



The Limitations to Economic Environmental Valuation

The explanation for environmental problems has long been claimed by environmental economists as lying in the fact that environmental goods are not priced in the market, and that therefore the solution to those problems is to bring environmental goods into the market. This can be done, it is argued, by either creating actual markets – such as the EU Emissions Trading System – or by using valuation methods to determine ‘shadow’ prices for environmental goods that are not included in actual markets. These prices can then be entered into cost benefit analyses. It is these latter economic environmental valuation (EEV) methods that are the subject of this policy brief.

EEV methods are used to determine the Total Economic Value (TEV) of an ecosystem, which is a monetary figure representing the total net value of the change in the flow of ecosystem services to society occasioned by a marginal change to the conditions of that ecosystem, such as a change brought about by a proposed economic development. The monetary figures for these values of an ecosystem are determined by an assessment of individuals’ willingness to pay (WTP) for the ecosystem services it provides. WTP figures are obtained by (i) making observations of choices people make regarding market goods, such as houses close to the ecosystem or fuel used to visit it, and (ii) asking individuals from the affected population how much they would be willing to pay for the benefits the ecosystem provides in a hypothetical market (or how much they should be compensated for its loss).

Whilst many conservationists embrace being able to invoke large monetary figures to represent the value of nature to politicians, the EEV methods that are used to produce these figures are subject to a number of substantial problems.

A longstanding concern regarding this approach is that that the places the poor live and care for will be valued at a lower rate, since they will be less able to respond

with high monetary figures to valuation surveys. EEV methods therefore facilitate an inequitable distribution of environmental harm between the rich and the poor. We present six further problems for EEV methods below.

1. EEV methods fail to secure ecosystem sustainability.

Environmental economics sees nature as a factory with a steady output flow, but this does not take into account complex ecological behaviour. Moreover, because economic valuation tracks marginal changes in an ecosystem, the method is unable to predict future erratic behaviour. Local extinctions and loss of ecosystem adaptability can occur unobserved while ecosystem functioning itself can remain largely unchanged, leading to unexpected state changes. Reactions to perturbations in the ecosystem can lag in time, depending on generation times and seasons. Maintaining the flow of ecosystem services into the future is not safeguarded by relying on TEV information, since TEV gives a snapshot view and supplies no information about the state of the ecosystem itself.

2. EEV methods mistakenly assume that money can be used as a neutral measuring rod of people’s preferences.

To offer or accept money for something is to treat it as a commodity that can be bought and sold, but some things – friendship, votes, reproductive capacities – ought not be so treated. Many sites of biodiversity are embodiments of a community’s history, and people’s care for them can be expressive of respectfulness to their predecessors and concern for their children’s future. To refuse to put even a hypothetical price on such places expresses these commitments, but it is standard practice in contingent valuation surveys to disregard such protest bids. Environmental economists thus fail to appreciate that money cannot be used as a supposedly neutral scale for measuring the strength of people’s preferences since the payment and receipt of (even hypothetical) money is a social act with social meanings and associations.

3. EEV methods are grounded in a misguided approach to decision making.

EEV methods and the cost benefit analyses into which they feed mistakenly assume that rational decision making is only possible if the plurality of values associated with biodiversity – aesthetic, scientific, social, economic – are commensurable with one another, that is, can be captured in a single measure such that they can be traded-off against one another. It is believed that preference satisfaction, as measured by WTP, provides this scale and that therefore the outcomes of decisions and policies can be ranked. But not only are these fundamentally different kinds of values *not* commensurable with one another in this way, this approach to decision making is severely misguided. Rather than attempting to make decisions using a technical procedure, we should accept that there may be no way of ranking options and that therefore there is an ineliminable role for tutored and informed judgement following open deliberation that meets the norms of rational discussion. We can deliberate over which particular obligations and claims have the strongest importance in a given context or which virtues and commitments a community would like to express. Such deliberation can proceed without presupposing value commensurability or understanding value conflicts as necessitating trade-offs.

4. EEV methods misunderstand, and motivate policies which fail to respect, the way in which people value nature.

The economic approach to environmental valuation understands ecosystems as lists of physical properties which ensure the delivery of certain services to human society. This approach assumes the value of particular sites of biodiversity as being grounded in the way in which they are *types* of things – woodland, wetland, heathland – that are able to deliver certain benefits. But the way in which people often value natural and cultural environments is based on their personal experiences and ties to particular places: the woodlands where they roamed as a child, the places that have some special historical significance for their community. Given this, it is not the case that all ecosystems which exhibit a certain set of physical attributes will be equally valuable to people. Economic approaches treat the places that contain and embody biodiversity as exchangeable and replaceable resources and therefore fail to capture the profoundly important role of natural, cultural and personal history in our relationship to nature. This failure leads to the adoption of policies such as biodiversity offsetting – whereby losses on development sites are ‘offset’ by

habitat creation or restoration elsewhere – which treat ecosystems as exchangeable for one another. A richer and more psychologically plausible understanding of our relations to nonhuman nature reveals that however technically proficient at replicating the physical attributes of ecosystems we become, justifiable blocks on the replacement of particular ecosystems with examples of the same kind will remain.

5. EEV methods may compromise intrinsic motivation for environmental protection.

When we are motivated to act in contexts where there is no promise of reward or threat of punishment we are said to be intrinsically motivated. There are many spheres where intrinsic motivation is important for producing high levels of socially beneficial behaviour, for example blood donation and unpaid care for the elderly, as well as pro-environmental behaviour. There is mounting empirical evidence, however, that the introduction of external incentives such as payment into these spheres does not raise levels of desirable behaviour as hoped, but diminishes it. External incentives are said to ‘crowd out’ intrinsic motivation. Of course, no actual markets or payments are involved in the use of EEV methods, but they may nonetheless crowd out non-economic (ethical, aesthetic) modes of valuing nonhuman nature and the intrinsic motivations which result from them.

6. EEV methods facilitate the troubling expansion of market norms into environmental valuation and decision making.

There is a strong case to be made that many environmental problems are caused not by the absence of markets but by their expansion to include environmental goods previously considered to lie outside their boundaries. EEV methods, even if they do not introduce actual markets, nonetheless bring market norms into environmental policy and decision making. Conservationists should, for the reasons outlined above, reject the pragmatist argument that ‘money talks’ and resist this expansion. Instead, they should look to alternative valuation methods to lend due weight to their discussions with decision makers. Such methods are better able than EEV methods to accommodate equity and sustainability concerns; respect ethical commitments and appropriate ways of valuing nature; and support deliberative decision making and intrinsic motivations.

The report underlying this policy brief can be found on the BIOMOT website: www.biomotivation.eu.