictly interrelated issues:

1) do subjects behind the veil of ignorance choose the criterion that they suppose will maximize their payoff or do they choose according to some fairness ideals (that the majority of players are ready to leave as soon as the opportunity to increase their monetary payoff is evident)?

[19] Among them and, in particular, in respect to the VOI treatment, it must be considered that 13.8% of players who first choose under the veil of ignorance did not need to modify their choices since their ex ante criterion proved to be the one with highest gain for them after the removal of the veil.

2) is the decision to opt for meritocratic criteria (and in particular the protection plus talent criterion which is the most frequently selected criterion) due to the players' belief of having the best performance in those criteria?

In order to analyze in depth of these two issues, in three out of six sessions of the VOI treatment we asked subjects their belief in their relative performances in the different criteria (except, obviously, the strict egalitarian one). In particular, we asked players to declare how many subjects they believe will perform better than themselves in each criterion.

With regard to the first issue, Table 10 shows the number of subjects who chose the different criteria (column 3) and, in respect to each criterion, the number of subjects who chose that specific criterion because of the belief that it was the one where they would have had the best relative performance (column 4). Such Table shows that 23 out of 34[20] players under the veil of ignorance chose the criterion where they believed to have the best relative performance and then, presumably, to obtain the highest payoff. 18 out of these 23 subjects did not earn the highest payoff in the selected criterion and all of them opted for changing the criterion after the removal of the veil of ignorance in order to maximize their monetary gain except one.

Moreover, if we consider the 11 subjects who did not choose under the veil of ignorance the criterion where they believed to have the best relative performance, we notice that 8 decided to change the criterion in order to maximize their monetary gain after having been informed about the distribution of their payoffs across the different criteria.

This analysis seems to show two main results: subjects tend to choose the criterion in which they believe to obtain the highest payoff; subjects who seem to choose a criterion according to a fairness ideal, do not hesitate to change the criterion when they realize that their payoff would be higher by choosing a specific different criterion.

[20] Players who chose the egalitarian criterion are obviously excluded from this count since under such criterion all players obtain the same payoff by definition.

In respect to the second issue, Table 10 reveals that, for the great majority of players (67.74%) who chose the meritocratic criteria (effort, talent, protection plus effort and protection plus talent), the choice was associated with their belief to have the best relative performance in the selected criterion. The percentage dramatically increases when we focus on the two criteria based on talent (82.61%) and is lower when we consider criteria based on effort (25%). Moreover, 20 out of 26 subjects who opted for meritocratic criteria and did not maximize their payoff by doing so, decided to change their decision after the removal of the veil of ignorance in order to obtain the maximum gain (this tendency is confirmed also for subjects who selected the effort based criterion without believing that it was the best choice in terms of payoff: 5 out of 8 changed the criterion in order to maximize their payoff ex post). By contrast, only 3 subjects decided not to change the criterion even though it was not the maximizing one and 3 players changed the criterion without selecting the maximizing one. Even though we do not have enough data to perform econometric analysis related to the decision to change or not to change the criterion in relation to belief, the previous evidence seems to suggest that the decision to opt for meritocratic criteria is essentially associated with a self-interested goal and not with the willingness to follow a non self-interested ideal based on fairness or other principles. This finding reinforces the idea that the spectator condition is better than the stakeholder veil of ignorance in order to generate impartial decisions.

5. Conclusions

In a very well known sentence Adam Smith associates justice to the sentiments of the impartial spectator, a situation in which we rarely happen to be in life.[21] We do not aim to reproduce that situation in this

[21] *No man during, either the whole of his life, or that of any considerable part of it, ever trod steadily and uniformly in the path … of justice, … whose conduct was not principally directed y a regard to the sentiments of the supposed impartial spectator, of the great inmate of the breast, the great judge and arbiter of conduct.*

– Adam Smith (1759) p. 357

paper but we wonder what is the preferred criterion of a human spectator (a human allocator not involved in his monetary payoff by her/his choice) for allocating resources under different conditions (with or without veil of ignorance) and how does it differ from that of the involved stakeholder

We investigate this issue with a randomized experiment with choice of allocation criteria and task performance by looking at how information (presence/absence of veil of ignorance) and role difference (stakeholder versus spectator) affect choices of allocation criteria.

Our findings may be summarized by the following five considerations: i) without veil of ignorance third parties (spectators) reward significantly more talent but also allow significantly more for a minimal protection than stakeholders (*effect of non stakeholdership in absence of veil of ignorance*); ii) the presence of the veil of ignorance levels the differences between stakeholders and spectators (*effect of non stakeholdership in presence of the veil of ignorance*); iii) within and between effects of the removal of the veil of ignorance are substantially the same for stakeholders who choose significantly more meritocratic criteria (based on talent) plus a minimum base protection in presence of the VOI (*effect of the veil of ignorance for stakeholders*); iv) choices of stakeholders are substantially the same if they are informed ex ante or they become informed ex post (*equivalence between removal and absence of the veil of ignorance*); v) the removal of the veil of ignorance leads spectators to reduce inequality (*effect of the removal of veil of ignorance for spectators*), v) preference for rewarding effort increases after effort has been exerted; vi) the removal of the veil of ignorance induces the large majority of players to change their allocation criteria for the one which maximizes their own payoff even when the extra gain is very small (less than one or two euros) and two thirds of ex ante stakeholders' choices with veil of ignorance coincides with criteria in which they believe to have the best relative performance

Two main considerations may be drawn from our experiment. As it is well known the benchmark Rawls argument is that the presence of a veil of ignorance induces individuals to maximize the gain of the least

advantaged. In our game we do not have explicit maximin criteria. We however find that players with veil of ignorance choose minimum protection but are also more likely to reward talent. While the first result is common in the literature (see Konow, 2003) the second (the positive relationship between veil of ignorance and reward to talent) is novel. More important we also find that, before the removal of the veil of ignorance, spectators are significantly closer than stakeholders to the maximin. This implies that absence of conflicts of interest is a much more powerful criterion than veil of ignorance to approximate the maximin choice.

Second, our results clearly suggest that the best way to promote meritocracy is to assign choice about allocation criteria to spectators and not to stakeholders since stakeholders (even when they are under the veil of ignorance albeit less so) are clearly oriented to select the criterion from which they expect to have the maximum gain.

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Figure 1a Experimental design and procedure

VOI	INFO	NEUTRAL	
		SUBJECT A	SUBJECT B
Instructions	*Instructions*		*Instructions*
Control Questions	*Control Questions*		*Beliefs elicitation*
Choice of the criterion	*Test and Secretarial Task*		*Test and Secretarial Task*
*Beliefs elicitation**	*Results*	*Instructions*	*Questionnaire*
Test and Secretarial Task	*Choice of the criterion*	*Control Questions*	
Results	*Risk Aversion (Holt&Laury)*	*Choice of the criterion*	
Choice of the criterion II	*Questionnaire*	*Results*	*Results*
Risk Aversion (Holt&Laury)		*Choice of the criterion II*	
Questionnaire		*Risk Aversion (Holt&Laury)*	*Risk Aversion (Holt&Laury)*
		Questionnaire	

*** in 3 sessions only**

Figure 1b Experimental observations

	Observations	Veil of ignorance	Information on social position	Beliefs elicitation
VOI	*87*	*YES*	*YES*	*YES for 42 subjects*
INFO	*59*	*NO*	*YES*	*NO*
NEUTRAL SUBJECT A	*60*	*YES*	*YES*	*NO*
NEUTRAL SUBJECT B	*59*	*-*	*-*	*YES*

Table 1 Variable legend

Year	Year of birth
Male	Dummy variable (DV) taking value one if the respondent is a male
LoneChild	DV taking value one if the respondent has no brothers or sisters
HouseMembers	Total number of respondent's household members
Townsize	Discrete qualitative variable for town size: 1:0-10.000 inhabitants; 2:10.001-25.000 inhabitants; 3:25.001-50.000 inhabitants; 4:50.001-100.000 inhabitants; 5:100.001-300.000 inhabitants; beyond 300.000 inhabitants;
Reader	Variable measuring how many times in a week the respondent reads newspapers (it takes integer values from 1 to 5).
Risk	Variable measuring the general willingness of the respondent in taking risk (it takes integer values from 1 to 10)
Catholic	DV taking value one if the respondent is Catholic
ChurchAttendance	Variable measuring how many times in a year the respondent usually attends a religious service
Volunteer	DV taking value one if the respondent is engaged in social activities as volonteer
MarriedParents	DV taking value one if the respondent parents are married
MotherEducation	DV taking value one if the respondent mother has at least high school education
FatherEducation	DV taking value one if the respondent father has at least high school education
Income	Income level of the respondent's household
MathGrade	The average score of the respondent's school leaving examination
AvgExamScore	Average score of university exams
Erasmus	DV taking value one if the respondent has an Erasmus experience
LivAbroad	DV taking value one if the subject declared that he has lived abroad forat least more than 1 month in the past
StudentWorker	DV taking value one if the student is also a worker

Table 2. Descriptive statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
Year	265	1987.287	2.604	1970	1991
Male	265	0.604	0.490	0	1
LoneChild	265	0.132	0.339	0	1
HouseMembers	265	3.894	1.344	1	11
TownSize	265	3.298	1.842	1	6
Reader	265	1.000	0.000	1	1
Risk	262	5.935	1.938	1	10
Catholic	261	0.636	0.482	0	1
ChurchAttendance	264	2.189	1.246	1	5
Volunteer	264	0.273	0.455	0	2
MarriedParents	261	0.870	0.337	0	1
MotherHighEducation	265	0.619	0.486	0	1
FatherHighEducation	265	0.634	0.483	0	1
Income	253	2.549	1.059	1	5
MathGrade	252	78.349	12.142	43	100
AvgExamScore	258	25.050	3.281	20	30
Erasmus	263	0.046	0.209	0	1
LivAbroad	257	0.210	0.408	0	1
StudWorker	265	0.321	0.468	0	1

Table 3. Balancing properties

Variables	VOI (1) (Means)	INFO (2) (Means)	NEUTRAL (3) (Means)	Mann-Whitney test H0: (1) = (2) (P-value)	Kolmogorov-Smirnov test or Chi2 test* H0: (1) = (2) (P-value)	Mann-Whitney test H0: (1) = (3) (P-value)	Kolmogorov-Smirnov test or Chi2 test* H0: (1) = (3) (P-value)	Mann-Whitney test H0: (2) = (3) (P-value)	Kolmogorov-Smirnov test or Chi2 test* H0: (2) = (3) (P-value)
Year	1987.023	1987.288	1987.479	(0.814)	(0.786)	(0.475)	(0.999)	(0.356)	(0.408)
Male	0 .598	0.627	0.597	-	(0.721)	-	(0.817)	-	(0.906)
LoneChild	0.103	0.203	0.117	-	(0.091)	-	(0.800)	-	(0.197)
HouseMembers	3.988	4.000	3.773	(0.191)	(0.693)	(0.590)	(0.988)	(0.060)	(0.138)
TownSize	3.218	3.373	3.319	(0.632)	(0.502)	(0.843)	(0.894)	(0.798)	(0.428)
Reader	2.873	2.729	2.613	(0.711)	(0.763)	(0.253)	(0.628)	(0.540)	(0.999)
Risk	6.081	5.763	5.914	(0.317)	(0.730)	(0.601)	(0.935)	(0.527)	(0.780)
Catholic	0.706	0.627	0.590	-	(0.322)	-	(0.721)	-	(0.562)
ChurchAttendance	2.372	2.000	2.151	(0.183)	(0.603)	(0.430)	(0.901)	(0.434)	(0.999)
Volunteer	0.322	0.305	0.220	-	(0.710)	-	(0.704)	-	(0.952)
MarriedParents	0.873	0.875	0.864	-	(0.980)	-	(0.467)	-	(0.502)
MotherHighEducation	0.609	0.576	0.647	-	(0.691)	-	(0.258)	-	(0.160)
FatherHighEducation	0.644	0.593	0.647	-	(0.537)	-	(0.899)	-	(0.653)
Income	2.553	2.526	2.558	(0.945)	(0.959)	(0.881)	(0.994)	(0.972)	(0.999)
MathGrade	77.222	77.714	79.452	(0.849)	(0.937)	(0.146)	(0.182)	(0.273)	(0.292)
AvgExamScore	25.468	24.793	24.875	(0.384)	(0.909)	(0.454)	(0.509)	(0.800)	(0.988)
Erasmus	0.057	0.034	0.042	(0.528)	(0.527)	-	(0.513)	-	(0.986)
LivAbroad	0.247	0.186	0.195	(0.391)	(0.390)	-	(0.062)	-	(0.324)
StudWorker	0 .322	0.305	0.328	(0.831)	(0.831)	-	(0.573)	-	(0.477)

* For continuous variables we test - through nonparametric statistics - between-subject differences both in the median (Mann-Whitney test) and in the distribution (Kolmogorov-Smirnov test). For dichotomous variables we test the differences in proportions (Chi square test).

Table 4.1 Descriptive evidence on players' choices

	VOI Ex ante		VOI Ex post		INFO		NEUTRAL Ex ante		NEUTRAL Ex post		No information		Full information	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	(1)		(2)		(3)		(4)		(5)		(1) + (4)		(2) + (3) + (5)	
Luck	5	5.75	28	32.18	25	42.37	9	15.00	11	18.33	14	9.52	64	31.07
Equal	14	16.09	13	14.94	7	11.86	6	10.00	10	16.67	20	13.61	30	14.56
Effort	7	8.05	17	19.54	10	16.95	2	3.33	3	5.00	9	6.12	30	14.56
Talent	21	24.14	21	24.14	13	22.03	9	15.00	6	10.00	30	20.41	40	19.42
Protection + luck	0	0	1	1.15	1	1.69	2	3.33	2	3.33	2	1.36	4	1.94
Protection + effort	14	16.09	4	4.6	1	1.69	5	8.33	8	13.33	19	12.93	13	6.31
Protection + talent	26	29.89	3	3.45	2	3.39	27	45.00	20	33.33	53	36.05	25	12.14
Total	87	100	87	100	59	100	60	100	60	100	147	100	206	100
							COMBINATION OF CHOICES							
Protection	54	62.07	20	22.99	10	16.95	38	63.33	38	63.33	92	65.58	68	33.01
At least talent	47	54.02	24	27.59	15	25.42	36	60	26	43.33	83	56.46	65	31.55
At least effort	21	24.14	21	24.14	11	18.64	7	11.67	11	18.33	28	19.05	43	20.87
Desert	68	78.16	45	51.72	26	44.07	43	71.7	37	61.7	111	75.51	108	52.43

Combination of choices: Protection (Equal or protection plus talent or protection plus effort); At least talent (talent or protection plus talent); at least effort (effort or protection plus effort); Desert (talent or effort, or protection plus effort or protection plus talent).

Table 5 The significance of the impact of different treatments on players' choices

	H0: VOI ex ante = VOI ex post	H0: VOI ex ante = INFO	H0 : VOI ex post = INFO	H0 : NEUTRAL ex ante = VOI ex ante	H0: NEUTRAL ex ante = VOI ex post	H0 : NEUTRAL ex ante = INFO	H0 : NEUTRAL ex ante = NEUTRAL ex post	H0: NEUTRAL ex post = VOI ex ante	H0 : NEUTRAL ex post = VOI ex post	H0: NEUTRAL ex post = INFO
Overall distribution[a]	35.210*** (0.000)	47.286*** (0.000)	2.385 (0.881)	13.706** (0.033)	45.187*** (0.000)	38.213*** (0.000)	10.920* (0.091)	12.739** (0.047)	36.437*** (0.000)	32.821*** (0.000)
Random[b] (1)	16.030*** (0.000)	28.888*** (0.000)	1.578 (0.209)	3.528* (0.060)	5.567** (0.018)	10.922*** (0.001)	0.500 (0.479)	5.799** (0.016)	3.495* (0.062)	8.147*** (0.004)
Protection + Effort[b] (2)	6.250** (0.012)	7.905*** (0.005)	0.896 (0.344)	1.899 (0.168)	0.862 (0.353)	2.738* (0.098)	1.290 (0.257)	0.212 (0.645)	3.615* (0.057)	5.764** (0.016)
Protection + talent[b] (3)	21.160*** (0.000)	15.923*** (0.000)	0.000 (0.985)	3.519* (0.061)	37.749*** (0.000)	27.945*** (0.000)	5.440** (0.020)	0.196 (0.658)	24.030*** (0.000)	17.699*** (0.000)
Talent[b] (4)	0.000 (0.999)	0.087 (0.768)	0.087 (0.768)	1.825 (0.177)	1.825 (0.177)	0.977 (0.323)	3.000* (0.083)	4.734** (0.030)	4.734** (0.030)	3.211* (0.073)
Effort[b] (5)	5.000** (0.025)	2.709* (0.100)	0.157 (0.692)	1.372 (0.241)	8.287*** (0.004)	6.082** (0.014)	0.330 (0.564)	0.520 (0.471)	6.387** (0.011)	4.365** (0.037)
Equal[b] (6)	0.050 (0.827)	0.510 (0.475)	0.282 (0.596)	1.121 (0.290)	0.771 (0.380)	0.106 (0.744)	2.000 (0.157)	0.009 (0.926)	0.080 (0.777)	0.560 (0.454)
Combination of choices										
Protection[b] (2) + (3) + (6)	25.130*** (0.000)	29.071*** (0.000)	0.785 (0.375)	0.024 (0.876)	24.196*** (0.000)	26.594*** (0.000)	0.000 (0.999)	0.242 (0.876)	24.196*** (0.000)	26.594*** (0.000)
At least talent[b] (3) + (4)	13.560*** (0.000)	11.770*** (0.001)	0.084 (0.772)	0.516 (0.473)	15.445*** (0.000)	14.522*** (0.000)	10.000*** (0.002)	1.623 (0.203)	3.923** (0.048)	4.225** (0.040)
At least effort[b] (2) + (5)	0.000 (0.999)	0.620 (0.431)	0.620 (0.431)	3.582* (0.058)	3.582* (0.058)	1.128 (0.288)	2.000 (0.157)	0.703 (0.402)	0.703 (0.402)	0.002 (0.965)
Desert[b] (2) + (3) + (4) + (5)	13.560*** (0.000)	17.821*** (0.000)	0.825 (0.364)	0.810 (0.368)	5.879** (0.015)	9.301*** (0.002)	3.600* (0.058)	4.734** (0.030)	1.423 (0.233)	3.698* (0.054)
Distance from the maximin[c]	-3.559*** (0.000)	3.957*** (0.000)	0.601 (0.548)	-5.975*** (0.000)	-1.686* (0.092)	-2.079** (0.037)	0.545 (0.586)	0.520 (0.603)	-7.382*** (0.000)	-7.188*** (0.000)
Gini[c]	1.110 (0.267)	-1.415 (0.157)	-0.383 (0.702)	-0.663 (0.507)	-0.663 (0.507)	0.388 (0.698)	-1.887* (0.059)	0.246 (0.805)	0.989 (0.322)	1.387 (0.165)

*** p<0.01, ** p<0.05, * p<0.1 a Chi square test for between-subject comparisons; Stuart-Maxwell test for within-subject comparisons

b Chi square test for between-subject comparisons; Mc Nemar test for within-subject comparisons

c Mann-Whitney test for between-subject comparisons; Wilcoxon test for within-subject comparisons

Table 6 The significance of the impact of different treatments on players' choices (robustness check)

	VOI ex ante - VOI ex post	VOI ex ante - INFO	VOI ex post - INFO	NEUTRAL ex ante - VOI ex ante	NEUTRAL ex ante - VOI ex post	NEUTRAL ex ante - INFO	NEUTRAL ex ante - NEUTRAL ex post	NEUTRAL ex post - VOI ex ante	NEUTRAL ex post - VOI ex post	NEUTRAL ex post - INFO
Luck	-0.216*** (0.001)	-0.380*** (0.000)	-0.115 (0.244)	0.032** (0.029)	-0.160** (0.049)	-0.324*** (0.004)	-0.003 (0.629)	0.050*** (0.008)	-0.125 (0.128)	-0.334*** (0.004)
Protection + effort	0.082** (0.019)	0.133** (0.013)	0.000 .	-0.062 (0.253)	0.000 (0.150)	0.000 (0.959)	-4.16e-07 (0.277)	-0.047 (0.470)	0.021** (0.045)	0.037* (0.098)
Protection +talent	0.203*** (0.000)	0.212*** (0.000)	-1.05e-22 .	0.175* (0.087)	0.427*** (0.000)	0.480*** (0.000)	0.191*** (0.005)	-0.001 (0.993)	0.237*** (0.000)	0.232*** (0.004)
Talent	-0.046 (0.510)	-0.041 (0.631)	0.007 (0.932)	-0.070 (0.304)	-0.111 (0.161)	-0.085 (0.367)	1.27e-15*** (0.000)	-0.119** (0.046)	-0.168** (0.024)	-0.121 (0.145)
Effort	-0.138** (0.015)	-0.061 (0.291)	0.070 (0.400)	-0.000 (0.227)	-0.193*** (0.009)	-0.067 (0.142)	-9.12e-06 (0.578)	0.006 (0.888)	-0.149** (0.045)	-0.053 (0.177)
Equal	0.031 (0.582)	0.029 (0.619)	0.006 (0.916)	-0.063 (0.243)	-0.042 (0.163)	-2.23e-08* (0.091)	0.000* (0.072)	0.036 (0.626)	0.057 (0.424)	0.033 (0.520)
Combination of choices										
Protection	0.474*** (0.000)	0.555*** (0.000)	0.050 (0.505)	-0.030 (0.776)	0.550*** (0.000)	0.551*** (0.000)	0.001 (0.994)	-0.072 (0.476)	0.490*** (0.000)	0.483*** (0.000)
At least talent	0.273*** (0.001)	0.311*** (0.004)	-0.025 (0.795)	0.089 (0.392)	0.383 (0.000)***	0.482*** (0.000)	0.396*** (0.000)	-0.174 (0.100)	0.130 (0.186)	0.139 (0.219)
At least effort	-0.035 (0.653)	0.127 (0.143)	0.147 (0.103)	-0.105 (0.155)	-0.150 (0.057)*	-0.035 (0.646)	-0.015 (0.140)	-0.043 (0.601)	-0.081 (0.324)	0.028 (0.738)
Desert	0.242*** (0.004)	0.434*** (0.000)	0.117 (0.280)	-0.033 (0.681)	0.213** (0.027)	0.451*** (0.001)	0.209*** (0.002)	-0.216** (0.020)	0.047 (0.631)	0.232* (0.063)
Distance from the maximin	-2.155*** (0.002)	-2.834*** (0.000)	-0.614 (0.481)	-1.821*** (0.004)	-0.996 (0.178)	-1.658* (0.081)	0.584 (0.382)	0.816 (0.263)	-4.290*** (0.000)	-5.310*** (0.000)
Gini	-0.004 (0.896)	0.038 (0.265)	0.038 (0.257)	-0.037 (0.306)	-0.045 (0.206)	-0.020 (0.660)	0.003 (0.812)	0.004 (0.921)	-0.004*** (0.000)	0.025 (0.584)

Coefficient and standard error (in round brackets) of the CONDITION variable in a regression in which the criterion in row is regressed on a set of socio-demographic controls (see equations (1) and (2) in section 5.2.2). *** p<0.01, ** p<0.05, * p<0.1.

Table 7a. The effect of veil of ignorance and stakeholdership on players' choices

	Luck	Pure effort	Pure talent	Protection plus effort	Protection plus talent	Equal
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Expost	0.179***	0.082**	0.010	-0.046	-0.223***	0.016
	(0.045)	(0.035)	(0.047)	(0.030)	(0.049)	(0.034)
Info	0.151*	-0.041	-0.014	-0.065***	-0.067	-0.019
	(0.083)	(0.039)	(0.072)	(0.020)	(0.066)	(0.041)
stakeholder	0.028	0.095***	0.133**	-0.007	-0.286***	0.043
	(0.062)	(0.034)	(0.055)	(0.030)	(0.085)	(0.033)
Year	-0.014	0.009	-0.002	0.000	0.003	0.002
	(0.010)	(0.007)	(0.012)	(0.006)	(0.011)	(0.008)
Male	0.086	0.039	0.072	-0.010	-0.175***	-0.036
	(0.053)	(0.034)	(0.058)	(0.030)	(0.064)	(0.043)
LoneChild	0.042	0.080	-0.089	0.142*	0.008	-0.087***
	(0.077)	(0.081)	(0.059)	(0.075)	(0.081)	(0.025)
HouseMembers	0.008	-0.056***	0.013	-0.004	0.033	0.012
	(0.024)	(0.020)	(0.029)	(0.011)	(0.028)	(0.019)
TownSize	-0.028*	0.001	0.038**	-0.004	0.018	-0.002
	(0.014)	(0.010)	(0.016)	(0.009)	(0.015)	(0.009)
Reader	-0.024	0.007	-0.012	0.002	0.033*	-0.020
	(0.019)	(0.014)	(0.023)	(0.009)	(0.020)	(0.013)
Risk	0.010	-0.000	-0.000	-0.022***	0.028**	0.001
	(0.012)	(0.010)	(0.014)	(0.008)	(0.012)	(0.008)
Catholic	-0.017	0.021	0.066	0.055**	-0.083	-0.066
	(0.065)	(0.048)	(0.069)	(0.025)	(0.080)	(0.057)
ChurchAttendance	-0.019	-0.014	-0.027	-0.019	0.035	0.046***
	(0.024)	(0.019)	(0.028)	(0.013)	(0.025)	(0.016)
Volunteer	0.032	0.012	-0.083	0.008	0.004	-0.019
	(0.051)	(0.034)	(0.059)	(0.034)	(0.051)	(0.031)
MarriedParents	-0.135		-0.017	0.023	-0.048	-0.042
	(0.123)		(0.090)	(0.036)	(0.106)	(0.083)
MotherHighEducation	-0.076	0.065	0.155**	-0.015	-0.075	-0.099*
	(0.060)	(0.047)	(0.060)	(0.040)	(0.070)	(0.051)
FatherHighEducation	-0.011	-0.107*	0.014	0.012	0.096*	-0.019
	(0.056)	(0.057)	(0.060)	(0.028)	(0.053)	(0.033)
Income	-0.015	0.026	0.027	-0.037**	-0.052*	0.052***
	(0.026)	(0.021)	(0.030)	(0.015)	(0.029)	(0.017)
MathGrade	-0.002	-0.001	0.006**	0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.003)	(0.001)	(0.002)	(0.002)
AvgExamScore	-0.006	-0.002	0.025*	-0.006	-0.009	-0.002
	(0.009)	(0.006)	(0.013)	(0.005)	(0.010)	(0.006)
Erasmus	0.002	0.014	0.097		0.189	-0.037
	(0.127)	(0.091)	(0.147)		(0.213)	(0.046)
LivAbroad	-0.023	-0.002	0.001	-0.016	-0.128***	0.168*
	(0.069)	(0.046)	(0.082)	(0.036)	(0.043)	(0.088)
StudentWorker	-0.044	0.019	0.025	0.025	-0.038	0.012
	(0.055)	(0.039)	(0.062)	(0.036)	(0.052)	(0.039)
Wald $\chi 2$	60.96	30.85	33.48	51.09	77.05	58.88
(p- value)	(0.00)	(0.07)	(0.05)	(0.00)	(0.00)	(0.00)
Observations	267	244	267	254	267	267

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. standard errors clustered at individual and session level.

Table 7b The effect of veil of ignorance and stakeholdership on combined players' choices

	Protection	At least effort	At least talent	Desert	Distance from Rawls	Gini
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Expost	-0.303***	0.030	-0.242***	-0.223***	1.264**	0.018
	(0.064)	(0.046)	(0.060)	(0.057)	(0.501)	(0.020)
Info	-0.174*	-0.133**	-0.046	-0.174*	1.217	-0.050
	(0.094)	(0.054)	(0.099)	(0.097)	(0.803)	(0.032)
Stakeholder	-0.274***	0.083	-0.177*	-0.090	0.491	-0.006
	(0.082)	(0.054)	(0.094)	(0.085)	(0.587)	(0.028)
Year	0.003	0.007	0.007	0.015	-0.084	0.001
	(0.017)	(0.011)	(0.016)	(0.015)	(0.113)	(0.004)
Male	-0.262***	0.018	-0.080	-0.045	1.441***	0.032
	(0.075)	(0.052)	(0.086)	(0.078)	(0.547)	(0.024)
LoneChild	-0.005	0.190*	-0.107	0.105	0.840	0.040
	(0.098)	(0.106)	(0.101)	(0.086)	(0.679)	(0.028)
HouseMembers	0.043	-0.051*	0.044	-0.009	-0.189	-0.016
	(0.039)	(0.026)	(0.042)	(0.037)	(0.265)	(0.010)
TownSize	-0.004	-0.006	0.050**	0.043**	-0.154	-0.003
	(0.022)	(0.015)	(0.023)	(0.019)	(0.152)	(0.006)
Reader	0.019	0.005	0.039	0.041	-0.112	0.012
	(0.028)	(0.018)	(0.029)	(0.026)	(0.187)	(0.008)
Risk	-0.008	-0.029**	0.024	-0.006	0.152	-0.001
	(0.018)	(0.015)	(0.020)	(0.017)	(0.120)	(0.006)
Catholic	-0.090	0.085	0.018	0.108	0.305	-0.026
	(0.101)	(0.061)	(0.103)	(0.099)	(0.677)	(0.026)
ChurchAttendance	0.085**	-0.037	-0.008	-0.042	-0.500**	-0.013
	(0.036)	(0.026)	(0.039)	(0.032)	(0.244)	(0.013)
Volunteer	0.010	0.038	-0.064	-0.029	0.332	0.039
	(0.075)	(0.056)	(0.076)	(0.072)	(0.467)	(0.023)
MarriedParents	-0.043	0.134**	-0.054	0.120	-0.667	-0.068*
	(0.120)	(0.066)	(0.152)	(0.150)	(0.993)	(0.038)
MotherHighEducation	-0.201**	0.065	0.088	0.151*	0.214	0.010
	(0.093)	(0.068)	(0.094)	(0.085)	(0.641)	(0.027)
FatherHighEducation	0.099	-0.088	0.129	0.028	-0.077	-0.024
	(0.076)	(0.064)	(0.083)	(0.075)	(0.545)	(0.024)
Income	-0.034	-0.022	-0.019	-0.046	-0.179	0.027***
	(0.040)	(0.032)	(0.042)	(0.037)	(0.271)	(0.010)
MathGrade	-0.005	0.000	0.005	0.004	0.016	-0.001
	(0.003)	(0.002)	(0.004)	(0.003)	(0.022)	(0.001)
AvgExamScore	-0.015	-0.010	0.026	0.010	-0.001	-0.004
	(0.015)	(0.009)	(0.019)	(0.014)	(0.122)	(0.004)
Erasmus	-0.096	-0.097	0.185	0.084	1.166	0.007
	(0.164)	(0.091)	(0.184)	(0.129)	(1.418)	(0.051)
LivAbroad	0.027	-0.040	-0.152	-0.197*	-1.011	0.030
	(0.111)	(0.061)	(0.118)	(0.119)	(0.886)	(0.033)
StudentWorker	-0.026	0.019	-0.002	0.005	-0.145	0.018
	(0.085)	(0.061)	(0.086)	(0.082)	(0.592)	(0.023)
Wald $\chi2$	67.87	26.78	50.84	61.95		
(p- value)	(0.00)	(0.21)	(0.00)	(0.00)		
R^2					0.144	0.108
Observations	267	267	267	267	267	267

Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. standard errors clustered at individual and session level.

Table 8 Distribution of payments in the VOI ex post and INFO treatments

Treatment	Variable	Std. Dev.	Min	Max	Number of subjects who maximize their payoff[22]
VOI ex post (N = 87)	pay_1 – LUCK	8.54	.4	37.1	34
	pay_2 – EQUAL	0	14	14	13
	pay_3 – EFFORT	3.69	4.8	24.8	20
	pay_4 – TALENT	4.07	5.3	21.6	21
	pay_5 – PROTECTION+LUCK	5.97	4.5	30.2	0
	pay_6 – PROTECTION+EFFORT	2.58	7.6	21.6	2
	pay_7 – PROTECTION+TALENT	2.85	7.9	19.3	1
INFO (N = 59)	pay_1 – LUCK	7.93	.7	33.5	27
	pay_2 – EQUAL	0	14	14	6
	pay_3 – EFFORT	3.34	6.1	22.2	10
	pay_4 – TALENT	3.61	6.4	20.4	16
	pay_5 – PROTECTION+LUCK	5.54	4.7	27.6	0
	pay_6 – PROTECTION+EFFORT	2.34	8.5	19.8	1
	pay_7 – PROTECTION+TALENT	2.54	8.7	18.5	0

Fig. 3a Cumulative probability related to the distribution of payments of different criteria in the VOI ex post treatment

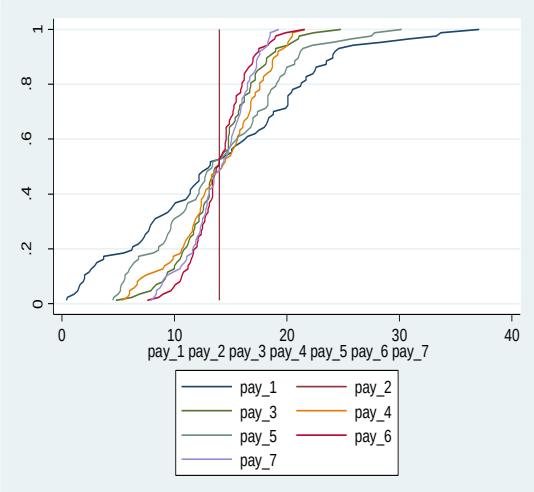
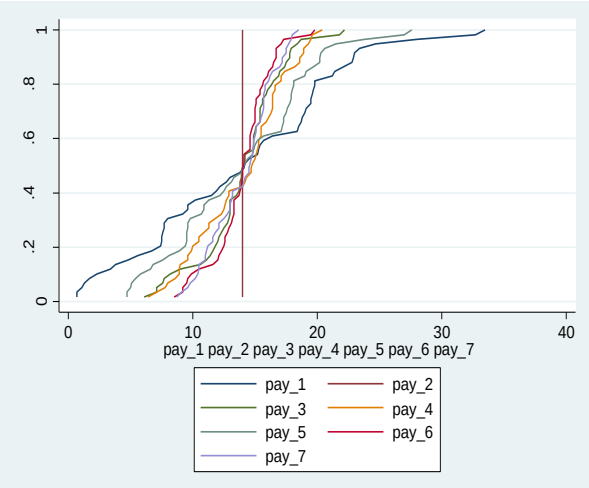


Fig.3b Cumulative probability related to the distribution of payments of different criteria in the INFO treatment



[22] In case for a subject two or more criteria gave the same maximum payoff, we took into consideration and included in the table all those criteria.

Table 9 Subjects choosing a non-maximizing criterion

Treatment	Criterion	Number of times the criterion was selected without maximizing the payoff
VOI ex post (number of obs. 87)	LUCK	1
	EQUAL	6
	EFFORT	3
	TALENT	4
	PROTECTION+LUCK	1
	PROTECTION+EFFORT	3
	PROTECTION+TALENT	3
INFO (number of obs. 59)	LUCK	1
	EQUAL	4
	EFFORT	2
	TALENT	2
	PROTECTION+LUCK	1
	PROTECTION+EFFORT	1
	PROTECTION+TALENT	2

Table 10 Criterion chosen by players and related belief

Treatment	**Criterion**	**Number of times the criterion was selected**	**Number of players who selected by following the maximizing rule**
VOI ex post (N = 42)	LUCK	3	2
	EQUAL	8	
	EFFORT	1	0
	TALENT	9	8
	PROTECTION+LUCK	0	0
	PROTECTION+EFFORT	7	2
	PROTECTION+TALENT	14	11