



“Summary of article by A. Vatn and D.W. Bromley: Choices without Prices without Apologies” in Frontier Issues in Economic Thought, Volume 3: Human Well-Being and Economic Goals. Island Press: Washington DC, 1997. pp. 137-140

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## **“Summary of article by A. Vatn and D.W. Bromley: Choices without Prices without Apologies”**

One third of the articles published since 1990 in the two leading journals of resource economics deal with monetary valuation of aspects of the natural environment. This article analyzes the conceptual problems encountered in the process of environmental valuation, and argues that environmental choices made without prices are not inferior to those supported by hypothetical valuation studies.

### **ON VALUING ENVIRONMENTAL GOODS AND SERVICES**

Collective choices concerning environmental goods and services cannot come from the aggregation of individual preferences obtained from contingent valuation methods. Use of a single metric to value the environment, with its high degree of complexity and interrelations, results in important information losses, “twisting” its individual and collective significance. Thus, pricing environmental goods and services is not a necessary or sufficient condition for coherent and consistent choices.

Economists state that, for society to make efficient choices, there is no substitute for hypothetical valuation. However, prices do not contain all relevant information; likewise, reducing multiple attributes to one measure, and weighting attributes, is not an easy task. How, then, can the use of such prices lead to efficiency?

Information may be lost during the valuation process for three reasons. First is the cognition problem, i.e., the difficulty of observing and weighting attributes of the object that is being valued. Second is the incongruity problem, due to the mapping of incommensurable characteristics of goods into one dimension. Finally, there is the composition problem, where the value of one attribute depends on the level of another.

In addition, context plays an important role in valuation. Preferences are developed as one chooses; valuation studies may therefore construct reality, rather than measuring what already exists. Estimates that do not incorporate the role of context in preference formation will be incoherent.

### **THE PROCESS OF VALUE CALCULATION**

The three problems of information loss during valuation, mentioned above, all affect the process of calculation of environmental values.

The cognition problem includes both the issues of functional transparency and of multiple scales. “Functional transparency means that the precise contribution of a functional element in the ecosystem is not known until it ceases to function.” [133] This leads to two difficulties. First, learning-by-doing, a common method of discovery of market values, is very risky when applied to environmental issues. Second, it is hard to describe the good so that all participants in hypothetical valuation studies have the same concept in mind.

The question of multiple scales arises because evidence suggests that people have trouble converting environmental goods and services into monetary terms; they have problems making comparisons across scales. Thus, price bids for goods that are not commonly represented in monetary terms will be randomly dispersed.

The incongruity problem occurs when each of several environmental attributes is in a different dimension; then any single metric, such as price, is unable to include all the relevant information. The moral aspect introduces an important basis for incongruity. The moral dimension of environmental decisions is related to the right to life of all species including humans, aspects of life, personal integrity, and intergenerational equity. Many people refuse to consider monetary valuation of such moral issues.

The composition problem reflects the complexity of ecosystems and environmental values. The authors comment on the economists’ suggestion that there are five definite components of value related to the use and existence of a natural resource: (1) recreational use; (2) commercial use; (3) an option demand for maintaining the potential to visit the resource in the future; (4) an existence value derived from simply knowing the resource exists in a preserved state; and (5) a bequest value from knowing future generations will be able to enjoy existence or use of the resource. The first two components may be classified as use values, and the last three as nonuse values. None of these components of value is associated with the functional aspects of environmental goods and services within integrated ecosystems.

Hypothetical valuation treats the environment as a commodity. Valuation requires a precise object, with conceptual and definitional boundaries, so that property rights can be attached. Polanyi suggests that in order to assign values and allow markets to work, arbitrary aspects of reality are treated as commodities, an idea he describes as the commodity fiction.<sup>1</sup> However, some environmental goods may be technically impossible or too expensive to “commoditize.”

An alternative, holistic approach to valuation would have the following three features: (1) each part of a functionalized system is as valuable as the whole, and its value cannot be separated from the whole; (2) the value of environmental goods and services comes from their function in an ecosystem, not from exchange in a market; furthermore, they do not exist in discrete units; and (3) they do not acquire value from their uniqueness to humans, but from their uniqueness to the system to which they belong. These aspects are routinely ignored by hypothetical valuation studies.

## **THE MULTIPLE CONTEXTS OF VALUATION**

The value of environmental goods and services arises from multiple contexts, and is context-dependent. Moreover, through the choice of social contexts, individuals shape their preferences and make decisions in the absence of prices. The basic challenge in environmental decisionmaking is to specify the conditions for discourse over what is worth valuing.

The choice of social context determines whose interests are relevant for the decision process. This can be reduced to a discussion of actual and presumed rights. The current structure of rights gives rise to externalities, and to differences between willingness to pay and willingness to accept. This is explained by nontrivial income effects: “loss aversion” and/or the structure of actual or perceived rights. Policy measures should focus on compensation through natural resource restoration and not on theoretical monetary measures.

Environmental decisions affect the different choices we make as consumers and as citizens. The results of hypothetical valuation studies may be relevant as long as decisions only deal with consumers choices, but not if citizen choices are also involved. Hence environmental decisions require collective discussion to construct a basis for choice.

The detrimental and irreversible character of environmental choices is often treated as a risk problem, but it is rather one of uncertainty, where probabilities of the occurrence of an event are unknown. Reduction of risks and losses can be attained through the introduction of new options that reduce competition between the economy and the environment. Examples are multiple-use strategies that secure forestry, wildlife and recreation, and zoning policies for industrial development. The choice of a development path is the ultimate question economists should, but rarely do, address.

## **IMPLICATIONS**

Some state that there is a necessity claim for valuation. However, there is no proof that prices derived from hypothetical valuation capture all information required to make environmental choices. Prices determined in this way have no more significance than competing claims expressed by interest groups on each side of any discussion.

Many significant choices have been made without prices, such as disease control through water purification, air pollution programs, and reduced chemical contamination of ground water. There is nothing in economics or in hypothetical valuation that addresses the optimal level of environmental protection and use.

The collective choice problem about environmental goods and services is complex and problematical precisely because it entails aspects of our social existence that defy reduction to the venerable fiction of commodities. Efforts to redefine reality may prove useful in discussing certain aspects of environmental policy in the classroom, but it does not therefore follow that collective choices which reject the commodity fiction are ill-informed, inconsistent, or not in the interest of efficiency. The hypothetical valuation exercise may be its own reward for what it tells us about how individuals value non-ordinary aspects of their lives. But the most fundamental environmental choices will continue to be made without prices -- and without apologies. [145]

## Notes

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1. K. Polanyi, *The Great Transformation* (Boston: Beacon Press, 1965); cited by Vatn and Bromley, 137.