A possible framework for assessment

The policy impacts of environmental valuations

Impact assessments seem to be one core element of responsible policy making. But how could one determine the influence of valuation results on policy-making? A new method uses a quantitative approach to compare impacts of different monetary assessments to each other.
By Holger Gerdes and Anneke von Raggamby

Valuing both the environment and the changes in the level of environmental quality is of central importance to environmental policy formulation, as it puts the costs of obtaining certain environmental goals into perspective (1). For instance, the economic assessment of external costs provides a framework for policy-makers "to understand, analyse and design solutions to address market failure" (Fisher/McMahon 2003).

Environmental valuation has recently regained prominence in public and political debates. In Europe, several large-scale projects have dealt with the valuation of external costs of human activities (2). The aim of these publicly funded projects is to improve policy-making by adding new knowledge to the policy process. But do policy-makers take valuation results into account when deciding on policy?

Why is it important to measure policy impact?

Gupta highlights two key theories regarding science and its relation to the policy process (Gupta 2005). Firstly, the scientific culture is regarded very different from that of policy culture and the two often encounter difficulties communicating effectively with each other. Secondly, science is selectively used by policy-makers. It is only used if it is consistent with the policy-makers' expectations, understanding, and interests. Based on this, one can detect a vast number of factors that determine the uptake of valuation results in policy-making.

The ideas presented in this article have been developed in the context of the Exiopol Integrated Project, in which Ecologic is a partner (3). The project aims at estimating environmental impacts and external costs of different economic sector activities, final consumption activities and resource consumption in the European Union (EU). A specific objective of the project is to carry out a retrospective analysis of the use and effectiveness of externality research in determining policy at the EU level, the Member State level, and also internationally. Among other approaches, this provides an opportunity to test a possible method to identify and measure the policy impact of valuation results. The aim of this comprehensive task is to come up with a qualitative statement on what defines effective knowledge production in terms of policy impacts in the field of monetary valuation and formulate guidelines on how the uptake can be optimized.

An approach to measuring policy impact

How could one determine the influence of valuation results on policy-making? So far, there is no standard unit for measuring influence, nor an index for it. This section will outline a quantitative approach to measuring the policy impacts of valuation results.

Determining the potential functions of valuation results in policy-making could be the starting point. Based on a literature review, we established six main functions of valuation results (4). Accordingly, valuation results may raise awareness and knowledge of certain issues, they may form public opinion, they may help to identify an appropriate policy instrument, they may justify existing decisions, they may initialize actions by decision-makers or they may influence decisions. In our approach, scores between 0 and 100 have been assigned to each function according to the degree of their perceived importance or quality (5). Through semi-structured interviews with decision-makers, one would establish whether the results of a specific assessment had one of the above mentioned impacts.

The second step would be to identify whether the detected function can actually be connected to one or more policy statements. If this is the case, it would mean that valuation results had a direct impact on policy-making. The relative importance of a policy statement, in which a function of valuation research can be identified, determines the total weight of the impact (6). Accordingly, the function of the research result, which was identified in the first step, will be multiplied by a score between 0.01 and 1.00. On the latter scale, a low score denotes a subordinated policy statement and a high score denotes a substantive policy statement.

This approach is based on the assumption that a highly scored function in combination with a policy statement with a high multiplier is an indication for a high policy impact of valuation results. Consequently, if a highly scored function is connected to a highly ranking policy statement, the policy impact of a valuation certainly would be higher than if a less scored function

is connected to the same policy statement.

The following example illustrates how this approach would work in practice. The empirical analysis of the policy process might identify the following situation. The results of an economic assessment of external costs contributed to the formation of opinions among the public and decision-makers. This would correspond to 20 scores. Eventually, stakeholders start exerting influence at the European level, which persuades the Commission to tackle the problem and to address it in a Green Paper. The empirical analysis of the policy process might identify a situation, where the results of aneconomic assessment of external costs contributed to the formationof opinions among the public and decision-makers.

Figure 1: Simplified assessment framework

Function of research results	Score	Policy statement	Multiplier	Index
Decisions are influenced	100	Regulation	0.95	100
Actions are initiated	50	Directive	0.90	80
Existing decisions are justified	40	–	–	60
Appropriate policy instrument is identified	30	Green Paper	0.55	40
Opinions are formed	20	Communication	0.50	20
Awareness / knowledge is raised	10	–	–	0

Source: Authors

Conclusion

The method presented above translates the abstract dimension of policy impact into a measurable unit. In this way, it is possible to assess and compare the policy impacts of different monetary assessments to each other. We are aware of the fact that our approach constitutes a simplification of reality. In fact, a quantitative approach measuring policy impact might face similar resistance as is frequently the case with monetary assessments.

The proposed approach has not yet been applied in practice and we are aware of potential pitfalls connected to its implementation. In reality, policy impacts might take different forms than the ones stated above. For example, valuation results may enter the policy process indirectly. In this case, we might not be able to track them down in official policy statements. In order to assess these indirect influences, more extensive methodological frameworks will have to be developed. The potential of the proposed method will become apparent after application.

Annotations

(1) Navrud and Pruckner (1997) identify five different uses of environmental valuation methods in decision-making: project evaluation, regulatory review, natural resource damage assessment, environmental costing (for instance externalities), and environmental accounting.
(2) For instance the following projects: ExternE, NewExt, MethodEx or Exiopol.
(3) Exiopol is funded by the European Commission under the 6th Framework Programme, priority 6.3 Global Change and Ecosystems, and is coordinated by the Fondazione Eni Enrico Mattei (FEEM).
(4) Regarding the literature review, see, for instance: Barde/Pearce 1992 or Morgenstern 1997.
(5) The weights of both functions and policy statements have been determined by means of expert knowledge. For the final allocation of scores and multipliers, policy-makers should be asked for their opinion.
(6) This refers to the degree to which a policy statement is binding. Highly binding policy statements, such as Regulations, would receive a higher multiplier than less binding policy statement, such as Green Papers

References

Barde, J.P. / Pearce, D.W.: Benefits Estimates and Environmental Decision-Making. Paris 1992.
Fisher, J. / McMahon, P.: Economics and Environmental Decision-Making. London 2003.
Gupta, J.: Science-Policy Interface and Participatory Methods. Delft 2005.
Morgenstern, R.D.: Economic Analysis at EPA. Assessing Regulatory Impact. Washington D.C. 1997.
Navrud, S. / Pruckner, G.J.: Environmental Valuation – To Use or Not to Use? A Comparative Study of the United States and Europe. In: Environmental and Resource Economics 10/1997, pp. 1–26.

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