1 Introduction

In his *Nicomachean Ethics*, Aristotle wrote that 'both the unjust man and the unjust act are unfair or unequal, and clearly in each case of inequality there is something intermediate, viz., that which is equal . . . Then if what is unjust is unequal, what is just is equal.' Justice is here defined as equality. However, Aristotle continued, saying that 'a just act necessarily involves at least four terms: two persons for whom it is in fact just, and two shares in which its justice is exhibited. And there will be the same equality between the shares as between the persons, because the shares will be in the same ratio to one another as the persons; for if the persons are not equal, they will not have equal shares; and it is when equals have or are assigned unequal shares, or people who are not equal, equal shares, that quarrels and complaints break out' (fourth century BC, 1976, pp. 177–8). Therefore, Aristotle viewed 'equality' as a kind of proportion. 'What is just . . . is what is proportional, and what is unjust is what violates the proportion. So one share becomes too large and the other too small. This is exactly what happens in practice: the man who acts unjustly gets too much and the victim of injustice too little of what is good' (1976, p. 179).

Since Aristotle, many different theories of distributive justice have been proposed, by philosophers as well as by social scientists. Moreover, the content of justice is an essential ingredient of the political debate in many countries. Ideas of proportionality and equality have kept playing an important role in these discussions. However, both ideas remain empty as long as one does not define explicitly what the variables are that have to be in proportion or what it is that has to be distributed equally. The real debate is then about the following questions that we consider as basic. Should a just income distribution correct for differences in needs and, if yes, how? Should one take into

account differences in tastes, or in the capacity to enjoy various goods, as proposed by utilitarianism? Should differences in productivity be rewarded? Should we distinguish between productivity differences reflecting differences in natural talent and those reflecting effort? More generally, how should aspects of responsibility and desert be integrated? And what about historical or legal claims?

There are two strands in the academic and scientific literature on these topics. One approach, most popular among psychologists and sociologists, is descriptive. It looks at prevailing opinions in society and tries to explain where they come from and how they are distributed over various social groups. From this perspective, justice is a social construct that is impossible to universalize and is unavoidably culture- and time-dependent. The other approach, most popular among philosophers, is normative. It tries to reason about the nature of justice by putting forward and evaluating different rational arguments. There is hardly any contact between these two strands of literature. The former claims that 'the perennial search for the true meaning of justice has not been particularly fruitful, and it is likely that there is no true or essential justice beyond its socially constructed meanings' (Törnblom, 1992, p. 178). The latter emphasizes that 'empirical ethics is inconsistent with the very nature of moral judgments, which are supposed to be rationally contestable, because it implies that the social consensus is always right, and minority views and the views of social reformers are always automatically mistaken ... Such a view clashes with the actual practice of moral argument and seems to leave no room for rational contestation of moral disagreements' (Hausman, 2000, p. 40).

Welfare economics and social choice theory have to be placed among the normative approaches to distributive justice. In some sense they can be seen as a form of applied ethics, using the same basic approach as moral and political philosophy. There may be some difference in emphasis, as economists traditionally are more concerned about the trade-off between efficiency and justice, and therefore about the distinction between 'optimal' and 'just' allocations. Moreover, the economic approach is in general more formalized

and it uses a mathematical style of argument. In recent decades, the axiomatic approach has become especially popular (Thomson, 2001). Yet, there can be no doubt that the ultimate goal of the theory is normative.

It is therefore remarkable that in recent decades there has been an increase of papers in what could be called 'empirical social choice'. The seminal paper by Yaari and Bar-Hillel (1984) is the archetypical example of the whole approach. The two authors studied the concept of justice or just distribution via 'judgments of justice', elicited from hypothetical questions. More specifically, the authors gave students hypothetical distribution problems and asked them 'to solve them justly' (Bar-Hillel and Yaari, 1993, p. 59). Their aim is not descriptive as they emphasize that the focus of their research is the ethical notions in people's minds, not their actual behaviour, keeping in mind that actual behaviour 'is inevitably contaminated by political, strategic, and other considerations' (1993, p. 59). They add that 'it is people's expressed sentiments (namely what they say ought to be done) rather than their revealed ones (namely what they actually do) that primarily guides the search for a *normative* theory of justice, as well as the rhetoric of public debate on issues of distributive justice' (1993, p. 59). Contrary to the work in psychology and sociology, Yaari and Bar-Hillel deliberately use the insights from normative economic theory to structure the questions that are proposed to the respondents. Contrary to the opinion of most philosophers, they suggest that such empirical work may make a useful contribution to building a normative theory.

Given the sharp distinction that has traditionally been made between empirical and normative approaches, it is not surprising that the methodological arguments of Yaari and Bar-Hillel are far from being generally accepted. We will go more deeply into these basic questions in Chapter 2, in which we will also describe the main methodological features of the work on empirical social choice. The bulk of the book then consists of a discussion of typical studies. We will first summarize in Chapter 3 some results which are mainly relevant to

questions in the Arrovian social choice tradition: the acceptability of welfarism, of the Pareto principle and of the concept of the veil of ignorance. We will then turn in Chapter 4 to issues that have come up in the recent approach of fair allocation in economic environments: the possibilities and limitations of responsibility-sensitive egalitarianism and the relevance of different solutions to the claims problem. Chapter 5 focuses on one specific but rich field of application: that of fairness in health and health care delivery. Chapter 6 concludes.

It is not our aim to give a complete overview of the empirical work on distributive justice. As explained in Chapter 2, we omit the bulk of the rapidly growing literature on game-theory-based laboratory experiments. Moreover, we restrict ourselves to papers that are relevant to social choice, as it is usually defined. We do not discuss the large amount of work on the acceptance of different approaches to the measurement of inequality (Amiel and Cowell, 1999) or on the acceptance of market arrangements (see, e.g., the seminal paper by Kahneman *et al.*, 1986). Even within the social choice literature, we do not aim at completeness. We do not discuss experiments on voting behaviour. Moreover, we prefer to describe a restricted set of representative studies in detail, to illustrate the pros and cons of the methodology and to show its relevance for social choice. A more comprehensive *survey*, that also incorporates findings from sociological and psychological studies, can be found in Konow (2003).

2 Empirical social choice: why and how?

As described in Chapter 1, there are two strands in the literature on distributive justice: one descriptive, the other normative. The existence of these two strands as such does not raise a real intellectual challenge. Indeed, one could keep to the traditional Humean distinction and simply accept that they tackle two basically different but potentially interesting questions. The first question is positive: what are the feelings and attitudes in society with respect to distributive justice, and how are these linked to the individual and social characteristics of the respondents? The other one is ethical: which arguments are valid for defining a 'just' situation or a 'just' society? In this dichotomic view, the two approaches can (and should) remain completely separate. Ethical theories are usually much more subtle and complex than everyday opinions and the former can therefore be very misleading as a guide to the latter. There is a real danger that a survey based on these ethical theories would be far removed from any relevant psychological reality of lay citizens. On the other hand, a specific perspective on distributive justice does not become ethically acceptable just because it is supported by a majority of the population. Therefore, in this dichotomic view, positive and normative approaches can easily co-exist. A real challenge only arises if one goes beyond the dichotomy and argues that the descriptive and the normative approach cannot only co-exist, but are complementary and mutually enriching. One then has to show either that ethical theories can be helpful for the empirical work, or that the empirical results can be useful for ethical reasoning, or both.

The challenge is real for 'empirical social choice'. Social choice makes use of an axiomatic approach to define ethically attractive solutions to situations in which there is a distributional conflict or a

trade-off between equity and efficiency. The approach is aptly summarized by Luce and Raiffa (1957, p. 121), as follows:

> Rather than dream up a multitude of arbitration schemes and determine whether or not each withstands the best of plausibility in a host of special cases, let us invert the procedure. Let us examine our subjective intuition of fairness and formulate this as a set of precise desiderata that any acceptable arbitration scheme must fulfil. Once these desiderata are formalized as axioms, then the problem is reduced to a mathematical investigation of the existence of and characterization of arbitration schemes which satisfy the axioms.

The last part of the quote seems to suggest that social choice is no more than a purely formal exercise. Indeed, some theorists have taken the position that its main purpose is simply to explore the logical relationships between the various axioms, rather than discussing their normative implications (Maniquet, 1999). However, in a broader interpretation (which, we feel, is supported by the largest part of the profession), the purpose of axiomatic social choice is precisely normative, i.e. to determine which schemes are unfair and which are ethically acceptable. Luce and Raiffa (1957, p. 123) continue:

> 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*. The only alternative – to examine in detail each of the infinity of schemes for each of the infinity of possible conflicts it is supposed to arbitrate – is not practical [our italics].

The power of the axiomatic approach resides precisely in the possibility of separating two questions. Exploring the first question about the logical relationships between the various axioms is a branch of applied mathematics. Yet applied mathematics cannot answer the second, ethical, question about the fairness of different solutions. The separation allows us to rephrase the 'why' question of this chapter. It is obvious

that empirical work is completely useless for solving the logical problems. The interesting question is whether it can yield useful insights into the ethical acceptability of specific axioms or specific solutions. In fact, the axiomatic approach offers a possible way out of the dilemma that philosophically attractive theories are too complicated to be submitted to the population. Focusing on the separate axioms or specific solutions themselves allows the empirical researcher to formulate questions which are theoretically meaningful and at the same time understandable for the population at large. Axiomatic social choice theory reduces the intricate reasoning of a complete ethical theory to its essential constitutive building blocks. The two questions posed in this chapter can now be reformulated. Is it meaningful to investigate the social acceptance of specific axioms and specific solution concepts? How should one collect the relevant empirical information to investigate this social acceptance?

Note that we only discuss the question whether empirical work can be relevant for the formulation of normative theories and leave aside the opposite relationship, i.e. whether the insights from social choice can be useful to structure the descriptive work on opinions about distributive justice. We think they can, as they may help to overcome the 'feeling of intellectual disorganization' (Deutsch, 1983), which characterizes some of the empirical work (see also Bell and Schokkaert, 1992). However, this argument is beyond the scope of the present book.

2.1 WHY EMPIRICAL SOCIAL CHOICE?

Some have taken the position that there can be no good normative theory of justice without strong empirical foundations. However, there is no need to go that far if one wants to defend the usefulness of empirical social choice. In this section, we will first introduce some easily acceptable arguments and then move gradually to the more debatable ones. First, empirical insights are necessary if one wants to apply any theory of justice in the real world. Second, they may point to biases in the existing approaches and, third, they may suggest interesting questions and puzzles. Fourth, in some cases they may be complementary to theory, in the

sense that they are needed to fill in gaps. Finally, we will come back to the position that a normative debate is only meaningful if it incorporates the empirical results about opinions prevailing in society.

2.1.1 Towards application of social choice

One good reason to do science is mere intellectual curiosity. However, in the case of normative theory this can hardly be sufficient. The ultimate aim of any normative theory must be to be put into practice. Thinking about the content of justice without the desire of making the world more just, is like pouring out a glass of water and then refusing to drink.[1] Yet, in a political democracy it is nearly impossible to implement any theory of justice without sufficient support from the general public. This support will depend on the citizens' own values and preferences. Empirical research on the acceptance of notions of justice by different social groups is therefore essential to understand the social environment in which policy decisions are taken. As an example, suppose (realistically, as will be shown in subsequent chapters) that for a majority of citizens subjective utilities are not the exclusive nor even the most important criterion for evaluating policies. In that case, a utilitarian economist will have a hard time putting some of his specific policy proposals into practice. Certainly, even if this utilitarian economist does not start doubting his utilitarian convictions, he would benefit from a better understanding of the structure of opinions in society.

That social values play a role in shaping economic policy is now well understood. Figure 2.1 (taken from Alesina and Angeletos, 2005) offers an interesting illustration. The figure shows a significant positive relationship at the cross-country level between the percentage of respondents who believe that income is mainly determined by luck rather than by effort (on the horizontal axis) and social spending as a % of GDP (on the vertical axis). Of course, the positive relationship in the figure is only a suggestion that attitudes influence policies. Causality

[1] We paraphrase Samuelson (1947, p. 249) who used the same formulation in the context of making interpersonal comparisons.

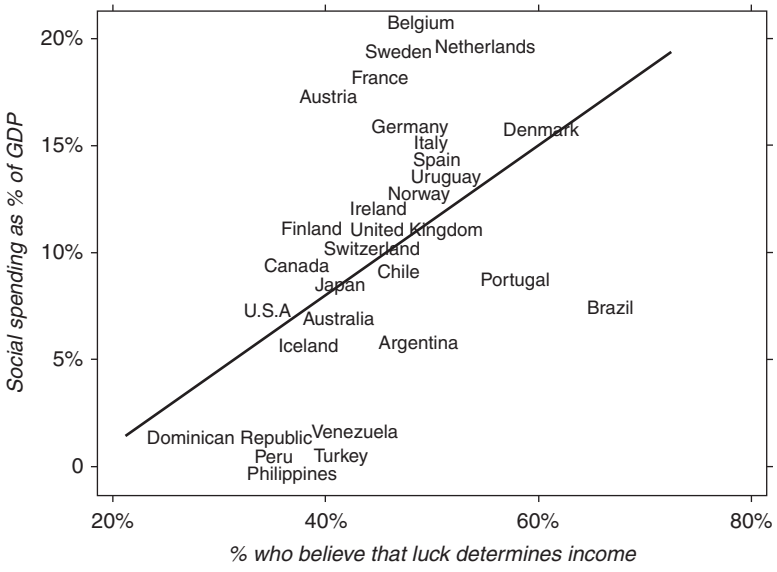

FIGURE 2.1 Social values and social spending (Alesina and Angeletos, 2005)

also runs in the opposite direction, with the percentage of social spending influencing both the justice perceptions of individuals and the link between luck and income in the real world.[2] Yet, the example is sufficient to suggest that empirical work on opinions may help to understand reality – and to shape economic policy. Note, moreover, that the Alesina–Angeletos model explicitly assumes that the distinction between luck and effort is meaningful for the formulation of a theory of justice. This is the (non-welfarist) starting point of some recent theories of fair allocation, to which we will return in Chapter 4.

In this line of thinking, empirical work is meaningful, even if one rejects emphatically the idea that the popularity of a specific notion of justice in the population has some relevance for its ethical respectability. Even if one considers the majority opinions to be ethically

[2] This idea of reciprocal influence is the key idea behind the equilibrium concept in the theoretical model of Alesina and Angeletos (2005).

unacceptable, one still has to convince a sufficient number of citizens if one wants to implement one's own supposedly superior conception of justice. 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. All this also implies that a minimal requirement for a theory of justice must be that it can be explained to the members of society. If not, public support for it is highly doubtful.

2.1.2 Correcting biases

Empirical research consistently shows that individual justice opinions are linked to personal characteristics. Let us again give an example which does not come from the social choice tradition. Alesina and Giuliano (2011) analyse the preferences for redistribution in the US on the basis of the General Social Survey. They find that (after controlling for family income and age), more educated individuals are more averse to redistribution and that the opposite holds for women, for blacks and for respondents with a history of misfortune (e.g. unemployment) or those that have been raised Catholic or Jewish. Moreover, the willingness to redistribute interacts with ideas about and perceptions of fairness, such as the relative importance of hard work versus luck or the degree of equality of opportunity (see also Fong, 2001). Confront these findings with the profile of a modal social choice theorist. This modal social choice theorist is male, with a university degree, with an income well above average but at the same time well below the top, individualistic and intellectually ambitious. The probability that he is black is much smaller than it is for the overall population, the probability that he is Jewish is much larger. Unless social choice theorists in one way or another escape from the psychological regularities which characterize the attitudes of all other citizens, it seems likely that their atypical profile will be reflected in the theories they propose. Of course, social choice theorists are well aware that impartiality is an essential component of justice, but a greater awareness of social influences (also on their own frame of thinking) could certainly help to make them more careful about this.