

Phil 108, April 24, 2014
Climate Change

The problem of inefficiency:

Emissions of greenhouse gases involve a (negative) *externality*. Roughly: a harm or cost that isn't paid for.

- For example, when I pay for and consume gasoline, I pay for lots of costs: such as the labor of the people on the oil rigs, the cost of constructing the rigs, etc. But I don't pay for the costs that my burning the gasoline imposes on others as a result of its contribution to climate change.

Externalities result in *waste*. Roughly: the sum total costs to everyone from my use of gasoline outweigh the total benefits to everyone.

Waste means *inefficiency*. Roughly: it is technically possible to make someone better off without making anyone worse off.

- This is why trade, for example, is good; it reduces inefficiency. Each trader gets something she wants more than what she had. Each is better off, and no one is worse off.

So, we can solve the problem of waste caused by emitting greenhouse gases without anyone having to sacrifice.

The *first step* is to *remove the externality*, by making the price that people pay incorporate the cost to others.

- A "carbon tax" would do this directly. But it hard to know where to set the tax.
- "Cap and trade" would do this indirectly.
 - We set an overall limit on emissions, draw up emission permits that sum to that limit, and then distribute those permits.
 - People who have cheap ways to reduce their emissions will take those cheap ways and sell their permits to people who are willing to buy them because they have no cheap alternative to emission.
 - This reduces overall emissions to the limit in the least expensive way overall.

Question: The people who reduce their emissions are made worse off, whereas those harmed by the emissions are made better off. Perhaps this is fair, but how does it leave no one worse off? This brings us to....

The *second step* is to *compensate* those who reduce their emissions for the cost of doing so.

- For example, if you spent \$0.01 more per gallon of gas, then you get a \$0.01 rebate for each gallon you consumed, paid for by those who would otherwise have been harmed. You are no worse off.
- But others are better off, since a reduction of a gallon's worth of gas emissions was worth *more* than \$0.01 to them. (Why? If it wasn't worth more, then there wouldn't be a problem of waste in the first place.)

A technical problem: Most of those who will be harmed by our emissions live in the future. How can they compensate us (without time machines)?

Solution: We compensate ourselves by *leaving them less* than we otherwise would. We use up more resources now. E.g., we don't invest as much, we mine more minerals, etc.

A moral problem: Efficiency without sacrifice *not as good as* efficiency with sacrifice.

- Efficiency with sacrifice would be *fairer*. Why should people have to be paid off not to harm others? It's like an intergenerational protection racket.
- Efficiency with sacrifice would lead to *greater well-being overall*. This is because goods would be shifted:
 - From the rich to the poor, and, given diminishing marginal utility, the poor derive greater well-being from an additional good.
 - From the present to future, and a good invested rather than consumed now will provide greater goods in the future.

A political benefit: Efficiency without sacrifice may be politically more feasible than efficiency without sacrifice, and it is better than doing nothing.

Duties of goodness vs. duties of justice:

Duties of goodness:

- to make the world better
- not owed to other people, no one has a right to them.

Duties of justice:

- constraints on what we may do to others, even to make the world better: e.g., on harming, stealing, etc. (Exceptions when people deserve it, or have consented to it.)
- owed to particular people, who have rights to them.

Emitting greenhouse gases violates duties of justice, because:

1. Emitting greenhouse gases is something *we do*, instead of something that we merely fail to prevent. It's not like *failing* to give to Oxfam, or to save the drowning child.
2. It causes great *harm* to people. Among other things, it kills them.
3. The people who are harmed *don't deserve* it and who *haven't consented* to it.
4. The harms *aren't accidental or unforeseen*. We *know* that emitting greenhouse gases will have these effects.
5. We *don't compensate* people for the harms (and, moreover, we can't, since we don't know who they are, because they will have died, etc.).
6. We do so in order *to benefit ourselves*, not to make the world better in other respect.
7. The harms aren't *reciprocal*. They don't harm us in the same way. (Unlike, say, traffic jams.)
8. We can avoid doing so *without great difficulty or cost*.
9. Granted, it is sometimes a matter of chance whether your choices cause emissions (e.g., whether your buying a ticket leads the airline to schedule more flights) and whether those emissions cause harm. Nevertheless, imposing *risks* of harm on people can also be unjust.

However, there is a complication. Many of the people who will be most gravely harmed do not exist yet. We do *not* violate a duty of justice to these *future* people. This is because of Parfit's non-identity problem. These future people don't have a right that we should have given them a better life, because we could not have given *them* a better life. If we had curbed our emissions, *they* would not have existed; instead, other people would have existed in their place.

Private morality vs. public morality:

As far as climate change is concerned, *public* morality—concerning what governments do—more a matter of *goodness* whereas *private* morality—concerning what individuals do—more a matter of *justice*.

This is because:

1. Government action has a *greater non-identity effect* than individual action. Your reducing your own emissions won't have much of an effect who comes to exist in the future, whereas the government's orchestrating a move to a carbon-free economy would. Duties of justice apply only where the non-identity effect is absent.
2. Governments are sometimes *permitted to harm people to do good*, whereas individuals would not be so permitted. Individuals are more constrained by duties of justice.
3. *Individuals have limited resources*. Suppose you have only \$100 to spend. Even after you have spent \$99 on malaria prevention, malaria will still be a problem, and you will do more good by spending the last \$1 on malaria prevention than by reducing your emissions (e.g., installing solar panels). So, as far as duties of *goodness* are concerned, you have a duty to reduce your emissions only when it would cost you very little to do so (e.g., turning off lights). Otherwise, you do more good by devoting resources to other things. By contrast, *governments have greater resources*. Governments could eliminate malaria and *still* have funds left over to reduce emissions.

How ought we, as private persons, fulfill our duties of justice?

Your duty of justice is to reduce your carbon footprint to zero. Anything else imposes risks on others. But how can your carbon footprint be zero?

1. You can pay for *offsets* for what you emit. These offsets are sold by carbonfund.org, terrapass.com, and other organizations. These ensure that for each unit of greenhouse gas you emit, someone else reduces emissions by an equal amount. The offset providers use the money you give them to undertake projects that prevent emissions that would otherwise have occurred (e.g., protecting forests that would have been cut down, building wind turbines where a coal plant would have been built).
 - However, these offsets are difficult to evaluate, because it is difficult to evaluate what would have happened if the project had not been undertaken (e.g., maybe the forest would not have been felled anyway).
2. You can emit *less*.

How ought governments fulfill their duties of goodness?

What is the best thing to do—how governments should fulfill duties of goodness—depends on complex calculation and analysis, much of it beyond the expertise of philosophers. But moral assumptions are built into this analysis.

Can we avoid these moral assumptions? It might seem that we can. Economists tend to use market prices—relative prices for different goods—as the appropriate values for cost-benefit analysis. “This lets people decide for themselves what value things have, without having values dictated to them by the ‘experts.’ It’s democratic. People ‘vote’ with their dollars.”

But does this avoid moral assumptions? Isn’t it a moral choice itself to let people’s choices decide? (E.g., Is the teacher not making a moral choice to let the bullies and their victim vote on whether they take the victim’s sandwich?) And isn’t the appeal to “democracy” an appeal to a moral idea, that people have a right to decide, or that it is good that they decide?

Moral questions that we need to answer:

1. What is ultimately good?
 - a. Certainly human well-being is good.
 - b. Perhaps the thriving of natural ecosystems is also good. But to simplify and to avoid controversy, Broome focuses on human well-being.
2. How do we aggregate the well-being of *different people*?
 - a. Is it just the sum total that matters? Note that the sum total of well-being may be increased by distributing goods from those who have more to those who have less, because of “diminishing marginal utility”: namely, that a good will more greatly increase the well-being of someone with less than someone with more.
 - b. Or it is better that those with less well-being have more? This is “prioritarianism”: namely, that it is better if a given increase in well-being goes to someone with lower well-being.
3. How do we aggregate *different possible outcomes* of our choices? In other words, how do we deal with uncertainty, where we do not know what the outcome of our choices will be?
 - a. Make the choice with the highest “expectation” = the average of the goodness of the possible outcomes (in terms of well-being) produced by the choice, weighted by the probability that those outcomes will occur if you make that choice.
 - b. Even if a choice has only a *small* chance of catastrophe, the fact that that catastrophe is *so bad* may give that choice a lower expectation than an alternative. A *small* probability times a *very* large negative number can be a significantly negative number. (Mitigation is like buying a fire extinguisher which you hope you never need.)
4. How do we aggregate *goodness across time*? This is the question of the *discount rate* for well-being. How much is future well-being worth relative to present well-being?

The discount rate:

Which discount rate we use turns out to be *very* important:

This discount rate occupies a central place in discussions about the morality of climate change. The reason is that it makes a huge difference to our judgments about the goodness of different policies. We are dealing with long swathes of time, over which the power of compound interest is very great. For instance, if you discount at 1.4 percent—*The Stern Review* uses rates at about this level—1,000 kilos of rice a hundred years from now is worth the same as 247 kilos of present rice. But if you discount at 5.5 percent—about the level used by William Nordhaus in *A Question of Balance*—it is worth the same

as just 4 kilos of present rice. The discount rate makes a sixty-fold difference to the value we assign to commodities a century from now. Those who discount at 5.5% find it a lot less urgent to do something about climate change than those who discount at 1.4%, and no wonder.

A. Arguments that we should use the *discount rate of money as determined by the market*:

1. Nordhaus's rationale has to do with the "opportunity cost of capital."
 - a. Here's one way in which money now is worth more than money in the future. Money now can be invested in capital projects (e.g., factories) that will bring us a return (i.e. produce more stuff) in the future. Money in the future can't be so invested.
 - b. So, if we spend money now in order to mitigate climate change in the future, we won't build as many factories. So we will have less in the future.
 - c. Ideally, the market interest rate reflects the rate of return on capital investments.
 - d. So, by using the discount rate for money as determined by the market, we take into account this "opportunity cost" of mitigation, that it displaces, or "crowds out," productive investments.

But, Broome argues, this is only an imperfect measure:

- i. If the rate of return on capital investments (e.g., in farming equipment) is *itself* affected by climate change (e.g., droughts), then this method seems to be leaving out an important part of the picture.
- ii. Why assume that every dollar spent on mitigating climate change will mean one less dollar spent on capital investment?

Instead, Broome suggests, we should just take this effect into account directly. We should estimate how much future production will be diminished (by capital projects forgone because we spent the money on mitigation instead). And we should then just apply the correct discount rate, whatever it is, to that diminished production.

2. Letting the market decide is democratic, or anti-authoritarian.
 - a. Even when it concerns their own future good, people are impatient, or biased toward the present. Hence, their present choices (e.g., to have another drink Saturday night) don't reflect the true value to them of what they are passing up in the future (e.g., a clear head Sunday morning).
 - b. Future people, who are affected, don't participate in the market. They don't get a vote.
 - c. It's relatively clear why people's preferences should prevail in matters of *taste*, such as whether to produce more apples or oranges. But why should people's preferences settle moral questions? "The discount rate is a matter of the value of future people's benefits compared to our own. More than anything else, it determines what sacrifices the present generation should make for the sake of the future. This is a moral matter and not a matter of taste."
 - d. In any event, why not let people's political decisions about what should be done about climate change, rather than market prices, represent their views?

B. Arguments that we should *discount future commodities* because they will not bring as much benefit:

3. Additional commodities will contribute less to well-being in the future (i) because of diminishing marginal utility (i.e., a good is worth less to you if you have more) and (ii) because of growth (i.e., people in the future will be richer).
4. Additional well-being will be less morally important in the future (i) because of prioritarianism (i.e., an increase in well-being is less important if your well-being is higher) and (ii) because of growth (i.e., people in the future will be richer).

Broome grants the force of these arguments for discounting, although he thinks that they bring out a tension in the thinking of many people. (Why? See the review questions.)

C. Should we discount the same *level* of future well-being, simply because people in the future *matter* less, or ought to matter less to us?

- Is the idea that as time goes on well-being becomes less important? This seems absurd: that past deaths were much worse than present deaths.
- Or is the idea that well-being experienced further away from *now* matters less? But this, Broome argues, leads to incoherence. (On Monday, you correctly choose to have the mediocre dessert on Wednesday, rather than the spectacular dessert on Friday. However, you know that on Monday that you will correctly judge on Friday that your choice on Monday was a mistake!)
- Some have argued that if we don't discount future well-being, then we will have to save implausibly much, such as half our income. But if we accept prioritarianism, and if those in the future will have a higher level of well-being than us, then we are not required to save as much.

Review Questions:

1. Broome believes that at least part of the problem of climate change can be solved without anyone making any sacrifice. Which part, and how does it avoid sacrifice?
2. Why does Broome believe that governments' moral duties with respect to climate change are more a matter of goodness, whereas individuals' moral duties with respect to climate change are more a matter of justice? Explain two of his reasons.
3. Broome argues that where there are total emissions limits in place, reducing your own emissions may help to fulfill your duty of justice, even though it won't do any good. Why?
4. Can one consistently (i) oppose mitigating climate change, but also (ii) oppose redistributing wealth from the rich to the poor, through foreign aid, etc.? Why does Broome think that these stances are hard to reconcile morally?