

Perspectives on Economic Value

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The perspective

Economic valuation is a method of assessment that focuses on the overall financial impact of a company or project, as opposed to financial valuation which concentrates on the valuation of a company or intangible asset based on factors such as its future income. Economic valuation is often used in the assessment of public investments, government policies, infrastructure projects and other initiatives that have a significant impact on the economy and society. It offers a broader perspective than financial valuation by considering externalities and overall socio-economic impacts. It helps policymakers and resource managers make informed decisions about resource allocation, environmental protection, and project implementation by quantifying the impacts of different choices

What is economic value ?

Economic valuation is an attempt to provide an empirical account of the value of services and amenities or of the benefits and costs of proposed actions (projects or policies) that would modify the flow of services and amenities. Economic valuation provides a utilitarian account, that is, an account of contribution to the satisfaction of human preferences.

Economists value the environment placing a monetary value on the basis of perceived 'goods' and 'bads' arising from changes in environmental quality or resource availability. The rationale for the economic valuation of natural resources is that they somehow impact on the utility (or well-being) of individuals, and that these individuals can identify a satisfactory trade-off between quantities of money and the environmental goods and bads they want. The objective is to find ways to measure the wide range of effects of environmental change on a single monetary scale. Money is used as the measuring stick to evaluate, although imperfectly, the extent to

which individual utility is affected. This approach necessitates applying a monetary value to goods that do not have a market value, in an attempt to extend the utilitarian principle of the free market into environmental decision-making. The economic valuation approach makes several important assumptions, including commensurability of values, and assumes a compensatory approach in the evaluation of environmental changes, corresponding to a weak sustainability approach.

The total economic value (TEV) of a resource indicates the total value of the resource in so far as it affects human welfare and integrates two broad categories of values: use values, associated with the direct contact with the natural resource in some way, and non-use values, corresponding to the value derived from a resource, either directly or indirectly, but that does not depend on the use of that resource.

Here are some key elements of economic valuation:

- **Value creation:** Economic valuation measures the net creation of added value by a company or project. This can include elements such as job creation, increased tax revenues and more.
- **Multiplier effects:** Economic valuation considers the multiplier effects of economic activity, meaning the indirect and induced effects on the company resulting from the expenses and investments made for an innovative project.
- **Externality analysis:** Economic valuation analyzes the social and environmental externalities, job creation and other outcomes stemming from the company's or project's activities.
- **Evaluation of social benefits:** Beyond direct economic impacts, economic valuation may also include an assessment of social and/or environmental benefits among others

- **Cost-benefit analysis:** It can also include a cost-benefit analysis to compare the costs and benefits of the company or project.

Methods of economic valuation

There is increasing interest in the use of economic valuation of ecosystem goods and services for a wide variety of purposes. These include relatively familiar uses in project appraisal and more novel applications in advocacy, performance tracking and accounting in public and private settings. Decision makers who use valuation information need to understand the background, strengths and weaknesses of these approaches. The methods have a strong foundation in economic theory and offer a rapidly growing evidence base, improving ability to evaluate a broad range of ecosystem goods and services. Nevertheless, there are theoretical and practical limitations that need to be understood and kept in mind when interpreting results.

Market price method : The market price method estimates the economic value of ecosystem goods or services that are bought and sold in markets. The market price method can be used to value changes in either the quantity or quality of a good or service. It uses standard economic techniques for measuring the economic benefits from marketed goods and services, based on the quantity people purchase at different prices, and the quantity supplied at different prices. Market price represents the value of an additional unit of that good or service, assuming the good or service is sold through a perfectly competitive market (that is, a market where there is full information, identical products being sold and no taxes or subsidies).

Cost Based method : The cost based methods (damage cost avoided, replacement cost, and substitute cost methods) are related methods that estimate values of ecosystem goods and services based on either the costs of avoiding damages due to lost services, the cost of replacing environmental assets, or the cost of providing substitute goods or services. The damage cost avoided method uses either the value of property protected, or the cost of actions taken to avoid damages, as a measure of the benefits provided by an ecosystem.

The replacement cost method uses the cost of replacing an ecosystem or its goods and services as an estimate of the value of the ecosystem or its goods and services. Similarly, the substitute cost method uses the cost of providing substitutes for an ecosystem or its goods and services as an estimate of the value of the ecosystem or its goods and services.

Hedonic pricing method : The hedonic pricing method (HP) relies on market transactions for differentiated goods to estimate the economic benefits or costs associated with environmental quality. The basic premise of the HP method is that the price of a marketed good is related to its characteristics, or the services it provides. For example, the price of a house is related to the characteristics of the house and property itself, the characteristics of the neighbourhood and community, and environmental characteristics. Thus, if non-environmental factors are controlled for, then any remaining differences in price can be attributed to differences in environmental quality. For example, if all characteristics of houses and neighbourhoods throughout an area were the same, except for the level of air pollution, then houses with better air quality would cost more. This higher price reflects the value of cleaner air to people who purchase houses in the area.

Travel cost method : The travel cost method is used to estimate the value of recreational benefits generated by ecosystems. It assumes that the value of the site or its recreational services is reflected in how much people are willing to pay to get there. There are several varieties of the travel cost method: simple zonal travel cost method (using mostly secondary data), individual travel cost method (using a more detailed survey of visitors and statistical analysis), and random utility travel cost method (using survey and other data, and statistical techniques). The basic premise of the travel cost method is that the time and travel cost expenses that people incur to visit a site represent the value of access to the site. Thus, peoples' willingness to pay to visit the site can be estimated based on the number of trips that they make at different travel costs. This is analogous to estimating peoples' willingness to pay for a marketed good based on the quantity demanded at different prices.

Contingent valuation method : The contingent valuation method is a questionnaire based technique that seeks to discover individual preferences for an environmental change. These are the only methods that can assess non-use values of ecosystems but can also be used to estimate use values generated by the ecosystems. In addition, due to their hypothetical nature, these methods can be used to assess social preferences ex-ante, i.e., for changes that have already not taken place. The basic premise of the contingent valuation method is that individuals are sensitive to a given environmental change and that their preferences could be measured in terms of their willingness to pay to undergo (or their willingness to accept a compensation to avoid) this change. Therefore, the given change is presented to individuals through a survey where the environmental change is presented and where people are asked to state their willingness to pay or their willingness to accept the given environmental change.

Experiment method : The choice experiment method is a questionnaire based technique that seeks to discover individual preferences for simultaneous changes in the attributes that compose an environmental good or service. States preference methods are the only methods that can assess non-use values of ecosystems but can also be used to estimate use values generated by the ecosystems. In addition, due to their hypothetical nature, these methods can be used to assess social preferences ex-ante, i.e., for changes that have already not taken place. The basic premise of the choice experiment is that a forest good or service can be decomposed in a bundle of attributes or features and that individuals are sensitive to changes in these attributes. Therefore, individuals are asked through a survey to state their willingness to pay to undergo these changes.

Benefit transfer method : transfer method is not a valuation method as such, but it is a method that involves transferring economic estimates from previous studies of similar changes in environmental quality to value the environmental change at the policy site. Thus, the basic goal of benefit transfer is to estimate benefits for one context by adapting an estimate of benefits from some other context. Benefit transfer is often used when it is

too expensive and/or there is too little time available to conduct an original valuation study, yet some measure of benefits is needed. It is important to note that benefit transfers can only be as accurate as the initial study. There are two main forms of the benefit transfer method: - Unit transfer method is the simplest method to transferring benefit estimates from a study site, or as a mean from several study sites, to the policy site. - Function transfer method transfers a benefit function from another study. The benefit function statistically relates people willingness to pay to ecosystem characteristics and the people whose values were elicited.

The following points and caveats are important to note in case of using economic valuation approaches:

- Methods and their results are based on theoretical background, purpose of valuation, socioeconomic conditions, and data availability.
- The role of economic valuation is to show the contribution of ecosystem services to the wellbeing of people, to increase awareness of existing benefits as well as creating sense of ownership and commitment among stakeholders. However, valuations themselves do not determine whether a service should go to market (let alone the questions of who should pay and how much he or she should pay); for that, negotiations between providers and beneficiaries are often necessary.
- One of the main limitations of economic valuation is that the resulting estimates are often highly context dependent, being sensitive to both the methods selected and assumptions used. For example, some methods mainly focus on marketed services, but omit non-market values. In addition, the selected ecosystem service, valuation period and discount rate have profound effects on the estimates.
- Economic values estimated in different contexts should not be compared directly. One of the limitations of valuation methods is that, in general, they do not allow direct comparison of economic values estimated in different studies, or the use of the estimated values to express the relative economic importance of different forest goods and services. These limitations result from differences in valuation

objectives, methods applied, data accuracy, considered target populations, value units, etc.

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