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RATIONALIZING ENVIRONMENTAL DECISION-MAKING THROUGH ECONOMIC VALUATION?

Racjonalizowanie decyzji środowiskowych poprzez wycenę ekonomiczną?

Słowa kluczowe: wycena środowiskowa, wsparcie decyzji, uzasadnienie, nierówności, racjonalizacja

Key words: environmental valuation, decision support, justification, inequalities, rationalization

Streszczenie

Ekologiczne oceny ekonomiczne są często przedstawiane jako środki racjonalizacji procesu decyzyjnego. Ślepym punktem tego argumentu jest to, że ignoruje on wszechobecne nierówności środowiskowe. Autor artykułu krytykuje literaturę potwierdzającą wiarygodność podejść ekonomicznych do racjonalizacji procesu decyzyjnego i argumentuje, że kluczem do prawdziwej wartości ekonomicznej wyceny w racjonalizacji jest to, że ich wykorzystanie powinno być osadzone we wdrażaniu tego, co nazywa się uzasadnionym zadaniem. Następnie wykorzystuje analizę pojęcia racjonalności w odniesieniu do procesów wspomagających podejmowanie decyzji, aby przełożyć to rozumowanie na konkretne warunki stosowania środowiskowych wycen ekonomicznych.

Abstract

Environmental economic valuations are often presented as means to rationalize decision-making. A critical blind spot of this argument is that it ignores pervasive environmental inequalities. The author of article criticizes the literature entrenching this credentials of economic approaches to rationalize decision-making and argues that the key for economic valuations to truly contribute to rationalization is that their usage should be embedded in the deployment of what is called a justificatory task. Then the author takes advantage of an analysis of the notion of rationality, when applied to decision-aiding processes, to translate this reasoning into the concrete terms of applications of environmental economic valuations.

Introduction

Economic valuations of biodiversity are an increasingly active field of academic inquiry (Bartkowski 2017), often presented as a prominent

means to rationalize decision-making on environmental issues (Kumar 2010). The logic underlying this argument reads as follows. Numerous ecological studies highlight positive correlations between measures of biodiversity and various measures of ecological functioning (Schmid et al. 2009), in turn corresponding to various "ecosystem services" from which human beings are said to benefit (Quijas et al. 2012; Mace et al. 2012). Seen through these lenses, the current dramatic erosion of biodiversity (Butchart et al. 2010) can be interpreted as evidence that biodiversity is undervalued, in the sense that actual decision-making does not reflect the real importance of biodiversity for human beings. By measuring this importance of biodiversity in such a way as to allow its integration in improved decisions, economic valuations of biodiversity would be a key to rationalize these decisions – or so, the argument goes.

A widespread criticism of this argument claims that it is uniquely focused on the instrumental value of biodiversity (reflected in ecosystem services) and thereby ignores the intrinsic value of biodiversity (Sarrasin & Lecomte 2016). This counterargument points to a more fundamental and multifaceted problem. The above argument in favor of economic valuations of biodiversity makes it look as though economic valuations do not involve any value-judgment by economists: by emphasizing *rationalization*, this argument silences value-judgements. The omnipresence of value-judgments in economic valuation exercises is however demonstrated by the pervasiveness of inequalities in economic valuations.

Indeed, as soon as economic valuations are applied through policy reforms including environmental conservation or restoration actions, they unavoidably generate two kinds of inequalities. First, because various people or groups interact in various ways with their natural environment, any conservation/restoration action is bound to induce differential effects on the well-being of different people or groups – whatever the sense given to the phrase "well-being". Second, because any conservation/restoration action needs being financed, and because policies are typically financed through taxes which are not evenly distributed, any conservation/restoration action is bound to induce differential costs to different people or groups. More fundamentally still, the most prominent methods deployed in the environmental valuation literature, which will be termed "standard" economic valuation

methods in this article, conceal inequalities. These methods are based on measurements of people's willingness to pay (WTP) (we will leave aside here the more anecdotal case of methods based on willingness to accept), as it can be elicited by individual surveys (stated preference methods) or revealed by these individuals' behavior on markets (revealed preference methods) (Meinard & Grill 2011). The first case encompasses contingent valuation and choice experiment (Alberini & Kahn 2006), while the second one mainly encompasses travel cost (Fletcher et al. 1990) and hedonic pricing methods (Yoo et al. 2014). Drawing on the immense literature on the normative underpinnings of economic sciences (e.g., Sen 1967, 2004; Mongin 2006), Meinard et al. (2016) showed that these two families of methods are anchored in distinctive normative underpinnings. Stated preference methods are anchored in welfarism, a normative postulate defined by Sen (1979) as stipulating that "the principle that the goodness of a state of affairs depends ultimately on the set of individual utilities in that state". In this definition, the term "utilities" refers to individual preferences and, as highlighted in the literature on adaptive preferences (Teschl & Comin 2005), the latter reflect inequalities in patterns of individual endowments. When it comes to revealed preference methods, according to Meinard et al. (2016) they are anchored in "endowment conservatism", a normative postulate that they define as stipulating that "although preferences are sensitive to initial endowments, this is no reason to reform the current pattern of individual endowments". Welfarism implies endowment conservatism, but the reverse is not true. Because endowment conservatism reproduces inequalities in individual endowments, all the standard environmental valuation methods therefore reproduce inequalities in individual endowments.

In addition to the above standard economic valuation methods, a prominent alternative which has seen numerous empirical applications to biodiversity in recent years is deliberative valuation (Bartkowski 2017). This refers to methods based on choice-experiments or WTP questionnaires embedded in protocols of exchanges of information and discussions. These methods were originally motivated by critical discussions of the ontological assumptions underlying standard valuation methods, and more recently Bartkowski & Lienhoop (2018) explored their positive philosophical underpinnings, referring mainly to Sen (2010).

In the present article, we will not focus on these methods because they are much less commonly applied than standard valuation methods. However, to the best of our knowledge, the extent to which the inequalities enshrined in standard economic valuation methods are mitigated by using these deliberative methods has never been assessed in the literature. Our reasoning, elaborated as it is by focusing on standard economic valuations, can therefore prove relevant to thinking through applications of deliberative methods as well. In any case, even if these methods were to prove efficient in mitigating the inequalities enshrined in standard evaluation methods, just like the latter, as soon as they are used to carve out policy reforms, they unavoidably entail differential impacts and costs for different people or groups, and therefore they (re) produce inequalities, one way or another.

These pervasive inequalities lying at the core of environmental economic valuation unavoidably cast doubt on the above argument according to which they can contribute to rationalizing decision-making on environmental issues, by highlighting that economic valuations are unavoidably accompanied by surreptitious value-judgments. One could even argue that heralding this promise of rationalization looks like a convenient means to conceal the (re)production of inequalities. Our aim in the present article is to elaborate on this issue and to identify conditions upon which environmental economic valuations can truly contribute to rationalization, in spite of this (re)production of inequalities. Thoroughly analyzing this issue will involve addressing epistemological and methodological problems, articulated in more general terms than the ones of environmental economic valuations. Our rationale in this article will address these fundamental issues, which have to do with the role of economic science in public decision-making at a general level, and highlight their implications for environmental economic valuation.

Our rationale will unfold in three parts. In the following two sections, we will review the main arguments found in the literature to entrench the credentials of economic approaches to rationalize decision-making, and we will argue that these approaches fail at a fundamental level – beyond the specific case of economic valuations of the environment. In a fourth section, we will argue that the key for economic valuations to truly contribute to rationalization is that their usage should be embedded in the deployment of what we will call a *justificatory task*.

A fifth, more concrete section will translate this reasoning in the concrete terms of applications of environmental economic valuations in decision support processes.

1. Defective arguments to entrench the rationalizing potential of economic valuations

The relevance of economic approaches for the purpose of improving environmental decision making, and in particular the relevance of economic valuation for that purpose, has been heavily criticized in philosophical circles (e.g. Norton 2005; Sagoff 2008). However, as pointed out by Tsoukiàs et al. (2013) and De Marchi et al. (2016), among others, there is a growing tendency among policy makers to call for economic knowledge to buttress policy-making, often in a so-called "evidence-based" approach, and the case of environmental policies is no exception. This is a call for knowledge to become advice, and for purportedly scientific propositions to endorse the normative status of prescriptions. Though this tendency might have indeed gained prominence, or rather visibility, in recent years, the idea that economic, and more generally scientific insights, should guide policy making has ancient roots, dating back at least to Hobbes' seminal exposition of a science of policy (Skinner 1996), and in a sense even to Plato's figure of a "philosopher king". Issues such as whether the wisest should rule the masses, or how scientific insights can contribute to collective decision-making in different political regimes, are accordingly addressed by a vast literature. In this section, we claim neither to exhaustively review this immense literature, nor to do justice to all the aspects of the issues it tackles. We rather review the main rationales used in the literature to argue that using economic knowledge to articulate prescriptions allows rationalizing decision-making, in the sense that it would allow improving decision-making, without involving additional value-judgments.

1.1. A first defective model: economics as pure science

A first argument to claim that environmental economic valuations and, more generally, economic insights can be used to rationalize policies is to argue that economics is a value-neutral, purely scientific en-

deavor. Although this approach is crude and hardly credible, it is widespread, in the sense that it is implicitly present in many arguments voiced both in academic contributions and in ordinary conversation. Discussing it is therefore unavoidable. In its application to environmental economic valuation, this model would simply deny that, as argued by Meinard et al. (2016), standard economic valuation methods are anchored in normative premises, and that there are value-judgments to be made, in particular concerning inequalities, when applying these methods.

The idea that economics is a value-neutral, purely scientific endeavor is traditionally associated with Robbins (1932). This approach admits that value-judgments are essentially non-scientific, and that economics as a science should therefore eliminate them. One might think that the proponents of this model would naturally claim that economic science simply cannot produce policy advices. Numerous authors have however striven to demonstrate that, even in this approach, economic science manages to produce so-called "policy relevant" results, liable to feed policy advices.

As Baujard (2017) recalls, the issue of inter-personal comparisons of utility (notice that, in this article, the term "utility" is understood, like it typically is in the social choice literature, in a broad sense (Fleurbaey 2003), rather than in the specific sense it is given in the literature on utilitarianism) provided a prominent historical exercise for economists engaged in this endeavor. Inter-personal comparisons of utility involve value-judgments because one cannot claim that a given increase in the welfare of one individual outweighs or even is equivalent to a given decrease in the welfare of a second individual unless one judges the relative worth of the welfare of the two individuals. A prominent conceptual trick to produce policy-relevant results despite the ban on the value-judgments involved in interpersonal comparisons of utility is the strong Pareto principle, stating that state of affairs x is better than state of affairs y if no one is worse off in x as compared to y, and at least one person is better off in x as compared to y. But this principle has two important defects. First, it leaves economists incapable to formulate any policy-relevant result in situations where there is no state of affairs that strongly Pareto dominates the others, which is bound to happen quite often. Second, as famously emphasized by Sen (2004), among others, the strong Pareto principle is itself normative and, in

a sense, not minimally so. For example, when applied to very unequal situations, claiming that an increase in the richness of the better-offs is self-evidently an overall improvement if it leaves the situation of the worse-offs unchanged can hardly be presented as completely devoid of value-judgments. The same logic applies to the presentation of cost--benefit analysis using the Kaldor-Hicks criterion (Hicks 1941), another historically prominent trick used to claim that economic science can provide purely value-neutral policy advices. This criterion is demonstrably utilitarian (Meinard et al. 2016). Applying it and choosing an action that proves superior in terms of cost-benefit analysis therefore implies endorsing utilitarianism, which is clearly a normative stance.

Despite the fact that economics is often presented as a "pure" science in ordinary conversation, it seems that there is now a large consensus that the model of economics as a pure science is a mirage. Sciences are all anchored in values, be they only epistemic values (Longino 1990). Because many economic studies explicitly tackle normative issues, the role of values is all the more prominent in this discipline. And in any case, as soon as economic pieces of knowledge are used to produce advices, the simple fact that they are used for that purpose unavoidably has a normative dimension. The model of economics as pure science is therefore not only elusive, but also irrelevant in contexts such as the ones concerned by our reasoning here.

1.2. A second defective model: economics as a means to articulate norms

The failure of the pure science model suggests a way out, which consists in integrating value-judgments as axioms with respect to which economists should take an agnostic stance, and whose implications they should take upon themselves to delineate. In its application to environmental economic valuation, this approach would claim that the normative premises singled out by Meinard et al. (2016) can be articulated in an axiomatic form, and decision-makers should decide if they endorse the corresponding axioms or not: if they endorse them, the inequalities reproduced by the corresponding applications of standard economic valuation methods should be considered accepted, and these inequalities are problematic only if decision-makers do not endorse these axioms.

This is the approach developed by many authors in the social choice literature. A typical example is the literature on "formal welfarism" (Fleurbaey 2003). The point of this literature is to formalize social welfare functions. The latter are functions allowing the comparison of several social states of affairs by aggregating individual information in these different states of affairs. The various possible functions have different properties, which in turn capture different value judgments. By formalizing these functions and properties, the economist does not himself make any value-judgement. But he produces a tool that a decision-maker can use: if the decision-maker endorses a given value-judgement, then the economist can identify the corresponding property and then recommend the function that the decision-maker should use. In so doing, the economist is purely value-neutral. This line of argument fails, however, for at least two reasons.

First, equating a value-judgment with an axiom is more difficult than most social choice theorists seem to admit, and is perhaps doomed to be elusive. Arrow's (1951) "Non Dictatorship" axiom provides a potent illustration. This axiom states that there is no individual i in society such that, for all profiles and all pairs of alternatives x and y, if i prefers x to y, then x is preferred to y at social level. This axiom is expected to be largely accepted as a minimal requirement for any collective decision rule, and this expectation can be supposed to echo our shared endorsement of democracy and our shared refusal of dictatorship. However, the notion of dictatorship refers to a complex picture of political arrangements, associated in intricate ways with notions such as arbitrariness, illegitimacy, and rule by force, and so on. Our shared refusal of dictatorship is also nourished by our culture and historical experiences. None of these are captured by Arrow's axiom. This was arguably not part of Arrow's ambition, but this is what one presupposes when one assumes that the non-dictatorship axiom captures our shared refusal of dictatorship. Axioms undoubtedly are useful to formalize some aspects of value-judgments. But one cannot expect it to be possible to correctly and completely capture value-judgments or values in axioms. Articulating values is an endless task, using axioms for that purpose is an endless part of this endless task.

The second reason is that one might admit the soundness of an axiom when looking at the axiom itself, while in fact rejecting the implica-

tions of this axiom. Arrows' impossibility theorem (Arrow 1951) again provides an apt example. Arrow's argument is based on axioms that the author expects most of his/her readers to endorse. The point of the theorem, and the reason why this result is so powerful, is that a series of axioms, which all seem acceptable at first sight, proves impossible to combine. A natural way out of the conundrum is to question the spontaneous adherence to the axioms, which prove, on due reflection, to be less commendable. A similar argument can be developed by referring to two classical axioms in the social choice literature: *Indifference to Other Alternatives* and *Non-Comparable Ordinalism* (Fleurbaey 2003). The first axiom states that, when ranking two states of affairs, x and y, at social level, the information about x and y which should be taken into account is strictly limited to the individual evaluation levels at x and y. The second one stipulates that any transformation of individual evaluation functions which does not alter individual ordinal preferences should leave social preferences unchanged. Taken one by one, these two axioms might seem to be reasonable enough. The association of these two axioms however leads to Arrow's impossibility theorem. If axioms were faithful translations of norms, and if the fact that an individual endorses an axiom were enough to claim that he endorses the corresponding norm, the latter result would mean that, if one deemed *Indifference to Other Alternatives* and *Non-Comparable Ordinalism* reasonable on the face of it, one would be compelled to endorse that collective choice is impossible. This stance is, in our view, untenable.

The above scheme through which social choice theorists pick-up axioms that correspond to the decision-maker's value-judgments therefore fails because it is anchored in two unwarranted premises. The first one is that it is undebatable that axioms can aptly capture value-judgments; the second one is that decision-makers are able to make clear and definitive value-judgments once and for all, in the abstract.

2. The mirage of purely procedural economics

2.1. The procedural/substantive debates

The two models explored above are explicitly defended by some authors in the literature. A third model, more powerful than the above two, can be carved out to attempt to overcome their respective short-

comings. Though it is arguably implicit in many economic contributions, this model has, to our best knowledge, never been explicitly articulated in the literature. We will therefore devote a bit more space to present and explain it and its philosophical motivation.

The source of this third model can be found in the debates between procedural and substantive approaches to the legitimacy of political decisions (Estlund 2008; Meinard 2017). These debates are a cornerstone of the literature on democracy in political philosophy. However, two different debates are articulated using the same terms in this literature, in spite of their profound differences. It is therefore useful to recall the basic structure of these two debates.

A first debate asks whether a policy decision deserves to be called democratic depending on the so-called "output" of the decision, or depending of the process through which it has been taken ("input") (Bäckstrand et al. 2010; Vatn 2016). Proponents of an input theory of democracy claim that, if a decision has been taken through democratic procedures, then it is democratic, whatever its output. Proponents of output theories take the opposite stance. These two extreme approaches have absurd implications. A radical input theorist would be led to claim that a decision to disenfranchise half the citizenry would be democratic if taken through a democratic procedure. Symmetrically, a radical output theorist would be led to claim that a benevolent dictator could achieve a democracy. Both implications are untenable, in the sense that they clash with many of the implications that our language associates with the very notion of democracy. Most authors therefore strive to elaborate theories of democracy that reach an equilibrium between input and output.

The second debate opposes purely procedural to substantive theories of democracy. Substantive theories claim that democracy is a matter of values, which can be materialized either in procedures, or in political outcomes, such as for example in rights that are entrenched in law. An example of such an approach is given by Brettschneider (2010), who claims that democracy is first and foremost a set of "core values", which can be materialized, not only in votes and institutional proceedings usually called "democratic", but also in the proceedings of constitutional courts. As opposed to substantive theories, purely procedural theories claim to account for democracy by delineating formal prop-

erties of decision-making procedures that are supposed to be purely value-neutral, and from which democracy would emerge. Habermas (1994) is often presented as the canonical example of such an approach. Purely procedural approaches are criticized in the literature for being untenable, because it appears impossible to recommend procedural properties while remaining value neutral. For example, a prominent procedural property is the universal voting right. Critics of purely procedural approaches argue that the only reason to command the universal voting right is that it expresses the value-judgment that human being are equal and should be treated as such. Symmetrically, purely substantive approaches are criticized because, if there is a substance that defines what counts as democratic (as they claim), then it means that there is not even a need for citizens to vote or express their view in order to achieve a democracy, which is bound to appear contradictory.

These two debates have important similarities, mainly because input theories and purely procedural theories similarly focus on procedures. However, most input theories would be called substantive by proponents of purely procedural theories, because they promote procedural values. Besides, substantive theories can materialize in both output and input theories. The second debate is a deeply philosophical one, opposing form and substance or values, while the first one is more pedestrian, and opposes concrete, worldly procedures, with no less concrete, worldly states of affairs: patterns of endowments, distributions of income, and so on.

The second, more philosophical debate is the most relevant one from our point of view here. This debate indeed drives in a wedge, thanks to which economic expertise can enter the scene by the backdoor and find its place upstream from political processes. Indeed, this debate interestingly frames the issues surrounding democracy in such a way that a role for economics becomes visible upstream from democracy. In the purely procedural approach, economics can play a role in identifying and characterizing the supposedly pure procedure – without thereby making any value-judgment.

This third approach hence identifies a place where economics can play a role in public decision making, but it does not specify the role it can play there. The purely procedural approach seems to offer a possibility for economics to play such a role without compromising with

"substance", that is, without having to make value judgments. If we come back to our focal issue, environmental economic valuations and environmental inequalities, in a purely procedural approach, the role of the economist would be to identify a procedure allowing the application of environmental valuation methods in such a way as to avoid having to make value-judgments concerning the inequalities they (re)produce.

What, then, would it be like to be a purely procedural economist? To answer this question, it is useful to come back to Rawls's (1993) and Habermas's (1983) attempts to capture what it is like to be a purely procedural philosopher (see Meinard & Cailloux 2020, p. 1005 for an exploration of this debate from another angle).

2.2. Varieties of flight from advocacy

Rawls' (1993) theory (at least in a plausible reading) epitomizes what Estlund (2008) called a "flight from substance". Rawls wanted to eschew making value-judgments both about what democratic states of affairs should look like, and about democratic processes. To that effect, he appealed to the concept of "reasonable" citizens and argued that policies are legitimate if elaborated and enacted within the framework of a constitution whose basic tenets are acceptable to all "reasonable" citizens. And he claimed that the content of the concept of reasonableness should itself be determined by reasonable citizens, rather than by himself as a philosopher. This approach might seem to encapsulate a possibility to think through democratic procedures and outcomes without making any value-judgments, which is precisely what economists trying to place themselves upstream from democracy want to do. Unfortunately, as pointed out most famously by Habermas (1999), if it is to play the role that Rawls assigns to it in his theory, the concept of reasonableness is necessarily counterfactual. In Rawls' theory, still according to Habermas, this counterfactual aspect takes the form of a substantial inquiry into the nature and features of a moral subject.

Rawls' attempt is therefore the paragon of the failure of the flight from substance. Whereas Habermas played a key role in unveiling the problems crippling Rawls' approach, he himself embarked on a flight of his own, which has both important differences and interesting similarities with Rawls' flight from substance. Habermas' (1983) usage of the notion of "performative contradiction" is particularly interesting

in this respect. Habermas deploys this argument in his presentation of his "discourse ethics". He is concerned with providing foundations for the normative principles structuring his discourse ethics. In broad outline, this argument states that anyone who would reject the purportedly minimal normative discourse ethics would thereby contradict himself. This means that everyone implicitly already admits the tenets of discourse ethics. If this is the case, the performative contradiction argument is a positive one, not a normative one. Therefore, if the performative contradiction argument is successful, then it provides positive material for economists (among others) to study without stepping outside the realm of positive science, but with normative bearings. Unfortunately, the performative contradiction argument fails to evacuate normativity. Habermas himself never articulated his approach as a rejection of normativity, and he probably did not intend to discard normativity altogether. But by falling back upon a supposedly already entrenched consensus, he went a step farther than Rawls, in the direction of the flight from substance. He not only eschewed taking a stance on what is a good or a bad policy, or on what is a good or a bad procedure, he went as far as striving to show that there is no stance to be taken on the foundations of morals, because we all always already agree on them. This is not only a flight from substance; it is a flight from any advocatory element in normative attitude. But once one has eliminated any advocatory element in normativity – once one has admitted that normative discourse never consists in defending anything – then what is the difference between a normative discourse and a positive discourse on normativity? It is unclear how Habermas would answer this question. What is clear from his writing is that he had an acute awareness of the impossibility of developing a perfectly satisfactory positive account of normative behavior.

In any case, the performative contradiction fails, because rather than evacuating normativity, it hides its normative content in its implicit assumption that contradiction ought to be excluded. Can it account for this assumption? It cannot do it simply by claiming that we all already accept that contradictions should be avoided, because this would lead to an infinite regress.

The flight from advocacy hence appears to fail at a fundamental level. Instead of clinging to this stance, in the remainder of this article

we suggest that we have to take it upon ourselves to reflexively identify the normative stance that we take, as economists, and to accept that we advocate a vision of what ought to be done.

3. Justification, or how to overcome the flight from advocacy

3.1. Two visions of what ought to be done

Advocacy, in its crudest form, clearly has its drawbacks. Though the failures of the flight from advocacy suggest that advocacy itself should not be completely abandoned, it is therefore important to catch a more clearly articulated picture of normativity, liable to help us to understand how and why advocacy can become a problem, and how and why we can retain it. For that purpose, we want here to elaborate on a very basic structure of normative reasoning. There are, we argue, two very different approaches to what ought to be done. The first one we call "moral realism", and the second one "the justificatory task".

Moral realism is the attitude of people who admit that they have a special access to a form of moral truth, and therefore can sometimes claim, without further ado, that this or that is "right" or "good" (we cannot overemphasize that, by defining moral realism in this way, we do not claim to do justice to the immense literature articulated in terms of "realism" in moral philosophy: our argument is confined to the concept of moral realism as we define it). The justificatory task is the attitude of people who endlessly keep on arguing about the justification of their stances about what ought to be done: there never is a point when they stop arguing and simply say "that's the way it is". Advocacy is a problem only when it is in the hands of a moral realist.

Indeed, a worrying feature of moral realism is that either it converges towards the justificatory task, or it collapses in an apology of violence. Imagine that, as a moral realist, you face a challenge to your vision of what ought to be done. You can reply by justifying your stance, and in so doing you give up realism and lean towards the justificatory task. Or you can inflexibly cling to your stance and strive to impose it by force. In that case, either violence is part of your vision of what ought to be done, in which case you are stuck in the apology of violence,

or your vision of what ought to be done rejects violence and your moral realism is repudiated. (Notice that this reasoning only applies to "deep" challenges, questioning your vision of what ought to be done fundamentally and in itself, not to more moderate challenges, questioning, for example, the idea that your vision of what ought to be done is the only admissible one, or calling for your tolerance of other visions.) The only stable moral realism is therefore the apology of violence – where "stable" means that this attitude can survive without converging towards the attitude with which we contrast it, that is: the justificatory task.

What about the justificatory task: is it stable? The justificatory task can be transient: one can be ready to argue up to a certain point, and then fall back upon realism. In such a case, the stability of this justificatory task is determined by the stability of the moral realism on which it falls back. What if it is not transient – if it does not fall back upon moral realism? One can claim to take advantage of the structure of reasoning deployed in the substantive vs. procedural debate to reject this possibility. The argument would unfold as follows. If you endorse the justificatory task, it means that you endorse the values underlying the idea that moral stances should be backed by justifications. And these very values are the core of your moral realism. The justificatory task would hence unavoidably fall back on moral realism. However, the brand of moral realism on which the justificatory task would unavoidably fall back is of a very special kind. By definition, if one sticks to this moral realism by violence, one is no longer engaged in the justificatory task. This moral realism is therefore one that immediately falls back upon the justificatory task. Hence, though the justificatory task arguably is underlain by values, those values are immediately redirected towards a justificatory task. The justificatory task therefore is stable.

A tempting criticism of this reasoning is that it presupposes what it claims to demonstrate. Indeed, when deploying the above argument to demonstrate that we should embark on a justificatory task, what we do in effect is strive to justify the justificatory task, which seems to presuppose that we should embark on a justificatory task. This criticism is flawed, however, because it fails to notice that the object of justification places itself at two different levels in this discussion. The point of the argument above is to prove that when, as economists, we claim to use economic science to articulate recommendations, we should embark on

a justificatory task. When articulating this argument, we indeed endorse the idea that we should justify what we are saying, but what we are saying is not a recommendation based on economic science: it is a reasoning on what we should do as economists when articulating such recommendations. Our reasoning therefore clearly presupposes that justification has a role to play, but this presupposition is simply the presupposition shared by any reasoning, and not a presupposition that preempts the issue of whether recommendations based on economic science should be justified.

The justificatory task is, we claim, what we should advocate as economists. Because it is stable and it is a very basic moral stance whose sole stable counterpart is the apology of violence, we think that we should not be afraid or shy, as economists, to advocate it. There is no reason to flight this advocatory stance, no reason to (hopelessly) attempt to flight this substance, no reason to strive to reduce it to putative positive foundations.

3.2. The justificatory task

The proposition that we defend in this article is hence that, as economists, we should advocate the deployment of the justificatory task. This is unquestionably, openly a normative stance, one that we should take upon ourselves to advocate, by arguing in favor of it, and by enacting it.

This approach faces a difficult problem, however. This problem reflects a basic and very important ambiguity. The justificatory task consists in displaying good arguments for the stances we take, judgements we make, etc. But what is a "good" argument: is it one that happens to be accepted, or one that should be accepted?

The formal literature on argumentation (Dung 1995; Besnard & Hunter 2008) seems to favor the second option, because it defines arguments as good arguments – as arguments that should be accepted if properly understood. And so does, as explained above, the Rawlsian and Habermassian literature, because it is concerned with a counterfactual concept of reasonableness or acceptability. More empirically-minded approaches strive to capture the arguments that are acceptable to people, in the sense that people will accept them, if they are given the opportunity to make up their mind about them. Though less theoretical than the above-mentioned philosophical literature, these approaches in their

various guises are anchored in counterfactual conditional clauses. So, just like the notion of acceptability conceals a normative element, so does the notion of opportunity to make up one's mind about an argument. In the end, empirically-minded approaches prove to be anchored in normative assumptions, which have to do with the goodness of being anchored in justifications, and the goodness of respecting the plurality of points of view that one can have on a given justification.

One might fear that such normative assumptions could redirect the quest for justification towards a variant of moral realism. However, this would be the case only if these normative assumptions were considered to be beyond the purview of justification. By contrast, if these assumptions are themselves up for justification, the justificatory task is immune from moral realism.

4. Justification and rationalization in decision processes based on environmental economic valuations

Applied to environmental economic valuations, the argument developed in the former section means that the claim that economic valuations can contribute to rationalize decision-making on environmental issues, far from being unquestionable (as the literature typically takes it to be) can be sensible only if buttressed on justifications articulated by the economists implementing them.

One can be tempted to trivialize this idea by claiming that it simply means that, in order to make a rationalization out of an application of an economic valuation method, one simply has to spell out an argument presented as a justification. This approach obviously would empty the notion of justification of any normative content. Another, less trivial but also flawed approach, would consist in claiming that a given economic valuation method can participate in rationalizing environmental decision-making if and only if the method itself can be justified. However, it is unclear how such a justifiability test could be performed. At best one can say whether applications of a given method have so far been justified, but this leaves aside all possible but non actual applications.

This problem suggests, in our view, that the question of whether environmental valuation methods can contribute to rationalize envi-

ronmental decision-making is too general and abstract to be answered. The issue becomes addressable only if recast in the more concrete terms of the decision-aiding processes (understood in the sense spelled out in Tsoukiàs 2007) in which they take part. Decision-aiding processes are sets of continued interactions between a decision-maker and an analyst articulating recommendations. This suggests that a more promising way to investigate our question is to ask whether specific usages of a given method partake in decision-aiding processes where their usage is justified.

Depending on the specific features of decision-aiding processes, the justifications liable to entrench the ability of an application of a given environmental economic valuation method to participate in rationalizing environmental decision-making can take various forms. Meinard & Tsoukiàs (2019) proposed a typology of decision-aiding processes determining which "conception of rationality" is better adapted. This grid can be translated in the terms of different kinds of justifications liable to entrench a contribution to rationalization. Meinard & Tsoukiàs (2019) argued that the main feature to take into account is the "dominant constraint" binding the decision process, and distinguished decision situations where this dominant constraint is, respectively: an *irrevocable governance pattern*, an *unquestionable decision-aiding architecture* and a *sanctified spirit of initiative of the decision-maker* (see Meinard & Tsoukiàs 2019 for concrete examples of environmental policies whose implementations take place in contexts characterized by these different constraints).

In the first kind of situation, the decision-aiding process occurs in a context where "most if not all the actors involved in the decision or potentially affected by it have clearly established and entrenched roles and statuses, so that the decision-maker's chief aim is that her/his decision should fit smoothly in the existing governance pattern". In such a case, Meinard & Tsoukiàs (2019) argue that rationalization involves applying the "conformist conception of rationality", which means aiding the decision-maker to make the decision that he and the concerned actors will deem conforming to what he is expected to do. In its application to environmental economic valuations, this idea means that, in contexts where the decision is to be made within an irrevocable pattern of governance, applications of these methods can indeed participate in

rationalizing decision-making, subject to the condition that the decision they allow to be recommended can be justified by arguments echoing what the actors involved take to be the right decision or the right kind of decision for the decision-maker.

In the second kind of decision situation, the decision-aiding process occurs in a context where "the decision-aiding process is tightly overseen by external experts or expertise institutions which are considered to be absolute references, and are therefore entrusted with imposing the methodologies and tools [to be used]". In such a case, rationalization involves applying the "objectivist conception of rationality", which consists in computing the problem according to the formulation imposed by the authoritative third party and identifying the corresponding solutions (if any). In its application to environmental economic valuations, this idea means that, in contexts where the decision is to be made within an unquestionable decision-aiding architecture, applications of these methods can indeed participate in rationalizing decision-making, subject to the condition that the decision they allow to recommend can be justified by referring to a third party enjoying an unquestionable epistemic authority. We cannot overemphasize that the situations of applications of environmental economic methods where this condition is satisfied are, in all likelihood, quite rare, and are, in any event, much rarer than current applications of these methods.

In the third kind of decision situation, the decision-aiding process occurs in a context where "what comes from [the decision-maker] is granted prominent importance". In such a case, rationalization involves applying the "adjustive conception of rationality", which consists in tracking the idiosyncrasies of the decision-makers, such as his own preferences and values. In its application to environmental economic valuations, this idea means that, in contexts where the decision is to be made in such a way as to sanctify the spirit of initiative of the decision-maker, applications of these methods can indeed participate in rationalizing decision-making, subject to the condition that the decision they recommend precisely tracks the decision-maker's idiosyncrasies.

In addition to these three kinds of decision-situations where one specific constraint clearly dominates the others, in many decision-situations none of the three clearly dominates. In such cases, the decision analyst has more liberty to choose an approach and to deploy and put

to the test a justification. Besides, in such situations, still according to Meinard & Tsoukiàs (2019), a fourth conception of rationality, the "communicative" conception allowing to unfold a "reflexive" decision-aiding approach and echoing Habermas's (1981) notion of communicative action, can be used. This fourth approach, which allows questioning and rethinking (of) all the aspects of the decision to be made (whereas the other three approaches refrain from rethinking some aspects that they deem untouchable), is certainly the most intellectually satisfactory.

According to the argument unfolded here, standard economic valuations, just like any other application of economic tools, can indeed play a role in rationalizing environmental decisions, in spite of the inequalities that they reproduce. But this possibility is conditioned by the requirement that the economist implementing them produces justifications reflecting the features of the specific decision situation (for a concrete example of how such a justification can be deployed as part of the application of economic methods to support the implementation of an environmental policy, see example 3 in Cailloux & Meinard 2020). Current practices are far from satisfying this requirement to produce justifications – let alone justifications reflecting the contextual elements and the normative reasoning needed to contribute to a genuine stable justificatory task that does not fall back on any kind of moral realism. A natural corollary of this idea is that, in some cases (but by no means always), other decision analysis tools, such as deliberative valuation methods (Bartkowski & Lienhoop 2018), can prove to be more promising than standard economic valuations to rationalize some decision processes.

Conclusions

The idea that environmental economic valuations are means to rationalize environmental decision-making is pervasive in the literature. It is championed as unquestionable by some authors, and vilified as completely irrelevant by others, mainly because these methods are anchored in normative premises (mainly having to do with environmental inequalities) that are typically not clarified in the economic literature. In this article, we have advocated a more moderate approach, according to which the rationalization potential of applications of these methods should be analyzed on a case-by-case basis in each decision process

in which they are involved, depending on the ability of the economists using them to justify their usage of these economic valuations, materializing an ambitious justificatory task, deployed in ways that are responsive to the specifics of the decision situation. This reasoning draws heavily on the contributions of Meinard & Tsoukiàs (2019) and Meinard & Cailloux (2020), whose details it was impossible to present thoroughly in the present article. However, our reasoning here is largely independent from these details, and the main structure of the argument is independent from these contributions and their validity or invalidity[1].

References

Alberini A., Kahn J.R. (eds.) (2006), *Handbook on contingent valuation*, Edward Elgar.

Arrow K.J. (1951), *Social Choice and Individual Values*, Yale University Press, New Haven.

Bäckstrand K., Khan J., Kronsell A., Lövbrand E. (eds.) (2010), *Environmental Politics and Deliberative Democracy*, Edward Elgar.

Bartkowski B. (2017), *Economic valuation of biodiversity: an interdisciplinary conceptual perspective*, Routledge.

Bartkowski B., Lienhoop N. (2018), *Beyond Rationality, Towards Reasonableness: Enriching the Theoretical Foundation of Deliberative Monetary Valuation*, "Ecological Economics" 143: 97–104.

Baujard A. (2017), *"L'économie du bien-être est morte" Vive l'économie du bien-être!*, [in:] *Philosophie économique*, G. Campagnolo, J.-S. Gharbi (eds.), Matériologiques, Paris: 77–128.

Besnard P., Hunter A. (2008), *Elements of argumentation*, MIT Press.

Brettschneider C. (2010), *Democratic Rights*, Princeton University Press.

Butchart S.M.H., Walpole M., et al. (2010), *Global Biodiversity: Indicators of Recent Declines*, "Science" 328(5982): 1164–1168.

De Marchi G., Lucertini G., Tsoukiàs A. (2016), *From evidence-based policy making to policy analytics*, "Annals of Operations Research" 236: 15–38.

Dung P.M. (1995), *On the acceptability of arguments and its fundamental role in nonmonotonic reasoning, logic programming and n-person games*, "Artificial Intelligence" 77(2): 321–357.

Estlund D. (2008), *Democratic Authority*, Princeton University Press.

Fletcher J.J., Adamowicz W.L., Graham-Tomasi T. (1990), *The travel cost model of recreation demand: Theoretical and empirical issues*, "Leisure Sciences" 12(1): 119–147.

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Fleurbaey M. (2003), *On the Informational Basis of Social Choice*, "Social Choice and Welfare" 21/2: 347–384.
Habermas J. (1981), *Theorie des kommunikativen Handelns*, Suhrkamp.
Habermas J. (1983), *Moralbewußtsein und kommunikatives Handeln*, Suhrkamp.
Habermas J. (1994), *Faktizität und Geltung: Beiträge zur Diskurstheorie des Rechts und des demokratischen Rechtsstaats*, Suhrkamp.
Habermas J. (1999), *Die Einbeziehung des Anderen*, Suhrkamp.
Hicks J.R. (1941), *The Rehabilitation of Consumers' Surplus*, "Review of Economic Studies" 8(2): 108–116.
Kumar P. (2010), *The economics of ecosystems and biodiversity: ecological and economic foundations* [TEEB: The Economics of Ecosystems and Biodiversity], Earthscan.
Longino H.E. (1990), *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry*, Princeton University Press.
Mace G.M., Norris K., Fitter A.H. (2012), *Biodiversity and ecosystem services: a multilayered relationship*, "Trends in Ecology & Evolution" 27(1): 19–26.
Meinard Y. (2017), *What is a legitimate conservation policy?*, "Biological Conservation" 213: 115–123.
Meinard Y., Cailloux O. (2020), *On justifying the norms underlying decision support*, "European Journal of Operation Research" 285: 1002–1010.
Meinard Y., Dereniowska M., Gharbi J.-S. (2016), *The ethical stakes in monetary valuation for conservation purposes*, "Biological Conservancy" 199: 67–74.
Meinard Y., Grill P. (2011), *The economic valuation of biodiversity as an abstract good*, "Ecological Economics" 70(10): 1707–1714.
Meinard Y., Tsoukiàs A. (2019), *On the rationality of decision aiding processes*, "European Journal of Operational Research" 273(3): 1074–1084.
Mongin P. (2006), *Value Judgments and Value Neutrality in Economics*, "Economica" 73(290): 257–286.
Norton B. (2005), *Sustainability: A Philosophy of Adaptive Ecosystem Management?*, Princeton University Press.
Quijas S., Jackson L.E., Maass M., Schmid B., Raffaelli D., Balvanera P. (2012), *Plant diversity and generation of ecosystem services at the landscape scale: expert knowledge assessment*, "Journal of Applied Ecology" 49(4): 929–940.
Rawls J. (1993), *Political Liberalism*, Columbia University Press.
Robbins L. (1932), *An Essay on the Nature and Significance of Economic Science*, Third Ed., Macmillan.
Sagoff M. (2008), *The Economy of the Earth*, Cambridge University Press.
Sarrasin F., Lecomte J. (2016), *Evolution in the Anthropocene*, "Science" 351(6276): 922–923.
Schmid B., Balvanera P., Cardinale B.J., Godbold J., Pfisterer A.B., Raffaelli D., Solan M., Srivastava D.S. (2009), *Consequences of species loss for eco-*

system functioning: meta-analyses of data from biodiversity experiments, [in:] *Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective*, S. Naeem, D.E. Bunker, A. Hector, M. Loreau, C. Perrings (eds.), Oxford University Press: 14–29.

Sen A.K. (1967), *The Nature and Classes of Prescriptive Judgements*, "The Philosophical Quarterly" 17(66): 46–62.

Sen A.K. (1979), *Utilitarianism and Welfarism*, "The Journal of Philosophy" 76(9): 463–489.

Sen A.K. (2004), *Rationality and Freedom*, Harvard University Press.

Sen A.K. (2010), *The Idea of Justice*, Pinguin.

Skinner Q. (1996), *Reason and Rhetoric in the Philosophy of Hobbes*, Cambridge University Press.

Teschl M., Comim F. (2005), *Adaptive Preferences and Capabilities: Some Preliminary Conceptual Explorations*, "Review of Social Economy" 63(2): 229–247.

Tsoukiàs A. (2007), *On the concept of decision aiding process: an operational perspective*, "Annals of Operations Research" 154(1): 3–27.

Tsoukiàs A., Montibeller G., Lucertini G., Belton V. (2013), *Policy analytics: an agenda for research and practice*, "EURO Journal on Decision Processes" 1: 115–134.

Vatn A. (2016), *Environmental governance: Institutions, policies and actions*, Edward Elgar.

Yoo J., Simonit S., Connors J.P., Kinzig A.P., Perrings C. (2014), *The valuation of off-site ecosystem service flows: Deforestation, erosion and the amenity value of lakes in Prescott, Arizona*, "Ecological Economics" 97: 74–83.