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Privatization, the participation of the private sector in the delivery of public services, and the application of private sector management techniques, discussed in Chapters 24, 32, and 36 in this volume, have been heralded as pointing in the right direction. The incorporation, privatization, marketization, and deregulation of public services and the reassigning of policy responsibility from bureaucratic administrators to the most cost-effective private bidder through “temporary contracts” were seen as methods to ascertain the desired levels of efficiency. They were based on economic evaluation techniques that enabled policy makers to identify, measure, value, and compare the consequences of alternative policy programs.

These economic evaluations can be seen as proceeding through a number of stages. First, for any proposal under consideration, including the option of doing nothing, a qualitative statement of its expected costs and benefits is to be provided. Second, each cost and benefit should be rendered in quantitative form. Third, each quantity should be translated into a common currency (usually monetary values). Fourth, the total expected costs or benefits should be calculated. Finally a decision should be taken on the basis of which proposal produces the greatest sum of benefits over costs, so understood. The first stage seems essential to any rational decision-making process, but each further stage is highly contested.

This chapter will address the difficulties that these phases give rise to in theory and practice. We will do so against the background of the most popular economic evaluation technique currently employed in policy making, that of cost-benefit analysis (CBA). After setting the scene, in Section 2, with a brief outline of the meaning of economism as a term and concept, Section 3 will explore the issues related to the measurement and monetary valuation of the items that are to be included in economic evaluations (what we might call the valuation problem). To be sure, if the methodology of economic evaluations is not to be arbitrary or fetishistic, some connection between the currency of evaluation and human well-being, at least broadly conceived, must be established. After all, the monetary value of a good reflects the strength of individuals’ preferences for that good, which in turn is a measure of the welfare provided by it. Implementing this rationale exposes serious weaknesses, however. They must not go unnoticed and require comprehensive exploration. Section 4 will then deal with the problem of comparing costs and benefits across lives (what we might call the commensurability problem), while Section 5 outlines the issue of how the intrinsic value of human beings might be overridden by economic evaluations (the intrinsic value problem). Although these charges can be brought against any policy domain to a greater or lesser degree we will place them into the specific context of health care provision and environmental regulation to make the discussion more tangible. In Section 6 we will then briefly develop some alternatives and propose a set of recommendations that we would want economic approaches to public policy to follow if the pitfalls of economism are to be avoided.

2. ECONOMISM AS A TERM AND CONCEPT

Claims of economism can come in two disguises. The first is a psychological account about the motivation that drives human action, which is assumed to be predominantly spurred by economic motives so as to improve one's own material well-being. First introduced in this sense by communist intellectuals at the beginning of the twentieth century, economism as a term and concept was seen as an antipode to class-consciousness, ideology, and political activity. Sections within the socialist movement were accused, for example, by Lenin (1964, 29) and much later, Gramsci (1971, 165) of betraying their common cause because they were too happy to settle for better economic terms and conditions on which to sell their labor power, found cozy arrangements with capitalist industrialists, and generally refused to engage in the more demanding revolutionary struggle to obtain political power. More muted instances of this account are still heard today: trade unions are said to direct their behavior depending on the extent to which employers are willing to raise salaries for their members; and political parties are accused of obtaining funds from pressure groups to sponsor the voting campaigns of their candidates—in exchange for which they support policies that these economic interests favor and at the expense of satisfying the preferences of their constituents.

The second account, which we are henceforth concerned with in this chapter, refers to the theoretical foundations on which public policy is and should be built. Economism understood in this political theory sense lays blame on public policy for delineating economic efficiency as the predominant policy objective; for applying elaborate economic tools to identify the policy option best suited to achieve that goal; and for relying on the market, or some proxy as the institution best equipped to set the required framework. The policy choices made as a result, so the claim goes, trump, or at least reduce other important values that guide human behavior and that society might therefore uphold, such as solidarity, community, equality, or friendship (Henderson 1996).

The emphasis on economic efficiency became particularly noteworthy in the 1980s, when the new center-right governments that had come into power in the USA, the UK, and Germany started to subject their public expenditures to much more stringent economic scrutiny. They saw the expansion of the welfare state in previous decades as having had adverse effects on economic efficiency and international competitiveness, which has thus become a source of major economic problems, including declining productivity growth and high levels of unemployment (Okun 1975). Hence, governments decided to cut public spending and taxes and to reassign responsibility for individual well-being from the state to the individual. Investments into public services such as health, transport, and education dropped dramatically and were kept at low levels for many years to come.

Two decades later many industrialized countries were rewarded in their economic policies with substantial increases in output of products and services as well as

greater international competitiveness. However, these successes came at a considerable price in terms of the domestic distribution of income. For although the causal link between high levels of equality and low levels of efficiency has been contested as “elusive” (LeGrand 1991, ch. 3), the two countries most concerned about efficiency and the free market experienced above-average shifts in income distribution from the poor to the rich: in the UK, the so-called “Gini coefficient,” a common statistical index in the social sciences to measure diversity and inequality in income and wealth within a society, rose from 0.25 in 1979 to 0.35 in 2000, while the USA saw an increase from 0.36 to 0.43 over the same period (Coudouel and Hentschel 2000).¹

The ramifications of greater inequality and competitive pressure were not only felt by the poor and vulnerable. A general dissatisfaction grew among citizens with the absence of rewards that they, at least in the long run, anticipated in exchange for the sacrifices and hardships they increasingly incurred in daily life. The discontent became widespread, uniting individuals with diverse agendas against the ramifications of domestic as well as international economic policies. The unprecedented demonstrations the world saw at the end of the millennium in Prague, Seattle, Genoa, and Washington, among others united the most unlikely bedfellows: farmers complaining about the decline of rural communities found themselves standing shoulder to shoulder with “deep ecologists” demanding sensible stewardship of the resources and value that nature offered. And while feminists decried the absence of the value of household labor in economic calculations, religious leaders raged against the portrayal of human beings as intrinsically motivated by hedonistic interests. By that time, then, the claim of economism no longer emanated from within the political left, as it had done during Marx’s and Lenin’s time, but cut well across the political left–right spectrum.

The methodological and philosophical difficulties that we will draw out in this chapter will go some way to shed light on the reasons for the public’s discontent with economic policy approaches. A suitable starting point to do so is to examine the evaluation method most commonly employed to ensure that desired efficiency levels are achieved, that of cost–benefit analysis (CBA).² CBA enables analysts to exploit a set of analytical tools used in economics and econometrics to evaluate project investments and policy options and has been made a legal prerequisite in most countries. In the USA, for example, a comparison of costs and benefits has been recommended since the Roosevelt administration. Executive order 12991, signed by President Reagan in 1981, later codified CBA as a requirement for agencies when conducting risk assessments in health, safety, and environmental regulation (Smith 1984; PCCRA 1997; for the UK: HM Treasury 1997).

¹ The Gini coefficient varies between the limits of 0 (perfect equality) and 1 (perfect inequality) and is best understood as the geometrical divergence in a diagram between a 45 degree line on the one hand, which represents perfect equality, and the Lorenz curve beneath it on the other, which measures percentage income distribution (as plotted on the y axis) across the percentage of the population (as plotted on the x axis).

² In some (mostly US) literature the method is also referred to as “benefit cost analysis.”

There is a large body of literature available dealing with CBA, some of which dates back to the 1920s, when large-scale engineering projects in the USA required some type of project evaluation. Although CBA is not really a self-contained field of economics but sits somewhat uneasily between several scholarly discourses including philosophy, psychology, and politics (Adler and Posner 2001; Layard and Glaister 2001), the central procedures of CBA have been predominantly defined by economists. The standard introductory textbook, too, has been written by an economist (Mishan 1972) and is now available in its eighth imprint. While the scope of CBA was often confined to costs and benefits that accrued to a single enterprise only, Mishan soon demanded that CBA be carried out in such a way as to include all known costs, external or internal, and be “concerned with the economy as a whole, with the welfare of a defined society, and not any smaller part of it” (1972, 11).

Appreciating the effects on the welfare of the whole society, however, required policy makers to apply ever greater levels of analytical sophistication so to be able to capture the additional dimensions by which societies have come to define said welfare—such as the environment, health, and safety, to mention but a few. As the remit for economic methodologies became therefore ever more expansive, additional problems, at operational as well as conceptual level, presented themselves. Sections 3 to 5 will outline one of them each.

3. THE VALUATION PROBLEM

Economism, we have pointed out, is the charge that a theorist or policy maker has overestimated the significance of the economic realm. To accuse followers of CBA of economism is, then, to suppose that they have made some sort of mistake in applying their economic rationale; most likely one of reductionism, in which some value important to societal well-being is either incorrectly reduced to a monetary metric or ignored altogether. This is what we might call the valuation problem, and one area in which this issue has often been raised is the policy domain of environmental regulation.

When public policy involves decision making about ecological systems, the prices for the natural services and goods required to implement a policy option need to reflect the *true* costs incurred in their creation, not only those that are reflected in market prices. Through an analysis of costs and benefits that incorporates these externalities, policy makers try to ensure that a certain stock of natural resources can be maintained, including the quality of soil, ground and surface water, land biomass, and possibly, the waste-assimilation capacity of the receiving environments (Hanley and Spash 1993). As part of a CBA, the costs and benefits of alternative policy options need to be measured. To do so, quantitative relationships between, for example, pollution exposure on the one hand and some human or ecological response on the other, are needed to estimate the marginal change the policy will bring about.

This can be a substantial endeavor because, contrary to a CBA carried out by a firm, public policy decisions have to include the impact not only on a corporate entity but on wider society as well. The crucial feature of some of the goods in need of valuation is that we care about them—such as clean air and water, the countryside, etc.—but they are not traded in commercial markets and therefore have no market price. Many of nature’s services fall into this category of public goods (Hardin 1982): while they are consumed jointly, no one can be excluded from using them (“non-excludability”), and one person’s use does not limit another’s (“non-rivalry” or “non-divisibility”), at least up to some congestion point. Tangible natural resources that are traded in a market represent only a small part of the services that nature provides. Our ecosystem, with its abiotic (i.e. non-living) and biotic (living) components such as climate, soils, bacteria, plants, and animals, provides additional services from which the human population, either directly or indirectly derives benefits. They include raw materials and waste assimilation of course, but also entail functions usually not included in CBAs, such as hydrological flows, regulation of global temperature, biological control, nutrient cycling, to mention just a few.

The reason for their absence is due to problems economists and policy makers face with the accurate estimation of the value of these services. In the past decades, several attempts have been made to address this issue, and a number of valuation techniques have been advanced that examined revealed behavior in a market. The intention has been to assign a monetary value to both the stocks of natural assets and their use as material inputs and sinks for waste residuals. Most of these methods are only applicable to limited contexts and therefore have their particular strengths and weaknesses. Such is the case for the “travel cost method,” which establishes a relationship between the costs individuals are willing to incur to visit resources with recreational functions; “hedonic pricing” for goods the value of which can be inferred from a proxy good in the market—such as property values indicating the costs of noise levels in a given neighborhood; and “opportunity costs” where one resource use precludes another (for a concise overview see Turner, Pearce, and Bateman 1994, 114–27).

A significant advance towards a more universally applicable method was made when from the 1960s onwards, “contingent valuation” (CV) was introduced as another valuation technique, which was not based on individuals’ *revealed* but on their *stated* preferences. With CV, economists sought to create *hypothetical* markets for all goods traded outside the market system, by asking people what they *would* pay, if there was a market and they had to (Arrow et al. 1992). Contingent valuation is an umbrella term that covers divergent methodological approaches but usually employs surveys to elicit respondents’ value for a commodity and their willingness to pay (WTP) for the satisfaction of a preference or accept compensation (WTA) for forgoing its satisfaction. With the help of CV, considerations of what policy choice might be in society’s overall interest can be informed by economic evaluations such as CBA of how these values balance up.

These surrogate valuation methods established themselves very quickly in the academic and policy-making communities. They constituted a paradigm shift in economic

theory, away from the study of actors' revealed preferences in the market (Robbins 1932) towards the study of stated preferences and human behavior in experimental settings. CV experienced continuous methodological improvements throughout the 1980s and 1990s reaching ever higher levels of sophistication and purported objectivity. Leading environmental economists such as Pearce (1993) in the UK and Kneese (1984) in the USA endorsed the suitability of this approach for public policy.

In the mid-1990s a team of researchers around Robert Costanza was then able to consolidate more than 100 of such CV analyses so to produce the most comprehensive study to date on the value of nature (Costanza et al. 1997). They estimated that the annual value of seventeen different ecosystem services is equivalent to \$US33 trillion, with nutrient cycling (17,075 bn) and waste treatment (2,227 bn) at the top of the price list. The success of CV was not only confined to academic studies such as Costanza's, however. In the USA, it also became a legally binding procedure on which, for example, compensation payments for the environmental damage inflicted by the 1989 *Exxon Valdez* tanker catastrophe were based. But as sophistication advanced, so did the controversies and debates surrounding the method, some themes of which are worth summarizing here.

First, there is the criticism advanced, for example by Diamond and Hausman (1993), that WTP is an inadequate proxy for market prices because of the ambiguity and limited reliability of the stated preferences used in CV, as opposed to those revealed in a market. A price is the economic value beyond which people would cease to demand a good and spend their money on some other source of satisfaction instead. In an actual market, consumers' willingness and financial constraints sets the price at which goods are exchanged in such a way. In a CV setting this is not necessarily the case. The \$US33 trillion price tag that Costanza et al. have put on nature does not fulfill this requirement. If these ecosystem services were actually be paid for, the global price system would be very different from what it is today. The implication of Costanza's analysis is that in trying to replace these services, global GDP, which currently stands at \$US18 trillion, would need to increase by a further \$US33 trillion, without immediate increase in material possessions that individuals would be able to experience qualitatively or quantitatively in exchange for the higher prices that they would have had to pay.

This objection has some merit because CV is by definition a hypothetical approach, with hypothetical markets, a hypothetical provisioning of commodities, and hypothetical payments. As Hayek (1975) had already explained for the related case of collectivist economic planning, individuals cannot articulate their preference independent of the context for action that the marketplace supplies. The difference between hypothetical statements of value and those that are obtained when real economic commitments would have to be made can never be known.

Hypothetical bias is not the only weakness of CV, however. There is, secondly, a set of criticisms directed at the assumption underlying survey methodologies that coherent preferences on policy issues are susceptible to valuation and extractable through interviews or questionnaires. However, uncertainty, the novelty of the survey situation, question construction, and phrasing often make public opinion on policy issues unintelligible if not misleading. Once a particular machinery for

making social choices from individual tastes is established it might be in the individual's strategic interest not to reveal her real preferences (von Neumann and Morgenstern 1947). To borrow a well-known example from another subfield of political science, once a society has established a first-past-the post electoral system, citizens are likely to vote for the less desirable major party candidate instead of the minor party candidate they really favor. Underestimating the methodological difficulty of encoding such context-laden statements is therefore difficult, and CV could not possibly do justice to policy proposals aiming to launder them.

Third, the deficiencies of applying CV to economic decision making points to the more fundamental issue whether public policy should be sensitive to preference satisfaction at all—no matter whether hypothetically stated or actually revealed in a market (Sagoff 1988). CBA functions on the basis that an allocation of resources is preferable if people's preferences are better met. This view is founded on the economic assumptions inherent in consumer choice theory that first, an individual consistently knows what she needs (usually referred to as the "rationality" ideal), and second, that her well-being depends on her subjective sense of satisfaction, which is best achieved by letting her preference determine the use of a society's resources (the "consumer sovereignty" ideal). It is then possible to define an economic function for that individual such that the benefit of an alternative is greater than other alternatives over which it is preferred. These assumptions underpin not only the branch of economics, usually referred to as "normative welfare economics," that we are concerned with in this chapter; general economic theory, too, has relied on these assumptions to explain why the autonomous consumer acting in the free market is a better judge of her utility than a central planner. These assumptions have allowed practitioners and theorists in the field to derive the shape of demand curves and explain the efficient functioning of the market (Samuelson 1948; Lipsey and Chrystal 1999).

Scholars critical of the idea's moral credentials have attacked the naive form of subjectivism inherent in the theory, which conceals well-known facts about human nature: that the psychological mechanisms by which social causes are transformed into beliefs and preferences let individuals adjust their aspirations to their perceptions of possibilities, giving rise to the phenomenon of "adaptive preference formation" (Elster 1983); that they might be malformed so that their satisfaction will inflict harm on themselves (the heroin addict; the gambler) or others (the murderer) and should therefore not be accepted as legitimate input into economic evaluations (Sen 1987); that preference satisfaction fails to accord the proper moral status to those beings—both human (e.g. children) and non-human (e.g. animals)—that are incapable of expressing a preference; that people wrongly predict the effects of their own choices on their future well-being (Kahneman 2003); and that finally, preference satisfaction endorses individual choice based on errors, ignorance, or misinformation, as it is incapable of distinguishing them from those based on knowledge.

Consumers are, then, not always the best judges of their preferences, and WTP is a poor proxy for market prices: Policies should not always satisfy what respondents have stated as preferences at the outset. To Richardson (2001), these phenomena are understandable and can be attributed to consumers' "incomplete thinking:" As

consumers' experience grows, "practical intelligence" allows them to continue deliberating about the pros and cons of policy options. They then expectedly overturn their preferences in light of new and better information, a fact about human nature that economic tools such as CBA are incapable of factoring in.

To be sure, some economists have concerns about the morally questionable results produced by the equal treatment of uninformed or malevolent preferences in their models. Yet they have failed to command widespread assent in the discipline. Mishan's standard textbook, for example, seems to be unsure whether, or how questionable preferences should be treated (Mishan 1972, 386–8). These preferences are methodologically too meddlesome to deal with. As a minimum he is prepared to exclude from economic evaluations states of mind such as "envy" or mere "dislike." Yet, as Rhoads (1999, ch. 9) shows, even that concession is not accepted among the majority of economists, who insist that no principle or law should constrain consumers' will and sovereignty.

Fourth, the valuation of nature begs the more fundamental and therefore rather well-rehearsed question how to understand the concept of value in the first place. Assigning a value to nature requires the appraisal of fundamental philosophical issues about the role of economic value and human well-being. Economics and the market system, as the basis from which costs and benefits are imputed, are cultural phenomena that reflect just one way of perceiving the world, which is not necessarily shared by all. Nature can also be attributed what Krutilla (1967) has called "existence value" whereby the survival of species itself is deemed to be worth protecting. Often, that value cannot be priced in real or hypothetical markets because the expected benefits do not accrue to those who might be asked to reveal or state a WTP for their preference. Respondents would have to perform the difficult conceptual exercise to determine the residual value of a good that they never have used and never will be using. Existence value is therefore not intelligibly assessed by either WTP, CV, or markets.

Fifth, even if we cast aside the debate about existence value and assume that human well-being *is* accepted as the determining objective of valuation, it is still not clear that market prices indicate or reveal anything about the contribution they make to that goal in a substantive sense. As the eighteenth-century economist Adam Smith (1979) remarked with his "water–diamond paradox," the term "value" has two distinct meanings: sometimes it expresses the utility of some particular object, at other times the power of purchasing other goods which the possession of that object conveys. He called the former "value in use" and the latter "value in exchange," and observed that the things which have the greatest value in use (water) have frequently little or no value in exchange; and conversely, those that have the greatest value in exchange (diamonds) have frequently little or no value in use. Exchange value bears no necessary connection to value in use. Yet, while the latter produces the benefit to individuals and thus augments society's well-being, it is the former that is used to impute values into economic evaluations such as CBA or at the most aggregate level, into a nation's gross domestic product (GDP).

It did not take long for economists to develop “marginalism” as an attempt to resolve the paradox: as water is not very costly to acquire and therefore consumed at high volumes (at least in developed economies), the marginal use value we obtain from an additional bottle is rather low; and so is the exchange value, the price, we are willing to pay for it. The exchange value of diamonds, in turn, is high due to the good’s scarcity and the comparatively higher marginal cost an increase in its supply incurs. We consume diamonds at low volumes as a result and are afforded a high marginal use value for every additional unit we consume. Hence, exchange value and use value are, it is said, identical, provided we assess both at the margin and not in total. For the total value of water is, so the argument concludes, of course very high when a large volume of it is consumed, while the total value received from diamonds is relatively low when few diamonds are consumed.

This argument does not hold up to rigid scrutiny, however, as marginalism seems an odd concept to apply to many goods we use in daily life. The value (in affording happiness and contentment) of a teddy bear to a child, for example, or that of a wedding ring to its bearer cannot be adequately expressed by the exchange value that these items command in retail. Their use value is not meaningfully assessed through reference to the scarcity of teddy bears or the marginal value that a second or third ring might provide. For the particular case of environmental goods the additional problem presents itself that as mentioned before, they are, for the most part, not traded in markets at all. There is no exchange value for the air that we breathe or the solar energy that heats our planet, although both are required for our survival and are therefore of high use value to us. They are, in fact, so-called “essential goods:” the demand for air, water, and the sun is never zero, even at extreme prices. Under essentiality, the maximum value in use of one additional unit of these goods is equal to total income, an assessment that is not true for most other goods that are used in the production process. It is therefore misleading to treat them in the same way as other goods. Hence, while exchange value and use value at the margin might be synonymous for some goods, they are not so for others, including those provided by nature.

In concluding this section, we should acknowledge, then, that the economic value of some goods cannot be ascertained; that for those goods for which valuation is possible, economic value might not be a correct indicator for preference satisfaction or well-being; and that even if it were, preferences are not always a suitable basis for public policy. The undermining of these assumptions calls into question the tools economists use to study efficiency. Conventional economic valuation is deficient and in need of improvement, or replacement by a model that better reflects the interaction between the economy and the physical and biological world. Some important work has still to be done. At this point in time, policy makers need to be aware of the limits of the valuation of costs and benefits. Before we indicate some ways out of this impasse in Section 6, a second issue area is worth being carved out.

4. THE COMMENSURABILITY PROBLEM

Once attributes of well-being have been valued in the way discussed above, policy makers have to compound these attributes into a single aggregated standard so as to decide who in a society should be given scarce resources. To do so, various attributes of individual well-being need to be commensurate across lives so that an increase in well-being for individual A can be weighed against the forgone improvement individual B would have experienced. This next phase in public decision making, however, gives rise to various issues that we will draw out against the background of health care as the second policy domain that governments tend to subject to economic evaluations.

The provision of health care is an activity different from other policy domains on many levels, with important ramifications for the applicability of economic evaluations. Individuals do not willingly enter the health care market as they do for other services that governments might provide. Nor do they know when they will be in need of health care or what form of health care they will then require (Arrow 1963). As patients rarely have experience from previous purchases of health care, these decisions are in general not made by the consumer either but by a doctor. The doctor is also seen to be better equipped to calculate the many probability terms involved in the health prospects of alternative treatments. In economic parlance, she acts for the patient as an *agent*, a special relationship that creates two important dissociations.

First, the consumer becomes dissociated from the market. Health care services are sought after not based on preferences of the consumer alone, as indifference map demand theory in economics would assume, but they are either split or based solely on those of the agent (Mooney 1992, 67–82). Price formation theory, too, is repudiated as the consumer is rarely able to make a rational, informed choice in the market. He has only little information about the level of benefit or well-being various health care services and medical treatments might provide. These information asymmetries might be brought about consciously—by the doctor withholding information from his patient or vice versa, by the patient concealing the true nature of her illness—or are merely due to the highly specialized knowledge required to understand the causes and effects of illnesses. The claim that consumers seek health care is therefore misleading too: individuals do not seek *health care*. Rather their goal is *health*. This is an important distinction: while health care resources are consumed by medical personnel, it is the patient who experiences the anticipated improvements in health and welfare that the resource consumption promises.

Second, the government as financial supplier becomes dissociated from the market also. Doctors as street-level providers possess significant discretion over the health care resources that governments have to pay for. Policy makers have therefore only limited possibilities to control the expenditure for these services. In an effort to regain that control some governments have attempted to challenge, with various degrees of success, the clinical autonomy of doctors through the creation of internal markets and other measures inspired by the New Public Management approach.

Shortcomings in economic assumptions notwithstanding, economic evaluations in health care provision are more in demand than ever before, greatly spurred by the ever-growing share of GDP that is absorbed by the treatment of nations' aging populations. Carrying out CBAs in such policy contexts promises guidance for decision makers as to the optimal distribution of medical manpower, R&D funding, reimbursement practices, capital controls, and safety regulations. Costs and benefits accrue at three different points, or channels where health care is provided: cure (to improve health), care (to retain dignity for those who are sick), and prevention (to reduce the probability of illness or premature death). The benefits in these channels are established by valuing the respective effects a policy has on the state of health of the individual(s) in question. The methods used to conduct this activity have attracted their own set of criticisms. They are similar to the charges elucidated in Section 3 above and will therefore not be rehearsed here.

Rather, we direct our attention to a related issue, the aggregation of attributes of well-being, which represents itself as soon as health improvements *have been* valued. Aggregation is a task not confined to health care but is pursued in all policy domains and for all goods and services that governments provide. Aggregation needs to be done over different outcomes of varied interventions undertaken on different problems. Staying with health care as a policy domain, for life-threatening diseases such as coronary bypass surgery or tetanus the primary outcome will obviously be defined as death or survival. Case fatality rate and survival rate may in such cases be good indicators of the achievements of health care reached. Each survival can then be indexed with the value 1 and each fatality with 0. Treatment of most other illnesses—or for that matter, effects of other policy decisions on well-being—does not result in such binary outcomes, however, and measuring them in such a way means that everyone who survives a medical intervention is given the same value, no matter whether the person is confined to bed or is actively able to play sports. A more accurate measure would be required for these cases, one that is able to capture benefits in the form of subsequent *grades* of well-being between the two end points of the spectrum.

In a move to derive a methodology suitable to develop such an index, scholars began from the 1970s onwards, to define health in terms of “utility of life” (Torrance, Thomas, and Sackett 1972; Zeckhauser and Shephard 1976). Three decades of research and numerous refinements later, utility of life has come to be calculated along two dimensions: (a) the duration of life as measured in life years and (b) the quality of life as experienced by the individual's physical, social, and emotional functioning. The latter is elicited via patient questionnaires and interviews, where rating scale, time trade-off, or standard gambling techniques (of which more will be heard in a moment) are applied across a multitude of domains—including mobility, emotion, cognition, and pain—so as to arrive at the weighted preference that each domain commands (Drummond et al. 1997, 150–83). The greater the preference for a particular health state, the greater the “utility” associated with it. Utilities of health states are generally expressed on a numerical scale ranging from 0 to 1, in which 0 represents the utility of the state “dead” and 1 the utility of a state lived in “perfect health.” Finally, utilities are multiplied by the remainder of an individual's lifetime