

Special Feature C

Economic Benefits from International Cooperation on the Environment

by Andrew K. Rose¹

Countries, like people, interact with each other on a number of different dimensions. Some interactions are strictly economic; for instance, countries engage in international trade of goods, services, capital and labour. But most are not economic, at least not in any narrow sense. For instance, Singapore seeks to deter nuclear proliferation, stop the spread of narcotics, and so forth. Accordingly, Singapore, like other countries, participates in a number of institutions to further its foreign policy objectives; it has joined international organisations such as the International Atomic Energy Agency and Interpol.

Environmental problems are undoubtedly among the most serious issues that stretch across national boundaries. Probably the most well known of these problems is the build up of greenhouse gases in the atmosphere, which is resulting in potentially disastrous climate change. If a country reduces its gas emissions by switching to green technologies, it bears all the costs but shares the benefits with the entire world. This makes a country less likely to reduce its emissions. Reducing the impact of such “externalities” is the primary reason for international environmental agreements (IEAs).

International environmental agreements must meet two important criteria. First, countries must choose to enter into them voluntarily. Second, the agreements must be self-enforcing. Since there is no international environmental police force, the members of an IEA must have the capacity and the willingness to respond to deviations by an individual country (or group of countries) from the rules of the treaty.

These criteria limit the potential for IEAs to improve environmental conditions. If the required amount of environmental improvement (reduction of gas emissions) deviates too far from that of the least motivated country, either that country will refuse to enter into the IEA, or the rules of the IEA will prove impossible to enforce. As such, countries that are considering an IEA are left with two undesirable options. First, they can limit the membership of the IEA to a small number of like-minded nations. Alternatively, they can ease the environmental improvement sufficiently to match the desires of the least motivated member. Neither choice is particularly attractive. IEAs comprised of a small number of like-minded nations are unlikely to include the most egregious polluters, and are thus unlikely to improve much on outcomes that the members could have attained unilaterally. But if the terms of the IEA are watered down to please the desires of the least motivated country in a large heterogeneous group, little overall improvement in environmental quality is likely to be achieved.

This pessimistic outlook stems from the view that national governments make IEA membership and compliance decisions solely based on the merits of the environmental agreements themselves. However, in reality countries cooperate with each other on a number of additional dimensions: economic, strategic, and political. This raises the possibility of “reputation spillovers” across these arenas of interactions, whereby cooperative behaviour in one dimension of interaction may induce cooperative behaviour by other countries in other dimensions. These indirect benefits can be large.

¹ Andrew K. Rose is Professor of International Business in the Haas School of Business at the University of California, Berkeley (URL <http://faculty.haas.berkeley.edu/arose>). He visited EPD in August 2008 under MAS' Eminent Visitor Programme. He thanks the MAS and NUS for hospitality during the course of this work. This piece draws on research he conducted with Mark Spiegel of the Federal Reserve Bank of San Francisco.

There are different reasons why IEAs can facilitate international economic exchanges. Helping your neighbours through environmental policy may, for instance, enhance a country's perceived creditworthiness. Environmental agreements require up-front investment whose benefits only accrue over time. Given this characteristic, the willingness of a nation to enter into an IEA provides a signal to foreign investors about the "patience", or lack thereof, of that country's government. A government like Singapore's that is more willing to join an IEA also tends to discount the future at a low rate. Patience is also a desirable attribute for borrowers, as the benefits of defaulting on one's debt obligations (an immediate cessation of debt payments) are commonly experienced immediately, while the costs of default (limited access to capital markets for some period of time) are only suffered over time. Sending a signal of patience through membership in an IEA therefore enhances the perceived creditworthiness of a nation and thus its borrowing capacity. An IEA also provides an additional arena for punishing a borrowing country for defaulting on its debt obligations. Countries are less likely to act badly in the economic sphere if they can be punished through environmental actions by foreigners.

These ideas turn out to work in both theory and practice. Countries that make greater commitments to improve the environment through IEAs also engage in more international economic activity; they borrow, lend and trade more. Environmental engagement not only improves the environment, but also a country's economy.

There are thus indirect economic costs of unilateral actions and poor international citizenship. For instance, refusing to join an IEA inflicts costs over and above the purely domestic consequences of an environmental agreement. Accordingly, this line of reasoning has consequences for policy. For example, the debate over American participation in the Kyoto Protocol was framed solely in terms of the costs and benefits to the United States of participation in that treaty. However, the United States interacts with other nations in a variety of other domains,

such as security arrangements and international organisations. Perhaps the US would be finding Afghanistan and Iraq easier if it had considered the international fallout from Kyoto? Spillover benefits analogous to these may also exist in many other channels, potentially raising the overall gains from IEA membership.

So ... is there a cost to "going it alone"? Yes. It is inappropriate for countries to evaluate international environmental agreements without taking into account the indirect benefits of being a good citizen. Above and beyond the direct consequences of such entanglements, countries with greater IEA participation also find it easier to engage in the economic exchange of goods, services and assets, all of which come with associated benefits. Thus membership in international institutions brings indirect benefits; not joining such partnerships has costs.

Memberships in international environmental organisations yield costs and benefits. A country can gain directly from such interactions; its air might be cleaner, or there might be more fish in the sea. However, some gains can be indirect. Countries with long horizons and low discount rates like Singapore are more willing both to protect the environment and to maintain a reputation as a good credit risk. As they signal their discount rate through IEA activity, participation in IEAs indirectly yields economic gains. And as countries become more tightly tied into a web of international relationships, they fear that withdrawing from one domain (such as environmental cooperation), may adversely affect activities in an unrelated area (such as finance). The fear of these spillovers then encourages good behaviour in the first area. Both the signal and the fear of retaliation encourage good behaviour and good outcomes in both the economic and environmental arenas. As the problems which face us become increasingly global – climate change is the most dramatic example, but by no means the only one – countries should count not just the direct but also the indirect benefits from international engagement.