Environmental Standards and International Trade

Kym Anderson
University of Adelaide

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Kym Anderson
University of Adelaide, Australia

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Abstract

Concerns about natural resource use and the environment on the one hand and about the trade effects of environmental policies on the other are becoming ever-more prominent in trade and trade policy discussions, including in the new World Trade Organization. Many developing countries perceive the entwining of environmental and trade issues as a threat to both their sovereignty and their economies, while significant groups in industrial economies consider it unfair, ecologically unsound, and even immoral to trade with and invest in countries adopting much lower environmental standards than theirs. This paper examines why these issues are becoming more prominent, whether the World Trade Organization is an appropriate forum in which to discuss them, how they affect developing countries, and what those countries might do about it. The paper concludes that the direct effect on developing economies is likely to be small and for some may even be positive through improved terms of trade or compensatory transfer payments. However, great care is needed to avoid inappropriate uses of trade measures to pursue environmental objectives. Otherwise there is considerable risk of an adverse indirect effect on developing and other economies through the erosion of the rules-based multilateral trading system.
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During the past decade or so economic policy reforms together with the communications revolution have accelerated international economic integration. Integration has brought with it greater scrutiny of domestic policies—including environmental policies—that affect the competitiveness of industries in the international marketplace. At the same time concerns about resource depletion and environmental degradation at the regional, national, and especially global levels have been growing, leading to calls to slow resource exploitation and enforce stricter environmental standards—including at the international level. Together these developments have caused an entwining of policies relating to trade, foreign investment, and the environment. That entwining has the potential to bring about good outcomes in terms of the economy and the natural environment, but unless it is carefully managed there is a considerable risk that both the economy and the environment will suffer.

Why is economic development and the deepening of economic integration raising the demand for greater international cooperation or coercion over policies affecting natural resource use and the environment? Under what circumstances (if any) is trade policy an appropriate instrument for addressing such concerns? What does this imply for the global trading system? How will developing countries be affected, and what should they do about this phenomenon?

In addressing these questions, this paper first looks at why environmental policies are being subjected to more international scrutiny, and in particular why environmental issues are becoming more entwined with trade and foreign investment issues. It then examines the relationships between economic growth, trade, foreign investment, and the environment. After that it discusses how much the World Trade Organization (WTO) is and should be involved in environmental issues. The paper concludes by drawing out the implications of these developments for developing countries and suggesting how they might respond, both domestically and in their relationships with other countries and the WTO.
Why Environmental Policies Are Coming under Closer International Scrutiny

We should not be surprised that there are vast differences across countries in environmental policies (nor in policies affecting such issues as worker rights and standards, human rights more generally, education, health or national culture). These policy differences are a natural consequence of differences in national incomes, endowments, available technologies, and preferences. Per capita income differences matter because, as communities become richer, they increase their demands for normal goods, including higher environmental standards. Differences in per capita endowments of natural resources and environmental amenities matter because they tend to be of most concern where they are scarcest locally, other things equal. Environmental policy differences also exist because of international differences in tastes and preferences. Indeed, one of the defining historical features of many countries was the bringing together of a group of people whose preferences were more similar to each other than to those of neighboring groups (Alesina and Spolaore 1995).

As international economic integration proceeds, though, pressure increases to reduce differences in domestic policies that have significant economic consequences. This pressure is driven not just by the desire to reduce administrative and conformance costs, but also by concerns in regions with high environmental standards that costs of production for firms and industries are higher in their region than in regions with lower standards, causing them to be less competitive. Such differences become ever-more important as traditional barriers to trade and investment between regions fall (Bhagwati forthcoming). Harmonization of social policies and standards could go in either direction, however, with winners and losers in each region trying to influence the outcome. Hence there is no reason to presume that overall national or global economic and social welfare will improve simply because such policies are harmonized.

Simultaneously, the list of environmental concerns with international or global dimensions has grown rapidly in recent years. Some groups in rich countries are concerned that these problems will be
exacerbated as economic growth proceeds in newly industrialized countries with laxer environmental standards. Since personal values play an important role in debates on these issues, there is considerable scope for friction between countries with different preferences, resource endowments, available technologies, incomes, and knowledge about how different activities and policies affect the environment. As a result perceptions differ on the optimal levels of national and global environmental and resource policy intervention.

Fluctuate though they might with the business cycle, concerns for resource depletion and the environment are likely to keep growing. One reason is that, even though uncertainties remain, the scientific basis for many of these concerns is perceived as being more solid now than it was twenty years ago. Another reason is that both the world's population and its real per capita income continue to increase at very high rates by historical standards. Unfortunately, though, the supplies of most natural resources and environmental services are limited, and markets for many of them are incomplete or absent (either because of disputed, ambiguous, or nonexistent property rights, or because of the high cost of enforcing those rights).

It is true that the more advanced economies have established institutional structures to help handle the tasks of arriving at a social consensus on what are appropriate environmental or sustainable development policies for that society, of allocating property rights, and of enforcing policies. The same is true in some traditional societies, before they begin to modernize and their resources come under pressure because of declining mortality rates. But these institutions are less common in the newly modernizing economies, where growth in the world's population and consumption is expected to be concentrated during the next few decades. And at the multilateral level, cooperative intergovernmental mechanisms for environmental policy have only recently begun to be formed and will take some time to become effective, especially where free-rider problems are rife.
So, with adequate forums yet to be fully developed for multilateral environmental dialogue, and with the problems increasingly being perceived as urgent as new scientific evidence becomes available, there is a growing interest among environmental groups—especially in industrial countries—in using one of the few policy instruments apparently available to their governments, namely trade restrictions, to influence environmental outcomes both at home and abroad.

Environmental groups perceive trade policy as useful in two respects: as a means of raising national environmental standards at home and abroad and of inducing countries to become signatories to and abide by international environmental agreements. In terms of environmental standards, these groups are aware that, unless compensated, firms will oppose the raising of domestic standards, especially if foreign competitors are not subjected to similar cost increases. But since the loss of competitiveness can be offset by import restrictions on products from countries with lower standards, such restrictions can at the same time reduce opposition by local firms to higher standards at home and increase the incentive for foreign firms and their governments to adopt higher standards abroad. Not surprisingly, those features make trade policy very attractive to environmentalists. But because such uses of trade policy are discriminatory and protectionist, they are equally unattractive to supporters of liberal world trade.

With respect to international environmental agreements, a major attraction of trade measures is that they can be used effectively as sticks or carrots because they are relatively easy to use and immediate in their impact. In both cases even the threat of trade sanctions (particularly if broadened to include unrelated products) may have a rapid and persuasive effect on raising national standards or encouraging a country to join an international environmental agreement and subsequently to abide by its rules.
The Relationships Between Economic Growth, Trade, Investment, and the Environment

*Standard determinants of changes in comparative advantage*

The standard theory of changing comparative advantages in a growing world economy has been developed without consideration of environmental concerns, but it can readily be modified to incorporate at least some of those concerns. As espoused by Krueger (1977) and Leamer (1987), this theory suggests that when a developing country opens up to international trade, its exports initially will be specialized in primary products. This is because its stocks of produced capital relative to natural resources are comparatively low. Should those non-natural capital stocks per worker (including human skills) expand more for this country than globally, the country’s comparative advantage will gradually shift to more capital- and skill-intensive activities (particularly manufactures and services). If such countries are relatively land-abundant, some of that produced capital and new or newly imported capital-intensive technology may be employed profitably to extract minerals or farm the land. But in most such countries the new capital will encourage the expansion of nonprimary sectors and shift these countries’ comparative advantage away from primary products. Thus countries that are lacking in natural resources or that are densely populated will tend to industrialize at an earlier stage of economic development, and their nonprimary exports will tend to be more intensive in the use of unskilled labor initially. In the case of manufactures, the gradual process of upgrading to more capital-intensive production leaves room in international markets for later-industrializing, resource-poor countries to also begin with labor-intensive, export-oriented manufacturing.
Effects of stricter national environmental policies on comparative advantage

If national boundaries were such that there were no international environmental spillovers and no global commons, the above determinants need be complicated only slightly to incorporate nonmarketed environmental services and pollution by-products. The complication required is simply to allow for the fact that as a country's per capita income and industrial output grow, the value its citizens place on the environment increases and with it their demands for proper valuation of resource depletion and environmental degradation, for the assigning and better policing of property rights, and for the implementation of costly domestic pollution abatement policies—at least after certain threshold levels of income or pollution are reached.\(^1\) Beyond those threshold points the severity of such abatement policies is likely to be positively correlated with per capita income, population density, and the degree of urbanization.

If all economies were growing equally rapidly but from different bases, the progressive introduction of national environmental taxes and regulations would tend to cause pollution-intensive production processes to gradually relocate from wealthier or more densely populated countries to developing or more sparsely populated countries. Those environmental policies would also slow or reverse the growth in demand for products whose consumption is pollutive, especially in wealthier or more densely populated countries, where taxes on such products would tend to become high. If more-advanced economies are net importers of products whose production is pollutive, as is likely, the imposition of these countries' optimal environmental policies would worsen their terms of trade to the benefit of poorer economies. Such policies would also worsen the terms of trade of more-advanced economies if they were net exporters of products whose consumption is pollutive (Siebert and others 1980; Anderson 1992b). The extent of the benefit to developing countries would be greater the more their terms of trade improved as a result of rising standards in advanced economies.
Thus even countries without (or with unchanged) environmental policies are affected through foreign trade and investment by the development of environmental policies that accompany growth in *other* countries. That is, one country's environmental policy choice is not independent of the choices of other countries. The imposition of higher standards or pollution charges at home alters the international competitiveness of industries, in particular by harming the more pollution-intensive industries in countries with higher standards. Unless they had been developing new, environmentally friendlier technologies, such industries would tend to lobby against the imposition of higher standards at home, particularly if their competitors abroad were not being subjected to similar cost-raising policies. And while it is true that producers in the less-polluting industries at home would benefit from the raising of a particular environmental standard, such industries are more diffuse and so are not likely to add much support to the lobbying efforts of environmentalists.

It was because of this flagging support that trade policy first entered the environmental picture during the late 1960s, when the first wave of widespread concern for the environment began in industrial countries. As already mentioned, environmental groups perceived that, since the loss of competitiveness of pollution-intensive industries could be offset by restrictions on imports from lower-standard countries, such restrictions could at the same time reduce such industries' opposition to higher standards at home and increase the incentive for foreign firms and their governments to adopt higher standards abroad to avoid being labeled a pollution haven and subjected to anti "eco-dumping" duties.

The demand for unilateral use of trade policy for this reason has grown with the internationalization of the global economy, in two ways. One is that, with the decline in traditional trade barriers (tariffs, transport and communications costs, and so on), any given environmental charge is becoming relatively more important as a determinant of international competitiveness, all other things being equal. And the other is that, with the deregulation of financial markets and foreign direct investment during the 1980s, the possibilities for firms to disinvest in countries with high environmental
standards and relocate their factories in countries with lower standards have increased markedly. Environmental groups fear this development will result in governments delaying the introduction or enforcement of stricter environmental policies—and possibly even a lowering of standards in a “race to the bottom”—in their attempts to attract or retain investments and hence jobs. They also worry that greater relocation opportunities will reduce the incentive for firms to develop more environmentally friendly technologies.

The extent of international relocation of productive activities due to the raising and enforcing of environmental standards should not be exaggerated, however. Recent studies suggest that the effect of such policies on comparative costs may be quite small (Leonard 1988, Low 1992, and Jaffe and others 1995). Moreover, Tobey (1990) finds little evidence of actual changes in patterns of trade specialization in response to the imposition of environmental regulations since the 1960s. But as Hoekman and Leidy (1992) note, the absence of observed changes in trade patterns may be the result of import barriers that were raised to offset any decline in the competitiveness of affected industries. Technological changes induced by the raising of environmental standards and environmental standards raised by the introduction of technological changes also would reduce the likelihood of observing a correlation between the raising of standards and the international relocation of production.

*International environmental spillovers and comparative advantage*

The story becomes more complicated when important international environmental spillovers are taken into account. These spillovers may be both physical and—for want of a better term—psychological. An example of a psychological spillover is that I may grieve if another country's activities threaten a particular animal or plant species in its jurisdiction. Or I may grieve if I believe that the desires of another country's citizens for higher environmental standards in their country are not being sufficiently
recognized by their national government (a political market failure). Controversial though such views are, many people perceive a need for multilateral action to reduce these spillover problems—and that is where trade policy again enters the debate. Trade measures are seen by environmentalists as providing powerful carrots and sticks for attracting signatories to multilateral environmental agreements and for penalizing nonsignatories, as well as for encouraging other countries to adopt better national environmental policies, including for the sake of their own citizens and environment.

As with using trade policy to achieve national environmental policies, the use of trade policy to increase the workability of multilateral environmental agreements raises potential conflicts of interest between rich and poorer economies. There is even dispute over what constitutes the global commons: some would argue that a country or region should not have to bow to international pressure to preserve endangered species in their territory (or at least not without adequate compensation), while others would argue that such countries are merely the custodians of those resources for the benefit of humankind generally.

To illustrate why people in developing countries get upset by the use of trade measures to achieve international environmental objectives, consider first the extreme example of the ban on ivory trade under the Convention on International Trade in Endangered Species. The strong comparative advantage that southern African nations had in elephant products virtually disappeared when that ban was introduced in 1989. Another example is the recent ban, adopted under the Basel Convention relating to hazardous waste, on exports of so-called hazardous recyclables from industrial to developing countries. That ban threatens the growth prospects for recycling industries in developing countries. A third example is the proposed limitation on imports into some high-income countries of tropical hardwoods, the aim of which is to discourage deforestation. An import ban of this kind would reduce the growth in exports of logs and perhaps sawn timber from those developing countries still well endowed with hardwood forests, while improving the terms of trade of other net importers of hardwood
such as Japan, the Republic of Korea, and Taiwan (China). In addition, the Montreal Protocol on phasing out the use of ozone-depleting chlorofluorocarbons (CFCs) incorporates discriminatory trade provisions designed to limit the relocation from signatory to nonsignatory countries of industries producing or using CFCs, as well as to encourage nonsignatories to accede to the Protocol. And there is the infamous example of the U.S. ban on the importation of Mexican tuna that U.S. authorities deem to have been caught in dolphin-unfriendly nets: domestic U.S. regulations affecting the use of dolphin-unfriendly nets on U.S. registered fishing vessels, if implemented alone, would have boosted Mexican competitiveness in tuna fishing, but the subsequent ban on tuna imports instead reduced it.

**Why worry about using trade policy to achieve environmental objectives?**

As is clear from the examples just presented, the motive for trade policy action can be a mixture of concerns for national competitiveness and concerns for the global commons and animal welfare. The second concern, more typical among people in wealthier countries, is not shared to the same extent by people in developing countries. This disparity is not just because incomes are lower in developing countries and therefore people there are less able to afford it, but also because these countries' export earnings are reduced by such trade interventions.

The increasing use of discriminatory trade measures to address environmental issues has led to calls from Western Europe and elsewhere for Article XX (the exceptions clause) of the General Agreement on Tariffs and Trade (GATT) to be amended to allow use of trade barriers for the purpose of environmental protection. Apart from the adverse effect this move might have on the export earnings of developing countries, this change should concern the world at large, and developing countries in particular, for at least three other reasons. First, trade policy measures usually are not the best instruments for achieving environmental objectives. This is because trade sanctions or the threat of
trade sanctions do not directly affect the root cause of the environmental problem. Their use in place of more efficient instruments increases the use of global resources and reduces unnecessarily the level and growth of global economic welfare as conventionally measured—and may even add to rather than reduce global environmental degradation.

The second reason for concern is that producer interest groups and some environmental groups are finding it mutually advantageous to use environmental arguments to support their claims for unilateral import restrictions, particularly following the costly imposition of stricter environmental standards on domestic producers (Hillman and Ursprung 1992, Hoekman and Leidy 1992). In this sense environmental concerns can provide a convenient additional excuse for raising trade barriers—and one that is socially respectable (Steil 1994). However, such protectionist actions reduce real incomes not just at home but elsewhere too, especially in developing and natural resource–abundant countries.

Third, insofar as this activity can lead to an escalation in trade disputes—as is almost inevitable, especially given the North-South dimension involved and the fact that environmental uses of trade policy are inherently discriminatory—they could be followed by retaliatory and counter-reitaliatory action, the end result of which would be an undermining of the global trading system on which the dynamism of developing economies depends.

*Do trade and investment liberalization harm the environment?*

Another important sense in which elements of environmentalism are threatening the global trading system is that, in addition to proposing the use of trade restrictions, some environmentalists also oppose trade and investment liberalization. Before considering the reasons for their opposition, it is useful to ask what economic theory has to say on the matter.
We know from the standard theory of distortions and welfare that if there is only one distortion in the global economy (for example, trade restrictions), then reducing the extent of that distortion will be welfare enhancing for the world as a whole. Not all groups need gain, but the extent of gain to those who benefit is more than enough to compensate all those who lose. But that theory also tells us that if the world has more than one distortion (for example, environmental externalities that have not been addressed by optimal policies from a global viewpoint), then reducing only one distortion (trade restrictions) may not increase global welfare. For example, liberalizing trade between industrial and developing countries could lead to excessive felling of tropical forests if there was inadequate protection of forest property rights in the developing countries (Chichilnisky 1994). In such cases all other distortions must be reduced at the same time as trade is being liberalized in order to achieve unequivocal global welfare improvement. Even then, theory tells us that some countries may be made worse off and the environment may still be harmed (Copland and Taylor 1995).6

Thus it should be acknowledged that it is not possible to claim with certainty that trade liberalization will improve the environment and welfare for groups of countries and even the world in the presence of significant environmental externalities that, because of some political failure, have not been addressed with appropriate environmental policies. Even so, the first-best action is to overcome that political market failure so that trade reform can contribute to boosting welfare (Bhagwati and Srinivasan forthcoming).

With that in mind, it is possible to examine the reasons often given by environmental groups for their opposition to trade and investment liberalization. They oppose the GATT and the WTO and regional attempts to reduce barriers on at least three grounds: that freer trade means more output and income, which they presume would mean more resource depletion and degradation of the natural environment; that freer trade and investment encourages the relocation of environmentally degrading industries to countries with lower environmental protection standards or more fragile natural
environments, and leads to greater transport activity, which contributes further environmental damage; and that freer foreign investment reduces the incentive to develop environmentally friendlier technologies.

None of these assertions is unambiguously supported by empirical evidence. The first, that income increases mean greater damage to the natural environment, may be true initially for some developing countries (in which case any additional environmental damage has to be weighed against the marginal economic benefits of higher incomes for poor people). But once middle-income status is reached, people tend to alter their behavior in ways that reduce pressures on the environment. A key change is in family size: higher incomes lead in time to lower population growth rates. This change is likely to have a major effect in reducing the rate of environmental degradation due to population pressures in developing countries. In rural areas it means fewer people felling trees and denuding hillsides to eke out a subsistence income, while in urban areas it means fewer unemployed or underemployed squatters in shanty towns with poor water and sanitation services.

Another common behavioral change as economies open up and incomes rise is that the demand for education expands, and with more income and education comes more skillful management of all resources, including the environment, and more forceful demands on governments to improve the establishment and policing of private property rights and of more stringent environmental policies (Radetski 1992, Grossman 1995). As well, the political cost of implementing such policy reforms is reduced because of increased opportunities for businesses to meet stricter standards by acquiring more and cheaper environmentally benign production processes and products from abroad. One might therefore expect that as trade and investment liberalization leads to upward convergence in incomes around the world, there would be an upward harmonization of environmental standards (Casella 1995). That realization points to the inappropriateness of the blanket call by some environmental groups for
trade liberalization to follow the upward harmonization of standards, since liberalization may in fact induce harmonization.

As to the assertion by some groups that the global environment is necessarily harmed by the relocation of production following trade and investment liberalization, it can only be addressed empirically. We know from the law of comparative advantage that not all industries will relocate from rich to poor economies when trade barriers in rich economies are lowered: some industries will expand at the expense of industries in developing countries, and conversely. In any case it should not simply be assumed that relocating some production to developing countries necessarily harms the environment.

Recent preliminary examinations of the likely environmental effects of reducing government assistance to two of the most protected industries in industrial countries—coal and food—reveal that in both cases the global environment may benefit from trade liberalization, especially if complementary environmental policies are in place. That outcome is possible partly because production of those goods in industrial countries tends to be more pollutive than elsewhere. Moreover, reducing coal producer subsidies in Europe would raise the international price of coal, thereby discouraging its use elsewhere and so lowering global carbon emissions (Anderson 1992a, Steenblik and Coroyannakis 1995). The question of whether it is environmentally friendly to pursue broadly based liberalizations such as the Uruguay Round, as distinct from liberalization in individual product markets, requires large-scale formal global modeling analysis that has not yet been attempted. Even if quantitative estimates of the various key environmental effects were available, a formidable task would remain in valuing those pluses and minuses and comparing the net value with the conventionally measured economic welfare gain from trade liberalization.

Nor need the risk of environmental damage from transport activity increase with trade reform. The lowering of import barriers to processed primary products, for example, would allow more raw materials to be processed in resource-rich countries, reducing the bulkiness of shipments. And if there
are negative externalities associated with shipping itself (such as the risk of oil spills), a more efficient course of action rather than reducing trade generally would be to ensure shippers pay more of the full cost of their activity (say, through an international agreement requiring a minimum standard of double hulls on oil tankers).

What of the argument that the opportunity for capital outflow breeds pollution havens abroad and thereby reduces the development of environmentally friendlier production technologies in countries with higher environmental standards? Some observers have argued that the opportunities for such innovations are so great that raising environmental standards could boost rather than retard a country's economy (Porter and van der Linde 1996). But that argument begs the question of why such investments would not have been made in an open economy without the imposition of stricter standards (Palmer, Oates, and Portney 1996). In any case there is little empirical evidence to suggest that raising standards stimulates innovation, just as there is little theoretical or empirical support for the notion that raising standards has a significant impact on the competitiveness of firms in industrial countries or on their decisions to invest in developing countries (Jaffe and others 1995, Wilson forthcoming).

The GATT, the WTO, and the Environment

How "green" are the GATT's rules, how have they been adapted over time, and should they be altered further? From the outset the GATT has been a conservationist institution in the sense that its purpose is to reduce trade barriers and thereby the inefficiency in the use of the world's resources. The heart of the GATT, agreed to by twenty-three original contracting parties in 1947 and since then by another hundred or so countries, is the nondiscrimination requirements of Articles I and III. These articles obligate parties to treat imports from any GATT contracting party no less favorably than other imports.
(the most favored nation requirement) and no less favorably, after border taxes are paid, than similar domestic products (the national treatment requirement).

Article XX provides exceptions to these general rules, however, including provisions for some environmental regulations. Specifically, parts (b) and (g) of Article XX allow trade restrictions “necessary to protect human, animal, or plant life or health” and “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption,” subject to the requirement that such restrictions “are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade.” This article has been interpreted to mean that the measure must be primarily for a conservation purpose (rather than for a mixture of motives) and must be necessary in the sense of being the least GATT-inconsistent measure available. These provisos have ensured that the article has been rather narrowly interpreted, which is partly why some environmental groups have felt that further greening of the GATT is required (Charnovitz 1991, Esty 1994). But there is nothing in the GATT that prevents a country from adopting the most efficient measures to offset environmental externalities, which typically are associated with production, consumption, or disposal activities. Since trade itself is almost never claimed to be the root cause of an environmental problem, GATT supporters traditionally have seen little need to consider trade measures as part of the solution to environmental problems.

When widespread public interest in trade and environmental issues first surfaced in industrial countries in the late 1960s and early 1970s, concern focused mainly on industrial pollution within and between neighboring advanced economies. The foreign trade and investment issues raised at that time were centered on how the imposition of stricter pollution standards at home than abroad might damage the international competitiveness of the home country’s firms, and how to avoid such damage through border protection measures.
Where the environmental damage caused by production is purely local, the calls by disadvantaged firms for trade restrictions or subsidies to offset the decline in their international competitiveness because of standards being raised has no economic logic: such assistance would tend to offset the desired effect of limiting by-product pollution. Nor is it reasonable to conclude that other countries are engaging in "eco-dumping" if the imports that they are able to supply are produced with laxer environmental standards, if those lower standards are consistent with the preferences and natural resource endowments of the exporting countries (for example, because those countries are poorer, less densely populated, or less urbanized). Even so, claims for protection against eco-dumping have political appeal and may have resulted in import barriers or export subsidies being higher than would otherwise have been the case in advanced economies.

Leading up to the United Nations Conference on the Human Environment, held in Stockholm in June 1972, the GATT Secretariat produced a background paper on the issue (GATT 1971) and established a Working Group on Environmental Measures and International Trade. But no significant changes to the GATT occurred during the Tokyo Round as a result of these concerns being expressed, and it was two decades before the working group met for the first time.

Trade policy actions are more likely to occur—and to be more difficult to dismiss as inappropriate—when environmentalists view particular kinds of damage to the environment as unacceptable regardless of the country in which the damage occurs. This case is even more problematic if the damage is not just psychological (as with animal rights) but also physical, for then the relocation of production to a country with laxer environmental standards may worsen animal welfare, or the environment at home, in addition to reducing the profitability of the home firms. The U.S.-Mexico dispute over the use of dolphin-unfriendly nets for tuna fishing again comes to mind. In that case the GATT dispute panel ruled against the U.S. ban on imports of tuna from Mexico, partly because the ban did not discriminate according to which type of net was used. That kind of discrimination is difficult to
achieve efficiently because what is considered objectionable is an aspect of the production process rather than the final traded product itself.

Had the GATT panel ruled in favor of the tuna import ban by the United States, it would have set a major precedent. It would have opened a potentially huge loophole in the GATT for any country unilaterally to apply trade restrictions as a means of imposing its environmental standards on other countries. Such a loophole would work against the main objective of the multilateral trading system, which is to provide stable and predictable nondiscriminatory market access opportunities through agreed rules and disciplines and bound tariffs on imports. This is yet another reason why calls to amend Article XX of the GATT to include environmental protection as an acceptable exception to the nondiscrimination principles of Articles I and III should be resisted.

_Environmental provisions in the Uruguay Round agreements_

The current wave of public concern for the natural environment, leading up to and following the United Nations Conference on Environment and Development held in Brazil in June 1992, is much more intense, more widespread, and likely to be sustained and to affect a much broader range of countries and products than was the case until the late 1980s. The Uruguay Round agenda was set by 1986, before the current wave had built up, so the trade-environment issue was not a separate item for negotiation. Nor was there an environmental impact assessment of the Round as a whole. However, the Working Group on Environmental Measures and International Trade that was formed in 1971 was activated for the first time in 1991 and has met frequently since then. In addition, several Uruguay Round agreements contain provisions that relate to the environment and build on articles in the GATT.
The most fundamental environmental provision in the Uruguay Round is in the preamble to the agreement to establish the World Trade Organization, which refers to the WTO's objective as enabling all contracting parties the maximum opportunities for:

expanding the production and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.

To give initial effect to that objective, a decision was made on trade and environment by ministers meeting in Marrakesh in April 1994 to sign the final act of the Uruguay Round. The ministers agreed to establish a Committee on Trade and Environment to report to the first biennial meeting of ministers (in December 1996 in Singapore). The other main features of the Uruguay Round agreements with environmental provisions relate to technical barriers to trade, sanitary and phytosanitary measures, and the agreements on subsidies and countervailing duties and on trade-related intellectual property rights (see Anderson 1995 for details). Overall, the trade liberalization resulting from the Uruguay Round will almost certainly conserve global resources, by allowing countries to specialize in producing more of what they do best. Whether it will also reduce environmental degradation rather than damage the natural environment is an empirical question that has yet to be fully answered, but the answer is more likely to be in the affirmative the more countries establish enforceable property rights and implement optimal environmental policies.

The GATT, the WTO, and multilateral environmental agreements

The other way in which trade policy is being called upon to help achieve environmental objectives is as a carrot or stick to entice countries to sign and abide by multilateral environmental agreements. As mentioned above, this argument may have slightly more validity, but great care is needed in drawing
out its policy implications. In the case of combating global environmental problems such as ozone
depletion or climate change, the free-rider problem arises. One of the more obvious and possibly more
cost-effective ways to reduce the free-rider problem is to write trade provisions into the agreements, as
was done in the 1987 Montreal Protocol on reducing the use of CFCs and halons to slow ozone
depletion. To date no GATT contracting party has formally objected to that use of trade policy. Nor
have they objected to the bans on trade in ivory and rhino horn and tiger products that are part of the
Convention on International Trade in Endangered Species, or to the trade provisions in the Basel
Convention on trade in hazardous wastes. Conflicts may well arise in the future, however, if trade
provisions are drafted into more contentious multilateral environmental agreements (say, an attempt to
impose a global carbon tax). That is why this matter figures prominently on the agenda of the new
WTO Committee on Trade and Environment. Discussions on trade provisions and multilateral
environmental agreements in the GATT and WTO have centered on the idea of providing waivers on a
case-by-case basis. Recently the idea of providing an “environmental window” for multilateral
environmental agreements within the GATT exceptions clause (Article XX) has also been advanced.

To help assess the appropriate role for trade policy in multilateral environmental agreements, it
is helpful to recall that supporters of trade liberalization and of environmental protection share a
common goal: to improve social welfare. They also share a common problem: the need to foster
multilateral cooperation to fully achieve that objective, because in each sphere (the economy, the
environment) there is considerable and increasing interdependence among countries. But the two
groups differ in the important respect that supporters of liberal world trade have understood its virtues
for two centuries and have been active for more than fifty years in building institutions such as the
GATT and the WTO to help achieve their goal. Widespread concerns about the environment, on the
other hand, are relatively new, and supporters of environmental protection only recently became
significant players in international policy arenas.
Understandably, supporters of liberal trade and the GATT and the WTO resent the encroachment of these “new kids on the block” onto what they perceive as their hard-won territory, especially when they believe that reducing trade barriers is likely to be environmentally friendly and consistent with sustainable development in the long run because it allows the world to use its resources more efficiently. But advocates of greater environmental protection are equally frustrated that international agreements as important as those resulting from the Uruguay Round can be implemented without being subject to environmental impact assessments or environmental safeguards.

Clearly there is scope for greater understanding and altered strategies on both sides. More than that, there is the distinct possibility that, by working together, both groups' objectives will be further enhanced—a win-win outcome. Some observers believe that it may ultimately require a world environment organization to set rules, incorporate existing international environmental agreements and negotiate new ones, monitor compliance, and settle disputes over environmental policies—in the same way that the GATT has presided over trade rules and policies for the past five decades (Esty 1994).

The advantage of a world environment organization for liberal traders, Esty argues, is that such an organization could redirect environmentalists' attention away from the use of trade measures and toward ensuring the implementation of more appropriate policy instruments for achieving environmental objectives, allowing both sets of policies to more effectively contribute, in mutually supportive ways, to the common goals of sustainable development and improvement in the quality of life.

However, a world environment organization is unlikely to be created in the near future, partly because governments in many countries are under pressure to downsize and some have a growing mistrust and even hostility toward international bureaucracies. In any case a world environment organization, like the International Labor Organization, the International Standards Organization, WIPO, and other standards-setting international organizations, would lack the teeth to ensure
enforcement of agreements. Moreover, the issue of whether the rulings of the WTO or a world environment organization would have precedence would need to be resolved. Theory suggests that where the objectives of the two groups are in conflict, achieving the optimal welfare-maximizing outcome requires both to compromise somewhat (Corden 1995).9

Thus the trade policy community needs to be involved in the negotiating of multilateral environmental agreements that are likely to include trade provisions, and to develop criteria by which WTO members can assess in advance the extent to which trade restrictions within such agreements are acceptable. The relevant criteria, some of which were enunciated clearly at the United Nations Conference on Environment and Development in Brazil, include the following. First, it is important to ensure that trade provisions are strictly necessary, in the sense that there are no alternative, more effective instruments than trade restrictions, and they need to be effective in achieving the environmental objectives involved. Second, where trade instruments are required in the absence of less costly policy measures, they should be used only in proportion to the size of the associated environmental problem and should be the least trade restrictive measure available. Finally, the measures ought to be transparent and not protectionist in impact, and where possible be consistent with both the GATT principles of nondiscrimination (most favored nation and national treatment) and key environmental principles such as the polluter pays and the precautionary principles. If those conditions are met, WTO members would be unlikely to object to the use of trade measures in multilateral environment agreements (witness the absence of objections by GATT contracting parties to the trade provisions in the Montreal Protocol and the Convention on International Trade in Endangered Species). Hence even the possible need to use trade provisions in multilateral environmental agreements does not provide sufficient reason to amend GATT Article XX to allow in the list of exceptions the use of trade measures for environmental protection.
What Should Developing Countries Do about These Developments?

The demands for greater harmonization of domestic policies for competitiveness reasons, coupled with the greening of world politics (not to mention the growing interest in worker and other human rights beyond national borders), are likely to put the WTO and trade policy under pressure to perform tasks for which they were not designed and are not well suited—and at a time when the WTO needs first to consolidate its role in the world and ensure the implementation of the Uruguay Round before moving into these more thorny issues that are only peripherally connected with trade. 10

The pressure on the WTO to become more entwined with environmental issues is and should be of considerable concern to developing countries. The reason is not so much that they may be required to impose higher environmental standards in order to avoid seeing trade barriers raised against their exports. In fact, the competitiveness of some industries in middle-income countries with mid-level environmental standards may well be enhanced if low-income countries with low standards were required to raise their standards more than them to reach minimum acceptable levels. Even the negative direct effect for low-income economies of having to raise their standards could be offset somewhat by a terms of trade improvement if many such countries were to raise their standards simultaneously. Still, people in developing countries are suspicious of the motives of high-income countries, and object to what they perceive as social imperialism and a denial of their national sovereignty.

While developing countries are not being singled out for environmental issues, the fact is that environmental standards tend to be lower in developing countries simply because they are poorer. That, together with the fact that their comparative advantages often are in natural resource- and pollution-intensive industries, means that those countries are vulnerable either to being pressured to enforce stricter standards or to facing less market access for their exports to countries with stricter standards. Furthermore, should the use of trade policy to try to harmonize standards upwards lead to trade
retaliation and counter-retaliation, the end result could be a weakening of the multilateral trading system on which developing countries are increasingly coming to depend as they liberalize their economies. One possible consequence is that developing countries could seek refuge from anti dumping duties through association with or accession to the European Union or the North American Free Trade Agreement, where they are more likely to be compensated for promising to raise their standards over time. In such cases any net gain they might enjoy could well be at the expense of excluded developing countries.

But since the entwining of environmental issues with trade and investment policy is more likely to tighten than to disentangle in the foreseeable future, the question arises as to how developing countries ought to respond. One response is to point out that industrial countries had lower standards at earlier stages of their development and that, since developing countries have contributed a disproportionately small amount per capita to global environmental problems such as the greenhouse effect, they should be compensated for contributing to their solutions rather than have that contribution demanded of them under threats of trade sanctions. Compensation would be even more justified in cases where industrial countries are demanding responses by other countries to reduce the psychological international environmental spillovers mentioned earlier.

Another response by developing countries could be to disseminate more widely the sound arguments for not using trade-restrictive measures to achieve environmental objectives and hence for not amending Article XX of the GATT to allow trade discrimination for environmental purposes. Those arguments include:

- That differences in standards are a legitimate source of comparative advantage insofar as they reflect differences in resource endowments and societies' preferences and ability to afford the good things in life.
- That standards rise with per capita income and liberal trade promotes income growth.
• That theory and empirical evidence provide little reason to expect that the raising of standards in industrial countries will contribute significantly to costs of production and hence to trade and investment patterns, nor that downward harmonization of standards (a "race to the bottom") is occurring.

• That if freer trade were to worsen welfare because of inappropriate environmental policies in some countries, nontrade measures such as labeling ("dolphin-friendly tuna") would be more cost-effective than trade policies because they allow consumers to exercise their preferences through the market.

• That pressure on developing countries to raise their environmental standards could be used by protectionist groups in those countries to argue against their government's export-oriented development strategy.

• That the GATT rules-based multilateral trading system is threatened by the risk of environmental groups being captured by traditional protectionist groups in countries with high environmental standards, and will be at further risk if GATT Article XX is amended to allow in its list of exceptions the use of trade measures for environmental purposes.

More empirical analyses to support some of these arguments are sorely needed. The experiences of the Uruguay Round and of the Intergovernmental Panel on Climate Change made clear that empirical studies are far more powerful than abstract arguments in focusing attention on the need for policy reform and the shape it should take. Those quantitative exercises have provided the world with a suite of multisector, multicountry models that are capable of being modified to also estimate the linkages between trade, resource depletion, and environmental degradation. Efforts are now being made in that direction, but there is great scope for further, high-payoff research in this area.

Such forward-looking modeling requires the inclusion of endogenous behavioral relationships not only for private households and firms but also for governments, so as to capture not just the demographic transition but also the transitions in trade and environmental policies that typically
accompany per capita income growth. Government behavior needs to be included in the base case not to suggest that policy choices are inevitable but rather to represent what would happen if no further action is taken. Against that base case various alternative cases can be compared, with a view to using the results to convince governments of the wisdom of choosing a different set of policies.

There are also numerous avenues for more micro-empirical case study analysis. Available evidence suggests that the effect of higher environmental standards on production costs of firms in industrial countries, and hence on their trade, has not been great (see Jaffe and others 1995). To what extent has that outcome been because the standards have been raised only once a more environmentally friendlier technology was about to become available? How do those small cost increases compare with the costs that would be incurred by producers in developing countries if they were required to reach similar (or even lower) standards? And to what extent is the finding of little effect on trade patterns from raising environmental standards, reported in Tobey (1990) for example, due to the fact that trade barriers were raised in the country with higher standards to offset any decline in its firms' international competitiveness? Is the evidence presented by Radetzki (1992) and Grossman (1995) of an inverted U-shaped relationship between per capita income and emissions supported by larger and more systematic cross-country and time series studies? Is there any evidence of competitiveness-driven downward harmonization of environmental standards (a "race to the bottom")?

Helpful though such analyses would be, more dialogue and compromise between high-income and developing countries is likely to be needed. One approach would be for developing countries to commit themselves to enforcing minimum standards and to raising those standards over time according to a specified schedule. In return, the remaining barriers to their exports to OECD markets would be gradually reduced and vocal interest groups in high-income countries would be less able to deny that improvements in environmental standards are positively related to income and trade growth. Such an approach would be using trade policy as a carrot rather than a stick. Likewise, if developing countries
were seen to be enforcing their existing (or higher agreed minimum) standards especially effectively on their foreign investors, concerns about capital outflows to pollution havens would be less justifiable. Alternatively or additionally, developing countries could transfer the onus back to countries with high standards by insisting that their firms accede to the same high standards when they invest in developing countries as they do in other industrial countries (thereby ensuring more importation of environmentally friendlier technologies). And anxiety over deforestation could be reduced if developing countries were able to demonstrate that they can police restrictions on felling and are prepared to do so in return for adequate compensation in the form of greater access to industrial country markets or aid (for example, through the Global Environment Facility administered by the World Bank).

A more controversial suggestion has been made by Rodrik (1994). He believes that a case can be made for countries with high standards to take action against a trading partner if trade with that country violates a widely held social standard (that is, one that is accepted by export and consumer interests in those countries as well as the aggrieved import-competing producers and environmental or labor groups). This argument rests on the premise that an erosion of confidence in the fairness of the trading system may ultimately be more costly to the world economy than the action against the offending trading partner. Rodrik suggests that the Safeguards Agreement of the Uruguay Round could be broadened to allow a “Social Safeguards” clause whereby in such cases a country could restrict the offending imports and compensate the trading partner. Rodrik recognizes that this strategy could do more harm than good (not least because it would formalize a link between trade policy and social standards). Even so, he argues that its merits need to be weighed against the other options available to developing countries to minimize the damage from the encroachment of social issues into the trade policy domain. However, the sobering history of abuse of the GATT’s other safeguards clauses leaves little room for enthusiasm for this proposal to amend the Uruguay Round’s Agreement on Subsidies and Countervailing Measures (Finger 1995).
Finally, what principles ought to govern the design of trade policies and trade-related environmental policies to ensure equitable and sustainable development? Several have been mentioned above in passing. Even if developing countries were simply to discuss a list of such principles with industrial countries, the resulting dialogue may itself be productive in diffusing some of the concerns expressed by environmental groups. The Asia-Pacific Economic Cooperation (APEC) group, with its diffuse but relatively small membership, provides an obvious forum for such discussion before the much larger WTO membership debates the issues. In the same spirit, APEC might also begin to monitor trade-related environmental measures as part of its overall compilation of trade impediments in the Asia-Pacific. In addition, it might actively seek, as a priority in its trade facilitation and liberalization initiatives launched at Bogor in November 1994, the removal of trade policies that incidentally harm the environment—again, providing a regional win-win example for what might eventually be achievable globally through the WTO.
Notes

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1 Radetzki (1992), Grossman and Krueger (1993), and Grossman (1995) report evidence supporting the claim that the demand for implementing and enforcing pollution abatement policies is income-elastic. These studies suggest that an inverted U-shaped period of environmental transition may be commonplace, with pollution per capita initially rising with income but subsequently falling as stricter environmental policies are implemented and less-polluting technologies are introduced. See also Deacon and Shapiro (1975) on the correlation between income levels and voter attitudes toward environmental priorities.

2 Similarly, if as they grow economies were to institutionally shorten working hours per week, raise wages for time worked outside those hours, or otherwise increase the cost of labor time in attempting to raise labor standards, that would speed the transformation of those economies’ comparative advantages away from labor-intensive activities. If those institutional changes mainly affected unskilled labor, the competitiveness of developing countries in unskilled labor-intensive products would strengthen even faster (Krueger 1996).

3 Some would argue that psychological spillovers are less worthy of consideration than physical spillovers, not least because they are less measurable, less objective, and hence offer more scope for environmentalists to be ‘captured’ by traditional protectionists. Others would counter that there is so much uncertainty about the extent and effects of physical spillovers that they too are subjective and hence are qualitatively no different from psychological spillovers. Nor is there any reason a priori to presume that one spillover is more important than the other in some ‘willingness-to-pay’ sense.

4 Even the threat of trade restrictions can be environmentally counterproductive. The talk of European import bans on tropical hardwood logs (together with tariff escalation on timber product imports) has encouraged Indonesia to ban log exports. But since felling and timber-product exports have been allowed to continue, this policy has simply lowered the domestic price of logs and thereby raised effective assistance to Indonesia’s furniture and other timber-using industries to extremely high levels (GATT 1991, p.127). With lower log prices and lower-quality saw-milling techniques than in importing countries, it is not surprising that less of each tree is now used and little reduction in logging has been observed since the log export ban was introduced.

5 The ban on ivory trade again provides a case in point. By lowering the value of elephant products, the ban reduces the incentive for rural Africans to tolerate elephants trampling their crops and so ultimately could result in more rather than less culling of elephants in some areas. In other areas with poor meat storage and transport facilities, the ivory trade ban has reduced the value of the animal so much that it is no longer profitable to cull the herd. An unfortunate consequence is that bushland in national parks is being decimated by the increased number of elephants, which is endangering other species (Barbier and others 1990).

6 The theory can be made even more complex by allowing for imperfect competition and strategic environmental policymaking (Ulph 1994).

7 That does not mean, however, that developing country firms would find it inexpensive to conform to the high environmental standards of industrial countries. The reason is that local firms in developing countries may be using older, less environmentally friendly technology that would be more costly to adapt. Indeed, the cost of conformance in industrial countries may be relatively low simply because the raising of legislated standards to some extent follows rather than precedes the development of cleaner technologies. That has been cited as one reason for the relative ease with which agreement was reached on reducing the use of ozone-depleting substances under the Montreal Protocol (see Enders and Porges 1992).

8 See, for example, Baumol (1971) and Siebert (1974). Such protection from import competition cannot be justified on economic efficiency grounds (nor for that matter on environmental grounds) because the
environmental policy is aiming to eliminate an unjustifiable (implicit) subsidy arising through undervaluation of environmental resources, rather than to add an unjustifiable tax (Snape 1992).

9 It is therefore somewhat surprising (especially since it is part of a trade agreement) that the side agreement to the NAFTA gives considerable priority to environmental concerns relative to trade concerns.

10 The suggestion has been made, for example, that the WTO become active in monitoring and enforcing agreed minimum social standards. That presumably would involve environmental and labor standards being reviewed as part of the WTO's Trade Policy Review Mechanism. Since that mechanism is already stretched to its limit in covering even the major trade policies of contracting parties, such an addition to its workload would require a substantial boost to its resources—not to mention the extra burden on those employed in national capitals when the reviews are under way. An even greater potential increase in workload would result for the WTO's dispute settlement mechanism.
References


