

Секція студентів IV курсу
THE ECONOMIC ESTIMATION OF ENVIRONMENTAL
QUALITY

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Environmental valuation is largely based on the assumption that individuals are willing to pay for environmental gains and, conversely, are willing to accept compensation for some environmental losses. The individual demonstrates preferences, which, in turn, place values on environmental resources. That society values environmental resources is certain; monetizing the value placed on changes in environmental assets such as coastal areas and water quality is far more complex. Environmental economists have developed a number of market and non-market-based techniques to value the environment.

The value of a natural resource can be monetized based on its value as a factor of production. When a natural resource has direct value as a factor of production and the impact of environmental degradation on future output of that resource can be accurately measured, the resultant monetary value of the decline in production or higher cost of production can be measured. Because many goods and services produced by the environment are not sold in markets, the factor of production method generally fails to capture the total value of the resource to society.

The standard method used to measure the net economic benefit of a good or service in a market involves an examination of consumer and producer surplus.

A final market-based valuation method is that of Defensive Expenditures, which are made on the part of industry and the public either to prevent or counteract the adverse effects of pollution or other environmental stressors. The defensive expenditures method, also known as the averting behavior approach, monetizes an environmental externality by measuring the resources expended to avoid its negative impacts on a surrounding community.

The Hedonic Price Method of environmental valuation uses surrogate markets for placing a value on environmental quality. The real estate market is the most commonly used surrogate in hedonic pricing of environmental values. Air, water, and noise pollution have a direct impact on property values. By comparing properties with otherwise similar characteristics or by examining the price of a property over time as environmental conditions change and correcting for all non-environmental factors, information in the housing market can be used to estimate people's willingness to pay for environmental quality.

The Travel Cost method is employed to measure the value of a recreational site by surveying travelers on the economic costs they incur when visiting the site from some distance away. These expenditures are considered an indicator of society's willingness to pay for access to the recreational benefits provided by the site.

The Contingent Valuation Method (CVM) is a non-market-based technique that elicits information concerning environmental preferences from individuals through the use of surveys, questionnaires, and interviews. When deploying the contingent valuation method, the examiner constructs a scenario or hypothetical market involving an improvement or decline in environmental quality.

In Choice Experiments respondents are presented with a menu of alternatives relative to environmental policy options, such that preferences for various components or attributes can be examined at a more refined level. Choice experiments provide independent values for the individual attributes of an environmental program. The emphasis on examining the attributes of the program reduces bias attributed to yea-saying (simply approving of the general policy and agreeing to fund it at an excessively high level) and provides the analyst with a more complete understanding of individual preferences.

Environmental valuation techniques are primarily driven by the principle that individuals are self-interested and demonstrate preferences that form the basis of market interactions. These market interactions demonstrate how individuals value environmental goods and services. The market-based nature of economic theory emphasizes the maximization of human welfare. The market, in turn, determines resource allocation based on the forces of supply and demand. The environment, thus, is used as an instrument to achieve human satisfaction. In turn, the environment can be treated like any other commodity and its associated value can be broken down into many elements. In this manner, environmental valuation can be viewed as a mechanistic approach in which the total value of an environmental system is assessed in terms of the value of its individual parts.

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