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RESEARCH

Measuring distributional preferences: opportunities and challenges

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Abstract
This article introduces, and puts in context, the fourteen papers in the special issue, "Inequality perceptions and fairness judgments."

Keywords Distributional preferences · Survey · Experiments

1 Introduction

Inequality perceptions and fairness judgments are topics at the heart of the analysis of economic inequality and of policy measures designed to affect it. The present collection of papers is broadly representative of the current literature in this area. It focuses on the core issues of individual and social preferences in the field of inequality.

Broadly speaking, there are two main strands in the literature on preferences in connection with inequality. One concerns attitudes towards specific policy issues such as taxation or wage policies. The other concerns the nature of distributional preferences, the preferences that people may have over distributions of income, wealth or health status. The papers in this collection belong to the second strand of study: they focus on the question of recovering information about distributional preferences in various domains.

Our introduction to this collection of fourteen papers does not pretend to be an exhaustive survey of existing research[1], but rather a discussion of current opportunities and recently discovered challenges in the field. We intend to put these in the context of standard welfare economics and to show how the papers in this issue fit into the broad perspective of forming

[1] This collection has been arranged in alphabetical order of author. Among recent surveys of the topic are Schokkaert and Tarroux (2022), Mengel and Weidenholzer (2022), Almås et al. (2023).

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social-welfare appraisals and making policy recommendations. We also want to suggest what might be the most important ways forward.

This line of work has the potential for inspiring new theoretical and empirical work on welfare economics. It may also help in understanding social issues such as the implications of inequality perceptions for the design of tax and income-support systems. However the collection goes beyond this to improve understanding on how to go about eliciting social preferences: there are important methodological lessons to be learned. Here are three big questions.

Is there such a thing as "distributional preference"? This could be treated as a purely formal question, such as that concerning the existence of a utility function to represent consumer preferences. Motives for redistribution may be diffuse and may differ substantially across groups; they may differ according to whether one is considering income gains or income losses. There may be a deeper problem. Perhaps people just do not have a complete preference relation, and the seeming consistency in their answers is an artifact of the elicitation techniques used (Infante et al. 2016). The issue is further complicated by informational problems: it may be that lack of clarity about the world around us significantly affects the way distributional preferences are formed. However, practical issues are involved: it is essential for policy analysis to be able to make sensible comparisons of different groups as to their views on social justice and distributional fairness. To do this, one needs to make some assumptions about consistency.

Why do people tolerate inequality? Of course it could just be that people are antisocial or indifferent to the fate of others in society. However, it may also be that the apparent tolerance of inequality depends on the domain of inequality or on the way questions about inequality are presented. Clearly, if one goes beyond simple income inequality to consider the inequality of wealth or the distribution of health outcomes, there is no reason to suppose that tolerance of inequality is comparable across each of these domains. Apparent tolerance of inequality may arise from people's intuitive recognition of a difference between equality of outcome and equality of opportunity; it may also mask people's intuitive allowances for heterogeneity arising from, say, differences in needs. A careless approach to eliciting distributional preferences might miss these distinctions.

Is there an "industry-standard" approach to eliciting preferences? In the wider economics profession, the last few decades have seen a rise in laboratory experiments, and specific norms have emerged around their use in eliciting preferences. However, in the field of distributional preferences, wide use has been made of various types of questionnaire study. The use of incentivized internet surveys is growing rapidly. We shall need to examine the relative strengths and weaknesses of surveys and of laboratory experiments and whether the experiments in this context should adhere to norms developed in other areas of economics.

2 Method: experiments and surveys

Empirical work on distributional preferences is clearly important for learning about attitudes in society and, from that, about the feasibility of policies that may affect inequality of income, or inequality of something else. But this type of work can also be relevant from a normative perspective.

If we take the Rawlsian idea of a reflective equilibrium seriously, the aim of political philosophy or of social choice is to construct a coherent view of the world in which intuitive judgments concerning specific matters (either of a factual or a normative nature) cohere with general principles. Individual judgments about distributional matters may be the outcome of careful ratiocination, or they may be based on no more than intuition. Where should one expect to find information about these considered or intuitive judgments? What are the relevant normative facts that might be discoverable? If one were to think about these issues in terms of Adam Smith's "impartial spectator" (Smith 1759) or of John Rawls's "ethical observer" (Rawls 1971), all that would be needed is the ethical observer's own intuition or the philosopher's own reasoning. However, if we, as social scientists, want to take into account something more than our own opinion, then we should try to discover the basis for judgments made by other people. This might be by recovering "common-sense" opinions in society through direct or indirect methods of preference elicitation. One could also try to observe and interpret real "justice-related" behavior (Güth and Kliemt 2010).

A second strand of argument in favor of an empirical investigation of individual ethical judgments is based on the property of psychological stability introduced by Rawls (1971). The principles of justice that govern a "well-ordered society" should be such that its members are willing to behave in accordance with them. For this to occur, endorsing these principles must be more beneficial than deviating from them, through mechanisms like reputation, reciprocity, or trust. Over time, however, individuals may come to support these principles not only for instrumental reasons, but also because they view them as intrinsically fair. Here, one may conjecture that principles of justice are more likely to gain widespread acceptance when they align with human psychology. The empirical question is then to determine which principles of justice seem to be the most widespread among individuals.

Incentivized experiments or (non-incentivized) questionnaire studies may be carried out to collect information about these issues. Participants may be placed in the roles of either "stakeholders" or "spectators." By definition, stakeholders are to arbitrate between their own gain and their view of fairness, whereas spectators are to report on their own view of fairness, or behave according to it. The articles in this special issue can be grouped into two categories based on this distinction, and Table 1 provides a summary.

2.1 Stakeholder

If the research objective is to predict or explain individual's behavior or preferences, then empirical studies that place subjects in a position of a stakeholder are likely to be relevant. Of course, behavior is not motivated by attitudes towards inequality only, but attitudes may be an important driver. Such studies may help in answering the questions about the ways in which the potential tension between justice and self-interest might influence behavior in the laboratory. To do this, economists usually use incentivized (lab or online) experiments, but some use survey or hypothetical choices.

Two of the papers in this collection focus on bargaining in small groups. Their contributions nicely illustrate the tension between distributional justice and other considerations. *Gaertner and Li* consider the problem of distributing a loss. They report an experiment involving four agents who start with different endowments. The agents have to decide unanimously on the distribution of the loss. Remarkably, almost no respondents opt for an equal split of the loss. Exempting those with lower endowments is more popular, mainly (but not exclusively) among those with lower endowments themselves. A key element of the experiment is the fall-back procedure: if the group fails to reach an agreement, a default rule is triggered. When

Table 1 Articles in this issue

Paper	Position	Context	Method
Almås et al.	Spectator	Attitudes	Survey
Aymeric and Magdalou	Spectator	Choice between distributions	Survey
Bauer et al.	Spectator	Evaluation of distributions	Survey
Cabeza and Decancq	Stakeholder	Choice between distributions	Survey
Chanel et al.	Stakeholder	Vote on redistribution	Incentivised experiment
Costa-Font and Cowell	Spectator	Choice between distributions	Survey
Epper and Mitrouchev	Stakeholder	Choice between distributions	Incentivised experiment and Survey
Espinosa and Treich	Spectator	Choice between distributions	Survey
Fehr and Vollman	Stakeholder	Choice of redistribution	Incentivised experiment
Gaertner and Li	Stakeholder	Bargaining	Incentivised experiment
Huffe and Weishaar	Spectator	Choice between distributions	Incentivised experiment and Survey
Navarro and Veszteg	Stakeholder	Bargaining	Incentivised experiment
Robson et al.	Spectator and Stakeholder	Choice between health-determining resources	Survey
Silva-Illanes and Tsuchiya	Spectator	Choice between health programs	Survey

this default is a random allocation, those with higher endowments adopt a tougher negotiating stance than when the fall-back is a decision made by the experimenter. This suggests that institutions play a significant role in bargaining behavior in the context of distributional preferences. *Navarro and Veszteg* use a setting that involves unstructured bargaining. In two-person bargaining, an equal split of surplus remains the most popular solution even if payoff transfers are made possible, perhaps because the potential efficiency gains are not fully transparent to the players. In three-person bargaining (without payoff transfers), equality remains an important focal solution, but only if efficiency and coalitional stability criteria are met.[2]

Two other papers explore distributive preferences in a simple setting of allocating a total payoff in a pair of stakeholders with a focus on how inequality acceptance may be shaped by effort, luck and meritocratic belief. In a non-incentivized experimental survey, *Cabeza and Decancq* present participants with a series of binary comparisons between different payoff allocations for themselves and another person. Each comparison contrasts a reference allocation (equality) with an unequal one. The task, based on the adaptive bisectional algorithm (see also Decancq and Nys 2021), is designed to estimate, in a limited number of comparison tasks, how subjects trade off their own payoff against that of the other person. By varying the levels of effort and luck across scenarios, the authors identify how these factors influence social preferences and altruistic behavior. *Fehr and Vollman* conduct an incentivized online experiment to explore how redistributive preferences are shaped by meritocratic beliefs. After completing an effort-based task of uncertain difficulty, participants report their beliefs

[2] The "efficiency" term used here is interpreted in this simple way: the trade-off between efficiency and equality (or equity) is the conflict between "size of the cake" versus "more equal distribution of the cake."

about their own performance, indicate their preferred degree of redistribution, and choose whether to access information about the task's difficulty and their relative performance. This allows the authors to identify the causal effect of meritocratic belief on the desired degree of redistribution.

The paper by *Epper and Mitrouchev* offers an alternative methodological perspective on how to measure social preferences. They construct a module to measure inequality aversion and altruism with survey items that are able to predict the choices made in an incentivized preference elicitation task. Using machine learning techniques, they identify a set of survey items that can predict a significant part of the variation in behavioral types in their sample, including in hypothetical scenarios that closely resemble real-world decisions (and were not used in constructing the measure).

Chanel et al. also has experimental features, but extend the analysis beyond the typical two- or three-person settings. Their study aims to mimic a majority-voting environment in a larger group, a form of "micro participatory democracy." Compared to traditional lab experiments, this setting is less controlled. While some self-serving bias is observed in majority voting, fairness concerns tend to dominate overall. We return to this study in Section 5.1.

2.2 Spectator

This special issue contains several examples of questionnaire studies, focusing on the answers given by an external observer, sometimes referred to as an "impartial spectator" or a "third party." This approach arguably provides the clearest insight into distributional preferences, as questionnaires can be designed to target normative judgments more directly than incentivized tasks.

We may distinguish three broad strategies used in these studies. The first involves eliciting attitudes through direct questions. In this issue, *Almås et al.* and *Espinosa and Treich* adopt this approach by asking participants to express fairness judgments without referring to specific real or hypothetical scenarios. For example, *Almås et al.* ask respondents to what extent they consider it fair for factors such as luck, talent, and effort to determine a person's income. *Espinosa and Treich* pose more direct questions about fairness principles, in particular regarding the treatment of animals.

A second strategy consists of confronting participants with hypothetical but specific situations (vignettes) and then asking them to choose between alternative allocations, with their choice revealing their fairness view (see Gaertner and Schokkaert 2012). In the early developments of this approach, most questionnaire studies were carried out using pen and paper and on small samples of mainly students. More recent projects have relied on larger, more diverse, and more representative population samples, while also adopting more sophisticated experimental designs, for example, by introducing different treatments to draw quasi-causal inferences. This special issue includes several articles that follow this approach: *Aymeric and Magdalou* study the popularity of progressive transfers using a series of binary comparisons between income distributions; *Bauer et al.* vary the information provided to participants to examine how perceived needs influence welfare judgments. *Costa-Font and Cowell* estimate the degree of inequality aversion by comparing income and health distributions that differ in both range and average. *Silva-Illanes and Tsuchiya* ask subjects to compare programs that affect people's lifespan among smokers/non-smokers whose parents are smokers/non-smokers.

A third strategy involves designing incentivized experiments to study the preferences of a spectator of a social situation (see Konow 2000; Cappelen et al. 2013). In a typical experiment,

a subject acting as a third party allocates resources to other subjects. The fact that there is a chance that the allocation will be implemented may lower social-desirability bias and induce a more sincere effort to give truthful answers, thus lowering measurement error. In this issue, *Hufe and Weishaar* shed some interesting light on this method. Is incentivizing necessary in empirical studies that take a spectator perspective? In other words, is it necessary to let the answers of the spectator influence the distribution of money to real-life participants? The authors give evidence that non-incentivized answers do not differ significantly from incentivized answers (even when the stakes are high) and the non-incentivized fairness preferences are reasonably stable over time.

The article by *Robson et al.* on the link between spectator and social preferences uses various research strategies. The authors first elicit health inequality aversion of subjects in a position of spectator through their choice between allocations of resources that determine the health of hypothetical individuals. Next, they measure social preferences on the basis of choices between allocations of their own and another's health. Interestingly, they found that social preferences partly explain the variation in inequality aversion among subjects.

3 Going beyond income inequality

The focus in the early literature was almost exclusively on income inequality. Yet, without any doubt, from a social point of view, other dimensions of well-being are also relevant.

3.1 Measuring inequality aversion in income space

At least since the seminal work of Amiel and Cowell (as summarized in Amiel and Cowell 1999), there has been much work on "testing" the axioms underlying the most popular inequality measures, with as probably the most striking finding the rejection of the Pigou-Dalton axiom by a majority of the population, mainly in situations at the bottom of the income distribution. *Aymeric and Magdalou* go further in that direction, focusing on transfers at the top or the bottom of the income distribution. Transfers promoting solidarity among the lower income recipients receive more approval than other "standard" income transfers.

3.2 Income, health and well-being

Recently, there has been a strong increase in the work on distributional preferences in health and on comparing inequality aversion in income and health. Using similar techniques, it is common to find lower inequality aversion in health space than in income space (in this issue *Costa-Font and Cowell*). One of the explanations may be the aversion towards "leveling down" in health. Other papers on health will be referred to later, when we discuss the relevance of equality of opportunity in a health setting (Section 4.1) and personality correlates of inequality aversion (Section 6).

Looking at income and health inequality separately is only a first step. From a broader perspective on justice, even if these two dimensions are considered important in their own right, their correlation is also highly relevant, for example, in the analysis of multiple deprivation. This idea is taken up extensively in the literature on health, in which the notion of

income-related health inequality has been studied extensively. The empirical work shows that the aversion to income-related health inequality is much larger than to health inequality as such (an overview of some results can be found in Schokkaert and Tarroux 2022). This suggests that the idea of cumulative deprivation is relevant to understand distributional preferences of the population - and of politicians.

Ultimately, one should perhaps be interested in inequality in well-being. There is, until now, not much empirical work on distributional preferences in the space of well-being. This is perhaps not surprising, as there is no consensus about what is the socially most relevant concept of well-being. Yet, this question as such would be an interesting topic for survey research. Do people want to equalize "happiness" or "life satisfaction"? Would they be in favor of paternalist policies, focusing on "objective" commodities and disregarding preferences?

Other dimensions of inequality, such as geographical region, are not extensively studied in the literature, although apparently perceived as highly relevant in the UK (Benson et al. 2024). While educational inequality has been examined in the equality of opportunity literature, we know little about how much concern it elicits relative to income or health inequality.

3.3 Other trade-offs

The trade-off between efficiency and equality (or equity) was already mentioned in Section 2.1 on behavioral experiments. It has also been investigated in large incentivized surveys. In a broad international survey, Almås et al. (2024) find that fairness considerations dominate efficiency concerns everywhere. In this issue, the sophisticated design of *Robson et al.* makes it possible to estimate individual health inequality aversion in a setting where respondents are confronted explicitly with a trade-off between equality and efficiency. Their results reveal substantial interpersonal variation in how participants resolve this tension.

3.4 What is the relevant society?

To evaluate inequality in a meaningful way, one must first define the society or group under consideration. Almost all studies focus on the distribution within one country, and this holds also for the papers in the present collection. *Espinosa and Treich*, however, provide an interesting exception on this rule. They analyze the attitudes of a representative sample of the French population with regard to *non-human* sentient beings. They find large support for taking welfare of animals into account, both directly in the social welfare function and indirectly through the welfare of sympathizing humans. The concern for animal welfare holds across different species and contexts.

4 Inequality and equality of opportunity

There is a growing consensus in the philosophical and normative literature that income inequality as such is not necessarily bad. Not only are other life dimensions essential for well-being (see Section 3.2), but in some cases inequality can be justified from a normative point of view, for instance because the focus should be on opportunities and not on outcomes (Section 4.1). An even more diverging approach emphasizes the importance of needs, interpreted as an essentially non-comparative concept (Section 4.2).

4.1 Inequality of opportunity

"Equality of opportunity" (also known as responsibility-sensitive egalitarianism or luck egalitarianism) distinguishes between factors for which people are to be held responsible (often called effort) and factors for which they are not responsible (often called circumstances).[3] Some have described this as an intermediate approach, in between the extremes of egalitarianism (when individuals are not held responsible for anything) and libertarianism (when individuals are held fully responsible for their own situation). Almås et al. (2024) find that the population is roughly evenly split across the three normative positions.[4]

The question of where to draw the so-called responsibility cut has generated much empirical work. A number of papers in this issue confirm, in various contexts, that a majority of respondents tend to accept that the distinction between effort and luck is relevant for their distributional preferences. *Almås* et al. compare distributional preferences in China, US and Germany and find that respondents accept that hard work and talent are fair sources of inequality in all three countries, but most outspoken in China and least outspoken in Germany. *Hufe and Weishaar* report that a large majority of their sample takes the intermediate position and considers that number of working hours and education should be rewarded in a fair society. *Cabeza and Decancq* show that respondents are more altruistic if initial differences reflect effort rather than luck. *Chanel et al.* find that in their micro participatory democracy with majority voting, there is a majority that wants to compensate for social circumstances and brute luck, but not for effort and option luck.

Silva and Tsuchiya provide a notable exception to the usual focus on incomes. Their work is in a health context and with a focus on intergenerational transmission of unhealthy behavior, more specifically smoking habits. They note the relevance of the phenomenon, already analyzed by Roemer (1993), that circumstances beyond the control of the individuals affect the distribution of effort. The most popular allocation mechanism in their empirical study is to allocate health benefits evenly, and the second most popular is to prioritize non-smokers independent of their circumstances. Perhaps the explanation for these findings is that respondents were asked to allocate health benefits, rather than resources.

As soon as one takes the "intermediate" position, beliefs about the explanation of real world inequalities play an essential role in fairness evaluations. Two individuals, who both accept that effort should be rewarded, will have a different perception of the fairness of the actual distribution, depending on their belief whether existing income (or health) differences indeed reflect differences in effort. Insofar as distributional preferences influence redistributive policies, feedback mechanisms may lead to stable equilibria: one with limited redistribution and a strong belief that effort determines outcomes; and another with extensive redistribution and a belief that inequalities primarily reflect circumstances beyond individual control. Different theoretical models of this phenomenon have been proposed by Alesina and Angeletos (2005) and Bénabou and Tirole (2006), and the finding is in line with the results found for the USA and Germany by *Almås* et al. We discuss the specific case of China further in section 5.1.

Things become even more complex when respondents adjust their beliefs about the importance of the different sources of inequality to what is in their own self-interest. *Fehr and Vollmann* report some fascinating findings. Respondents who are "successful" in a task tend

[3] See Roemer (1998) and Fleurbaey (2008) for relevant monographs on the topic. A recent survey of empirical research is in Almås et al. (2023).

[4] With a different, but closely related classification, Benson et al. (2024) find also three groups of similar sizes in the British population: structuralists, individualists and "those in the middle."

to ascribe their success to their better performance in a difficult task rather than to the fact that they have been submitted to a less demanding task. Moreover, they are less motivated to get informed about the real difficulty of the task, and prefer to remain ignorant. The social relevancy of this self-serving bias in perceptions is clear.

4.2 Needs

A further departure from concerns about inequality is the position that what matters in the first place is the satisfaction of needs, with the additional assumption that "needs" can be seen as a socially shared *non-comparative* notion. *Bauer et al.* show that respondents take a threshold of needs into account in their allocation decisions and that a need context increases the prevalence of prioritarian and sufficientarian justice ratings.

5 How relevant is this work?

We now take some distance from the specific questions described in the previous sections and discuss critically the relevancy of this work, both for policy analysis (Section 5.1) and for normative theory (Section 5.2). We return to methodological issues in greater depth in Section 6.

5.1 Relevance for policy analysis

The insights about distributional preferences, as illustrated by the papers in this issue, are obviously interesting as such. However, to become more relevant for policy analysis, additional work is needed. We describe some interesting directions for further research.

The issues concerning the external validity of laboratory experiments are well known. However, in the context of distributional preferences, some specific issues are particularly relevant. How to translate results that are obtained in two- or three-player situations to a social context with a large number of players? How to interpret, for example, the idea of exemption for players with less endowments (as in *Gaertner and Li*) in such a broader setting? What are the relevant reference groups that could correspond to the different "positions" in laboratory games with a small number of players?

Recent work with large incentivized surveys has clearly shown that it would be naive to go directly from distributional preferences to attitudes towards taxation or social security (see, for example, Stantcheva 2021, Stantcheva 2024). Broader ideological positions, such as on the left-right dimension or the Republican-Democrat distinction in the US, are more important for opinions about policy than for underlying fairness judgments. Distorted information and intermediate variables, such as trust in the government, also have a crucial influence. *Almås* et al. illustrate this issue well. They show that Chinese respondents are in favor of redistribution, despite the fact that they believe that effort and talent should be rewarded in a fair society and that the income distribution in China is indeed driven by effort and talent differences. Remember also the finding in *Fehr and Vollmann* that respondents adjust their perception of the reasons of economic success in the direction of their own self-interest.

Many of the papers in this area – and in this collection – report mainly average results, or, in any case, do not propose an aggregation procedure that could mimic the aggregation of preferences that takes place in the real world decision making processes. It would be fascinating to treat the distributional preferences obtained in a representative sample as the

input in simulation models of the political process.[5] In this context, the finding by *Aymeric and Magdalou* that the distributional preferences of their individual respondents cannot be represented by the Gini, but that at the same time the Gini seems to match reasonably well the preferences at some average level, is particularly intriguing.

Most empirical work starts from the (often implicit) assumption that individuals have well-defined preferences that can be used in a democratic aggregation procedure. We will return to the issue of well-defined preferences in section 6.2, but we can note already here that this is not how political systems work: before the vote, there is a process of deliberation in which preferences are formed and individuals influence each other (List 2018). The micro participatory democracy in the design of *Chanel et al.* is a first step in the direction of a more realistic model, but their strategy-proof sequential majority voting procedure is not used in the real world. Of course, there is a lot of lab experimental work on deliberation and group decision making, but there is much room (and a large need) for the analysis of deliberation about distributional issues in field experiments and in survey studies.

5.2 Relevance for normative theory

In the early stages of this type of research (Amiel and Cowell 1999), one of the ambitions was to "test" the acceptance of axioms that are underlying normative theories of inequality measurement and fairness (see also Gaertner and Schokkaert 2012). With hindsight, we have to admit that the influence of this empirical work has been limited. Perhaps the most striking finding in this literature is that the Pigou-Dalton condition in the context of inequality measurement is rather decisively rejected (see also *Aymeric and Magdalou*). However, this has not led to much theoretical work, a notable exception being Ebert (2008); nor has it led to a decline in the popularity in applied work of the inequality measures that do respect the transfer principle.

The general finding that about two thirds of the population (in almost all countries) accept that effort should be rewarded, and thus view part of the observed inequality as justified, has led to the development of "fairness" (rather than "inequality") measures (Devooght 2008; Checchi and Peragine 2009; Almås et al. 2011). These measures have not really been taken up in applied work and have remained largely in their own academic niche. This may have to do with the lack of robustness of the empirical results (Hufe et al. 2021).

A related issue is the relationship between the general questions in the large survey studies (such as the one in the European Social Survey, "The government should take measures to reduce differences in income levels") and the more detailed questions in the papers in this issue. We do not know what inequality measure is implicitly used by respondents when answering the general question, and it is to be expected that not everybody will take the same perspective. This may lead to very different answers, for example if some respondents use absolute and other respondents use relative measures. The question what inequality concept is in the mind of ordinary citizens looks very relevant to understand the real world policy debate. The relevancy of this question has become even more clear given that an influential writer like Piketty (2014) has deliberately drawn attention to rather primitive interdecile measures, with the justification that they are understood more easily by the population.

[5] There are already examples of this in the literature. A good example in a health context is Robson et al. (2024).

6 Some methodological issues

6.1 Personality factors

While the normative literature has a strong cognitive focus, trying to rationalize and justify the use of different axioms, much of the empirical work finds that emotional reactions and personality factors have a significant influence on distributional judgments. In this collection of papers, these factors emerge in several ways. *Epper and Mitrouchev* analyze the relationship between inequality aversion and altruism in the context of income distribution and draw a distinction between situations were respondents are "behind" or "ahead of" others. *Cabeza and Decancq* also look at altruistic behavior and social preferences in an "advantageous" and a "disadvantageous" domain. *Robson et al.* show that social preferences (sympathy and compassion) are significantly correlated with inequality aversion. They also find that in their health setting risk aversion and inequality aversion are not correlated. *Costa-Font and Cowell* show the important influence of locus of control and risk aversion on inequality aversion.

In general we can say that emotions and prejudices may start playing an important role as soon as we consider specific problems. This is an interesting finding that raises difficult normative issues. Can we take distributional preferences as such, or should we try to correct the "raw" responses for the effect of ethically doubtful emotions, similar to the practice of laundering preferences in the measurement of well-being?[6]

6.2 Frame and context dependency: do distributional preferences exist?

It is to be expected that the results on specific questions are heavily dependent on the context of the questionnaire: this may be a "true" feature of justice considerations. If the alternatives that are evaluated differ in justice relevant features, it is normal (and desirable) that the evaluations differ. A bit more worrying is the fact that answers may be influenced by the institutions in which the respondents are living. This phenomenon may reflect some status quo bias, which is not necessarily desirable from a normative perspective. One way to look at this is to make a distinction between "fundamental" (or basic) values, which are (or should be) context independent, and "derived" values which result from an application of the basic values in a specific context. Such context dependency can be highly relevant from an ethical and a policy point of view, and analyzing the conditions under which context dependency holds (or should hold) raises interesting theoretical questions.

However, in some cases differences in the answers of the respondents can only be seen as an artifact, created by the questionnaire technique itself. We then are confronted with a worrisome form of frame dependency. The papers in this issue that make use of different techniques tend to illustrate the problem. *Aymeric and Magdalou* find different answers depending on whether the respondents are confronted with a numerical question or with a verbal description of the case. *Costa-Font and Cowell* find significantly different values for inequality aversion as measured with a direct elicitation technique on the one hand and as resulting from a choice of lottery scenarios requesting individuals to make a choice of society for their (hypothetical) grandchild on the other hand. *Robson et al.* report two measures of inequality aversion: a "sophisticated" one resulting from a constrained allocation exercise, and a "simple" one, following from the responses in a simple one-question task. For many respondents, there are large differences.

[6] Preference laundering involves determining which distributional preferences are normatively acceptable, and whether some should be corrected or excluded from social welfare or inequality measurement.

Other papers report a significant number of irrational or incoherent answers. For example, one third of the respondents in the study of *Aymeric and Magdalou* commit at least three errors in four numerical test questions. About a fifth of the respondents in *Silva and Tsuchiya* have cyclic response patterns and, in consequence, are removed from the analysis.

The explanation for these worrying findings seems straightforward. In these studies, respondents are confronted with difficult questions about which they had not thought before entering the experiment. In this situation, preferences are likely to be "constructed" on the spot and therefore heavily influenced by the elicitation technique. It seems realistic to assume that the a priori (i.e. before the experiment) preferences of the respondents are incomplete. By imposing completeness, one is likely to introduce instability, in that the "completion" of the incomplete relation may be strongly influenced by the framing of the question and by the specific information that is given to the respondents.

The research on distributional preferences is rather relaxed about this problem. Sometimes very simple methods are used to measure complicated concepts. This stands in contrast to the extensive literature in environmental and health economics on estimating willingness-to-pay—a closely related topic—which places strong emphasis on methodological rigor. That literature highlights (a) the importance of careful question framing, and (b) the risk that even well-designed surveys may produce responses that are highly sensitive to framing effects. Key concerns include the selection of items, starting-point bias, and other design-specific influences. There is also a large psychological literature on the correct interpretation of the notion of preferences in such an unstable environment (Lichtenstein and Slovic 2006).

How can researchers make progress in this area? Focusing the research on axioms and formulating distributive problems for a specific setting familiar to respondents will certainly help. This forces respondents to think carefully and not rely on vague generalities. Presenting different variants of the same story either to the same respondents (within respondents design) or to different randomly selected samples of respondents (between respondents design), makes it possible to "test" for context-dependency. But it is necessary to go further. Studies that explicitly compare different techniques to elicit inequality aversion could be extremely informative. Obvious candidates for such a comparison would be the choice between lotteries about the society for an imaginary grandchild (*Costa-Font and Cowell*), the budget constrained allocation task implemented by *Robson et al.* and the adaptative bisectional algorithm used by *Cabeza and Decancq*.

Ultimately, however, it is highly likely that even the most carefully designed studies will be unable to eliminate all inconsistencies. In that case, it may be best to acknowledge that the distributional preference relations we can attribute to respondents are incomplete, either because they are genuinely incomplete, or because we do not yet have adequate techniques to elicit them. The analysis of such incomplete preferences would be a particularly fascinating area of research.

7 Conclusion: directions for further research

Dimensions While the articles in this special issue focus on principles of justice in the domains of income and health, it would be interesting to explore other domains. There is a burgeoning literature on population ethics (Spears 2017), climate justice (Dechezleprêtre et al. 2025) or environmental issues (Kervinio et al. 2024; Meilland et al. 2025). There are also some themes that have not attracted much attention of economists. To the best of our knowledge, there is no paper on educational issues (how to share resources between pupils from different social backgrounds) or power inequality (how power imbalances affect our

acceptance of inequality). It would also be useful to extend the analysis provided here to deal with questions of intergenerational justice.

From individual preferences to collective preference Most of the contributions here touch on the relation between individual preferences about distributions and overall rankings. Clearly, it would be interesting to know what lessons survey evidence might provide as to how one ought to aggregate the individual preferences. It would also be good to investigate whether it is possible to derive "basic" distributional preferences and then combine them with specific situational features to get at applied, context-dependent preferences.

The preferences revealed by the population can perhaps guide us in selecting appropriate notions of well-being for distributional policy. Similarly, they may help clarify which concept of inequality respondents implicitly use when answering general questions about distributional matters.

Techniques While most studies have used choices between allocations to elicit preferences, other methods may be useful for understanding people's ethical attitudes. As in the seminal papers by Amiel and Cowell (see Amiel and Cowell 1999) and in the survey conducted by *Aymeric and Magdalou*, subjects may be asked to assess their adherence to general principles expressed in words. Some recent papers use open-ended survey questions to explore attitudes, behaviors and expectations (see Ferrario and Stantcheva 2022, or Andre 2024, and Haaland et al. 2025, for a recent survey). In this issue, *Hufe and Weishaar* use vignettes to elicit subjects' distributional preferences and then ask them 'about how they came up with [their] decisions' and 'to describe [their] reasoning in their own words.' They then use natural language processing techniques to elicit reasons and motivations of these distributional choices. They provide evidence that respondents consider factors such as working hours, earnings and the education level of the vignette individuals when making their choice. This type of non-choice data could be used more frequently. On the methodological side, it can provide useful information on how individuals perceive the tasks proposed by the experimenter. It may also help to understand instability of ethical judgment with respect to the elicitation method and, possibly, the degree of incompleteness of distributional preferences. Ultimately, it may provide insight into how individuals reason about social situations and arbitrate between different principles of justice.

Inconsistencies, individual reflection and collective deliberation As seen above, people's distributive preferences are typically context-dependent or incomplete. One potential explanation is that subjects have not given sufficient thought to their judgment. The choices, which they are asked to make, involve ethical trade-offs that may not be easy to resolve. Similarly, even in a spectator position, they may not take into account all the arguments that justify a particular choice, nor all the positions from which a social situation can be assessed. They may not consider all the arguments in favor of certain principles or distributional choices. A question may then emerge: How does individual reflection affect distributional preferences? Does it make individual preferences consistent? Before that, how can we encourage subjects to think more deeply about their own judgments?

Two recent papers are inspiring. In a recent paper, Andersson et al. (2023) conduct an incentivized experiment that confronts participants with inconsistencies between their own assessment of one distributive principle (among Rawlsian, Utilitarian, Pigou-Dalton transfer, and Hammond transfer principles) expressed in general words and their choice between alternative distributions. Inconsistent participants then have the opportunity to revise either their assessment of the principle tested, their distributional choice, or both. Interestingly,

participants with inconsistencies tend to change their views on principles rather than their distributive choices - except for the Pigou-Dalton transfer.[7] Schoenegger and Grodeck (2023) found similar results in the domain of population ethics using a similar design. They conclude that whether it is a concrete case or a ('real' or hypothetical) choice between distributions seems to play an important role in shaping distributive preferences of individuals.

A second route relates to collective deliberation. How does discussion between people affect their distributional preferences? People may exchange arguments, information or emotions, and this may influence how they think about principles of justice and distributional choices (see List 2018, for a survey). For instance, in Ueshima et al. (2021), respondents acting as a third party are more likely to endorse the maximin solution than the utilitarian or egalitarian ones in simple distribution tasks.

Developing empirical strategies that encourage respondents to reflect on their judgments may have some virtues. First, this mimics the Rawls' reflective equilibrium. Second, this leaves individuals to sort out their own inconsistencies or incompleteness. Lastly, it enables us to develop collective preferences that are expected to be more legitimate and relevant, given that the individual preferences on which they are based are more thoughtful.

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Declarations

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