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Ethical Issues in the Use of Cost-Benefit Analysis of Climate Change Programs

By DONALD A BROWN on June 1, 2008 8:14 PM | 0 Comments

I. Introduction

Economic analysis of climate change issues can help policy makers in many ways including identification of the least costly methods to reduce greenhouse gas emissions and how to structure incentives to encourage society's maximum reduction of carbon footprints. Without doubt, economic analyses of climate change reduction strategies are vital to finding the most efficient solutions to human-induced climate change's immense threat. The more low-cost solutions to climate change are found, the more hope there is to reduce climate change's immense menace. Yet there are ethical limits to the use of some economic arguments frequently made in opposition to proposed government action to reduce greenhouse gas emissions. Cost-benefit analysis (CBA) of some environmental regulatory programs can help identify proposed market regulatory interventions whose costs significantly outweigh environmental benefits. Yet CBA of some government environmental programs including climate change emissions reduction strategies often ignore serious ethical limitations on the use of this tool to guide climate change policy.

CBA is a generic term for a variety of techniques designed to allow decision-makers to determine in a rigorous way whether the payback from a program will be greater than the costs of implementing it. If costs of an environmental program are greater than environmental benefits produced by a program, according to mainstream CBA theory, the program should be abandoned. The economic justification for this use of CBA is the notion that society must decide how to spend its scarce resources and it should spend its money in the most efficient way possible. If money is spent by society on environmental protection programs that don't produce an environmental payback that is greater in economic value than the cost of the program, it is a bad investment and should not be supported. (Shogren and Toman, 2000) This is so, according to CBA theory, because public money should be spent on programs that will produce the largest aggregate benefits. The philosophical justification for this approach, as we shall see, is often a form of utilitarianism, sometimes referred to as "preference utilitarianism." An earlier post on ClimateEthics.org looked at certain ethical limitations in the use of CBA recognized by Sir Nicolas Stern, Head of the United Kingdom Government Economics Service and adviser to the UK government on the economics of climate change and development. <http://climateethics.org/?p=14>.

This post will expand upon some of the issues recognized in this earlier post and, in particular, (1) look at in more detail ethical issues that arise in CBA when costs and benefits are aggregated., and, (2) examine certain ethical limitations of "preference utilitarianism," a frequent philosophical justification for CBA. Future posts on Climateethics will examine additional ethical issues that arise in CBAs because: (a) CBA techniques usually make human desire the exclusive measure of value; (b) CBA-based decisions often ignore rights and duties; (c) CBA-based decisions usually conflict with principles of distributive, retributive, and procedural justice; (d) Ethical problems arise in CBA in quantifying costs and benefits; and, (e) Ethical issues are triggered in CBA when future benefits are discounted.

II. Ethical Issue One: The Need To Disaggregate Global Costs And Benefits

Although CBA may be a very valuable tool for decision-makers who are trying to decide whether investment in a particular project will provide an adequate payoff compared to other projects or investments, as we shall see, CBAs use for some environmental problems can be ethically dubious particularly when it is applied to environmental problems such as climate change where harms and benefits are significantly disaggregated. Proponents of CBAs often argue governments should not take action to reduce greenhouse emissions if the cost to reduce emissions is greater than the value of climate change caused harms avoided because of the government action. Yet, climate change is a problem for which those who are causing harm are often separated by significant time and space from those who are or will be harmed by a warming world. We now know with high levels of confidence, for instance, that greenhouse gas emissions coming from coal fired power plants in United States and China are likely already contributing to droughts in



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Africa and Australia, threatening polar bears and walruses in the arctic as sea ice melts, and endangering millions of people who live near rising seas in Southeast Asia and the South Pacific. Future climate change impacts threaten some of the poorest people around the world that are not located in high-emitting nations. One of the many ethical limitations of CBA that arise when this method of analysis is applied to climate change is triggered by the fact that those who would bear the greatest costs of reducing emissions are not as adversely affected as many others around the world who are most vulnerable to climate change impacts. That is, for climate change, harms and benefits are hugely disaggregated across time and geography.

One frequent justification for using CBAs as a guide to regulatory action is that if money is spent on a project that will return limited benefits compared to other projects that could return more benefits, then there is a lost opportunity to create greater human welfare. (Shogren and Toman, 2000) In economics an "opportunity cost" is the cost (sacrifice) incurred by choosing one option over an alternative one that may be equally desired. Thus, opportunity cost is the cost of pursuing one choice instead of another that could provide greater benefits. Yet in the case of climate change, there may be no "opportunity cost" experienced by many of those who are most vulnerable to a warming world and would therefore benefit from GHG emissions reductions expenditures that are diverted by high greenhouse gas emitters to other projects.

If, for instance, the United States decides not to spend one hundred million dollars on climate change reduction strategies because a CBA determines that this money will not return more benefits measured in dollars to them, the CBA can act as justification for continuing behavior which harms others without their consent. If the US chooses to invest in an alternative project such as health care for Americans with the one hundred million dollars, this alternative investment does not lead to greater benefits to parties that the United States is harming through its greenhouse gas emissions. For this reason, the opportunity cost argument does not work when harms and benefits are as disaggregated and spread across many regions outside the consideration or scope of a given CBA, as they are in climate change. Sometimes CBAs have been used to look at harms and benefits to the polluting country alone. Such an approach is particularly ethically problematic.

For instance, when the Clinton administration was attacked with the charge that the Kyoto Protocol's cost in the United States was too expensive compared to the benefits of programs in the United States, the US government simply developed an alternative analysis that looked at harms and benefits to the United States alone and showed lower costs to the United States than those on which the opponents of Kyoto were relying. (United States, 1998) The Clinton administration's defense of Kyoto ignored the benefits of United States' global warming programs to others outside the United States. Although the Clinton administration may have simply been attempting to refute arguments against Kyoto, its limited focus on costs and benefits to the United States alone was ethically troublesome. This is so because such an insular approach treats foreigners as if their US caused injury is irrelevant to US obligations. Even if the costs of taking action under the Kyoto Protocol were very high to the United States, a fact disputed by many in the Clinton Administration, the United States has a strong ethical responsibility to prevent harm to others who neither consented to the harm nor benefited from US activities that cause harm. Given that the environmental harm from human-induced climate change could be catastrophic for some nations and will likely be grave for many of the poorest nations, the US failure to consider the consequences of its activities on others is ethically problematic. In a similar way, the H.W. Bush administration has often resisted committing to reducing greenhouse gas emissions on the basis of cost to the US economy alone. Even if it were true that the United States costs of global warming programs were high compared to the benefits that the United States would experience from these programs, the United States has a responsibility to prevent harm to other nations. No respected ethical system would condone one nation causing great harm to another by using the excuse that the harming nation's costs of reducing its harmful behavior were too high for its domestic economic welfare.

As we shall see in a later post, ignoring the harm that could be caused to millions around the world by global warming is inconsistent with rights and duties based ethical considerations as well as theories of distributive justice. Moreover, even utilitarians require that the consequences of one's actions on all people be considered in analyzing one's ethical duties. For this reason, policies based upon CBAs that look only at the costs and harm to the polluting country alone are ethically problematic according to all the mainstream ethical theories. CBAs could be calculated by disaggregating all costs and benefits to determine effects on different parts of the world at different times. If this were done, decision-makers would at least be able to consider their obligations to those who will be harmed most before making a decision based upon a CBA. This was partially done in the Stern report. (Stern, 2006)

Yet, even if harms and benefits are disaggregated in a CBA calculation, additional ethical limitations of CBA will remain that are discussed below and will be examined in subsequent posts of Climateethics. At a minimum, CBAs should expressly disaggregate harms and benefits: (i) within generations, (ii) over time, and (iii) according to the nurture of the risk imposed, and (iv) geographically. With this disaggregated information, decision-makers would need to consider other ethical issues raised by CBAs, including the duty to reduce to reduce harm to others.

III. Ethical Issue Two: Limitations Of "Preference Utilitarianism"

CBAs, like other economically based environmental decision tools, are usually ethically justified as a species of utilitarian ethical theory sometimes called "preference utilitarianism."

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"Preference utilitarianism" holds that governments should choose options which maximize humanity's ability to fulfill its desires where the value of human desires are determined by the market transactions as measured by "willingness to pay". CBA is classified as "preference utilitarianism" and distinguished from mainstream utilitarianism because it is peoples' preferences expressed in market transactions that are maximized according to CBA theory. On the other hand, more mainstream utilitarianism is often concerned with maximizing happiness, not simply human desires. "Preference utilitarianism" is a much more ethically controversial theory than mainstream utilitarianism because the latter encourages exploration of what actually makes people happy, not just the preferences people express in market transactions. (Sagoff, 1982) That is, utilitarians urge decision makers to choose alternatives that will produce the greatest happiness not simply to assume that happiness is equal to what people are willing to pay for something. For this reason, many utilitarians advise careful thinking about which options under consideration will create the most happiness while "preference utilitarianism" is interested in which options will produce the greatest satisfaction of individual desires. For instance, a utilitarian may approve of spending money for such economically low payback activities as schools or parks because a case can be made that these investments produce greater happiness than other investments with higher economic returns. Moreover, utilitarians do not necessarily believe that all human choices made in market transactions lead to happiness. In fact, utilitarians urge that people reflect upon their desires and that people should sometimes opt for actions that is contrary to desires. As Ernest Partridge points out, happiness may require that people not act according to their preferences.

"A recovering drug addict desires not to have the desires that he does. Which economic transaction is responsive to his wants, and to his interests: with his therapist or with his dealer?" (Partridge, 1995)

The very idea of morality requires that people reflect upon their preferences and not act in response to them particularly if they are destructive of other peoples' rights or interests. Yet preference utilitarianism assumes that any preference satisfaction is good no matter if it is a preference to buy a rapist's knife or a serial killer's gun. For this reason a preference to buy a gas guzzling sports utility vehicle is as good as a preference to buy a hybrid car from Honda or Toyota. If the United States were to tighten fuel mileage standards for SUVs that would increase sticker prices this would be a cost according to preference utilitarianism that would be calculated in CBAs as a deduction from the benefits. Philosopher Mark Sagoff has argued that preference utilitarianism makes a mistake by confusing a person's action as a consumer with an action as a citizen:

As a citizen, I am concerned with the public interest, rather than my own interest, with the good of the community, rather than simply the well being of my family. (Sagoff, 1988)

Acting as a citizen, according to Sagoff, I may take actions that are inconsistent with actions I might take as a consumer. As a citizen, I may support policies that harm my economic interests. For instance, as a citizen I might support policies that reduce global warming that might threaten people living on islands through rising sea levels, even though I may not be personally threatened by rising seas because I live in Nebraska. I might support these policies even though the policies might drive up the cost of my electricity in my home. Yet preference utilitarianism would not acknowledge my vote for global warming as a preference satisfaction while assuming the increased costs of the global warming program are limiting my individual preference satisfaction and therefore should be categorized as a cost. Sagoff gives additional examples of conflicts between peoples' roles as consumer and citizen, and thereby demonstrates why individuals often have a greater commitment to their role as a citizen over their role as a consumer. One such example given by Sagoff is as follows:

Last year, I bribed a judge to fix a couple of traffic tickets, and I was glad to do so because I saved my license. Yet at election time, I helped vote the corrupt judge out of office. I speed on the highway, yet I want the police to enforce laws against speeding... I love my car: I hate the bus. Yet I vote for candidates who promise to tax gasoline for public transportation... The political causes I support seem to have little or no basis in my interests as a consumer because I take different points of view when I vote and when I shop. I have an "Ecology Now" sticker on a car that drips oil everywhere it is parked. (Sagoff, 1988, 52-53)

Even though I may prefer to take action as a citizen that might work against my personal economic interest, preference utilitarianism assumes that what is valuable can be determined only when people only act selfishly. Preference utilitarianism also does not usually count the beauty of a sunset or poem or the intelligence of public debate. For this reason, preference utilitarianism often fails to measure things that make life worthwhile. In fact, as Sagoff points out, economic preferences fail to acknowledge principles that people frequently follow to make value judgments that are often in conflict with individual preferences. These include obligations and duties to others and aesthetic beauty. (Sagoff, 2004). As Sagoff points out:

"Objects of ethical and aesthetic judgments do not as such have economic value but moral and aesthetic value: as the eighteenth-century philosopher Immanuel Kant wrote, they have dignity, not a price." (Sagoff, 2004, 11).

Ethically motivated people frequently decide to not harm others not because they will derive pleasure from such decisions, but because they feel that they have a moral obligation to refrain from harming others. (This issue of moral obligation and CBA will be taken up in more detail in a

subsequent ClimateEthics.org post) For these reasons, preference utilitarianism, the underpinning of most CBAs that have often been relied upon in arguments made in opposition to climate change programs, is often ethically dubious when applied to environmental issues. As we shall see in later posts, utilitarian based decisions also often conflict with other ethical theories including justice based principles and ecocentric and biocentric ethical theories. CBA tests to determine the acceptability of environmental programs also raise numerous additional ethical concerns. Although there is vast economics literature that discusses these limitations of CBAs when applied to environmental problems, many of the CBAs that have been applied to potential climate change policy continue to ignore these ethical limitations. (See, Schneider, 1999) Later posts will examine in greater detail these additional ethical limitations of preference utilitarianism by explaining how preference utilitarianism conflicts with rights and just theories, how calculating harms and benefits raises ethical questions because of scientific and economic uncertainties of costs and benefits while ignoring other ethical considerations, and how discounting future benefits can violate obligations to future generations.

IV Other Issues.

A future post in this series will examine the cost benefit analysis recently published by William Nordhaus through an ethical lens. Some economists have recognized the many ethical limitations of CBAs when applied to global warming policy and found the criticisms devastating because of the ethical concerns discussed above. (Hasselman, 1999) In recognition of CBAs' fundamental flaws when applied to global warming, some of these economists have concluded that CBAs should not be used to determine whether governments should reduce greenhouse gas emissions. (Hasselman, 1999) Instead, target reductions should be determined on the basis of ethical considerations and cost analysis should then be used to determine which policy responses will minimize costs. Such an approach would allow cost considerations of global warming policy options to be seriously considered without violating ethical principles. Other economists insist upon a role for CBAs in setting basic global warming policy despite these limitations. (Hasselman, 1999)

To deal with CBAs ethical limitations, a variety of adjustments to conventional CBAs have been proposed by these economists. Yet because these adjustments also raise ethical considerations, it is imperative that ethical analysis be integrated into CBAs that are used in global warming policy analysis and ethical assumptions of CBAs be made so crystal clear that non-economists can understand the ethical assumptions adopted in the economic analysis. This is an ethical imperative.

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