

## BOOK REVIEW

*Environment and Resource Policies for the World Economy.*  
By Richard N. Cooper. Washington: The Brookings Institute, 1994.

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In 1992, the Brookings Institution commenced a major project on "Integrating National Economies" to examine the problems which can ensue from economic globalization in a world of sovereign nation-states. The fruit of this project is a 22-volume series. The book reviewed here is the environmental volume in that series. It is written by Richard N. Cooper, then a professor of international economics at Harvard, and now on leave as the chairman of the U.S. National Intelligence Council. He is a leading scholar of international cooperation.

Cooper begins by pointing out that his book is written within the context of national sovereignty over natural resources within a country's border. He notes that territoriality might be questioned at a philosophical level, but points out that national ownership, or individual ownership within a national system of legal property rights, is long settled and widely accepted. To demonstrate the continuing salience of territoriality, Cooper explains that as recently as the 1970s, the world political community allocated one-fourth of the earth's surface to nations in the form of 200-mile exclusive economic zones (EEZ). He reminds the reader that the Nixon Administration had at one time proposed that off-shore oil be treated as common heritage, but that coastal states rejected this idea.

So the topic of Cooper's book is not how the denizens of earth might ideally manage their natural resources. Rather, the book asks a pragmatic question -- how should sovereign nations cooperate to respond to environmental challenges? When are international agreements necessary? He divides the issues into three categories: (1) resources open to general use by common agreement; (2) national re-

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sources whose use materially affects outsiders through the market only; and (3) national resources whose use materially affects outsiders in physical and direct ways.

Cooper notes that our assessment of the adequacy of resources changes over time with the application of better technology. In his view, exhaustion of natural resources will not be a problem, even in the very long run. He declares: "Only two inputs are ultimately required to satisfy all man's material needs on earth: brainpower and energy." Cooper sees an ample supply of both, so long as mankind manages its affairs sensibly. Thus, no distinct international problem exists regarding the availability of nationally owned resources.

While Cooper's optimism may be warranted regarding non-renewable resources (e.g., tin), it seems more questionable regarding renewable resources (e.g., fish). Cooper recognizes that renewable resources can be mismanaged, but does not perceive that as undermining his prediction of abundance. Regarding food, for example, he says that adequate national supplies can be assured through diversifying sources of supply and providing more storage. Regarding biodiversity, Cooper notes that species are becoming extinct, but he does not see that as a large problem since many species have no value for people beyond the aesthetic of knowing they exist. To buttress his point, he suggests that a nation's biodiversity could be bought by foreigners who placed more value on it than the local populace does.

Cooper may well be right. But to this reviewer, he seems too willing to ignore potential values that cannot be monetized. He also looks at biological resources as goods (for which substitutes are always available) rather than as systems whose resilience can be lost through careless management.

The first category -- resources open to general use -- has been called the "common heritage" or the "global commons." This includes Antarctica, outer space, the deep seabed, and the oceans. Cooper reviews the international regimes in place and being established to safeguard these resources. They can be of two types -- namely, partition (i.e., allocation of well-defined property rights) and joint management. He concludes that current regimes are adequate except for the living resources of the ocean. (The book does not cover the topic of ocean pollution).

A key issue regarding the ocean is overfishing. The author notes that some international conservation regimes have been successful (e.g., fur seals). But the establishment of the 200-mile EEZ has not worked out well either in protecting fisheries or in preventing conflict.

The main problems are (1) that national rights to the EEZ are not the same as private property rights and (2) that countries have bungled the management of their EEZs. Cooper does not see much hope of fixing the current regime. He suggests that aquaculture might be a solution for maintaining a supply of fish.

Another ocean-related issue is the clash of objectives between conservation (i.e., efficient harvesting) and preservation. Cooper points out that the international regime for whales, that is, the International Whaling Commission, has declared a ban on the commercial harvesting of all whales even though certain species could be harvested without undermining sustainability. Cooper sees this non-utilization policy as potentially undermining the entire whaling regime. Yet he does not discuss how to resolve conflicting objectives for common heritage resources. Why is wise use better than preservation? Who should decide, if not the Whaling Commission?

The book misses an opportunity to do a systematic analysis of partition versus joint management. When is one strategy better than the other? What preconditions exist to make each of them work? What is the difference between private versus public partition? What voting rule should be used for joint management? How does partition relate to the emerging concept of an open, global market?

The next category is national resources whose use materially affects outsiders only through the market. The issue is what multilateral economic policies are needed to deal with economic activities that cause no transborder environmental externalities. One option is for countries to harmonize their environmental standards so that polluting production does not migrate to countries with low environmental standards. Cooper rejects this option for several reasons. First, countries do not need the same environmental standards in order to achieve equivalent environmental outcomes. For example, air pollution in southern Africa may be disbursed by winds. Second, countries do not need equivalent environmental outcomes. Clean air and water need to compete with other social goods. Poor nations may want less clean air in favor of faster development. That is properly a decision for each country to make, Cooper says.

Cooper also explains that the term "environmental dumping" is an inapt one to describe exports from a country with low environmental standards. Assuming that the decisionmaking in the country reflects national volitions, then the prices of the exported goods do fully reflect social costs. Thus, there is no dumping, as trade economists use

the term. (Of course, U.S. antidumping laws embrace a more arbitrary concept of dumping, but that is another issue).

One of the enjoyable aspects of reading commentary by this author is that he does not pull his punches. According to Cooper, it is "desirable" to have polluting industries migrate from high-income to low-income countries. Thus, there is no need for international action to prevent such migration through harmonization of standards. Many economists reach the same conclusion, but do so by pointing out that such migration is not occurring. Cooper is bolder; he believes that even if it were occurring, the international community should do nothing about it.

Cooper presents this doctrine clearly. But unfortunately, he illustrates his point with a bad example: the U.S.-Mexico dispute over tuna and dolphins. Although some of the tuna fishing by Mexican-flag vessels occurs in Mexico's EEZ, some occurs in areas outside of Mexico's sovereignty. Moreover, tuna and dolphins migrate. Thus, one cannot characterize Mexico's actions as having no transborder externalities. Indeed, since the harvesting occurs in the ocean, one might say that none of the externalities lie solely within Mexico's area of sovereignty. Mexico may have "jurisdiction" over its fishing vessels on the high seas, but not over the fish in the seas.

Cooper recognizes that the tuna-dolphin dispute is an international one. If negotiations fail, he thinks that countries ought to be able to require that labels be affixed to tuna cans, indicating whether the tuna was caught in an undesirable way. In another bold statement, he says that the international community "should not be able to force a country to purchase products the production of which offends the sensibilities of its citizenry." But import bans of such products could violate international trade rules, he points out. If so, the importing country would have to offer compensation to the injured country in order to retain the import ban.

Cooper does not fully explore the implications of this situation. Why should countries have to pay to maintain their solicitude for marine resources? Why should the trade regime give rights to exporting nations who must then be compensated by nations that refuse to import products whose production deteriorates the global commons?

Leaving aside the bad example of the tuna-dolphin dispute, the viewpoint in this chapter is a coherent one. So long as environmental externalities are cabined within a country, there is no need for international standard-setting regarding the method of production. Cooper acknowledges that governments may not accurately reflect public

views about the environment, particularly in authoritarian countries, but suggests that the solution for that is a push for more democracy, not a direct push for higher environmental standards.

There is one caveat however. Governments may not act on their own environmental preferences out of a fear of competition from lower-standard countries. This scenario does provide a justification for collective action, Cooper agrees. Whenever countries want to move in the same direction, harmonizing their actions may avoid short-term costs to employment, exports and output.

Nevertheless, Cooper explains that this argument tends to be overutilized. He gives steel production as an example. While countries may want to act together to reduce pollution in making steel, a better approach would be for steel production to migrate to a country with low environmental preferences. In cases like this, more harmonized national policymaking is not the efficient solution. Each government can act in its own interest without regard to what other governments are doing. Thus, situations which involve no transborder environmental externality are typically not examples of the "prisoner's dilemma" wherein two players are better off when they cooperate and worse off when they act alone.

Cooper is analytically correct. But he fails to give sufficient attention to the problem of domestic "regulatory drag." This occurs when governments do not set optimal environmental regulations due to political pressure from industries which would be hurt in world competition. Commodities are a case in point. In the absence of a way to distinguish a commodity according to the "greenness" of its production method, it may be very difficult for governments to dictate greener methods for commodity production whenever the better standards entail higher costs.

Another omission in the book is any focus of the connection between trade policy and environmental policy. Cooper's argument that international cooperation is not needed to set policy for purely domestic environmental issues applies equally to the setting of trade policy. Countries can liberalize their trade barriers unilaterally. Nevertheless, there is an elaborate international regime (now the World Trade Organization or WTO) to induce cooperation and harmonization in such liberalization. Cooper is willing to assume that each government pursues environmental policies that are best for the people in that country. But he is apparently unwilling to make the same assumption about trade policy, even though the effect on outsiders occurs only through the market (i.e., no physical transborder externalities).

Governments formulate their trade policy to improve (or to maintain) the competitiveness of national industries and to stimulate economic growth. It is generally accepted that inter-governmental coordination of the use (and nonuse) of trade policies can lead to more effective outcomes. By contrast, some economists seem to doubt that inter-governmental coordination of environmental policies can stimulate growth and promote efficiency. Cooper does not explain why trade coordination is more important than environmental coordination. Another disappointment is that he does not attempt to draw any lessons from international monetary cooperation that might be applicable to international environmental cooperation.

The third category covered in the book is national resources whose use materially affects outsiders beyond the market framework. The issue is what multilateral policies are needed to deal with activities that do cause transborder environmental externalities. Such externalities are often regional in scope. For example, as this review is being completed (mid-1995), President Chirac has announced that France will restart nuclear testing on Mururoa Atoll in French Polynesia. Many Pacific nations are upset about this and have suggested that if Chirac really believes the tests are safe, he should conduct them in France.

The most serious problems are the global externalities. Cooper's chapter focuses on climate change. After reviewing the issue of ozone depletion, Cooper concludes that a serious problem did exist and that the international community rose to the occasion. The result was the Montreal Protocol calling for the phase-out of chlorofluorocarbons (CFCs).

Cooper identifies several conditions favorable to the successful conclusion of a treaty including: the availability of substitutes to CFCs, the small number of CFC-producing countries and firms, and the clarity of scientific evidence. He notes that these conditions are not likely to be in place for other issues, such as global warming. His book does not discuss any of the lingering problems with the Montreal Protocol such as trade in CFCs among developing countries.

The issue of global warming occupies a large portion of Cooper's book. He sees it potentially as a preeminent challenge for international cooperation. At present, however, Cooper is not convinced by the available scientific evidence. To him, the global warming hypothesis is "conjectural since there is little evidence of the predicted warming over the past century."

To address global warming, a Framework Convention on Climate Change was adopted in 1992. The developed countries undertook to adopt national policies to limit greenhouse gas emissions with the aim of returning "individually or jointly" to emission levels of 1990. The developing countries undertook to cooperate only insofar as their full incremental costs were paid for by developed countries. Today, developed countries are responsible for about 70 percent of current carbon dioxide emissions. This will fall to 50 percent or less by the year 2100. Even today China (a heavy user of coal) is responsible for 11 percent of annual carbon dioxide emissions.

If the world community were convinced of the danger of greenhouse gas emissions, this would call for fundamental changes in industrial, agriculture, and household practices. Some analysts have urged that such actions begin as soon as possible. But Cooper argues that responses to a long-term problem like global warming are an investment that should be weighed against other investments that can be bequeathed to future generations.

Cooper puts forward two strategies known as "mitigation" and "adaptation." Mitigation requires taking preventive actions now. Adaptation allows gradual implementation of changes. Compared with adaptation, mitigation implies a lower world income in the near future but a higher income in the more distant future. A nation's choice between mitigation and adaptation is sensitive to the discount rate. Cooper critiques the global warming analysis of William Cline of the Institute for International Economics who presumes a discount rate of 2%. Cooper argues that 2% is way too low. Yet even at 2% and assuming risk aversion, Cline recommends only a modest mitigation program now although he points out that a strenuous program might be needed later. Given our lack of information about the rate of climate change, Cooper believes that adaptation is more prudent than mitigation.

If global warming develops into a clearer threat, then a high degree of international attention will be required. Since the cooperation of industrial and developing countries will be necessary to reduce carbon missions, negotiators will face a tough challenge. In Cooper's view, developing countries are not likely to constrain their economic growth for the sake of global environmental improvement. At a minimum, they will ask for compensation to pay their incremental costs, as suggested in the Climate Change Convention. But, as Cooper notes, they may try to extract even more compensation as the price to secure their cooperation. This will magnify the challenge to industrial country

governments, whose task of generating domestic support for lifestyle changes is already quite difficult.

If carrots won't work, then will sticks? As Cooper explains, the issue of what to do about free-riders and noncompliers is an inevitable one. The Montreal Protocol addressed this by providing for trade bans against nonparties, and these bans (along with the carrot of financial assistance) appear to have induced countries to join the Protocol.

It would be difficult to utilize this enforcement approach in a climate change treaty however. The trade bans in the Montreal Protocol apply narrowly to CFCs and products containing CFCs. For carbon emissions, there is no obvious trade to target. Banning all trade with a country will be costly to both parties. In addition, such a trade ban would be seen by many as a violation for World Trade Organization rules. Nevertheless, Cooper does not rule out trade bans when they are part of a package of carrots and sticks.

Cooper also discusses potential mechanisms for reducing carbon emissions. One approach would be to deny general use of the atmosphere for carbon emissions. Producers would be required to secure emission rights before polluting. The main problem with this approach is that there is no universally acceptable way to allocate the initial rights among countries. Allocation according to current emissions, or projected emissions, or population can lead to unfairness or perverse incentives. There would also be difficult enforcement problems since there is easy access to the atmosphere.

Another approach would be to levy a uniform national tax (or a global tax) on greenhouse gas emissions. Such a tax could reduce emissions efficiently and generate new revenue for governments (or the international community) in a way that does not impede work, saving, or investment. The problem with this approach is political; energy taxes are unpopular.

Given the scientific uncertainties and the difficulties of securing cooperation, Cooper recommends a major global research effort. He says that before being taken seriously for the future, large-scale climate models should be improved so that they can indicate *past* climate change accurately. Based on his analysis of prior episodes of international cooperation, Cooper suggests that an international consensus on the dangers mankind faces is necessary to justify serious, costly collaboration to avert those dangers.

Overall, this book is informative and well-written. My main criticism is what the book doesn't cover. It omits many of the key issues in the ongoing "trade and environment" debate. These issues have arisen

because national sovereignty is not congruent to the challenges of environmental stewardship.

For instance, does international trade make it more difficult for governments to mandate cost internalization? Does the increased international travel arising from integration alter the concept of purely domestic pollution? Does international trade in a species (e.g., rhino horn) transform it into an international issue? When does trade liberalization improve the environment and when does it worsen it? Does economic growth automatically induce better governmental management of the environment? Is the WTO principle of national treatment appropriate for trade in hazardous wastes? Does the WTO principle of most-favoured-nation conflict with a "common heritage" regime relying upon partition? Should the WTO permit countries to require eco-labels that relate to the production process (e.g., sustainable forest harvesting)? Is a tax rebate upon export inconsistent with the polluter-pays principle? Would trade countermeasures ever be appropriate to punish a country that fails to protect its own resources (e.g., endangered elephants)? What should the world community do about illegal traffic in whale meat that undermines the Whaling Treaty or about traffic in CFCs that undermines the Montreal Protocol? Is the NAFTA side agreement a good model for the incorporation of the environment into future trade agreements? Could international environmental cooperation be facilitated by creating a new international institution that might include features from the WTO or the International Monetary Fund?

Because this is the only book in the Brookings series that addresses the environment in any detail, the absence of discussion regarding issues like these is a significant omission. Still, the volume by Cooper is informative. It will be especially useful to readers seeking to understand our most pressing environmental challenges as seen from an economics perspective.