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## Book Review

# **COST-BENEFIT ANALYSIS AND ENVIRONMENTAL REGULATIONS: POLITICS, ETHICS, AND METHODS**

Edited by Daniel Swartzman, Richard A. Liroff, and Kevin G. Croke. Washington D.C.: The Conservation Foundation, 1982. Pp. 196. \$11.50.

Industrial interests claim that cost-benefit analysis is the cure for expensive health and environmental regulations. Regulation proponents claim that the use of cost-benefit analysis is immoral, unethical, and too full of uncertainties to be useful to decisionmakers. *Cost-Benefit Analysis and Environmental Regulations: Politics, Ethics, and Methods* is a series of essays presented at an October, 1980 conference in Chicago. The conference was organized by the Illinois Institute of Natural Resources (IINR) and the Conservation Foundation to familiarize participants with the state economic assessment program, requiring IINR to submit economic impact analyses for all environmental regulations proposed by the Illinois Pollution Control Board. The book focuses on Illinois' experience with cost-benefit analysis and the major sources of controversy surrounding its use, methodology, politics, and ethics.

Illinois had the first economic assessment program directed at rulemaking agencies and has the most experience in administering such a program, according to Kevin G. Croke and Niels B. Herlevsen.<sup>1</sup> Illinois' program

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1. *Cost-Benefit Analysis and Environmental Regulation: Politics, Ethics, and Methods* (D. Swartzman, R. Liroff, and K. Croke ed. 1982) at 17. [hereinafter referred to as *Cost-Benefit Analysis*].

requires an economic analysis discussing the motivation for a regulation, a review of its current and anticipated environmental consequences, a benefit analysis, a cost analysis, and a comparison of the costs and benefits. While the formal requirements of the impact analysis are relatively clear, the authors believe that Illinois' experience with the program has raised several planning questions regarding the actual value of the analysis. These questions are: what role should cost-benefit analysis play in promulgating a regulation; should long-term economic impacts be assessed; how many regulatory alternatives should be evaluated; and how should environmental regulations be assessed? Croke and Herlevsen, in their essay, set forth Illinois' experience in dealing with these questions and provide guidelines for states considering similar programs.

Richard A. Liroff in his essay, "Cost Benefit Analysis in Federal Environmental Programs,"<sup>2</sup> looks at past and present federal experience with cost-benefit analysis. He believes that the recent emphasis on cost-benefit analysis is partly motivated by a desire to improve the cost-effectiveness of federal regulations without compromising their objectives, and partly motivated by a desire to subvert the nation's commitment to environmental goals.<sup>3</sup> This essay is particularly relevant in view of President Reagan's executive order that strengthens both the role of the Office of Management and Budget (OMB) and mandates some form of cost-benefit analysis.<sup>4</sup> Reagan's regulatory impact program provides that federal agencies must perform regulatory impact analyses for certain proposed and existing rules. Liroff discusses the requirements of such analyses. He also expresses his apprehension of potential abuse of this program under the current administration. He particularly cites the antipathy to overregulation by the President and the OMB, the lack of Environmental

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2. *Id.* at 35-48.

3. *Id.* at 35.

4. Executive Order No. 12291, 3 C.F.R. 127 (1982).

Protection Agency (EPA) independence from the administration, and the general lack of public disclosure by the agency as bases for his fears.

Liroff addresses some of the analytical difficulties in measuring the costs and benefits of pollution control programs. These problems range from the uncertainty of the estimate itself, the use of discount rates to derive present dollar figures for future costs and benefits and the use of monetized units to express environmental benefits. The author discusses the federal experience with these problems. He concludes that although monetized cost-benefit analysis should not be the basis of EPA's decisionmaking, in a world of finite resources for reducing health risks and environmental harms, sensitivity to costs and benefits may help us realize the greatest environmental and health gains from our expenditures.

Daniel Swartzman's essay, "Cost-Benefit Analysis in Environmental Regulation: Sources of Controversy," identifies the three major areas of contention that one encounters with cost-benefit analysis: methodology, politics, and ethics.<sup>5</sup> Swartzman asserts that the methodology question deals with particularly troubling aspects of cost-benefit analysis. For instance, he discusses the potential for abuse that exists because of certain judgments the analyst has to make, including the integration of technical analysis into subjective decisionmaking.

Ethical questions deal with such issues as placing a price tag on the value of a human life or on "priceless" benefits like clean air or clean water. Swartzman discusses Illinois' experience in dealing with each of these questions. He raises many other questions in order to identify them, but offers no solutions. His purpose is to encourage communication and efforts towards problem resolution.

"Benefit-Cost Analysis and the Common Sense of Environmental Policy" by Arthur P. Hunter Jr., George S.

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5. Cost-Benefit Analysis at 58.

Tolley, and Robert Fabian,<sup>6</sup> an essay on methodology, begins with the statement: "Much of the controversy over environmental policies can be attributed to the fact that some people emphasize the benefits and minimize the disadvantages of a particular policy while others do just the opposite."<sup>7</sup> One reason given for the disparity is a difference among policymakers in priorities and values. Another problem discussed is the difficulty of determining the advantages and disadvantages of each policy. The authors set forth what they believe to be a guide for using cost-benefit analysis in creating sound environmental policies. This includes: (1) establishing a framework for making comparisons and (2) making quantitative estimates within that framework. They set forth the proposition that cost-benefit analysis is simply one approach to comparing the results of environmental regulations to the effects on individual values.

In discussing the pitfalls of traditional cost-benefit analysis, the authors point out the errors often made in estimating and weighing physical effects of any given environmental policy. The weights attached to the physical effects specify the trade-offs that people are willing to make between different effects. The problem which then arises is who should make the comparisons and what trade-offs are to be considered. The authors believe that the relevant trade-offs should be those of the people affected by the environmental policy.

One of the frequent criticisms of cost-benefit analysis is that it puts everything in terms of dollars. The authors believe that dollars are simply a convenient unit of measurement and that clams, oil, or any other unit of measurement could be used to make the comparison.

The authors discuss the various problems encountered in inferring the willingness of the public to pay for items not traded in the marketplace like clean air and clean water.

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6. *Id.* at 87-105.

7. *Id.* at 87.

Economists frequently look at an individual's willingness to pay for a given item to measure its value. The analyst infers the public's willingness to pay for such items, but opportunity costs, insufficient data and market distortion complicate the measurement.

Valuation of some items is difficult because there are no market transactions from which to infer a dollar value that a person would be willing to pay. Therefore, when market prices are unavailable, the analyst must speculate as to the item's value. For example, the birds killed in the Santa Barbara oil spill were valued at one dollar apiece.<sup>8</sup> Further, private costs and benefits are not always an accurate measure of an individual's willingness to pay. Market distortions can occur from taxes, monopoly pricing, and the pricing effects of a given project on other markets. Lastly, the authors identify and discuss other problems in traditional cost-benefit analysis, including real benefits versus distribution effects, the various methods of estimating costs, irreversible decisions, the discount factor, and professional and political biases.

As a conclusion, the authors do not offer a solution, but rather urge patience. They state: "if the consequences of environmental actions are to be compared systematically, the issue is not whether to undertake benefit-cost analysis but rather how to make it as useful as possible."<sup>9</sup> Their suggestions include analyzing several alternatives, choosing aggregation of assumptions carefully, and dealing explicitly with uncertainty, error, and bias.

The issue of politics is addressed by Richard N.L. Andrews in his essay "Cost-Benefit Analysis as Regulatory Reform."<sup>10</sup> Andrews focuses on the role of cost-benefit analysis in government in terms of two philosophies of proper government behavior, economic optimization, and normative constraints. Economic optimization is the school

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8. Rodgers, *Benefits, Costs and Risks: Oversight of Health and Environmental Decisionmaking*, 4 Harv. L. Rev. 191, 194 n.21 (1980).

9. Cost-Benefit Analysis at 99.

10. Id. at 107-135.

of thought propounding that choices must be made, since resources are too scarce to accommodate all the public's desires. The good society, under this viewpoint, is one in which all resources are used for their highest valued purpose. Also, each of these purposes is achieved in the most efficient and effective way so that no resources are wasted. The resulting decisionmaking process is utilitarian, materialistic, relativistic, and rationalistic. Government actions such as water resource development projects and military weapons investments fall within this framework.

On the other hand, the philosophy of normative constraints, which casts the government as the protector of social values, enforcing the rights and duties of members of society through representative democracy, is the basis for many health, safety, and environmental protection policies. For example, much of our health legislation is based on the philosophy of protecting citizens as fully as possible from involuntary health hazards, within the constraints of what is technically feasible. Therefore, government may direct that certain standards be enforced, regardless of cost, or place a higher value on health, safety, and environmental protection than on economic efficiency.

This philosophical conflict presents many questions, including the following that the author specifically addresses: should we protect the majority of society or the most sensitive and susceptible individual; who should make the choice, Congress or the agency; and what should we do about hazards whose dangers are not well understood? Andrews offers well-reasoned answers and suggestions for all of these questions.

In Andrews' view, cost-benefit analysis is a two-edged sword— it can be used to improve government's decisionmaking, but it can also be used to challenge and undermine society's emphasis on environmental and health values. The author believes that current emphasis on cost-benefit analysis will have the effect of making some regulations more cost-sensitive, eliminating some less justifiable proposals, and retarding new regulatory initiative.

Pointing out that knowledge will always be incomplete, and health and safety will always require sound value judgments broader than what cost-benefit analysis can produce, the author concludes that cost-benefit analysis is simply a tool. Andrews feels it is not the definitive decisionmaking standard, but can provide a clear choice.

Steven Kelman ponders the ethical questions raised by cost-benefit analysis in his essay "Cost-Benefit Analysis and Environmental, Safety, and Health Regulation: Ethical and Philosophical Considerations."<sup>11</sup> He looks at several questions from a formal ethical approach focusing on what actions are morally right (or wrong) to undertake. The first question he examines is whether a finding that the benefits of an action outweigh the costs should be determinative. The author answers the question in the negative. Mr. Kelman analogizes that certain duties, like not lying or killing, make an act wrong, even if the benefits of the act outweigh the cost. Further, the author says that an act may be wrong if it violates someone's rights. He avers that in areas of environmental safety and health regulations there may be instances where a certain decision might be right even though the benefits of that decision do not outweigh the costs.

Kelman reviews the various methods economists use to compute values for items not bought or sold in the marketplace in order to effectuate cost-benefit analysis. The problem can be illustrated by analysis of the monetization of human life. In this process, the analyst counts human life as a cost, not a benefit, because extension of the lives of non-working poor, welfare recipients, and retirees would incur costs to society, assuming they consume and do not produce.<sup>12</sup> He then points out the problems associated with these methods and concludes that the technical difficulties encountered in assigning dollar values to nonmarketed costs and benefits are not the only reason to oppose cost-

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11. *Id.* at 137-149.

12. Rodgers, *supra* note 8, at 197-98.



benefit analysis. Putting a price tag on these nonmarketed costs and benefits diminishes their value, and suggests that something inherently nonmarketable may be "for sale." The author finds no justification for continuing to use cost-benefit analysis.

The book concludes with excerpts from discussions at the conference identifying the strengths and weaknesses of cost-benefit analysis and setting guidelines for decisionmakers. Cost-benefit analysis is the subject of many books and articles which can be broadly categorized into two groups. The first group deals with the applied economic theory of cost-benefit analysis. The second group either criticizes, explains or promotes the use of cost-benefit analysis. This book falls into the latter category. It presents a good overall picture of areas of disagreement among experts in the field and the shortcomings of cost-benefit analysis when used in the development of environmental regulations. However, the questions presented are not new, and while "Cost-Benefit Analysis and Environmental Regulation: Politics, Ethics, and Methods" presents an interesting dialogue among persons with opposing viewpoints on the subject, more answers would have been helpful. This book is a healthy criticism of an important subject. It would benefit by the presentation of some practical solutions.

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