

A Simple Vote Won't Do It: Empirical Social Choice and the Fair Allocation of Health Care Resources

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1. Introduction

One of the most important duties of policy-makers nowadays concerns the provision and funding of health care. In practically all societies there is a public health care sector that is at least partly financed collectively. Thus, both the proportion of governmental budget to be spent on the health system and the allocation within the system are – to some degree – the responsibilities of governments. However, health policy-makers worldwide must take their allocation decisions in a situation of growing financial pressure and increasing need for health care services caused by demographic shifts, epidemiological changes, and rapid medical-technical progress. Clearly, the decisions have severe consequences for the lives of the individuals concerned and are typically characterised as hard ethical choices (Daniels, 1993), where norms of fairness are pivotal. Furthermore, they are demanding in terms of so called “enlightened morals” of the alleged moral experts and even more so in terms of the moral convictions or mores of a society that provides some part of health care publicly. Finally, the specific political environment is characterised by highly involved stakeholder groups with self-interested aims and activities.

Therefore, health policy-makers are in need for tenable and sustainable decisions. In the present paper, the potential interdependence between empirical and normative research in the context of allocating scarce health care resources will be discussed. This question has already attracted much attention in various scientific disciplines even leading to new notions such as “empirical ethics” (Borry, Schotsmans and Dierickx, 2004; Richardson, 2002; Richardson and McKie, 2005). I will present and discuss an approach from the field of economics designated as *Empirical Social Choice (ESC)* by Gaertner (2009) and Gartner and Schokkaert (2012). It sets out to examine the *tenability* of axioms formulated to characterize allocation schemes (Yaari and Bar-Hillel, 1984) and, thus, can be regarded as one systematic way to combine normative and empirical research.

From the perspective of economics, any governmental decision under scarcity constraints leads to opportunity costs; corresponding resources can be spent only once and lead to foregone alternative usages, which then reflect the cost the alternative chosen. In our case, this may concern either non-health related projects or alternative health care, which remains unprovided. Corresponding questions mainly focus on the allocation or, synonymously, *rationing* of resources, which generally denotes “any method to determine who receives what quantity of a scarce good or service” (Breyer, 2013). More specifically, economists usually

claim that the focus should be on *explicit non-price rationing*: First, society should transparently endorse precise (explicit) allocation rules rather than determine budgets for health care providers in which case final allocation decisions must be made at the local level (hence the term ‘bedside rationing’). Second, based on most real-world health care systems, such methods are considered, which do not make use of the price mechanism and allocate scarce resources below the market price or even at no charge. For example, scarce donated organs are not allocated via auctions but on the basis of other criteria such as urgency of need or prospects of success.

When it comes to the allocation of health care resources, health policy-makers usually aim at both improving total population health and reducing unfair health inequality. For example, a new cancer screening program may be expected to increase population health on average, but also to worsen population health inequalities due to variable uptake of screening by different societal groups (Asaria et al., 2015). Health economic evaluation methods typically focus exclusively on the maximization of total population health and, thereby, ignore health inequality impacts arising from the interventions assessed. Only recently, health economists have started to enhance their methods by incorporating health inequality impacts into their evaluation methods (Cookson et al., 2017). Nevertheless, survey research on the underlying trade-off between efficiency and equity concerns plays already an important role in the health economic literature for many years (see, for example, discussions on the method of “person trade-off” by Nord, 1995; Nord et al., 1999; Doctor, Miyamoto and Bleichrodt, 2009). However, as pointed out by Gaertner and Schokkaert (2012), many health economists seem to believe that corresponding ethical problems can be solved by survey work on preferences of those people who will be affected by the decisions. Consequently, one may ask why we do not just let citizens, (potential) patients or payers vote on the rationing of health care resources.

Of course, information about what people want from their health system is an important input for politicians who seek re-election, health administrators who act as agents of their customers, and researchers who want to see their own ideas put into practice. However, allocation decisions may also conflict with the limits of what is thought to be “morally permissible” (Hausman, 2000). Even the acceptance of health policy measures by the majority of people in a society can be based on bad reasons (Miller, 1994). One recent example could be the demand for limiting access to *basic health care* for refugees by larger parts of the population in some countries, today. Hence, the normative beliefs held by members of society should be subjected to critical scrutiny. According to the *ESC* approach, moral judgments

collected from laypeople cannot substitute moral reflection and argumentation. But they could serve as input for a process, which aims at justifying allocative decisions and – ideally – reaching an *interpersonal reflective equilibrium* (Rawls, 1971, 1974; Daniels, 1979).

The present contribution will discuss this approach in the context of allocating health care resources. Taking parts of the book by Gaertner and Schokkaert (2012) as a starting point, the paper is structured as follows: Section 2 provides a general classification of *ESC*. The focus of Section 3 is on potential roles ascribed to empirical work in *ESC*. In Section 4, I discuss major methodological consequences. Section 5 summarises the main characteristics of *ESC* and concludes.

2. Empirical Social Choice: A first classification

Empirical research on distributive justice in economics can be divided into two branches, which have evolved rather independently over the last four decades (Schwettmann, 2009; Konow and Schwettmann, 2016). On the one hand, behavioural or *positive economics* applies descriptive strategies and regards what “is”. Results of monetarily incentivised experiments have stimulated descriptive theories of social preferences, which inter alia include fairness concerns as well as related moral preferences, such as unconditional altruism or reciprocity which occasionally have also been labelled as fairness. On the other hand, *normative economics* uses prescriptive analyses and concerns itself with what “ought to be”. In the corresponding empirical strand of the literature, mainly findings of self-reported surveys and vignette studies are used to investigate prescriptive theories of distributive justice (see Konow, 2003, for a review). *ESC* is one such approach, which aims to impact normative theories about social choice applied to issues of distributive justice and related topics such as the measurement of inequalities (for applications to the health context see Bleichrodt, Rohde and Van Ourti, 2012; Tarroux, 2015) or voting behaviour (Regenwetter et al., 2007). It must, yet, be noted that both the descriptive and the prescriptive branch have not only grown autonomously, but are often found to be strictly kept separated from each other. Some of the underlying reasons will be elicited in the following sections.

Welfare economics and social choice theory have a strong normative claim. Inter alia they intend to specify or even substantiate philosophical ideas by means of axioms and models, examine the consistency of philosophical theories, and establish standards to evaluate social outcomes (Miller, 1994; Roemer, 1996). The classical welfare-economic distinction between individual utilities and social values is of major relevance in the context of health

care (Sen, 1970, and Goodin, 1986, for general introductions). Individual preferences are used to obtain a measure of individual well-being, e.g. in different health states, while distributional and other relational considerations are embodied in the shape of a social welfare function (SWF), which takes up an ethical position and can be characterised axiomatically.

In general, the axiomatic approach has gained momentum and is applied to game theory and resource allocation alike (Thomson, 2001, for an overview). However, Luce and Raiffa (1957) have already described the intentions and advantages of the axiomatic method when it comes to the determination of an *arbitration scheme*, i.e. a rule which assigns each person in a distribution conflict a unique payoff. Surprisingly, although the authors had no empirical programme in mind, their elaborations can be read as a preliminary description of the ESC approach, which set off about 25 years later with the seminal work by Yaari and Bar-Hillel (1984). According to Luce and Raiffa (1957, p.121) “players are often willing to submit their conflict to an arbiter, an *impartial outsider* who will resolve the conflict by suggesting a solution” (my italics). In fact, in normative approaches impartiality is a seminal precondition to avoid self-serving biases of moral preferences. The authors continue that we “may suppose that the arbiter sincerely envisages his mission to be ‘fairness’ to both players”. They assume that the arbiter reports his or her own ethical standards if no obvious fairness criterion exists in a distributive situation. However, other motives rather than fairness may influence decisions.

Next, Luce and Raiffa (p.121-123) elaborate the central advantage of the axiomatic method in the realm of distributive justice:

“Rather than dream up a multitude of arbitration schemes and determine whether or not each withstands the test of plausibility in a host of special cases, let us [...] examine *our subjective intuition* of “fairness” and formulate this as a set of precise desiderata that any acceptable arbitration scheme must fulfil [...]. By means of a (small) finite number of axioms we are able “to examine” the infinity of possible schemes, to throw away those which are unfair, and to characterize those which are *acceptable*” (my italics).

According to Gaertner and Schokkaert (2012), two main research programs are deducible from this description of the axiomatic approach. On the one hand, the logical connections between axioms proposed to characterise a unique (class of) arbitration schemes can be investigated solely with the help of applied mathematics. On the other hand, the (ethical) acceptance of axioms and, therefore, the fairness of arbitration schemes cannot be determined by applying mathematical tools. In this case, Luce and Raiffa use the unspecific notion of

“our subjective intuitions”. Turning against a significant input of empirical studies on this question, some theorists have emphasized that “essential ingredients of a debate over normative issues are critical reflection and thorough assessment of the arguments being used” (Bossert, 1998, p.283). Hence, a “vote among uninformed individuals” should not suffice to settle an ethical issue satisfactorily. As the reader will surely know, such reservations are regularly articulated with respect to moral psychology, empirical ethics, experimental philosophy, and *ESC*.

Authors in the field of *ESC* claim that their empirical findings are of relevance for the reflective processes in philosophical ethics, normative economics and policy. This is said to be due to the specific empirical method applied to elicit moral preferences. Here, the studies by Yaari and Bar-Hillel (1984) and Bar-Hillel and Yaari (1993) serve as the blueprint for subsequent questionnaire experiments. The authors confronted students with hypothetical allocation problems in different contexts, which were supposed to be easily accessible for laypeople. The students were asked to solve the problems *justly*. The questions were theory-based in the way that different arbitration schemes characterized by specific sets of axioms lead to distinct allocations in the given situation. Bar-Hillel and Yaari (1993) clarify that they intend to consider an increased number of introspecting individuals and, thereby, interpret Luce and Raiffa’s (1957) notion of “our subjective intuitions” in a very broad way. Accordingly, empirical work may give useful insights into the ethical “acceptability” of axioms or allocation rules.

The *ESC* approach just sketched provokes fierce criticism from both normatively oriented researchers and descriptive analysts. Hence, we need to elaborate two central issues: First, it must be specified which role empirical work can play in social choice and distributive justice – and which not. Second, each role requires, but also excludes, certain empirical instruments. I will successively consider these aspects in the next two sections and, at the same time, relate corresponding answers to the context of allocating health care resources.

3. Which role for empirical work in Empirical Social Choice?

Gaertner and Schokkaert (2012, subsection 2.1) mainly try to defend the *ESC* approach against objections of normatively oriented researchers. I partly follow their structure and begin with *seemingly* easy-to-digest roles for empirical work with a special focus on the health context. Afterwards, I elaborate on the application of the concept of an interpersonal

reflective equilibrium in the *ESC* literature. Finally, I clarified which roles are *not* ascribed to empirical work in social choice.

3.1 Application, prevention, revelation, and complementation: Easy-to-digest roles?

According to Gaertner and Schokkaert's (2012) first argument, any theory of justice finally aims to be *applied*. Therefore, empirical insights into the social and political environment are necessary to evaluate the acceptability of a presumably justified normative concept and to detect potential reservations. The authors claim that this role for empirical work should be most easily acknowledgeable by normative researchers as it solely concerns the explainability of a theory, but not its justification. Also, Klonschinski (2016, chapter 7) discusses the fear that decisions on priority setting are made by "philosopher kings" and counters that "when it comes to the implementation of health policy, the citizens have the last word anyway". Nevertheless, from my point of view this first role does not reflect a real interdependence between empirical and normative research, but rather concerns aspects of public choice and the process of political decision-making. Furthermore, a considerable degree of paternalism is contained in Gaertner and Schokkaert's (2012, p.10) statement that to "build a convincing case, a better insight into the structure of the uninformed opinions, that have 'to be corrected', may be extremely useful, even necessary" (my italics).

The second potential role for empirical input concerns the possible *prevention* of different biases. In the context of allocating scarce health care resources especially two biases are of relevance. On the one hand, normative and empirical scholars may subliminally be influenced by their own characteristics such as age, health history or social and cultural background. For example, Klingler et al. (2013) and Gerber-Grote et al. (2014) explain that the public and academic discussion about health economic evaluation in Germany is influenced by experiences during the Nazi regime, where parts of the population were designated as "life unworthy of life" ("lebensunwertes Leben") (see also Schwettmann, 2016, for a discussion). This influence differs from the obvious possibility of a self-serving bias, which can always affect researchers and participants in experiments. On the other hand, researchers often describe allocation problems by typical examples, which may limit their perspective. The allocation of donated organs, people lying on rail tracks or sitting shipwrecked in a boat are often regarded cases. However, many real-life situations of scarcity, such as the allocation of treatment time, are regularly less dramatic.

A third argument in favour of empirical work claims that corresponding studies may *reveal* an incompleteness of a theoretical concept in the way that it ignores important features of real-world cases. Yaari and Bar-Hillel (1984) identified a strong context-dependency of respondents' judgments in formally identical distribution problems, which was not stipulated in welfare economic approaches. In fact, some framing effects may also fall into this category. For example, in the study by Ahlert, Funke and Schwettmann (2013) the ordering in which participants faced decision problems had a strong impact on exclusion decisions from medical treatment. Such findings may be taken up by theoretical reasoning.

The fourth potential role for empirical studies is even more constructive. Gaertner and Schokkaert (2012) explain that some theoretical approaches explicitly demand empirical input as a *complement*. They refer to the example of Roemer's (1993, 1998) concept of equality of opportunity. The so-called "responsibility cut" (Schokkaert and Devooght, 2003), i.e. the line between effort characteristics, for which individuals should be held responsible, and circumstances, for which they should receive compensation, is of major importance. Roemer (1993) argues that the determination is a societal question and may provoke different answers in different societies. In the realm of health care distribution, survey studies, such as Schokkaert and Devooght (2003) or Diederich, Schwettmann and Winkelhage (2014), may provide additional input into the underlying normative debate about the location of this cut.

To summarize, the four positions described assign an increasingly prominent role to empirical work in social choice. However, many researchers in the field of *ESC* go one step further.

3.2 Interpersonal reflective equilibrium and Empirical Social Choice

Yaari and Bar-Hillel (1984) proposed a methodology which enables them to incorporate empirical findings into the model building process. Here, they explicitly relate their own approach to the Rawlsian (1971) notion of a reflective equilibrium. In short, Rawls describes a process of moral deliberation, in which a person moves back and forth between "considered judgments", i.e. particular beliefs and intuitions about justice in a specific case, and "general principles of justice", e.g. the two principles that would according to Rawls be chosen in the "original position". In case of a conflict, the person may either specify, refine, or even discard the principle if it sharply contradicts the considered judgment, or may revise and correct his or her initially considered judgment if the arguments in favour of the principle are strong

enough. If principles and considered judgments come into correspondence, a reflective equilibrium is achieved.

Before relating this notion to the *ESC* approach, let me elaborate a bit on Miller's (1994) view on the potential role for empirical work regarding the reflective equilibrium. His view may serve a helpful link between *ESC* and empirical ethics. According to Miller, the notion of *considered judgments* is crucial for empirical work. Only those beliefs about justice are treated as considered judgments, which are free of emotions and personal interest, and of which the individual is confident about. Also, beliefs should be free of any contradictions and not be based on factual errors (see especially Daniels, 1979, for further potential distortions). Hence, Miller asks how to evaluate whether beliefs in fact fulfil these requirements. He proposes to widen the focus of Rawls' individualistic perspective, to compare the relevant individual beliefs with those of others and, if there is disagreement, to elaborate underlying reasons. Thus, acceptance of judgments is important, but justification should be the focus of empirical inquiry.

A second argument of Miller (1994) in favour of empirical input concerns Rawls' (1993) notion of "public justifiability". Miller (p.181) explains that "a valid theory of justice must be one which the citizens of a well-ordered society can justify to one another using only commonly accepted modes of arguments". Hence, rather than focussing only on the implementation of a theory, justifiability is now an ethical precondition. This aspect can be related to Rawls' (1993, p.306) interpretation of the "original position", in which individuals are supposed to be guided not only by a "conception of rational choice as understood in economics or decision theory", but also by "norms of reasonableness" which make the individual propose only those principles that are acceptable to all people with a "sense of justice" once the veil of ignorance is lifted. Here, Miller (1994) argues that this *reasonableness* also leads to the interpretation of the reflective equilibrium as an *interpersonal equilibrium* with respect to the beliefs of distinct individuals.

Similarly, the basic intuition of the model-building process underlying the *ESC* approach can be described as a "dialogue between the theorist and the public" (Gaertner and Schokkaert, 2012, p.17). Yaari and Bar-Hillel (1984) start from the basic structure of the axiomatic approach to distributive justice described by Luce and Raiffa (1957) (see Section 2) and propose an iterative procedure via self-corrections and revisions. More concretely, in a first step a set of axioms is formulated to express desired properties of any allocation mechanism. Next, with the help of applied mathematics or logic the questions of existence and

characterization of mechanisms satisfying these axioms must be answered. If no such mechanism exists, the initial set of axioms must be revised. If several mechanisms are identified, they must be compared in order to determine additional properties which help to finally distinguish between them.

These additional properties are then tested for their *tenability*. If they are found to be untenable, the set of axioms is revised again, whereas in the case of no further revisions a state of equilibrium is reached. The relation between the notion of a reflective equilibrium and this procedure is obvious. Loosely speaking, economic theories expressed by sets of axioms and corresponding distribution mechanisms take the role of Rawls' general principles, while answers by respondents in adequately structured questionnaires are said to be based on "ethical judgments", which then replace the "considered judgments" in Rawls' notion. However, it is an advantage of the axiomatic approach to disentangle complex normative conceptions and to focus on axioms reflecting their specific characteristics rather than on the entire theoretical notion.

It is the test of the *tenability* of these axioms and distribution mechanisms from which a demand for empirical work arises. Yaari and Bar-Hillel (1984) argue that any theory of justice must be evaluated by their performance when confronted with evidence. In the present case, evidence is provided by "moral intuitions" and "ethical judgments" usually made by thoughtful, impartial, and unemotional individuals. The similarity to Miller's (1994) interpretation of considered judgments is apparent. In their later work, Bar-Hillel and Yaari (1993, p.59) also pronounce that their approach solely focuses on "ethical notions in people's minds – not their actual behaviour", which is usually biased by various other factors and considerations. Furthermore, although the authors do not state it explicitly, they obviously see the notion of a reflective equilibrium as an interpersonal conception. Nevertheless, even confirmed empiricists like Bar-Hillel and Yaari do not deny the central role for normative elaboration and philosophical reflection. Ethical judgments are seen as guides for evaluating the tenability of axioms or distribution mechanisms. But it is certainly possible – and often more reasonable – to keep to general principle and discard the considered judgment in a specific context.

It seems that this thinking has also gained momentum in the field of health economics in recent years. For example, Tsuchiya and Dolan (2009, p.157) conclude from their study on the acceptance of different equality notions in the context of health care distribution that "robust violations of particular axioms in the SWF may lead to some of those axioms [...] being relaxed in certain contexts". This is a very careful statement compared to many others

in this literature where researchers more often hold a positivistic view on issues of distributive justice and want to solve decision problems by empirical work. Thus, it is also advisable to point out the limits to empirical work for the *ESC* approach.

3.3 Limits to empirical work

To close this section, let me reconsider the view that questions about the fair allocation of scarce health care resources can finally be answered by the beliefs of the (majority) of the target population, being it citizens, (potential) patients or premium payers. According to this position, which has also been expressed by several health economists (e.g. Dolan, 1998, Johannesson, 1999), empirical work would not only be essential but decisive. However, from the elaborations in the previous subsection it should be clear that the *ESC* approach does not concur with such a view. Similarly, Miller (1994) explains that corresponding empirical work should be based on a normative justice theory. He argues that such a foundation is necessary to know whether distributive judgments are based on justice or on other motives. According to Miller, this knowledge may help researchers to make predictions in cases of changing circumstances or new information.

In section 17.3 of his remarkable book, Hausman (2015) summarizes several of his main arguments against a rather extreme position of what he calls “empirical ethics”. From my point of view, six points already raised in earlier contributions (Hausman, 2000, 2002) are helpful to identify important limits of empirical work in the realm of allocating health care resources.

First, an ethical position is not right just because the majority of the target group agrees or because it displays a “social consensus”. One may think of examples, such as slavery, ethnic cleansing, or female infanticide to recognize the important distinction between acceptance and justification. Second, Hausman (2000) asks how to define which groups are decisive and how to settle disagreements between different decisive groups.

Third, it remains an open question regarding what happens if no consensus can be reached. In Miller’s (1994) and Yaari and Bar-Hillel’s (1984) interpretation of an interpersonal reflective equilibrium a reconsideration of either the justifications of each position or the set of axioms would be possible. Nevertheless, this demands insights into underlying reasons for individual judgments. Fourth, empirical ethics implies that a social consensus would always be right. However, each process towards a reflective equilibrium should enable the researcher to carefully investigate reasons for moral disagreement.

Fifth, social consensus on moral issues is based on today's accepted moral views, which in turn may depend on past arguments raised by reformers. Such an evolution would be hindered by a focus on majorities. Finally, Hausman (2002) asserts that concerns of the population should not be ignored when deciding on the health system. However, he points out that patients and premium payers are not better able to state what is morally right or wrong only because the decision concerns them.

Hausman (2015, p.238) concludes that the process towards a reflective equilibrium should "pay attention to accepted values", but it is a "misconceived hope [to resolve] moral questions by measurement rather than argument". This position is not at odds with the *ESC* approach. In contrast, it sets clear limits to the usage of empirical findings beyond the roles described in Subsections 3.1 and 3.2. Furthermore, each of these roles has specific implications for the empirical methods applied to obtain the raw material needed. Section 4 provides answers to four important methodological questions.

4. Methodological consequences

The empirical method applied by Yaari and Bar-Hillel (1984) has already been sketched in Section 2: participants in questionnaire experiments are confronted with abstract, hypothetical decision problems in different contexts. They are asked to take the position of an outside observer and to allocate a given resource justly between different (groups of) individuals. The given situations are structured in the way that distinct distribution mechanisms characterised by different sets of axioms lead to different allocation proposals. Yaari and Bar-Hillel claim that these methodological aspects follow from the interpretation of a reflective equilibrium to provoke ethical judgments of laypeople which are meaningful for the model-building process in social choice theory. In this section, I focus on methodological aspects partly discussed by Gaertner and Schokkaert (2012), which I assess as particularly relevant for respective studies on the fair allocation of scarce health care resources.

Some preliminary words on the general setting of corresponding studies might be helpful. According to Gaertner and Schokkaert (2012), *ESC* studies use a *quasi-experimental approach*. Rather than asking people directly which principle should be applied in a given context, respondents read specific stories describing hypothetical real-life problems and are asked to select from a given set of solutions the one they judge most fair or just. Additionally (or alternatively) they are given the option to make their own proposals. This fits perfectly

to the discovery-role of empirical work described in Subsection 3.1. Different randomly selected participants receive systematically varied problems so that distinct response patterns can be related to these manipulations. This specific approach is said to be able to reveal useful ethical judgments and intuitions to investigate the tenability of axioms and distribution mechanisms.

A related issue, also mentioned by Gaertner and Schokkaert (2012), concerns the distinction between *ethical intuitions* and *reasoned opinions*. The answering of a single decision problem primarily sheds light on intuitions. In contrast, facing a sequence of variants of a basic situation induces subjects to think about differences, reflect on their own reaction to these variations and, thus, provide reasoned opinions. Of course, the latter proceeding carries the risk of manipulating the way a respondent thinks about a problem. However, reflected, thorough, and informed answers may be helpful, even necessary, if trade-offs between distribution mechanisms are regarded. Hence, the requirements for considered judgments mentioned in Subsection 3.2 must be met. Respondents must take their tasks seriously and think intensively about the matters presented to them (see also Elster, 1995). The study reported by Ahlert and Schwettmann (2017) provides an example for this setting. In their questionnaire investigation each respondent received a sequence of 16 systematically varied, hypothetical allocation problems where a limited amount of treatment time had to be allocated patients who differed with respect to their initial health level and their ability to benefit from treatment time. Finally, participants were asked to verbally describe the allocation rule they had developed during the experiment. Answers revealed that subjects were clearly aware of the different features of the problems. They were able to describe and apply sophisticated rules which focused on several characteristics of the situations simultaneously (i.e. conditional rules) or even utilized threshold values. Most remarkably, participants followed their respective intuitions very consistently.

I turn now to four important methodological issues of *ESC* studies in the context of health and health care.

4.1 Hypothetical or real distribution problems?

Bar-Hillel and Yaari (1993) put the distinction between expressed and revealed sentiments at the centre of their argumentation. Usually economic laboratory experiments with subjects driven by self-interest are distinguished from questionnaire experiments focussing on the impartial spectator perspective. From my point view this is misleading. On the one hand,

questionnaire experiments on distributive justice may also create real decision problems. For example, in the study by Ahlert, Funke and Schwettmann (2013) a payment scheme was introduced to impose monetary costs for participants on departures from a utilitarian distribution mechanism in either a “health” or a “neutral” context. On the other hand, laboratory studies may induce subjects to act as “quasi-spectators”, i.e. third parties whose decisions have actual consequences for others but not for themselves (Konow, 2003, 2012). Hence, the focus should be on the distinction between hypothetical (non-incentivised) and real (incentivised) problems. They lead to preferences which are either stated by verbal answers or choices of different hypothetical distribution options, or are revealed via distribution behaviour.

A helpful related categorisation of descriptive empirical studies comes from Elster (1995). His first dimension concerns the place of an investigation where he distinguishes between artificial and real-life settings. The second dimension regards the object of the study, being it attitudes or behaviour. In artificial settings, attitudes are studied via surveys or experiments (the study by Frohlich and Oppenheimer, 1992, provides a classical example), while other experiments clearly focus on actual behaviour of participants. In real-life settings, content analysis may help revealing justice attitudes, whereas real-life behavioural studies consider local justice such as processes of wage formation or donated kidney allocations. Güth and Kliemt (2010) subsume practices of the latter category under the notion of “normative facts”. Furthermore, in Elster’s (1995) classification, revealed preferences are usually observed from behavioural studies.

One challenge for monetarily incentivised experiments in health economics is the representation of different health states. Some researchers (e.g. Hennig-Schmidt, Selten and Wiesen, 2011; Godagar and Wiesen, 2013; Hennig-Schmidt and Wiesen, 2014) have connected benefits in the lab to payments for real patients outside to investigate effects of different payment systems for physicians or “other-regarding behaviour”. Nevertheless, various further questions of distributive justice concerning people in urgent need for health care seem to be difficult to reflect by monetary equivalents.

A second problem already mentioned concerns the fact that actual behaviour is regularly determined by a combination of different motives including self-interest, various moral considerations, or other norms. Gaertner and Schokkaert (2012) argue that corresponding findings are certainly illuminating if the aim is to predict actual behaviour. However, as explained in Subsection 3.2, this is explicitly not the case in *ESC* and its focus on ethical judgments.

Miller (1992) and Gaertner and Schokkaert (2012) list potential advantages and disadvantages of questionnaire studies, which use hypothetical distribution problems rather than real problems in the lab. Especially with respect to health, such studies enable the researcher to present contextually rich situations with clear links to real-life problems. Certainly, respondents are more sensitive to contextual and framing issues and may take distribution problems less seriously, since answers have no real consequences. The quote that “actions speak louder than words” of Bikhchandani, Hirshleifer and Welch (1992, p.996) nicely expresses this reservation about the credibility of stated preferences. Thus, Gaertner and Schokkaert (2012) suggest careful controlling for context and framing effect. They report from their experiments that respondents generally take non-incentivised questionnaire studies seriously if the task is not too complex.

4.2 Whom to ask?

The choice of the “right” subjects to ask depends on the role ascribed to empirical findings. If one agrees with Yaari and Bar-Hillel’s (1984) or Miller’s (1994) interpretation of an interpersonal reflective equilibrium described in Subsection 3.2, a sample being representative for the entire society should be the ultimate choice. The idea of a dialogue between the theorist and the public, but especially the ethical precondition that a theory of justice should be justifiable to the citizens, implies the need for surveys being representative of the general public. Furthermore, corresponding results are certainly also useful for the other roles of empirical work explained in Subsection 3.1 including the identification of biases on the side of the researcher or cultural-dependent effects. Additionally, such findings can help evaluating the acceptance of normative concepts before their political implementation. In this case, the characteristic of representative surveys as an instrument of political decision-making becomes visible.

Nevertheless, a focus on specific groups may be a reasonable alternative especially at earlier stages of the process. Actual or future decision-makers in the healthcare sector are of interest if empirical findings are used to characterise real-life problems or to evaluate the acceptance of a theory of justice among those who should implement it, e.g. physicians.

Furthermore, several studies use student samples if they want to ask laypeople. Of course, compared to the general public, they are easier to approach, usually highly motivated, and better able to understand more complex situations. Hence, as argued by Gaertner and Schokkaert (2012), if the aim is to discover new features of real-world cases or to evaluate

trade-offs between axioms, student samples may represent a reasonable alternative. However, the two authors also warn that students might see questionnaire studies – but of course also lab experiments – as a kind of exam if they either perceive or suspect a connection between the questions and the topics covered in their lectures. Also, they may be prone to a social desirability bias, especially if the study is conducted by their own teacher. Hence, it is vital to avoid such perceptions, for example by approaching students at an early stage in their course of studies or in a more neutral surrounding, e.g. in different lectures or in a computer lab.

4.3. Which perspective should be taken?

Luce and Raiffa's (1957) description of an impartial outsider cited in Section 2, who is asked to solve a distribution conflict, already points towards the central role of this concept for justice theories. It has a long history in economic and philosophical research and is the working horse in the field of *ESC*. Yaari and Bar-Hillel (1984) create abstract hypothetical questionnaire situations to bring respondents into the position of a detached outside observer and to receive unbiased ethical judgments. In health contexts, this requirement seems to be both necessary and hard to achieve.

There exist by now a reasonable number of studies which have focussed on effects from the position of the decision-maker in a hypothetical situation. In *ESC* and health economic studies, this aspect is found to be of utmost importance. In their study on rankings of income distributions Bosmans and Schokkaert (2004) distinguish three types of preferences related to different positions: "Direct ethical preferences" of an impartial and sympathetic observer (ISO); "preferences behind a veil of ignorance" (VOI), where a rational individual knows that he or she and all other members of society will end up in either income position with equal probability; and "purely individual risk preferences" (PIR), where the focus is entirely on personal income. While the first position is related to Smith's (1759) *impartial spectator*, the second case resembles the veil of ignorance scenario of Rawls (1971) or Harsanyi (1953, 1955). The main finding is that response patterns are different for all three positions, where the VOI case is between the other two.

The usage of distinct perspectives when eliciting preferences over allocations of health care resources is also prominent in the health economic literature (Dolan et al., 2003; Tsuchiya and Watson, 2017). For example, in their study on social values assigned to different health states, Pinto-Prades and Abellán-Perpiñán (2005) inter alia construct positions

similar to those used by Bosmans and Schokkaert (2004). One of their findings is that their VOI treatment yields results almost identical to a self-concerned position under risk which is similar to the PIR perspective. However, the results of the person trade-off method that applies the position of an impartial sympathetic observer clearly depart from these results. Hence, both streams of literature seem to reach surprisingly similar results: Judgments of an impartial outside observer depart from preferences of rational individuals behind a veil of ignorance facing a similar distribution problem.

Nevertheless, many allocation problems in the health context provoke self-interested and biased answers. For example, the studies by Johannsson-Stenman and Martinsson (2008) or Álvarez and Rodríguez-Míguez (2011) show how difficult it might be to implement impartiality. Hence, corresponding empirical work should apply state-of-the-art statistical tools to control for influences of individual characteristics. Furthermore, the requirement of abstract hypothetical situations is a serious claim.

4.4 Quantitative or qualitative studies?

In the introduction to this section the importance of thorough, informed, and thoughtful judgments has already been explained. Also, the importance of empirical work on the way to a reflective equilibrium via considered judgments – but also its limitations – have been considered in Subsections 3.2 and 3.3. According to Miller (1994), the central role for empirical input concerns the justification of beliefs rather than the acceptance of theories. This would allow for an interdependence between empirical and normative research. Nevertheless, Yaari and Bar-Hillel (1984) focus almost entirely on quantitative rather than qualitative studies to evaluate the tenability of axioms and distribution mechanisms. Similarly, Gaertner and Schokkaert (2012) do not explicitly discuss advantages and disadvantages of qualitative work. However, qualitative studies may complement quantitative work if detailed justifications of beliefs are seen as being helpful (as they are, I suppose). Furthermore, regarding other roles for empirical studies, reasons for potential biases or any incompleteness of a theoretical concept may certainly benefit from thorough and careful qualitative work.

In the health economic literature corresponding qualitative techniques have gained momentum. They have proven to be a relevant additional tool to investigate distributive preferences regarding health care resources (Cookson and Dolan, 1999; Dolan and Cookson, 2000; Baker, Robinson and Smith, 2008; Shah et al., 2012). In the field of *ESC*, Ahlert and Schwettmann (2017) identified distribution mechanisms with a combination of quantitative

and qualitative instruments. Remarkably, some of these rules have not been characterized axiomatically before, so that such findings may be regarded in the model-building process in the future.

Based on the elaborations in Section 3, I have focussed on selected methodological consequences for empirical studies on distributive justice in the context of scarce health care resources. In general, the choice of appropriate empirical tools is not trivial, but we know their potential effects on the results. They should be justified and depend on the role one is willing to ascribe to empirical findings for theories of distributive justice.

5. Summary and conclusion

Fairness is a central principle for the allocation of scarce health care resources. Against this background, the paper has focussed on the general question of how empirical work can be brought to bear on normative issues, and, vice versa, how normative research can induce fruitful empirical studies. Relevant aspects have been discussed with respect to an approach designated as Empirical Social Choice (ESC).

So, what kind of contribution can the *ESC* approach generally make, i.e. which role should be played by judgments about justice collected in adequate studies? Initially, it has been argued that questionnaire studies may not only test the acceptance of a normative concept before its application, but can be used to detect potential biases and discover new puzzles. However, the claim of *ESC* is more ambitious. If a thoroughly conducted questionnaire study reflects trade-offs between axioms, advocates of the *ESC* approach assert that their approach reveals ethical judgments and, moreover, offers reasons for them, which can be used as input to an axiomatic model-building process. Surprising empirical results of theory-based questionnaire experiments could stimulate normative thinking and lead to richer models which may then induce even richer questionnaires. This interdependence between empirical and normative research can be interpreted as a dialogue between a theorist and the public, which may finally bring us closer to an interpersonal reflective equilibrium.

However, this essential role ascribed to empirical work also determines what is meant by “thoroughly conducted”. I have discussed four major methodological issues. First, studies utilising hypothetical rather than real distribution problems should be preferred. This is especially due to the problem of creating real decision problems in the context of health care. Second, if the aim is to come closer to an interpersonal reflective equilibrium, samples being representative for the general public should be the ultimate choice. Nevertheless, focussing

on specific groups of might be a reasonable alternative at earlier stages of the process. Third, impartiality is of major importance to receive unbiased ethical judgements. Hence, participants in corresponding studies should be brought into the position of detached outside observers. Fourth, qualitative studies may serve as a complement to quantitative work due to the importance of justification of beliefs.

Hopefully, the approach described leads to more tenable and sustainable allocative decisions. This should be particularly warranted in the health-policy environment initially presented, which is characterised by a strong pressure to make hard choices with respect to the allocation of increasingly scarce resources and in a political setting with highly involved stakeholders. Clearly, the focus of *ESC* is on justification rather than acceptance of theoretical concepts. Although both the importance of considering what people want from their health system and the necessity to survey and respect individual preferences for health states is acknowledged, researchers in the field of *ESC* emphasize that empirical work on preferences is unable to finally determine an ethically acceptable distribution mechanism. Philosophical reflection is also necessary. However, in the end the interdependence between empirical and normative may help normative scholars make themselves heard (better) by health-politicians.

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