

Appendix D.—Values, Ethics, and CBA in Health Care

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Introduction

The past two decades have been as hard on science as they have been on many other once venerated institutions, and for at least one of the same reasons: The idea that it consists exclusively of delineation of truths about the state of the world has been successfully challenged.

In some instances, scientific “facts” have been revealed to be deliberately falsified. Apart from tarnishing science’s image, falsification has other consequences. If a cancer researcher fakes results, others may spend months or years and large amounts of public money attempting to replicate them. If a psychologist fabricates IQ studies of twins, the data may be used in other similar studies and reviews, and the cumulated erroneous data may be influential in formulating a worthless (at best), or even a repressive and openly racist (at worst), social policy.

It is one of the axioms of the scientific enterprise that the norms and internal controls of science guarantee that such abuses will ultimately be exposed. Even if that is true for flagrant violations, however, it is not clear that it is true or even can be true for the much more subtle distortions inherent in the daily practice of science. These generally involve nothing so egregious as deliberate falsification of data, but rather much less obvious effects of the researchers’ biases and value commitments, many of which are unconscious.

In general, the argument that science’s value-freedom is illusory has fallen less harshly on the “hard” or natural sciences than on the “soft” or social sciences. Economics, however, is almost in a class by itself. Since its methods are quantitative almost by definition, economics appears to be relatively “hard” compared to many of the other social sciences. Partly because of this, economics has been one of the least criticized social sciences.

In recent years, that situation has begun to change. Largely as a result of the “dismal science’s” dismal record of forecasting, economics has been subjected to increasing criticism. That record has been increasingly frustrating for citizens and policy makers, both of whom must somehow cope with continuing uncertainties about inflation, unemployment, and other economic indicators. Deciding between big bang and steady state theories of the universe may ultimately have profound effects on our view of mankind, but most people are more concerned and more immediately affected by theories of economics. The impact of economics on government policy and daily life underscores the importance of accurate predictions and conclusions.

Among the currently fashionable methods of economics are CEA and CBA. A major text in the field of CBA was written by the economist E. J. Mishan, who believes economists doing CBA are really asking a question similar to that asked by a company accountant (410). Instead of asking whether the company will be better off engaging in one activity as opposed to another, the economist asks whether society would be better off by undertaking the project under study. In Mishan’s view, CBA applies standard economics to help advance the social welfare. The rationale is based on the Pareto improvement, which occurs if some economic arrangement makes people better off without making anyone worse off.

According to Herbert Klarman, a pioneer in using CBA in the health field, its use by experts, and the idea that it should influence public decisions, is only a generation old (317). There are few references to it in the literature before 1958. More recently, CBA has become a favorite tool among policymakers and has been applied in many areas of public life. Along with systems analysis, CBA has been widely used by the military and for major public works projects.²

Noting that investment in human capital was a popular theme in postwar economics, Mishan suggests that it was an easy step from investment in human productivity to investment in health (410).

NOTE: This appendix includes nearly all of a report prepared by The Hastings Center under contract to OTA. As with all reports published by OTA, its inclusion does not imply endorsement by the members of the Technology Assessment Board or by any advisory panels. Although the report focuses on CBA, the discussions apply in many instances to CEA as well. The report should not be considered an exhaustive treatment of ethical issues involved in the conduct and use of CEA/CBA.

¹Named for the Italian economist and sociologist Vilfredo Pareto (1848-1923). “An equilibria is said to be ‘Pareto-optimal’ if (and only if) there is no possible movement from it that could make everyone better off” (531).

²One famous and very controversial British study, for example, used it to help find a site for a third London airport.

The rationale is simple: Disease and premature death are costly to an economy, so investment in medical care can bring significant economic rewards by increasing human capital.

An increasing number of cost-benefit and cost-effectiveness studies have been done in the health field in the last decade, although how influential such studies have been in the forging of policy is not clear. Rashi Fein has pointed out that the attractiveness of economic arguments derives from a belief that economics is value free and objective (194). That makes it seem particularly appropriate for fields dealing with social policy, such as health care, which are fraught with value conflicts and otherwise appear to lack rigorous guidelines for decisionmaking.

Sociologist Duncan MacRae suggests that the historical development of economics has narrowed the discipline's outlook, making it highly specialized and scientific (394). Whereas economists like Adam Smith all made contributions to disciplines other than their own, today's economists are either interested exclusively in economics, or they are interested in extending economic theory to other fields like political science or sociology.

Thus, MacRae argues, welfare economics is a much more closed system than its predecessors, more impervious to values that come out of other aspects of its practitioners' lives. According to R. M. Parish, this kind of narrow specialization is exactly what CBA needs least (475). Good CBA, he says, "seems to call for a combination of subtle theoretical analysis, imagination, and a lot of hard, pedestrian slugging—the capacities to do which are seldom combined in one individual."

The need for economists with diverse capacities may be especially great in the area of health. As noted by R. N. Grosse, there has been little analysis of the relationship between expenditures for and outcomes of social programs (265). At the very simplest level, we really do not know how medical services affect our health, in part because "health" is an abstract and fuzzy concept. Health programs often really cannot be evaluated. We lack agreement on their objectives and on how to achieve them. We find it hard to estimate measures even when we agree on them. We cannot sort out cause and effect relationships because there are many inputs and outcomes. Finally, we have very little information about programs whose effects occur over a long time.

To pick a program goal and then attempt to evaluate how well the program is achieving that goal requires normative assessments, evaluations, and assumptions. CBA, however, is simply descriptive. Norms, cutoff points, decisions about where to draw the line between good and bad outcomes, all are in

the mind of the policy maker and need to be imposed on the data from outside. Norms are also in the analyst's mind, although analysts' commitment to the disciplinary ethos of quantification and objectivity may make them genuinely and sincerely unaware that norms are an inevitable part of their description.

In a book-length critique of CBA, Peter Self asserts that CBA depends on value judgments more than most types of information (556). Further, some of the major figures in economics, including many of that field's most thoughtful practitioners, share substantial agreement that economics in general and CBA in particular are anything but norm and value free.

This paper lays out major values underlying the quantitative techniques of cost-benefit and cost-effectiveness analysis in the health field. It shows how those values can result in ethical problems, and makes some suggestions for avoiding the difficulties the values engender. Though based on extensive reading of both the theoretical and technical literature in this field, the discussion is not exhaustive. Our brief for this exercise has been well stated by Fein, who observed that it is incorrect to suppose that measurement is neutral. "Cost-benefit analysis," he says, "is too important to be left to analysts or economists" (194).

Working Definitions of Cost-Benefit and Cost-Effectiveness Analysis

Definitions of CEA and CBA in the literature vary. OTA has defined them as follows:

Cost-Effectiveness Analysis (CEA): An analytical technique that compares the costs of a project or of alternative projects to the resultant benefits, with costs and benefits/effects not expressed by the same measure. Costs are usually expressed in dollars, but benefits/effects are ordinarily expressed in terms such as "lives saved," "disability avoided," or "quality-adjusted life years (QALYs) saved," or any other relevant objectives. Also, when benefits/effects are difficult to express in a common metric, they maybe presented as an "array."

Cost-Benefit Analysis (CBA): An analytical technique that compares the costs of a project or technological applications to the resultant benefits, with both costs and benefits expressed by the same measure. This measure is nearly always monetary.

E. J. Mishan says (410):

The general question that a cost-benefit analysis sets out to answer is whether a number of investment projects, A, B, C, etc., should be undertaken and, if ingestible funds are limited, which one, two, or more, among these specific projects that would otherwise

qualify for admission, should be selected . . . in cost-benefit analysis we are concerned with the economy as a whole, with the welfare of a defined society, and not any smaller part of it.

Mishan does not concern himself specifically with CEA, but his characterization of CBA is broad enough to encompass it.

For Prest and Turvey (487):

Cost-benefit analysis is a way of setting out the factors which need to be taken into account in making certain economic choices. Most of the choices to which it has been applied involve investment projects and decisions—whether or not a particular project is worthwhile, which is the best of several alternative projects, or when to undertake a particular project.

This definition, too, is broad enough to encompass both CEA and CBA.

Not surprisingly, therefore, Weinstein and Stason observe (627):

Cost-effectiveness analysis and benefit-cost (or cost-benefit) analysis are two related, but quite different, approaches to the assessment of health practices. Confusion frequently exists between the two approaches, and many analyses that are technically cost-effectiveness analyses are often labeled “cost-benefit” analyses, and vice-versa. The key distinction is that a benefit-cost analysis must value all outcomes in economic (e.g., dollar) terms, including lives or years of life and morbidity, whereas a cost-effectiveness analysis serves to place priorities on alternative expenditures without requiring that the dollar value of life and health be assessed.

According to Klarman, since CEA does not require valuing life and health in monetary terms, the dilemmas of valuation that arise with CBA can be avoided by substituting CEA (317). When we substitute CEA for CBA, though, we have lost the tool for setting priorities among several fields of activity.

Richard Layard who edited a major volume on CEA and CBA, holds that CEA is useful whenever CBA becomes impossible (349). The reason is that even if the planned benefit itself cannot be valued sensibly, it is still useful to compare the costs of providing the same benefit in different ways. Apart from providing a value for the benefits, he says, the procedures involved in CEA are exactly the same as those for CBA. Self, a major critic of the cost-effectiveness technique, says that cost-effectiveness can easily shade into CBA because goals cannot be described with precision (556).

In general, though, CEA aims to tell policy makers the least expensive way of achieving an already selected goal, whereas CBA seeks to help them select from among a choice of goals. Largely because it is considerably more ambitious, CBA presents more ethical difficulties than CEA (though the latter is certainly not free of them). This paper concentrates

largely on CBA, but much of what is said is equally applicable to CEA.

Implications of the Conflict Between Equity and Efficiency

Among its practitioners, there is substantial agreement that efficiency is the chief value underpinning economics. Those practitioners also freely acknowledge that since this value is its central one, economics—and particularly CBA—gives short shrift to another important value: equity. The conflict between equity (often expressed by the terms equality, justice, fairness) and efficiency is an enduring one in both politics and in economics. This conflict is the most important and intractable value conflict in CBA and is also its most important ethical issue. How, in pursuit of the least wasteful way of spending the public dollar for a given commodity, can we also make it available to everybody?

Efficiency.—Economics is grounded in philosophy.³ Its chief underpinnings came out of the philosophical school known as utilitarianism. Probably the most thoroughgoing attempt to construct a moral theory whose chief value is efficiency was made in the late 18th century by Jeremy Bentham (49). One of the earliest utilitarians, Bentham intended his system to apply both to the broad social arena encompassing politics and legislation, and to the action of individuals. The goal of Bentham’s utilitarianism was to maximize pleasure and minimize pain for all who stood to be affected by an action.

Bentham’s system presupposes an ability to quantify pleasures and pains. The process he described for judging outcomes required a precise specification of the tendencies of actions to produce pleasures or pains. All such tendencies are added together, and then totaled for all affected individuals until an optimal “balance” of pleasures over pains is reached. Bentham’s scheme is sometimes called the “hedonic calculus” or the “felicific calculus.” The term “calculus” should be taken quite literally, since social decisionmaking using this method requires straightforward calculations—adding and subtracting units of pleasure and pain.

Utilitarians, after Bentham, subscribed to the basic idea of maximizing utility as a social goal, but doubted the feasibility of constructing cardinal measures of utility. They sought to achieve the same result by employing an ordinal scale. Like Bentham’s, their approach still allows for a meaningful notion of maximizing individual welfare by enabling comparisons

³As Kenneth Boulding has pointed out, Adam Smith was a professor of moral philosophy (67).

of states of affairs as “better” or “worse,” although it is not committed to implausible measurements and calculations of pleasures and pains. The resort to ordinal measurement of utility, however, founders on the nettlesome problem of interpersonal comparisons of utility. Until we work out a common measure for one person’s “better” and another’s “worse,” the achievement of social welfare will remain an elusive goal.

Equity.—In contrast to the value of efficiency that characterizes utilitarian theory, the central value in philosophical theories based on the concept of justice or fairness is equity. John Rawls’s theory of “justice as fairness” (494) offers a compelling alternative to the philosophical foundations of CBA. Rawls criticizes utilitarianism’s willingness to allow the greater gains of some to offset the lesser losses of others. In theory, all versions of utilitarianism could justify actions by a majority that would enhance the majority’s position at the expense of a minority. Even if it could produce a total social welfare based on ordinal measures of satisfaction, however, Rawls would still object to utilitarianism on the ground that individual rights and liberties are liable to get lost in the aggregating shuffle. Although utilitarianism presents itself initially as an individualistic democracy of pleasures (“everybody to count for one, nobody for more than one” —Bentham), Rawls observes, aggregating the desires of each individual into a total system of desire actually results in a morally defective impersonality that allows some people to be used merely for the benefit of others.

Rawls’s rival conception of equity is unique. Whereas some political theorists construe equity to mean equality (to everyone an equal share), and others treat it as a proportionality of some sort (to each according to need, merit, contribution, etc.), Rawls begins his notion of distributive justice with a preference for equality that is immediately hedged by a so-called “difference principle.” This principle permits significant differences in wealth and social status, but only those differences that benefit the least advantaged members of society. (This device makes interpersonal comparisons of utility unnecessary.) Thus, while it is permissible for a society to allow certain kinds of inequalities that raise everyone’s standard of living—in fact, Rawls holds that it would be irrational to insist on equal shares of fewer goods—the difference principle rules out those inequalities that improve the status of the better-off at the expense of the worse-off. Once a society adopted the difference principle, individuals would be entitled to whatever goods or status they could obtain or achieve through voluntary transactions on the free market, gifts, and so on.

Two examples will suffice to illustrate the sorts of equity problems central to CBA: 1) the different ways in which people’s lives and preferences are evaluated, and 2) the way in which the future is evaluated compared with the present.

Valuing Lives and Preferences

The problem of placing different values on different lives is keenly felt and discussed in all the theoretical literature on CBA, even by its friendliest adherents. This problem is particularly germane to the health field and is as old as CBA in that field. The 17th century estimates of the value of life by Sir William Petty illustrate a problem that remains unsolved (194). To strengthen his argument about what the government might save by transporting people out of the city and saving them from the London plague, Petty valued people at only £20 each, because that was the lowest price for a slave. For his largely illustrative and rhetorical purposes, setting the lowest possible valuation on labor effectively made the point. Petty’s calculations of what the government might have saved was an underestimate; the actual amount would, of course, be much more, since not only “slaves” would be transported out of the city and saved from the plague, but “more valuable” persons as well.

In a 19th century sanitation study in Massachusetts, Lemuel Shattuck valued adult men differently from women and children (559)—a practice often adhered to today. Shattuck’s estimates of the benefits of better sanitation in Massachusetts involved labor costs (calculated at an average of \$50 a year) totaling almost \$5.5 million, to which he added the cost of public support of dead laborers’ widows and children. But the latter costs came to only an additional estimated \$2 million.

The Issue and the Methods

Fein puts the whole issue nicely (194):

Does the measurement of a person’s worth in terms of his productive contribution really represent our social values? I believe that it does not do so. In particular, it fails adequately to take account of equity and distributional considerations (which many believe to be one of the major functions of government).

Fein points out that taking account of individual characteristics such as potential earnings could lead society to provide health care services to those with the highest potential income and to direct them away from those with low earning capacity and less education. Females in such a scheme are at a disadvantage compared to males, as are the old compared to the young, and blacks compared to whites. In each case,

the disadvantaged individuals are the ones with the lower incomes.

Klarman argues that some elements of the controversy over valuing lives have been settled by recent technical developments (317). Whereas 15 years ago a wife not employed outside the home did not count for very much in a CBA, he notes, recently housewives' services have been given a monetary value. The lives of housewives are now usually figured on that basis, though still, of course, at a lower rate than the lives of their husbands employed outside the home.

When cost-benefit calculations were begun at HEW in the middle 1960's, Agency officials realized that the benefits calculation discriminated against women and the elderly (265). According to Grosse, there were fears among some that too vigorous pursuit of the underlying logic would penalize not only health programs for the aged (medicare was just getting started), but programs for the poor, as well. He notes, however, that (265):

In actual practice, for the particular programs studied, these concerns were not critical. The programs for cervical and breast cancer looked to be good despite their being for women. As for the poor, most of the programs considered, especially cervical cancer, syphilis and tuberculosis, were aimed primarily at them, and projects were usually located to serve low-income residents.

By implication at least, this is a way to get around some of the distributional problems inherent in CBA: If decisionmakers are committed to just distribution of resources and are interested in choosing the best programs aimed chiefly at the poor, i.e., if equity considerations are built in from the start, then the problem of equity can be dealt with. This is, of course, a big if,

Mishan believes that although distributional and equity considerations do offer grounds for objection to CBA, the objection is not a strong one (410). Even if a project is cost-beneficial, Mishan notes, it can always be rejected on grounds of inadequate attention to equity. Writing on the relationship of Christian ethics to CBA, Denys Munby agrees, arguing that the use of differential income data usually makes social decisions easier (416). If one found out that only millionaires would be affected by the destruction of a particular beauty spot, one might not worry very much about its destruction. "What is quite clear is that we can make our analysis as egalitarian as we want," he says. What these views require, however, is that policy makers be committed to equity—and that they act on the basis of that commitment.

Another major objection to the usual way people are valued for purposes of CBA is that focusing on income ignores other indices, Mishan acknowledges

that CBA tends to ignore indicators of social merit, but argues that we have no good way now of judging their worth (410).

CEA attempts to avoid the seemingly insoluble valuation problem of CBA by simply jettisoning much of it. Instead of comparing costs in dollars to benefits in dollars, CEA compares costs in dollars to benefits expressed in nonmonetary terms (e.g., numbers of deaths averted). As Weinstein and Stason note, however, a limitation of both CEA and CBA is (627):

... that the benefits and costs to individual members of society need to be aggregated. If the inequitable distribution of benefits and costs across individuals or groups are of concern, a single cost-effectiveness measure will not do. However, as economists are wont to argue, over large number of programs and practices the inequities are likely to even themselves out and, with some exceptions, may reasonably be ignored.

Even assuming that some of the aforementioned problems could be solved, other problems in valuation would remain. In comparing the loss of a man's life with that of a woman, one is at least comparing two identical types of outcome. As Fein points out, however, problems arise in comparing apples-and-oranges types of outcomes, for example, lives saved in comparison with blindness prevented (194). Grosse agrees, noting that when dealing only with the cost per death averted, there is no way to compare or rank diseases that do not usually kill (265).

CBA has not yet found a common way of measuring different outputs from different programs so that they can be sensibly compared. Finding a common unit of measurement is very difficult. We are unable to measure units of satisfaction or of happiness generated by various government activities, nor are we able to compare one person's satisfactions with another's.

One way of dealing with this problem has been by using the concept of quality-adjusted life years (QALYs). Even the concept's chief proponents, however, concede that the weights it gives to varying states of health are subjective, so much so that (627):

In a cost-effectiveness analysis at the societal level, it is therefore essential that a range of possible weights be used to reflect the spectrum of individual values . . . Most analyses avoid quality-of-life considerations entirely, quantifying only the change in life expectancy. Where the quality-of-life effects are believed to be important, however, the credibility of an otherwise effective analysis may be jeopardized. Tradeoffs involving quality-of-life considerations are made implicitly by health-care decisionmakers all the time; the role of the analysis is to make them explicit.

The difficulty here, as the authors implicitly acknowledge when they draw attention to the subject-

tive nature of the QALY concept, is that such assessment reintroduces the problem of determining values that the use of CEA is supposed to avoid.

Mishan's text contains extensive material on the valuation of life and limb (410). Though philosophers could legitimately disagree with his view, Mishan regards saving life as symmetrical with losing it, so he bases his techniques almost exclusively on established legal methods of compensating victims. Self says this is actually an ethical rather than a legal position, a position that specifies that involuntary losses should be compensated (556).

Despite repeated expressions of dissatisfaction with it, the most common way of calculating the worth of a person's life is by discounting to the present that person's expected future earnings. Mishan discusses alternatives to this conventional way of valuing loss of life, one being to perform auxiliary calculations that take account of a victim's suffering or family's bereavement (410). He appears to favor evaluating the saving of life by referring to what each person would be willing to pay or to receive for an estimated change in the risk to his or her life. These calculations could change over time. Mishan argues that one might ultimately want to forgo bereavement calculations altogether because of the gradual loosening of family ties and the decline of emotional interdependence. In a wholly impersonal society, any member of the community is equally replaceable—in such a society there would be no suggestion of compensating for bereavement.

Weighting Schemes

One attempt to improve equity considerations has been to use utility rather than dollars, and to assume that income has diminishing marginal utility. This means each person's income is valued equally up to a fixed amount; income over that amount is given less importance in the calculations. One obvious difficulty with such weighting attempts is, as Mishan (410) and others (194,556,349) point out, to secure a consensus on the weighting. And, of course, a weighting scheme could still end up making the rich richer and the poor poorer.

Klarman argues that weighting, though not wrong, is certainly judgmental (317). To make his point, Klarman cites as an example the weighting of earned income more heavily than the same amount of money received from public assistance. Such weighting is based on the assumption that money earned from work is somehow morally better than money received as public largesse. It may be legitimate to use such weighting in CBA, but as Klarman states (317):

What must be recognized is that weights are judgmental, are likely to be arbitrary (at least initially),

should be derived in the public arena, and, above all, must be clearly stated.

Layard favors CBA in which valuation is arrived at by asking people what they would pay to acquire the benefits or avoid the costs (349). Of course, one doesn't usually ask people such questions directly, although some economists advocate a questionnaire approach. Far more often, values are put on such programs indirectly by inferring what people value from their behavior, often from what they buy.

Munby approves attempts at valuation based on people's purchasing behavior (416):

In principle, the whole analysis is entirely democratic; it starts and ends with what people actually want, as shown by their actual choices.

On the other hand, though, as Self argues, willingness to pay is in some sense related to ability to pay, so analyses in which this is used for the purpose of valuation are still biased toward the better-off (556).

The Veatch Critique

Robert Veatch asserts that valuing lives presupposes that we have decided the question of value to whom (603). In some theories of valuing lives, the relevant consideration is assumed to be value to society or aggregate value. In others, it is value to the individual (e.g., self-rating weighting systems), to some specific social group, or to the person who pays the bills (who might also be the U.S. taxpayer).

Veatch also points to a problem with the willingness-to-pay approach for weighting (603):

At least up to a certain point, the older one becomes, the more valuable life becomes (because, subject to willingness to borrow, one is generally willing to pay more to avoid death risks since one has a higher income level). On the other hand, in human capital terms, the older one becomes, the less valuable life is, to the point that at retirement (at least for males who tend not to be involved in non-monetized domestic labor), life is "worthless". . . Any formula based on personal estimates of how much one would pay to avoid a certain risk of death accepts the status quo distribution of incomes in our society. Accepting it may be efficient—it may be utility maximizing—yet I am still convinced it is not just and it is not right.

Veatch argues that the Kantian maxim that the individual is to be treated as an end, and never only as a means, prohibits policies in which one individual or group benefits at the expense of another, even if the net benefits far outweigh the harms. Many economists have dealt with this and similar arguments by a pragmatic counterargument—that we are in fact making precisely such invidious comparisons with current policies arrived at on intuitional or other "nonscientific" grounds. By this argument, an important advantage of valuing lives for purposes of CBA is that it brings us face-to-face with the fact that, even

in a supposedly egalitarian society like the United States, we value different people's lives differently.

As Veatch says, however (603):

If it is conceptually unsound to equate the real value of a life with the value of the labor that life will produce, it is also unsound to conclude that there is any necessary relationship between what I would pay for a program to add years of life, and what society ought to pay for that program.

Willingness-to-pay approaches favor those with greater ability to pay. Even willingness-to-pay measures that concentrate on percentage of income rather than absolute dollars really do not solve the problem, because selection of an acceptable percentage of income also has a very strong relationship to income level.

Finally, willingness-to-pay measures fail to tell us anything about people's attitudes toward programs in which they have no particular stake, like prenatal diagnosis for women who have no plans to bear children and are not close to anybody who has such plans. Sheer self-interest dictates that one should be willing to pay for programs in which one is or may be personally involved. As Veatch notes (603):

One might have a self interest in avoiding the witnessing of suffering around him, but this does not seem to be the real moral basis of a commitment to help programs designed to affect a condition one is virtually certain not to have.

Veatch here ignores the argument (based on CBA!) that such programs will save taxpayers money (e.g., by reducing the cost of institutions for the retarded).

Veatch identifies four different assumptions that can be used as the basis for valuing lives: 1) all lives are of equal value, 2) the prime of life is most worthwhile (because it is most productive), 3) youth is most worthwhile (because young people have more life ahead of them), 4) old age is most worthwhile (because older people are wiser?). Still Veatch says (603):

... all have an equal claim to the health care needed to provide a level of health equal, insofar as possible, with other people's health ... it will necessarily have to give way to other claims upon occasion, but it should be the decisive starting point for evaluating alternative public policy.

Thus, social usefulness, willingness-to-pay, future productivity, and other such measures are and ought to be irrelevant,

CBA is all right for some things, Veatch says, like telling us that some diseases kill people in the prime of life. Whenever policy choices conflict with individual rights and justice, however, Veatch wishes to promote justice "even if that means lower aggregate indicators of utility" (603). Younger people should receive a higher priority than others, because "an

essential part of the egalitarian principle of justice is that there should be, insofar as possible, an equal opportunity to live to the same age as others." There should also be equality of opportunity to live life without suffering, Veatch believes. But here the policy objective should not be to achieve a maximum reduction in suffering (because that is an aggregate measure), but rather to reduce those conditions that produce the greatest suffering in the individuals who have them. Veatch believes that sometimes the needs of the poor may have to be placed ahead of those who may die relatively early. He also favors excluding or giving low priority to deaths for which the victim is personally responsible (e.g., death from lung cancer caused by cigarette smoking). According to Veatch, involuntary conditions should have higher priority than voluntary ones.

Discounting

Another important distributional problem that requires at least a brief discussion is selection of the discount rate and the related problem of comparing the future with the present, given inflation and the fact that, in general, people prefer benefits now to later. Self traces the problem, in part, to the Pareto principle itself, which he believes is "strongly biased towards the status quo" (556).

Layard (349) points out, and other analysts (317, 194) agree, that the question of the welfare of future generations is simply ignored in most CBAs. Layard believes most economists would argue that projects should be judged exclusively in terms of their effects on the welfare of those now living. He notes (349):

If one takes the alternative view that cost-benefit analysis aims to throw light on what is right, it is difficult to think of any ethical justification for ignoring future generations. A practical argument is sometimes put forward for ignoring them—that we cannot know their preferences. However, there are many items (like life) where we do not know how they are valued by present generations, and many (like bread) that we can be fairly sure what future generations will feel.

The discount rate, which takes into account what a dollar invested today would earn in interest if it were not being spent on health care, tends to devalue the future. MacRae says economists' evaluations of the future may be wrong (394). Rawls has even suggested a zero discount rate to promote justice among generations (494). In his discussion of the discount rate, Mishan describes the political constraints on decisions about which discount rates to use (410). Klarman notes that Federal agencies have traditionally used a wide range of discount rates, usually without giving any kind of justification (317). The conse-

quences of choosing a high or a low rate, he says, are clear: Low rates favor projects or programs whose benefits accrue in the distant future. When the project is short-lived, the choice of a discount rate is minor. Nevertheless, Klarman says, there may even be some merit in employing a single number for all public human investment projects,

Conclusions

The distributional issues discussed above present both philosophical and practical problems for economists. According to Layard, most economists would argue that income should be redistributed by direct cash transfer rather than by juggling choices of public projects (349). But Layard believes that if we are reasonably certain that the cash will not be so distributed, then the poor person's dollar ought to be valued more highly than the rich person's.

As he sees it, the problem is less one of equity than it is of knowing which constraints should be taken as given and figured into the analysis. If a Government agency knows for certain that cash will not be redistributed, even if it should be, then the agency should allow for distributional factors when it evaluates a project. It should not allow for those factors if it can ensure that redistribution will be achieved by some more appropriate method. In practice, however, a Government agency cannot know this. Until this is settled, it may be impossible to rationally appraise a project. Privately employed economists, too, are free to incorporate distributional measures (e.g., no-cost transportation to neighborhood health centers for the elderly) into their equations.

According to Layard (349):

A decision-maker should choose from his available set of actions the ones which maximize social welfare, subject to all the constraints over which he has no control.

It should be noted, however, that this approach allows economists enormous latitude without requiring that they incorporate distributional considerations. It can also be argued that such an approach completely subverts the purpose of CBA, which attempts to free the policy process from the individual beliefs and biases of the policy maker,

To summarize, the traditional approach to CBA excludes formal consideration of distributional effects such as equity and fairness. Since economists disagree about how to solve this problem, equity considerations are likely to continue to be underemphasized in practice. Mishan, for one, believes that the situation is unlikely to change in the foreseeable future (410).

Implications of Data Problems

After distributional/equity issues, the criticism most often made of CBA is that the data employed are simply not reliable. This criticism appears to be legitimate to an undetermined, possibly large, extent. It is a very serious criticism, chiefly because it conflicts with the quantitative and scientific trappings of CBA.

The general problem here, as Parish points out, is that CBA is a form of modeling, and, like all other attempts at modeling, expresses only certain aspects (and those perhaps not wholly accurately) of a very complex world (475). CBA is "irretrievably" second-best; that is, CBA seeks to explore the consequences of particular actions in the imperfect economy as it exists and in which the insights of theories applicable to a first-best world maybe misleading. According to Parish, "Its practitioners are frequently tempted to simplify their problem by making first-best assumptions . . ." (475).

The Problem of Defining Outcomes and Goals

Criticisms of data are made on a number of different grounds. Most obvious are the simple inadequacies of our current reporting and data systems. In a very real sense, of course, such inadequacies are technical problems that can be improved once they are identified and someone in a position of power decides to deal with them and improve the system.

Fein, however, has identified a number of much more difficult data problems (194). One concerns the measurement of outcomes which are conceptually amorphous (e.g., higher levels of health) and to which many factors contribute (e.g., housing, income, nutrition, environment, and medical care of all kinds). In addition, there are many factors whose relative contribution may differ for different persons, and whose proportional importance is largely unknown. Another problem is how to measure the goals of a health program that exist on a continuum. It is more difficult to measure continuous states with a wide range of effect, like pain or impairment of functional ability, than to measure discontinuous states like life and death. Furthermore, difficulties in measurement create a bias in favor of programs that have easily measurable goals.

Most discussions of CBA mention the selection of goals and objectives as a problem. Many critics and even some proponents of CBA feel that the goals are often vague and nonspecific (e.g., "health"). Kenneth Boulding points out that we often agree on major goals (67). We disagree on how to reach the goals, and in some cases, on what the alternative ap-

preaches might be. Mishan, for example, criticizes Klarman's study of syphilis by pointing out that the calculations were based on the goal of eradicating the disease (410). There was no comparison with a defined control program to reduce the disease to some pre-specified level.

Ironically, Klarman himself is quite aware of the difficulty (317). He believes the costs of a particular health program can be estimated, but that the field's chief difficulty arises in formulating the contents and expected outcomes of programs before estimating their cost. In a study of the end-stage renal disease program, for example, CEA pointed to the superiority of kidney transplantation, with dialysis only for initial and backup support. Klarman believes that if a CBA had been performed, the shortage of suitable kidneys and the relative ease with which dialysis facilities could be expanded might have yielded a higher net benefit value for dialysis.

Economists may also make naive assumptions about the practicality of stated goals and outcomes, Klarman says (317). At least in the early days of CBA, he notes, there was a tendency by economists to attribute greater efficacy to medical care than we now believe is warranted.

The Problem of Uncertainty About the Future

The whole area of uncertainty about the future—guesswork about costs and benefits of technological innovations and unanticipated shifts in demand—continues to plague CBA. According to Mishan (410):

The problem of how to make decisions in any situation where the past affords little or any guidance is not one that can be satisfactorily resolved either by logic or empiricism, and what moves have been formulated are either of limited application or of no practical value,

To cope with uncertainty, one can figure an arbitrary cutoff period, adjust the discount rates, or simply pick a subjective probability. A number of recent articles (627,564) recommend using sensitivity analysis (627):

... In this method, the most uncertain features and assumptions in the cost-effectiveness calculation are varied one at a time over the range of possible values. If the basic conclusions do not change when a particular feature or assumption is varied, confidence in the conclusion is increased. If, instead, the basic conclusions are sensitive to variations in a particular feature or assumption, further research to learn more about that feature may be especially valuable . . .

... Examples of sensitivity analyses that are often useful are to vary the estimates of the degree of clinical efficacy of the procedure in question, to vary the weights assigned to various quality levels in comput-

ing quality-adjusted life expectancy, and to test a range of discount rates, say, from 0 to 10 percent per year.

The Problem of Using Proxy Goals and Measures

Another problem comes from the use of proxy goals and measures that may bias the number and variety of options for action. Fein's cites as an example measuring the health of children by counting school days missed (194). A program designed to improve children's health so that they miss fewer days, he argues, is different from one that focuses so heavily on reducing days of absence that its success results in sick children's being sent to school.

In fact, some argue that one of the deficiencies of CBA is that it is a complete exercise in proxy measures, since, as Fein himself points out, monetary benefits are only a part (and in some cases a small part) of all benefits, and they do not represent a stable or constant fraction of all benefits. This problem has been obvious at least since Lemuel Shattuck's 1850 sanitation study in Massachusetts (559). By spending \$3,000 on sanitation planning and technical assistance, he argued, the State would ultimately gain at least \$7.5 million in productivity for the 6,000 unnecessary deaths averted by efficient sanitation. But Shattuck also understood, and said, that economic benefits were not the only ones that sanitation measures would yield. In addition, such measures would increase public happiness (194), CEA is an attempt to sidestep such problems, particularly through the concept of QALYs (627,563).

For Fein, the choice of data is very important because budget officials will tend to focus on those outcomes that have numbers, or more specifically, economic values, attached to them (194). Programs that affect future productivity thus come to be overvalued because they can be quantified, and programs that relieve pain and suffering but do not affect productivity come to be undervalued. According to Fein (194):

It may, indeed, be that programmed addressed to disabling conditions and to disease involving mortality, rather than to conditions that do not remove the person from economic activity, should be favored. That conclusion, however, should not be reached primarily because some things can be measured while others cannot. The analyst may discount the nature of the difficulty and the likelihood that this might occur, believing that his description of the items (particularly, benefits) that cannot be measured will suffice to alert the decision-maker to the inadequacy of the numbers. I suggest, however, that the analyst may underestimate the problem. He would do well to consider how compelling numbers are to finance officials

and how high a rate of discount is applied to words, however well-turned the phrases may be.

In an article on the Christian ethics of CBA, Denys Munby argues that the technique attempts (416):

... precisely to take account of all the "social costs" that social reformers have (rightly) accused the pure market economies of ignoring Money is merely an abstract measuring rod; there is no other so comprehensive. It is not the use of money symbols that can be criticized, but the actual valuations have to be examined to see whether they correspond to the way we think things should be valued.

The Problem of Deciding on Inclusions and Exclusions in an Analysis

Klarman points out the great difficulty in deciding which factors to include and which to exclude in an analysis, and suggests that this problem is particularly acute in the health field (317). Other analysts agree. Grosse notes that the HEW study of the costs of automobile accidents and their prevention did not calculate the cost of seat belts (265), but he does not specify why. That particular omission seems very puzzling. Similarly not figured into the analysis was the possibility that lower auto insurance rates for everybody could result from a successful injury prevention program.

In genetic screening, where many CBAS have been performed, similar puzzlements crop up. A number of cost-benefit studies have been conducted on newborn screening for phenylketonuria (PKU), a very rare metabolic disorder leading to severe mental retardation (79). Mental retardation can be partially prevented by putting babies with PKU on a special diet shortly after birth. On paper, PKU-screening programs for newborns have been demonstrated over and over again to save society money by reducing the number of retarded people who need to be institutionalized.

But not one of the analyses of PKU-screening programs has included in its calculations a major long-term cost—that of finding and putting back on the special diet during pregnancy young women with PKU whose children will otherwise be severely retarded. Formerly, women with PKU lived in institutions and did not reproduce. As a result of the special diet initiated after birth, today many women who were born with the disorder lead normal lives and have children.

The cost of a 20-year or longer followup for these women is enormous, and yet it is justified on both practical and ethical grounds. Having saved young women born with PKU from severe retardation, the state wants to prevent retardation in their offspring for which it might otherwise have to bear financial

responsibility. In addition, it can certainly be argued that Government also has a moral obligation, once a public policy has been instituted, to help those people who are affected deal with new problems that arise in their lives as a result of State intervention.

The Problem of Infinite Externalities

Boulding points out that almost everything we do turns out differently from what we expect; both the bad and good are often unintentional (67). So, it is not surprising that a major problem with assessing cost and benefits are so-called externalities, otherwise known as external effects, neighborhood effects, side effects, spillover effects, or spillovers. Externalities include such things as the effect of building a road on esthetic sensibilities, on noise and pollution, on loss of life as a result of increased traffic accidents, and so forth.

What characterizes all these effects, Mishan says, is that they are unintentional and not subject to control by the people who experience them (at least not unless there is *some* way such people can spend money to avoid them) (410). Mishan suggests that the number of external effects in the real world is virtually unlimited. He believes society is obliged to limit them for the economist.

The number of effects that can be internalized into the pricing mechanism, Mishan says, is limited. According to Mishan, the costs of spillovers such as traffic noises, pollution, radioactive waste, and diseases of the nerves, heart, and stomach caused by high-tension living cannot be internalized. Internalization would require that the potential victim of the spillover have a legal property right to some measure of quiet or clean air, freedom from tension, and so forth. For that right to be enforceable, it would be necessary to delineate a territory around each individual that belongs solely to that person, so that an intrusion subject to legal compensation procedures could be identified. Since it is impossible to create a market, even an artificial one, that would make pricing them possible, such spillovers must ultimately be evaluated by the victims' subjective estimate.

Deriving his argument from John Stuart Mill, a 19th century British disciple of Bentham, Mishan thinks compensatory sums should actually be paid to victims of spillovers. He rejects the social engineering approach to spillovers which seeks to formulate tolerance levels for society (410):

If the liberal economist rejects social engineering norms such as "tolerance level," it is not merely because the choice of such a level for society is necessarily arbitrary, but because the adoption of such toler-

ance norms on behalf of all members of society runs counter to the doctrine that each man is deemed to be the best judge of his interests, particularly in matters that affect him intimately.

A good portion of Mishan's book is devoted to a discussion of possible compensation and legal liability in such situations.

Prest and Turvey argue that CBA is not relevant to decisions on large investments because such large investments spill over so much that they may end up altering the whole economy (487). The example they use is the building of a dam in an underdeveloped country. Prest and Turvey's argument, however, might apply equally well to health care.

Grosse recounts that HEW's study of the possibilities for comprehensive health care programs for young children looked good enough that Congress became very interested (265). It was clear, however, that if children who then lacked access to good medical care were to be provided with conventional pediatric services, an acute shortage of doctors would result. Ways had to be found to use medical manpower more efficiently. Thus, the Social Security Amendments of 1967, which provided for early case finding and treatment of birth defects and chronic conditions in children, also provided for a research and demonstration program to train and use physicians' assistants.

Training physicians' assistants is an example of a side effect, because such training was not counted as a cost in the original HEW study. Nor was it anticipated how a CBA of this sort, translated by law into public policy, can influence the practice of medicine. This analysis led fairly directly to an increase in interest in physicians' assistants, which may change the whole hierarchical structure of medicine in the United States. It is not clear whether such a development should be counted as a cost or a benefit, or possibly a bit of each. Ordinarily, however, a massive (usually entirely unforeseen) ultimate effect such as this simply does not figure into the calculations.

The Problem of Pricing the Unpriceable

Finally, there is the stubborn problem of valuing intangibles, or pricing the unpriceable. In discussing intangible costs like pain, discomfort, and grief, Klarman notes that one difficulty in valuing them is that they accrue partly to patients, but also partly to their friends, relatives, and to society (317). One way of valuing such intangibles is to ask what an individual would be willing to pay to avoid them. But Klarman believes the measurement problems here are major. Although he describes a number of different ways such intangibles have been valued, he is not very enthusiastic about any. Mishan points out that

Klarman himself, when he did his 1965 calculations on syphilis, attributed more than 40 percent of the final benefit to "reduction of stigma," which was valued (essentially arbitrarily) at either 1 or 0.5 percent of earnings subsequent to the discovery of syphilis (410).

Parish, along with most other commentators, also discusses the difficulty of valuing intangibles (475). It is true, says Parish, that such valuations are often impossible. Further, he notes (475):

... ingenious, indirect means are often unconvincing and tend to discredit benefit-cost analysis. Also objectionable is the practice of finely calculating the more easily quantifiable elements while ignoring or drawing insufficient attention to the intangible ones. Indeed, this may be a more heinous event than to attempt to heroically quantify the unquantifiable.

Because intangibles are not sold in markets where consumers are forced to reveal their preferences, says Veatch, the willingness-to-pay principle is difficult to apply to them (603).

The Fictional "Facts"

All of these quite genuine measurement difficulties mean that CBA can never really tell the unvarnished truth, and that it is therefore at bottom a kind of systematic misrepresentation of the world it purports to measure. Self goes so far as to accuse cost-benefit analysts of (556):

... unwittingly or not, playing a confidence trick with the symbols of monetary exchange. Of course the theoretical welfare economist is not a confidence trickster, in fact he is often high-minded, but he is committed to the discovery of some ideal ("optimum") set of economic conditions that transcend the ordinarily market economy, with the aid of which he can measure intrinsic value.

Many commentators believe that fact saddles economists with a heavy moral responsibility, and speak of it in exactly such terms. Mishan, for instance, ultimately characterizes CBA as horse-and-rabbit stew, the rabbit representing costs and benefits that really can be quantified, and the horse representing other considerations, including environmental spillovers (410). "No matter how carefully the scientific rabbit is chosen, the flavor of the resulting stew is sure to be swamped by the horse flesh," he concludes. Economists should resist the temptation to ignore the horse.

Implications of the Bias of Science Toward Rationality

Both distributional considerations and the truth or falsity of the assigned values in CBA are value/ethical problems with which many of the advocates of such analysis are all too familiar and with which they

are constantly struggling. Another value issue is more subtle and does not appear to have been previously identified, no doubt partly because it underlies not just CBA, nor even economics, but the whole ethos of the scientific enterprise. That is the bias of science toward knowledge as a good for its own sake. This bias values “rational” decisions (usually defined as decisions made on the basis of “fact”) over “intuitive” ones (usually characterized by a “gut feeling”).

As Charles Lindblom and David Cohen emphasize, policy analysts tend to believe that all problems are best solved by gaining more information (361). Over and over again, CBA is justified not on grounds that it is accurate or fair, but that it represents information, and in that sense is and will always be preferred to the prior state of ignorance. Nobody puts the argument more succinctly than Prest and Turvey, who note that CBA forces those who conduct it to quantify costs and benefits insofar as possible (487):

... rather than rest content with vague qualitative judgments or personal hunches. This is obviously a good thing in itself; some information is always better than none.

Mancur Olson attributes the quest for rationality not just to science in general, but to economics in particular (469):

... Economic (more precisely macroeconomic) theory is in a fundamental sense more nearly a theory of rational behavior than a theory of material goods. Boulding grants that the dollar “is a dangerously imperfect measure of the quality of human life and human values” (67). Nevertheless, he says (67):

... it is a useful first approximation, and in these matters of evaluation of different choices it is extremely useful to have a first approximation that we can then modify. Without this, indeed, all evaluation is random selection by wild hunches.

Layard points out that all the writers in his edited volume assume that knowledge is better than ignorance (349).

Fein, who acknowledges serious problems in accurate valuation, nevertheless concludes “these problems leave us no worse off than we are in the absence of the evaluation effort” (194). In fact, he says, our awareness of the problems may leave us better off (194):

... the cost-benefit analysis leads to a greater level of understanding of the deficiencies in our measuring techniques, of the vagueness of some of our goals. It does not make us ignorant but makes us aware of our ignorance. It forces us to question the “conventional wisdom” ...

Although making comparisons between people or diseases is distasteful, Fein argues, such comparisons

are being made all the time anyway. It is preferable to make the comparisons explicitly so that we can be aware that we are valuing the lives of airplane passengers, for example, more highly than those of coal miners.

Indeed, several writers justify CBA by arguing it makes us face squarely the moral implications of valuing different people’s lives and preferences differently. Parish observes (in connection with the willingness-to-pay principle and the difficulty of valuing intangibles not sold in markets) that even to point out these difficulties is useful because it reveals an area of ignorance (475).

Mishan views the economists doing CBA as having a much more active role than that of a simple technician (410). To him, the cost-benefit analyst is a moral agent with an obligation to incorporate some of the deficiencies revealed by the analysis into policy formulation. Even when analysts cannot bring some important but unquantifiable item into the calculus, they can at least clearly reveal an area of ignorance. They can also help valuation by providing a physical description of the spillovers and their significance and offering a guess or range of guesses about the value of the damage. Analysts can also provide contingency calculations and estimate the critical magnitude for the spillovers that will just offset a project’s benefits. They can even use questionnaires, says Mishan (410):

Surveys based on the questionnaire method maybe suspect for a number of reasons, but they are sometimes better than guesswork, and assuredly better than no information at all.

Again and again, in discussion after discussion, commentators state the better-than-nothing argument. Despite these expressions of faith, the question remains whether revealing our ignorance will, in fact, force us to face and remedy it. Grosse observes that the HEW study of maternal and child health programs was a difficult one to do because hard information on the state of children’s health was difficult to obtain (265):

Surprisingly, estimates of improvement in general health attributable to medical care are almost nonexistent. It is not easy to demonstrate statistically that children who see doctors regularly are healthier than children who do not.

This statement is an indication of what we can probably take to be Grosse’s belief that visits to the doctor do indeed improve health; he is frustrated only by his inability to demonstrate that statistically. The alternative view, both plausible and increasingly fashionable, is that visits to the doctor do not contribute appreciably to the general health of children. That possibility appears not to have occurred to Grosse,

though entertaining it might certainly give policy-makers quite a different view of what kinds of priorities to accord to health care.

One of the most extensive criticisms of this rationalism-oriented mind set has been lodged by Veatch. He argues that systems analysis, rationalized centralized planning, and quantification are not value-neutral, but are instead attractive to people who have certain values (603). Veatch criticizes systematic, data-based analysis of policy problems on two grounds. One is practical—he has doubts about its outcome. So many things in practice turn out to be unquantifiable, Veatch says, that it may be better not to pursue such analysis at all because the possibility of error may be great. Furthermore, Veatch says, systematic, data-based analyses of policy problems are contrary to a sense of human freedom or spontaneity and are overly rationalistic (603):

It is sobering to realize that basic lifestyle choice is at stake here. One cannot systematically or rationally prove that systematic, rational policy analysis is a preferable style of living in a social community.

For Lindblom and Cohen, the problem is not style but substance (361). They believe that more knowledge will be of little use in many situations and that many problems are best solved “interactively,” that is, by means of negotiation or the political process. Even when knowledge is of value, it is usually only one element in a more complex political and human situation. Moreover, they argue, interactive problem solving can be just as rational in its methodology as the “scientific” approach.

Economics, like the rest of science, however, is tied irrevocably to the latter. As Boulding observes (67):

The fundamental principle that we should count all costs, whether easily countable or not, and evaluate all rewards, however hard they are to evaluate, is one which emerges squarely out of economics and which is at least a preliminary guideline in the formation of the moral judgment, in what might be called the “economic ethic.”

Boulding freely acknowledges that some things simply cannot be measured, particularly what he calls the “heroic ethic” (bravery in the military, religious feelings, and so forth) (67):

The attack on economics is an attack on calculatedness, and the very fact that we think of calculating as cold suggests how exposed economists are to romantic and heroic criticism.

The problem is to retain both heroic and economic elements in our institutions and in our decisionmaking, but in proper balance (67):

Economic man is a clod, heroic man is a fool, but somewhere between the clod and the fool, human man, if the expression may be pardoned, steers his tottering way.

Though most instinctively prefer even a flawed systematic analysis to none, it is well to keep Fein's warning in mind (194):

While it is better to know something than to know nothing . . . we dare not minimize the danger that in knowing something we may behave as if we know everything.

Implications of the Conflict Between Freedom and Paternalism

The conflict between freedom and paternalism is one not much discussed in the literature on CBA. But individual freedom is an issue particularly important in the United States, and paternalism one particularly important in medicine. The conflict between freedom and paternalism is thus a perennial one in U.S. health care. Clearly, CBA, with its quantitative methods and scientific respectability, can force choices.

Nevertheless, it is anything but clear that CBA has done this. One of the early analyses performed at HEW and described by Grosse (265), for example, examined the value of fluoridation of drinking water to help reduce cavities. Grosse says that on paper (265):

. . . fluoridation looks like a very attractive program. It was so attractive that one can assume that a program as cheap as this is not being inhibited by a lack of financial support by the Federal Government; there are other factors at work.

He does not specify the nature of those other factors, but most of us know they are political. There is strong local opposition to fluoridation of water, often on grounds that it is simply wrong to force everybody in a community to undergo a medical treatment with no way of opting out.

Public policy, particularly health policy, has often been criticized as paternalistic. The Government is often accused of meddling in people's lives, trying to get them to behave in certain ways for their own good. CBAS are, in a way, a response to that criticism. Today, health programs are justified less on grounds that the Government ought to be doing good things for its citizens than in terms of the tax savings and other economic benefits that will result. Thus, screening newborns for PKU is no longer (or rarely) supported on grounds that families ought to be spared the miseries of having to cope with a retarded child who need not have been so retarded, but rather on grounds that the Government will save money on institutional costs for the retarded by underwriting such a program.

It is probable, however, that in a way CBA functions partly as a mask for the old paternalism. The extensive analyses of genetic screening, for instance, offer a respectable scientific and economic justifica-

tion for continuing programs whose origins are actually traceable to a combination of political and humane impulses. This illustrates that the important problem here may not be the paternalism of economists, but that of the policy maker. The Government policymaker orders and pays for the analysis. Because of this, the policy maker will often have much to say about what goes into the analysis, for instance, concerning goals and outcomes. Furthermore, the policy maker is also in a position to apply the analysis to the making of social decisions. This position not only invites paternalism, it almost demands it, since in some sense policymakers are by definition in a somewhat paternal role with respect to the people for whom they make policy.

Of course, a CBA can also be influenced by the degree of paternalism subscribed to by economists. For example, many analyses employ shadow pricing in which, for a variety of reasons, the value of some item in the analysis is set at something other than its current market value. As Layard points out, highly paternalistic economists may very well substitute their own valuation for that revealed by answers to survey questions if they believe that the public's valuations may not be accurate—particularly when valuing future possibilities (349).

Conclusions

The issues of equity, efficiency, freedom, paternalism, the value of knowledge, and rationality—by truth-telling and deception—are irretrievably imbedded in the techniques of CEA and CBA. There is no way to change the techniques to eliminate those values and their inevitable conflicts. Certain technical adjustments (e. g., putting the services of housewives into dollar terms) have been made in the past, and these have improved the situation somewhat. Similar adjustments will continue to be made in the future, but essentially they will be small adjustments that will have no effect on the fact that the issues described are simply inherent in the techniques themselves or in their translation into policy.

Should we not use cost-benefit techniques in forging health policy? No, discarding CBA is not the answer. In an important sense, the defenders of the technique are correct when they argue that policy decisions in health care are being made daily on shaky grounds anyway. CBA is at least an attempt, however imperfect, to ground those decisions in real needs and real possibilities.

The problem is not that CBA lacks objectivity and is not value free, but rather that objectivity and value freedom are unjustifiably attributed to it. To their credit, most theorists of CBA cited here are quite

aware that their techniques are anything but objective and value free. The problem comes with lesser practitioners who see themselves simply as technicians or—and this may be the real problem—with policy makers who take the scientific aura of CBA for truth, failing to realize CBA's limitations.

Many discussions of CBA have paid little attention to policymakers. Yet, virtually all analyses are undertaken at the behest of policy makers, and the methods employed in a specific analysis may depend on their goals and values. Weinstein and Stason point out, for instance, that a health maintenance organization may care about total costs, whereas a group practice may care chiefly about nonreimbursable costs; such differences have obvious and important implications for society's efforts to contain costs (627).

To understand the pros and cons of CBA studies, one must also understand the policy level on which they are commissioned and applied. Who is the policymaker? The Secretary of DHHS, the Senate Subcommittee on Health and Scientific Research, the State health department, the health systems agency, the hospital administrator, the school nurse, the private physician? Each of these policy makers may very well use CBA to make policy. The decision may be different in every case, however, because individual policymakers, like economists, will have personal values, institutional biases, and a somewhat different constituency from others'.

Harold Green notes that optimism or pessimism can sometimes be "a function of statutory mandate or agency mission" (258). The Food and Drug Administration, for instance, automatically regards any food additive as hazardous until it has been demonstrated to be safe. The importance of the policymaker's perspective is illustrated, as well, by the unsettled question of whether a physician ought to depart from concern for the patient's welfare and begin to incorporate social values into the decision to, for example, order an additional test that has only very small chance of giving additional information.

For some analysts, the question of who the policymaker is does not seem to be very important. If as an analyst you follow Mishan's recommendations (410), for instance, you will behave quite explicitly as a moral agent, with a duty to point up all the relevant effects of a program that do not enter the cost-benefit computation no matter who your employer is. Mishan also argues that if economists have reason to believe that a project will be unambiguously regressive, it is their duty to mention this; for Mishan, economists should be just as committed to equity as to efficiency. That commitment should obtain, he implies, regardless of the level on which policy is being made.

It is not clear whether Mishan's view is widely shared by economists, or whether instead most economists see themselves as simple hired hands. At a minimum, though, it seems sensible to assert that there are some kinds of information that ought to be made explicit as part of a CBA. These include clear indications of the data sources on valuing lives, what kinds of equity considerations spring from the use of particular data (e.g., whether whites are valued more highly than blacks), and how and why the discount rate was selected.

Conventional assumptions, disclaimers, and cautions also ought to be an explicit part of each CBA. Greater use of sensitivity analysis would probably be illuminating. In addition, people need to be made more aware of the limitations of CBA. That probably includes people within the economics profession itself, certainly includes policymakers who use CBA, and may even include the general public.

CBA should certainly never be used as the sole basis for major health policy decision. Such use, however, may not be as much of a problem as has often been charged. Grosse for instance, says the HEW analyses were used to give the Department a "feel for what were relatively high- and low-priority programs, and then to feed these insights into the decisionmaking process, which also considers other viewpoints, the existing commitments, the political situation, the rate of spending, and the ability to get people moving on programs, and so on" (265). In Grosse's view, CBA is clearly a useful tool, but only one of many.

Swint and Nelson apparently share this view, observing (593):

Many of the criticisms of (cost-benefit analysis) come from the people who have (perhaps inadvertently) set up a "straw man" by claiming it cannot provide the sole decision-making criterion. The point is that (cost-benefit analysis) is not intended to provide the sole decision-making criterion; that has only been incorrectly imputed to it by non-practitioners. What it does do is provide economic information that must be combined with distributional, sociopolitical, humanitarian and other information by the decision maker (vis-a-vis the analyst) for net evaluation. We see no point in depriving decisionmakers of one piece (the economic) of the several sets of information needed to make rational decisions.

For Prest and Turvey, who were writing, after all, in the comparatively early days of 1965, CBA is "only a technique for making decisions within a framework which has to be decided upon in advance and which involves a wide range of considerations, many of them of a political or social character" (487). They argue that the case for using CBA is strengthened, not weakened, if its limitations are openly recognized and emphasized. CBA may then function

as a "sensible antidote to the wilder excesses of particular lobbies." CBA may also cause questions to be asked that would not otherwise have been raised. Prest and Turvey also agree with Grosse that even if CBA cannot always give the right answers, it can sometimes play the purely negative role of screening projects and rejecting those that are clearly less promising (487,265).

On the other hand, one should certainly not underestimate the power of politics. Klarman points out that politics is one of the foremost barriers to systematic analysis (265). CBA implies a delineation of goals and an articulation of values, whereas the political process, he says, may require the blurring of differences and conflicts in order to facilitate coalition building so that particular ends can be achieved. According to Martin Rein, because of that requirement of politics, it is necessary to put planning beyond the reach of shortsighted political considerations: ". . . at some stage, and to some degree, decisions must be taken out of the political context and handed over to the social scientist for analysis" (501). Real exploration and analysis of alternative choices, he suggests, can occur only in the absence of short-term political pressures.

How decisions can be taken out of the political context for analysis is not clear. Nor is it entirely clear that they should be. Green argues that sometimes nonscientific negotiation and compromise may be the best course for policymakers (258,361). He asks (258):

Is it not more important to resolve controversy in the optimum manner than to produce an objectively correct result? If so, is it not possible that optimum resolution of controversy may require acceptance as true of something that we know is untrue?

Even some of CBA's best-known and most sensitive practitioners acknowledge that, at times, the political process may respond better to our needs than even the most rational and careful CBA. Rashi Fein believes in CBA. He thinks that policymakers need to be reminded that there are economic returns to health programs, that good health can be supported on investment grounds, and that poor health costs a lot. On the other hand, Fein comments (194):

At present, in the United States, beset as we are by divisions and by tensions, distributional considerations lie at the heart of many of our problems. The healing of social wounds (not an unimportant objective even if its benefits cannot be quantified in monetary returns) may, today, be more readily accomplished by providing the services that people believe to be important than by providing that which the analyst has tentatively determined is most beneficial. The healing of social wounds, is, at this moment, I believe more vital than the healing of disease.