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Policy Forum

Introduction: Linking trade and the environment

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The second part of this special issue on trade and the environment is a policy forum based on a paper by Jagdish Bhagwati that argues strongly against 'burdening trade treaties and negotiations with social agendas'. The paper is not just a critique of the environmentalists' case for linking trade and the environment in the millennium round of the WTO. It is also the rationale for a number of positive proposals including:

- mandating multinational corporations to apply the environment standards of their home countries wherever they operate;
- extending voluntary labelling schemes; and
- strengthening intergovernmental organizations whose brief is to address items on the social agenda (UNICEF, UNHCR, ILO, and UNEP).

Reactions to the paper were invited from a number of distinguished economists specializing in either environmental or development issues. Bhagwati's arguments against linkage are questioned in a number of ways. Few have difficulty with the proposition that local environmental problems should be addressed locally but, as Cooper points out, the problem lies with transboundary environmental externalities (spillovers) and the provision of international environmental public goods. For these issues the case against linkage is argued to be much less clear cut. Repetto makes the point that where the first-best solution to these problems-targeted multilateral environmental agreements is not available, the second-best solution may not be to liberalize trade anyway. In these cases linkage can help. Xepapadeus notes that where countries are asymmetric in terms of their fundamentals there exist strong incentives not to cooperate, and considers whether trade policy can help with the design and enforcement of multilateral environmental agreements. He suggests that one way of dealing with this problem would indeed be to connect multilateral trade and environmental negotiation. Zagonari goes further to indicate the conditions in which welfare will be enhanced by bringing environmental issues directly into trade negotiation.

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Bhagwati's specific recommendations also attract attention. His proposal to mandate multinational corporations to adopt the environmental standards of their home country when they operate abroad has some appeal. Arda, for example, goes further, arguing that multinational corporations be mandated to establish comprehensive uniform standards for all input suppliers. There is, however a clear presumption that multinational corporations are based in the developed countries—or at least in countries whose environmental standards are 'higher' than in other countries where they operate. If this is not the case mandating multinational corporations in this way is not feasible—a point not lost on Cooper. Barrett's introduction to this special issue reviews the case for harmonization in more detail.

The labelling argument is less contentious. As Cooper remarks, few would argue against improving the flow of information to consumers by labelling that includes details of production and process methods. But, as Lohani and Ghosh remark, there is real scope for using this as a barrier to trade. They note that there are a number of articles in the GATT that could be used to protect against the abuse of ecolabelling, but note that in practice developing countries may have considerable difficulty defending their interests against aggressive ecolabelling.

Bhagwati makes the very important point that if there are 'social' issues connected with trade liberalization that require global coordination, then the solution may not be to weaken the WTO, but to reinforce the intergovernmental organizations set up to address these issues, UNEP amongst them. Griffin agrees that UNEP has the potential to act as a forum for global negotiations on environmental issues. However, given the systematic efforts of the international community to pull the teeth of that organization, it is hard to see it playing such a role without a very significant infusion of resources. Indeed, Arda points out just how difficult it would be to achieve this. Newell, Whalley, and Zissimos make the case for something slightly different. They propose the establishment of an entirely new organization, a World Environment Organization. They argue that it should have the capacity to internalize global environmental externalities by setting up markets for trading environmental goods. Existing multilateral environmental agreements, such as the Kyoto protocol of the Framework Convention on Climate Change, are already moving in the same direction. But there would certainly be advantage in a mechanism for coordinating both the multilateral environment agreement and their interface with other multilateral agreements.

The demonstrations at the WTO talks at Seattle may well turn out to be more important for the issue of trade–environment links than economic arguments. But as this forum shows, although there may be some forms of linkage that will be welfare enhancing, the real problem is to build the mechanisms and institutions needed to deal with international environmental externalities and the provision of international environmental public goods. If one effect of the protests at Seattle is to hold up trade negotiations until the international community has given such mechanisms and institutions their serious attention, they will have been helpful.

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On thinking clearly about the linkage between trade and the environment

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1. Introduction

The question of linkage between trade and environmental issues, indeed between trade and labor standards and between trade and human rights, has reached center stage as several NGOs (non-governmental organizations) have demanded that the WTO formally incorporate such a linkage through, for example, a social clause on labor standards in WTO and through as yet unspecified mechanisms as far as environmental standards are concerned.

Within the environmental arena, the GATT itself, and now the WTO (GATT's successor), have been the focus of much agitation by environmental groups that see this trade institution as an obsolete obstacle to environmental progress. The anti-GATT feeling materialized first when the celebrated dolphin–tuna decision was announced, declaring Mexico the winner in the dispute over the US legislation that sought to proscribe access to Mexican tuna caught in purse seine nets. A throwback to that sentiment occurred recently when the shrimp–turtle panel decision also went (on a technicality) against the United States over its legislation that mandated unilaterally a denial of access to shrimp harvested without the use of TEDs (turtle excluding devices).[1]

These cases reflected one of a number of different ways in which the work of the WTO interfaces today with the environmental questions and agendas. The main and unifying essence of both cases was the question: should suspension of market access be allowed *automatically* to a nation which objects *unilaterally* (i.e., without obtaining a multilateral consensus) to other countries exporting products to it when those products are made by using processes that the nation objects to on 'values' grounds?

In the dolphin–tuna case, the US government objected to the use of purse seine nets in harvesting tuna because these nets kill dolphins (which Americans have voted to protect, presumably because they are 'cute' and a great draw at zoos) gratuitously and also cruelly. In the shrimp–turtle case, the objection was similar: it related to what are called in GATT jargon PPM

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[1] In each of these cases, there have been more than one panel finding; in the latter case, the new appellate court also ruled after the initial panel finding and its ruling appears to have reversed the PPM jurisprudence in and since the dolphin–tuna case.

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objections, i.e., objections to process and production methods. Similar cases can arise if nations object similarly to the importation of, say, chickens produced in batteries, or hogs produced in crowded pens, or fur harvested from animals caught in leghold traps, and many more instances of what some nations, but not all or most, consider to be 'values'-wise unacceptable PPMs.

But while these cases are the subject of high-profile, high-octane attacks on the GATT and the WTO, and they raise questions which *necessarily* involve an interface between the WTO and the environmental groups, there are other issues which are equally the object of demands by environmental groups on the WTO but, in my view, are not necessarily ones that belong to a WTO or trade-treaty agenda. In particular, I believe this to be true of the demands for harmonization or upgrading of environmental standards in developing countries if they wish to export products, even when the pollution involved is 'local' and has no global environmental externalities such as with global warming or ozone layer depletion or acid rain.

Unlike in the popular debate, which tends often to blur necessary distinctions between different types of problems, and where the environmentally sensitive lobbies often are unwilling to make the distinctions anyway because they would weaken coalition-building for political action, I propose here (in a brief essay focused on 'trade and the environment' linkage) to make these distinctions very sharply in the next section.

In particular, using these distinctions, I set myself the task in this paper of providing a road map which is aimed at dividing the current 'linkage' demands between trade (whether institutions or negotiations) and environmental questions into those that are 'necessary' and those that are not. In the latter case, as when trade access is used as a way of pushing environmental agendas abroad on altruistic grounds, I will also propose *alternative* ways in which such agendas may be pursued outside of the trade context and institutions (e.g., in UNEP rather than in the WTO), thus raising the question of what I like to call the design of *appropriate governance* (i.e., what agenda to pursue where).

2. A necessary taxonomy

I first provide a necessary taxonomy so that the issues concerning linkage of trade and environmental questions can be analyzed with clarity and optimal policy solutions designed with the aid of such analysis. This taxonomy can be built essentially around two sets of distinctions:

(i) whether the environmental damage or pollution is 'domestic' or 'international'; and
(ii) whether the country addressing it follows egotistical (i.e., its own advantage) or altruistic (i.e., others' advantage) objectives.

The former distinction was introduced principally in the 1992 *GATT Report on Trade and the Environment*, though it must have been used simultaneously by many researchers, I am sure. If I pollute a lake in India which only (even then just a few) Indians have heard of, the pollution is of concern to Indians at risk. But if I pollute a river that flows into Bangladesh, or produces acid rain in the United States which goes across and hurts Canadians, the problem is clearly international. When global

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warming and ozone layer depletion are involved, the problem is actually global. The international/global problem is clearly one where externalities are at stake unless a 'market' is already in place to internalize these externalities (e.g., by having tradable permits, suitably devised).

The latter distinction is appreciated by few, including economists who write about globalization, about fixing the world trading system, etc., without any real understanding of the complexity of the issues at hand.[2] Thus, we must distinguish between, say, objecting to the import of child-labor-produced carpets from India because we object to being put at a competitive disadvantage with other nations because we prohibit, and they allow, cheaper child labor, and objecting to such imports instead with a view to reducing or eliminating the use of child labor abroad because we think that our cessation of such imports will help bring that about. In the former case, we are 'egotistic': we are simply interested in maintaining our competing industries. In the latter case, we are being 'altruistic' in thinking of children's welfare even though they are abroad in other nations and we are using consequentialist ethics, hoping to effect change abroad. The latter is therefore a matter of seeking to advance social agendas abroad; the former is a matter of protecting our industries, for our own benefit. In assessing the demands for prohibiting the imports of products made with child labor, our evaluation of the proposal and the design of appropriate policy instruments will clearly have to be different, depending on which of these two motivations we are confronting.[3]

Once, then, these two sets of distinctions are made, we have four sets of problems: domestic environmental problems with egotistic and with altruistic objectives by nations; and international environmental problems with egotistic and with altruistic objectives again. In this paper, I devote myself to the domestic environmental issues: these are among the trickier ones, where a great amount of confusion reigns.

A digression: The *international environmental issues* are understood much better, including in their interface with the WTO's functioning: and I shall eschew a discussion of them here. Let me just say, in regard to them, that the interface with the WTO comes principally insofar as the MEAs (multilateral environmental agreements such as Basle and the Montreal Protocol) seek to use trade sanctions against defectors and against free riders, and that these two sets of nations, when WTO members, could claim WTO-defined rights against the use of such sanctions. These questions are not easy to settle, since we must raise questions such as: is the MEA efficiently

[2] Here, the culprits include my good friend, Dani Rodrik, and his publisher, the Institute for International Economics in Washington, DC, which has published yet other authors such as the political scientist I.M. Destler, whose knowledge of the economics of international trade policy questions seems to be exclusively based on reading what the institute brings out, advocating linkage to facilitate fast track renewal, and the start of the Millennium Round.

[3] In this paper, I cannot discuss these distinctions fully. A systematic and deeper analysis is provided in my and others' contributions to Bhagwati and Hudec (1996, vol. 1) and also in 3 chapters in section VI of my (1998) book, *A Stream of Windows: Unsettling Reflections on Trade, Immigration and Democracy*.

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and equitably designed;[4] if the scientific evidence in support of it is disputed, can you treat a nation that does not wish to join as a free rider when in fact it may simply be opting out of getting on to the bus? In this context, let me say that, while Kyoto is a useful step forward (though I share some of the misgivings about its design that the economist Richard Cooper expressed in his article in *Foreign Affairs* last year, and felt that Stuart Eizenstat's reply was lame, to say the least), I have been surprised that none of the models that I have seen seem to do the obvious if you know the domestic environmental scene in the United States. Let me explain.

- For the 'stock' problem, i.e., the damage done in the past, there must be a clearly defined responsibility for the polluters: this is a principle that has been accepted in the Superfund approach and in the torts claims addressed to past polluters for phenomena such as the Love Canal disaster. Why is it not accepted at the international level as well for past damage to the environment on global warming (principally, of course, by the developed nations)? The question then must be, not whether there is responsibility for past environmental damage, but how to assess it and the specific ways in which revenues resulting from the levy may be used in turn to reduce the global warming problem, e.g., by financing the creation of new environment-friendly technologies and their subsidized diffusion across the world.
- For the 'flow' problem, as to what to charge for emissions, the conceptually clear answer has to be to put all such emissions (net of absorption services through, for instance, one's forests) into the pot of world demand for such pollution and then to determine, with a suitable utility function defined positively on goods and services and negatively on pollution, the shadow price of a unit pollution. That would then define the cost which the nation must pay for its contribution to the global warming problem. Needless to say, that cost would be vastly higher for the rich countries than for the poor countries. Instead of doing this, the rich countries are opting for an international variant of the principle

[4] Thus, in relation to the Nuclear Proliferation Treaty (NPT) and Comprehensive Test Ban Treaty (CTBT), India refused to sign them because it did not accept the division of the world into the status quo of those who had nuclear weapons and those who did not, and backed instead a *universal* nuclear disarmament plan. The moral incoherence of the nuclear nations is manifest from Britain's condemnation of India's nuclear tests when Britain, an admirable nation in other ways, holds on for no reason whatsoever to its own nuclear stockpile and could instead make an important moral and effective gesture by bringing the great unilateral nuclear disarmament advocate Vanessa Redgrave (leader of the unilateral-British-nuclear-disarmament Campaign for Nuclear Disarmament (CND) movement) out of the mothballs and putting her in charge of a rapid unilateral destruction of Britain's stockpile! One might also note that the United States itself has not ratified the CTBT yet. The mere fact that a certain powerful group of nations, and its non-governmental organizations (NGOs) with their vast resources, compared to those situated in the poor nations, supports an MEA is no proof that it is equitable, free from power play that distorts priorities and burdens from an objective point of view, and therefore those who refuse to sign on to it are 'free riders' or 'rejectionists'. At least, we economists need to look at such claims with a cynical eye.

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> which we call in the United States the 'PSD' principle, i.e., prevention of significant deterioration. In plain English, this means that those who pollute a lot as part of the initial condition can get away with it: burdens are to be prorated more or less to marginal changes in pollution!

So, what we have therefore in the global warming debate is a cynical and virtual denial by the rich countries of the Superfund principle, whose implementation would hurt them, and an adoption of the PSD principle, which would help them. Not bad, indeed. As I read the Kyoto arguments and policy papers, it seems to me therefore that the developing countries have an intuitive sense of what I am saying above but no conceptual clarity or technical work to back it. Instead they talk inchoately about how the *flow* burden should be far less on them *because* the *stock* damage was the result of the developed countries and also because they are poor and hence should not be asked to bear any burden. But as soon as they do that, arguing their case on these grounds, they are shot at in the US Congress as countries that are doubly wrong because they wish to be free riders and are also guilty of trying to exploit the 'guilt' angle!

Again, one needs to consider whether, given the hostility manifest between the more vociferous environmentalists and free traders on many other fronts, it would not be wise to 'grandfather' the existing MEAs and to leave the contentious question of the WTO-compatibility of *future* MEAs to further consensus-building among the WTO membership: we may prudently decide that this was one major battle we could withdraw from. This is certainly an issue that the WTO must come to immediate grips with, preferably at some future multilateral trade negotiation that is likely to follow the failure to launch one in Seattle in December 1999.

3. Domestic environmental issues

So, let me turn to the purely domestic environmental problems, dealing first with the egotistical objective and next with the altruistic one.

Egotistical objective

Here, I deal with the following distinct aspects of the demands for 'greening the WTO':

Contentions

Contention 1: The WTO should allow importing countries to countervail 'social' dumping, i.e., when a product is produced with differential tax burdens in different countries and the exporting country has a lower tax burden. This is what I and T.N. Srinivasan (1996) call *CCII (cross-country-intra-industry) harmonization of tax burdens* (Bhagwati and Hudec, 1996, vol. I, ch. 4). Clearly, this is wrong. With different fundamentals, there is no good reason for such harmonization to occur or to be demanded. We may demand that every nation adopt a polluter-pay principle; but the pollution *tax*, for the same carcinogen in the same industry, will generally be *different*.

Contention 2: We nonetheless may object to others having lower tax burdens because that will result in a 'race to the bottom' that hurts our

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standards even if we do not care otherwise what standards others have on CCII basis. Therefore the WTO should allow countervailing duties to offset 'social dumping'.

Unlike the previous argument, this is theoretically a sound one. But it is an argument for a cooperative solution which will nonetheless not be characterized in general by harmonization. Besides, there can also be a 'race towards the top', as John Wilson points out in his paper on the subject in the Bhagwati and Hudec volume. The argument, besides, depends on capital taxation being suboptimal. Finally, the empirical evidence for such a race does not seem to be strong: (1) multinational corporations do not seem to respond to lower environmental burdens (not just because the differences between different locations are small, since these could rise) for a variety of reasons, including reputational ones (see the detailed discussion in Bhagwati and Srinivasan of the reasons why), though a couple of recent papers detect some elasticity of response to differential environmental burdens within the United States across states; and (2) the evidence that poor countries lower environmental regulations to attract MNCs is not plausible when democratic countries are involved: the competition for capital/MNCs is really through tax breaks, tax holidays, land grants, etc., all of which, most analysts believe, amount to a race towards the bottom in taxation that hurts the competing countries. Few democratic countries are going to offer facilities to pollute freely as a way of attracting MNCs.

So, for both Contentions 1 and 2, the Gephardt–Bonior–Gore type of demand for harmonization and/or legitimation at the WTO of countervailing duties on so-called social dumping seems to me to be not the way to green the WTO. We should resist such demands.[5]

Other solutions

Instead of the above, I recommend two other solutions:

(i) I have argued that MNCs must be asked by the home countries to adopt the home-country environmental standards when they go abroad. If they tend to do so anyway, as argued above empirically, then this *mandate* will not hurt and will buy environmentalists' approbation at very little deadweight loss (see Bhagwati and Hudec, 1996, vol. I, pp. 178–9). I think of this as a *mandatory code*, imposed by each home country, unlike the voluntary code approach discussed below which is *complementary*.

(ii) We can also go ahead with setting *voluntary labeling schemes* like the SA8000, the world's leading code today, which firms can sign on to and indeed several have recently. This defines conditions of work, etc., and includes independent monitoring. This means that all the signatory firms from every country would have to adopt the *common*, voluntarily agreed standards, whereas the mandatory Bhagwati-style national codes above would permit *differences* between firms across different countries.

[5] See, in particular, Gore (1992). Gephardt and Bonior are democratic leaders in the U.S. Congress and have proposed such actions.

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'Values-Related' PPMs

Next, there is the shrimp–turtle and dolphin–tuna type of problem. US consumers simply feel that the United States should be allowed to prohibit imports of such products, since they use morally objectionable PPMs (see also Bhagwati and Hudec, 1996).

Evidently, we cannot force such imports down people's throats. Indeed, economists are well aware of the legitimacy of PPMs as entering our utility functions: after all, the way you produce something is part of the characteristics of the vector that defines Lancaster-like a product. The problem is not that we free traders have not realized that PPMs are legitimate and must be dealt with,[6] but how do you deal with them when there is no consensus on that 'value'? Do you allow automatic unilateral shut-off of such products?

Here again, the 1992 *GATT Report*, correctly in my view, argued that the grant of automatic market access suspension rights in such ethical or moral or 'values'-related cases would be a slippery slope: how could you draw a line? Moreover, we do know that protectionist intent will occasionally underlie environmental legislation, often in the specifics of the design of the environmental regulation (as in the dolphin–tuna case and the Ontario–US beer can case). Are we simply to ignore that by saying an environmentally aimed prohibition on imports cannot be challenged at all?

Again, powerful countries would be able to indulge their 'values' but the weaker ones are less likely to be able to do so, since legal standing is given only to governments that must take into account the ability of the powerful countries to use punishments and inducements to advance their agendas. So the principle that virtue goes with power would be enshrined into the WTO's working, when, in fact, the WTO has been seen so far as a platform for the protection of the weak from the willfulness and self-indulgence of the powerful.

Therefore, again, I would say that the precise way in which the WTO deals with such values-related PPM problems should *not* be along the lines of automaticity or ill-considered proposals, such as Rodrik's, that an administrative procedure like anti-dumping be devised to ensure that the moral preference is genuine and widely shared, after which the imports should be shut off (as if the enactment of the turtle and dolphin legislation itself were not the expression of such a widely shared preference and as if an administrative body could sit in judgment over a legislative outcome).

Rather, they should proceed along the lines of *labeling* which itself raises a number of questions that UNCTAD has been particularly considering and which we know from US experience as well: e.g., who determines the label, how 'alarmist' or 'realistic' should it be, etc. Thus, in the hormone-fed beef case, the USTR Ambassador Barshefsky has suggested that it would be sufficient to label the US hormone-fed beef as 'Made in USA', since everyone knows that much of US beef uses hormones! Again, what are the problems for small producers in developing countries that have

[6] Rodrik, in his IIE pamphlet on globalization, argues as if we are so unmindful. But this is to betray ignorance of the extensive debate over the problem, including in the 1992 *GATT Report on Trade and the Environment*.

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few facilities for such labeling, etc.? But it is still the way to explore and go, giving consumers information and choice.

Equally, I think it is necessary to ensure that, if the WTO continues to object to the automaticity of such suspensions of access, as I believe it should, then the remedy, when a country has lost such a case and still wishes to maintain the import suspension and is unable to accept a labeling solution, should not be to slap on retaliatory measures (as the United States favors if recent examples in the hormone-beef and the banana cases reveal a trend), but rather to go for a cash compensation that reflects the gains from trade lost. There is no point in disrupting trade yet further; it is time that the economists weighed in on this aspect of the dispute settlement procedures and remedies.[7]

Other forms of linkage

I believe that the main ('egotistical') linkage questions of importance are the three I have listed and discussed above. But, in the classroom, we can certainly discuss other forms of 'linkage' (in the sense of an interrelationship), which have little policy salience in my view. Two can be cited.

(i) Say, I cannot use tariffs to exploit monopoly power. Then, I certainly can use other instruments (including pollution tax rates) to have a second-best improvement of my income through 'inefficient' but still welfare-improving exploitation of monopoly power. This was at the heart of the Bhagwati–Ramaswami–Srinivasan (1969), Kemp–Negishi (1970) and related discussions in the early and mid 1960s. Frankly, I do not think this sort of insight is particularly important in the trade and environmental interface discussion, any more than we want to get tied up worrying about dozens of possible policy instruments that may bear on trade indirectly. Cost–benefit analysis should suffice to say: think of other things! But I could be wrong; or perhaps, I should say: persuade me otherwise. (In fact, I should be personally happy as a scholar if I were wrong: after all, my own work in the 1960s helped define this linkage rigorously!)

(ii) Along the same line, scholars such as Brian Copeland have extended this type of argument to strategic interplay of environmental policies and to a demonstration as to how environmental negotiations that complement trade negotiations can improve welfare outcomes.[8] In a fine paper, Copeland (1997) takes egotistical governments maximizing utility. If tariffs are bound to zero, though each country has monopoly power in trade, each government then has an incentive to distort its environmental policy to manipulate the terms of trade in its favor. The country that imports the (only) environmentally dirty good in this

[7] See Bhagwati (1999a), contribution to Bhagwati (1999b).

[8] Without detracting from the importance of Copeland's analysis, I might mention that one of our Columbia students, Waseem Noor (1997), in a dissertation that was awarded 'distinction', developed precisely the Copeland-type argument in the context of labor standards. I must confess that my reaction then was the same as now: that the argument is analytically beautiful but has no empirical salience in my judgement.

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> model has then an incentive to stimulate the production of that good a little bit, in order to lower its world price, and thus to relax its environmental regulation a bit (relative to the first best, where the tax would just equal the environmental harm). The country exporting the dirty good has an incentive to restrict the production a bit to raise its world price, and hence to tighten its environmental regulation a bit (relative to its first best). Therefore, without a free trade agreement, each country would set its environmental tax equal to the marginal environmental harm in that country; but with the free trade agreement, neither does.

Hence, we can have further gains from negotiation, over environmental policy once the free trade negotiation is done. Both countries can change their regulation in the direction of the first best simultaneously, so that the terms of trade effects cancel out and both countries therefore are better off because both have moved to giving individual polluters the right incentives. But frankly, few developing countries have terms of trade to manipulate: they mostly tend to be price takers in world markets (as empirical-cum-econometric analyses by Riedel (1988) and Panagariya (1999) have plausibly argued). More important, I doubt if the Copeland-type argumentation really captures the spirit in which environmental regulations are set. I have seen no plausible evidence that the low environmental standards have been set by reference to trade-competitiveness considerations—the most extreme example being the case of abysmally low standards set by the former communist countries, which hardly traded at all. My view, rather, is that the low environmental standards, set for trade-unrelated reasons, are in fact being used to advance protectionist agendas by the high-standard countries: the Copeland-type argument is, in that view, turning the reality on its head!

Altruistic argument for linkage

But suppose that we seek linkage because of altruistic reasons, treating trade treaties and/or institutions as mere instrumentalities *via* which we hope to effect change in morally offensive practices abroad.

My main objection to the inclusion of such social agendas in trade institutions and treaties is that this amounts to trying to kill two birds with one stone: a recipe for missing both birds except in the fluke event where the two birds happen to lie on a common trajectory and Wonder Woman is hurling the stone into the sky with deadly force and accuracy.

We already know how the linkage proposed by President Clinton when he asked the Congress for fast-track authority divided the Republicans and the Democrats and was a factor in his loss of Congressional support for fast-track renewal. And, even if it had cleared Congress, you can be sure that it would have been a divisive North–South issue, as indeed it is. All this, of course, slows down trade liberalization, thus missing *that* bird. But I would contend that linkage makes you miss the *other* bird as well: the social agendas themselves get compromised. For, remember that when you take your moral agendas to the trade arena, the dominant players there are trade lobbies; and this context inevitably taints your program

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with the stench of competitiveness considerations. In fact, this distortion is very real: as many of us have observed, the objectionable PPMs that are currently specified in the social clause being proposed by the United States, France, and some other countries at the WTO are, unsurprisingly, those where the competitive developing countries are expected to be the defendants, not the developed countries that fear the competition. Thus, you have child labor in the clause. But there is nothing there about sweatshops or the treatment of migrant labor: the former would affect almost half of the US garment industry, while the latter would hurt deeply US agriculture if the occasional documentation of quasi-slavery on several farms using migrant labor is to be believed. So, the very choice of what you put into the social clause and what you leave out of it reveals the cynical reality that the moral face of this clause is a mask hiding the fear of competition. So, you devalue the morality of your social agenda and hurt the cause, thus missing the *other* bird as well.

Theory of economic policy

Linkage thus undermines both the freeing of trade and the advancing of our social agendas. We need another stone, or a number of pellets to aim at a number of birds. Of course, this is the economists' theory of economic policy: generally speaking, we have to match the number of instruments with the number of targets.

And we do have the possibility of fashioning new stones, as required. Thus, it is perfectly possible for us to pursue freer trade through WTO-led trade negotiations and treaties, while pursuing children's rights (including freedom from juvenile capital punishment) quite universally through UNICEF, child labor questions jointly between UNICEF and ILO, environmental improvement through UNEP, humane treatment of refugees through UNHCR, and so on. I have long proposed also the creation of a World Migration Organization to oversee the ethical and economic dimensions of immigration flows quite generally, repairing this great lacuna in the international superstructure today. By bringing impartial, symmetric, and systematic reviews of national policies in these areas, these agencies can bring moral suasion to bear in desirable directions, prodding nations into better behavior, thus spreading morally attractive agendas with universal appeal.

Moral and financial support of NGOs, in turn, can be important aids in mounting pressures for change, based on these impeccable and impartial reviews (as distinct from the biased and witless national reviews which, as with the State Department on human rights and USTR on unfair trade, concentrate on others while turning a blind eye to America's own failings). I am often told that the ILO, for instance, is toothless, its research incompetent, and its structure unproductive. Even if this were true, surely the answer for a superpower such as the United States is to open the jaws and put in the missing teeth by, if I may mix metaphors, putting our shoulders to the wheel.

Aid and technology transfer

Nor should we forget instruments such as aid and technology transfer.

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Thus, consider the recent WTO shrimp–turtle case to see how aid could well have solved a gratuitous conflict. When the WTO Appeals Court recently found against US legislation because it had, without prior efforts at negotiations, unilaterally excluded shrimps from countries which did not mandate the use of narrow-necked nets that would prevent turtles from being caught in them, the US environmentalist groups went ballistic against the WTO. But, surely, this is ridiculous. The fishermen in the plaintiff countries (India, Pakistan, and Malaysia, with Thailand joining the case but having no shrimp fishing in dispute) could have been outfitted with the desired nets by the United States, which valued turtles, at something like $50.00 a net at Wal-Mart. The issue would have been off the front pages and the evening news and the objectives of both freer trade and the turtle-protecting environmental groups would have been creatively reconciled at no social cost if only a half dozen aid-financed boondoggle economics conferences in Bangkok and New Delhi had been canceled and the moneys diverted to such a program.

The same might be said of technological assistance. We all know how the global warming treaty has been facilitated by the use of technological transfer to the developing countries by the United States and other OECD countries. But let me tell you how the Save the Tiger campaign might also be aided by ingenious use of technology to effectively supplement, if not substitute for, the use of trade sanctions. The danger to the tiger comes from the CITES-illegal demand for it in Chinese communities on the mainland and overseas because its organs are considered an aphrodisiac by them. But take Viagra now. It has of course swept America, which is no surprise. But if only this potent drug, which is surely more effective as an aphrodisiac and far cheaper than smuggled tiger parts, were made even more cheaply available by America's Environmental Protection Agency (EPA) and the US Agency for International Development (USAID) in Southeast Asia, we would help reduce the demand for tiger organs and thus help save the tiger from extinction.

So, to return to my main theme, we need to recognize and proactively pursue the numerous possibilities of fashioning alternative policies that are more cost-effective than burdening trade treaties and negotiations with social agendas as preconditions for the freeing of trade. We need to develop, and bring our citizens to embrace, a clear conception of what I like to call *appropriate governance,* i.e., how to accommodate creatively, while preserving the efficient pursuit of free trade, the different social or values-related agendas on the stage today. I submit that, instead of the intellectually lazy option of accepting the demands to pile everything on to the WTO and thus trying in a futile fashion to kill two birds with one stone, our politicians should be providing the leadership to argue forcefully and unequivocally that it is best to pursue (except when unavoidable interface exists) free trade and social agendas in different fora, with equal fervor.

Indeed, if I may end on a general observation of central importance, the pursuit of free trade, and indeed of economic reforms everywhere, is a moral agenda as well. For, without the prosperity that free trade and other reforms will engender, we can only wear our liberalism on the lapels of our

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jackets, not translate it into the reality that alone matters. So, free trade is not an evil force that must be contained by social agendas; it is itself part of our overall moral agenda. And, the pursuit of these different moral agendas, including better environment and respect for human rights, must be pursued appropriately, without sacrificing any one of them (except when this is totally unavoidable) by designing the tools of appropriate governance.

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'Being the environmental stick'—an improper role for international trade

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In spite of its rather restrictive title, Bhagwati's paper touches upon a number of important issues, many of which go beyond the mere linkage between trade and the environment. This brief note focuses on three such issues, (i) the nature of the Post Uruguay Round international trading system and current approaches to reforming it, (ii) the place of environmental policies and actions in this context, and (iii) international modalities for encouraging action in developing countries on *domestic* environmental problems.

1. The scope of rule making through international trade negotiations

The fundamental purpose of the successive rounds of international trade liberalization under the GATT was (perhaps simplistically), to increase total trade, GDP, and, consequently, the material welfare of the world as a whole through the reduction of tariff barriers. This process continues with a wider coverage after the inclusion of services, agriculture, and non-tariff barriers into the agenda. However, the results of the Uruguay Round and current discussions on the scope of international trade negotiations, imply a much more ambitious goal. In particular, developed countries, appear to be pursuing a radical reform of the system and not simply trade liberalization.

This reform, which began with the Uruguay Round, involves a 'shift from negative prescription to positive rule making' (Dymond and Hart, 2000), encompassing areas which, although linked to trade, have traditionally been the domain of domestic policies. Those who support the inclusion of environmental and labour policies provide justification not only by their links with trade, but also on values and moral grounds. The presumed intention is to improve not only material welfare, but also the quality of life (one's own and that of others). In order to participate fully in international trade, governments are required to adopt and implement specific policies, practices and procedures and, one might add, eventually values, in areas related to trade. The new system, which is often described as 'rules-based', comprises not only trade rules, but also rules with a crucial influence on domestic choices, policies, and actions, and often with

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the characteristics of new forms of protectionism. Some of the controversy between developed and developing countries over the new trade round can be attributed to this change. It is a legitimate fear of the developing world that countries with large trade volumes will be able to dictate even wider agendas than before. How far this transformation should go is one of the crucial questions to be answered regarding the place of environmental issues in trade negotiations.

2. The place of environmental issues in the international trading system

One of the earliest manifestations of change was the introduction of environmental issues into the GATT context. It was accepted that there was and is a need to examine the links between trade and environment and to establish appropriate procedures for this examination. Although trade considerations were predominant, one of the main aims was expected to help eliminate possible contradictions between trade policies and domestic, as well as international, environmental policies, and make them mutually supportive. Unlike labour issues, trade and environment links have been formally under examination at the GATT (and later, WTO) since 1991. In spite of their different objectives, both developing and developed countries expected benefits from the workings of the Committee on Trade and Environment. The developing countries' agenda was in the old GATT spirit, while that of the developed countries included a push towards the transformation of the international trading system as described above. In the latter case, both 'egotistical' and 'altruistic' arguments (to use Bhagwati's terms) were employed. There is, however, a fairly distinct division of labour in using these arguments, with governments specializing on the 'egotistical' and NGOs on the 'altruistic' aspects. The former is the trade negotiator's point of view and the latter is the environmentalist's who is sometimes confined to a single issue.

The trade negotiators sometimes find themselves calling for the harmonization of domestic environmental policies, but the theoretical justification for this is not easy to find. Most economists, indeed most social scientists, would argue against such harmonization. Different countries exhibit differing absorptive capacities, time preferences and social welfare functions.

Looking at the situation from the environmentalist's point of view, linking trade and environment at the WTO fails to provide the correct prioritization for selection of those domestic environmental problems that should be addressed. At this forum only, the domestic environmental issues linked to the production of tradable products, particularly those that appear to lower costs, are discussed. There may be more important domestic environmental problems that need to be solved, and more urgently, than those linked to the production of tradable goods, but these are patently outside the domain of the WTO.

One way forward might be to find ways to facilitate solutions to those environmental problems that are seen as a priority by developing countries. This could include designing schemes involving not sanctions, but preferences and other trade related positive measures. Admittedly, this

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would run counter to the current implementation of PPM rules, but a change in a positive direction might be worth considering as the use of PPMs as a basis for trade restrictions is not acceptable for many WTO members.

It should be stressed, in this connection, that developing countries oppose bringing environment as a negotiating issue to the WTO. They regard Agenda 21 as the appropriate framework for ensuring that trade and environment are mutually supportive.

3. International modalities for encouraging action on domestic environmental problems

Bhagwati advances a series of very sound arguments showing why it is improper to use trade and the WTO as a 'stick' in relation to domestic environmental problems. There is a need for policies and measures that deal directly and efficiently with domestic and non-domestic environmental problems. The international community needs to promote such policies and measures and facilitate their design, adoption and implementation. 'Carrots' in the form of positive measures appear to be a much better tool than 'sticks' in this respect. Many of Bhagwati's proposals are in this spirit.

In a slight digression from positive measures, however, he advocates 'fashioning new stones, as required' but proposes none except for moral suasion. It seems difficult, if not impossible, to give institutional and economic 'bite' to organizations such as UNEP or ILO for enforcing specific actions. Fashioning 'paper stones' may, in fact, be counterproductive as they raise false expectations and lead to waste of time and resources. The perception that trade is the only way (albeit an imperfect one) to enforce actions is the reason why the WTO has been the preferred forum for the advancement of a wide variety of agendas.[1] The forum at which the agendas will be pursued defines how this will be done. Organizations should focus on what they can do efficiently and effectively.

This brings us to the importance of information and policy advice, areas where several international organizations excel. Positive measures can be designed, but to use an old metaphor: 'you cannot push on a string'. Nevertheless, one should accept that governments would like to act for the good of the people of their countries.[2] They would be willing to be pushed by a string if, and when, they are convinced that the benefits to be attained by their citizens are going to be bigger than the costs incurred, and that it is not the agendas of other states that are being pursued, but their own interests. Better information and assistance to appraise the harmful results of non-action is probably a more powerful instrument than moral suasion. In any case they have to complement each other and be supported by technical as well as financial assistance and technology transfer on a

[1] The international financial system could also qualify.

[2] One problem, here, is 'for the good of which segment of their populations?'. It is usually the poorer and more disadvantaged strata who are mostly affected by the negative impacts of environmental damage. Their interests, however, are likely to count less than those of the more affluent ones.

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preferential basis. NGOs can also find their most important function in advocacy and information dissemination.

Ultimately, the link between trade and environmental concerns requires the internalization of environmental costs in the prices of internationally traded products, which, admittedly, is a very complicated matter (UNCTAD, 1995) but one on which economists and policy makers must focus. Economists need to find conceptual and operational modalities, possibly through the use of game-theoretic approaches, while policy makers need to introduce these modalities to the international trading system.

As some two thirds of world trade is linked to transnational corporations (TNCs), the production methods of those TNCs is a very important element in trade and environment links. It could be suggested that Bhagwati's proposal to adopt everywhere the standards of the home country should be reformulated into the adoption everywhere of the most stringent standards that exist in any of the countries where the TNC operates.[3] Moreover, given that in many cases the negative environmental impacts of the production chain are generated outside the TNC's own plant, the TNC could be mandated to 'establish comprehensive uniform environmental standards across not only the TNC system, but also across input suppliers, regardless of ownership' (UNCTAD, 1999: 292). The use of 'performance bonds', which is relatively common in the mining sector, could also help to bring positive results.

4. Conclusion

For a more constructive treatment of environmental concerns in trade negotiations, it seems important to give priority to the environmental concerns of developing countries, allow them to take the initiative by expanding their appreciation of the stakes involved, and offering them positive trade-related incentives. What is needed are carrots that are well labelled.

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[3] The importance in foreign direct investment of TNC's from developing countries, which are criticised for lax environmental regulations, has risen considerably in recent years.

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Trade and the environment

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I broadly agree with Professor Bhagwati's principal argument concerning the relationship between trade policy and environmental issues that do not involve direct international spillovers. I have a few nuanced differences, which perhaps stem from a different philosophical base from Bhagwati's. I will sketch my philosophical stance and the relatively minor differences in policy conclusions that I reach. I then turn to the important class of cases, in which direct international environmental spillovers arise from economic activity in individual countries, most notably the possibility of global warming, where I find myself in much sharper disagreement.

My philosophical starting point is that there is considerable value to pluralism internationally as well as within countries, and that each community (nation, for purposes of international relations) not only does but should have the right to decide its own approach to collective goods of all kinds, including environmental conditions, taking into account its own preferences and its own circumstances, both of which may differ considerably from country to country. This right of course may have to be compromised when collective decisions in one country have direct (negative) impacts on the well-being of people in other countries, thus involving direct international spillovers. This case is taken up below. But for the moment I will follow Bhagwati and concentrate on those cases where direct international environmental spillovers are absent—such that, for instance, pollution of a lake or a river, or of urban air, affects only people of the same country.

Since people everywhere share basic preferences—a desire for robust health, good diet, clean air and water, etc.—differences in community preferences as they are reflected in collective decisions involve attaching different weights to diverse human desires, and those different weights appropriately reflect different circumstances, which may vary greatly along many dimensions, among them average levels of real income and capacity of the local environment to deal with the loads that are placed on it.

Coercion by others to influence the collective decisions that each community takes on most issues is completely inappropriate. If we want others to give the same weight to diverse human values as we do, we must persuade them, not coerce them, to shift the relative weights they choose. This is the challenge for environmentalists, to persuade others that they are right, not to badger others into compliance with their preferred values by threats. I do not want Europeans to coerce me, through trade threats or

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otherwise, to adopt in full their environmental values; and if I were Brazilian, or Korean, or Indian, I would not want Americans to coerce me to adopt American values, although I might be much interested in learning American arguments for curtailing this or that particular economic activity in order to protect the environment.

Freedom of choice is itself of high value. Americans insist upon it for themselves, and should respect it others. For example, Europeans still use leaded gasoline, even though Americans phased it out decades ago, at modest cost, but with a great decline in atmospheric lead over the past two decades. Europeans have to breathe European air, so I respect their choice, even though I do not quite understand it. Many Europeans are troubled by the fact that most US states still allow capital punishment, but Americans do so knowingly and deliberately. On both these issues vigorous internal debate continues on both sides of the Atlantic, with the balance in decision making having tipped for leaded gasoline and against capital punishment in Europe, and in the opposite direction in the United States. Something serious would be lost in forcing both sides to adopt the same positions, whatever it turned out to be.

This general stance leads me to oppose Bhagwati's suggestion that foreign firms operating in any country should adopt the environmental standards of the *home* country. In fact, Americans or Europeans would not allow this: they would (correctly) insist that foreign-owned firms meet their own environmental standards. Bhagwati's suggestion involves the somewhat arrogant assumption that home country standards are always 'better', whatever exactly that means. In fact what is best depends very much on local conditions. Moreover, it is well known that both the United States and European countries have some peculiarities in their environmental standards, driven by local politics, that would be unwise all around to foist on to foreign countries.[1]

Respecting the right of each country to make its own collective choices, including those toward the environment, does not mean that we have to abide by others' choices in our country. In particular, it does not mean that Europeans must eat hormone-fed beef that many Americans are quite willing to eat, or that Americans must eat shrimp which were caught by drowning sea turtles.[2] Respect for freedom of choice covers what we eat as well as other matters. But respecting freedom of choice suggests that products that some people consider dubious, for whatever reason, should be

[1] Such that American coal-fired power plants should adopt 'best practice' scrubbers, for example, with the political objective of protecting high-sulfur West Virginia coal against environmental competition from lower sulfur western coal.

[2] The WTO appellate ruling in the celebrated shrimp–turtle case, which went against the United States, has been much maligned, but unfortunately also much misinterpreted. The ruling is thoughtful and carefully argued, and should be considered favorable to environmental protection. The panel is explicit (para. 43) that WTO members can, and should, adopt effective measures to protect endangered species, such as sea turtles. Its ruling went against the United States, not because of what the US did, but because of the way it did it: the US actions, in the view of the panel (para. 44), constituted 'arbitrary and unjustifiable discrimination between countries where the same conditions prevail', in violation of the WTO.

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properly labeled, not banned altogether, since there are undoubtedly some Europeans who are as untroubled eating natural-hormone-fed beef as most Americans are, there being no scientific evidence so far that such consumption is harmful. Labeling is not as simple as it sounds, as Bhagwati points out, but in many cases that is an obvious solution, focussing the arguments on how exactly the labels should be written.

There may be occasions when labeling is too difficult, or too politically unpopular, and a country chooses to ban a particular product, or class of products. Under the freedom of choice principle they should be allowed to do that. But they have also made undertakings to other countries about maintaining open markets and non-discriminatory trade policies. These must also be respected. The offended country has the right to retaliate, within certain parameters, but I agree with Bhagwati that this is an undesirable course of action, to be used only as last resort. He prefers cash compensation from the country that has violated its trade commitments. I am not enthusiastic about cash compensation for a variety of reasons having little to do with trade policy, although I would not rule it out. But under WTO rules a country can extend compensation in the form of trade liberalization of interest to the aggrieved party. That is consistent with the broad objective of trade liberalization and seems to me the preferred course, available until countries actually reach a condition of free trade. Disputes over the amount of compensation, cash or trade liberalization, can be resolved if necessary through arbitration.

Where I differ significantly from Bhagwati is over his rather casual treatment of foreign economic activities with direct international environmental spillovers, which affect outsiders directly, not merely offend their sensibilities. The leading global examples are stratospheric ozone depletion and greenhouse gas emissions that may lead to significant changes in climate; at the regional level some water and air pollution would also qualify. Bhagwati misleads us here, by implying that an international application of the 'polluter should pay' principle would be sufficient to deal with problem. He applies it to 'stock' externalities, arising from past actions, concretely to past emissions of greenhouse gases. This application would be analogous *ex post facto* legislation, holding someone accountable for actions taken before relevant accountability was introduced, or even known to be appropriate. Serious rule of law rules out *ex post facto* legislation. I learned as a boy that carbon dioxide was a colorless, odorless, harmless gas that plants ingest in the process of photosynthesis. Under what principles of 'justice' is it appropriate to hold the descendants of Lancashire manufacturers—and their workers—financially accountable for burning coal, which they had not the faintest idea could influence climate in far distant places, in the far distant future? On the same principle Portugal should be held accountable for the collapse of the Grand Banks cod fishery, a genuine tragedy of the commons, on grounds that they have been fishing there the longest (and they had some understanding that their fishing might deplete the stocks). The case is dubious even where damage has been done, as in the cod fishery, whereas contrary to Bhagwati's claim no damage has yet been effectively attributed to green-

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house gas emissions: the feared damage is in the future, possibly many decades away.[3]

Two principles for financing a public good are usually advanced: ability to pay, and in proportion to benefit. Rich countries have a greater ability to pay, but (on very imperfect analysis) poor countries are likely to be the major beneficiaries of mitigation of climate change. But to mitigate climate change we need to affect the behavior of billions of individuals, all actual emitters of greenhouse gases, not just governments. Therefore incentives are required to affect the behavior of everyone. The best way to do that would be to place a levy on the emissions of all greenhouse gases (which include methane, produced in rice growing and cattle rearing, as well as carbon dioxide and CFCs, although methane has a shorter life in the atmosphere), limited only by administrative cost and feasibility. The rich would of course pay higher amounts, as they should, because they produce greater emissions, but poor countries should not be exempt altogether, on grounds they are poor. Not least, because their governments are usually short of revenues, and here is a potential source of revenue that is socially beneficial rather than costly.

Delinking trade, environmental protection, and labor standards

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It is almost never optimal to use trade policy instruments to protect the environment or raise labor standards. Indeed the imposition of trade sanctions to correct environmental externalities or to discourage undesired labor practices is more likely to lower well being than to raise it.

[3] I agree with Bhagwati that multilateral environmental (or other) agreements should be reviewed critically—I am myself critical of the ability of the Kyoto Protocol to deal successfully with climate change—but he ventures on to dangerous ground when he urges Britain to 'make an important moral and effective gesture' by destroying its nuclear weapons. Effective for what? Certainly not to persuade India to renounce its nuclear weapons. Many WTO critics, who alarm Bhagwati, see themselves as making 'moral gestures' on a topic about which many of them have little knowledge, or even interest in acquiring knowledge.

This comment draws heavily on Ch. 5, 'Regulating World Markets in a Liberal Global Economy', in my book on *Studies in Globalization and Economic Transitions*, London: Macmillan, 1996.

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Environmental externalities should be tackled at their source, usually at the point of production, occasionally at the point of consumption, and rarely at the point of exchange. Similarly, an undesired labor practice should be modified in all industries where it occurs and not just in those industries which happen to be engaged in exporting.

Where environmental externalities cross state boundaries or affect the entire globe, supra-national institutions of governance will be necessary. In general these are poorly developed, but at least at the global level we have the United Nations Environment Programme (UNEP), and UNEP should be used as a forum for global negotiations on environmental issues in preference to the World Trade Organization (WTO). Similarly, in those few instances where a consensus exists or can be created about global labor standards, the appropriate forum for negotiations is the International Labor Organization (ILO), not the WTO. The fiasco of the 1999 WTO talks in Seattle demonstrates the futility of trying to link trade, environmental and labor issues when in fact the linkages are weak. Not only was no progress achieved on any of the three fronts, it is possible that progress has been delayed, perhaps for a considerable time, in addressing all three sets of issues.

The temptation now, particularly in the United States, may be to abandon the path of multilateral negotiation and seek instead to impose its views through unilateral action. This could harm not only its 'partners' in trade but the United States itself.

Suppose, for instance, that the United States introduces a measure such as a tax on emissions to control pollution. This tax evidently increases costs of production, which in turn lead to changes in technology, the level of demand, and the composition of output. Higher costs, however, should not be seen as a 'competitive disadvantage'; the higher costs are necessary to internalize the environmental externality. That is, higher costs are the mechanism by which the desired benefit of diminished pollution is obtained. Having obtained the benefit of diminished pollution by raising private costs to approximate social costs, it would be perverse to neutralize the change in relative costs, in the name of 'fair trade', by imposing an import tax or equivalent trade sanction on similar goods produced in developing countries where environmental standards (for good reason or bad) are thought by the United States to be lower. The purpose of environmental intervention is to protect the US environment, not to discourage the consumption of goods produced abroad.

The same argument applies to labor standards. Suppose, for example, the US requires mining companies to meet certain occupational health and safety standards. These legal requirements will cause the cost of mining to rise, but, from the point of view of society as a whole, all that will have happened is that producers will have been forced to internalize costs so that private and social costs coincide. The United States, far from being worse off, actually is better off, since firms now have an incentive to adjust techniques of production and their output mix to reflect true costs. Trade restrictions against developing countries which have 'lower' occupational health and safety standards would offset these incentives and harm not only the developing country but the United States as well.

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Analogous arguments apply to products produced by child labor in developing countries. Rich countries have no legitimate economic complaint against poor countries which depend on child labor to grow food, fetch water, or earn foreign exchange. Indeed, imposing trade restrictions on products produced with the help of child labor deprives poor countries of their comparative advantage, lowers average incomes, and almost certainly increases child poverty. If there are ethical objections in rich countries to the use of child labor in poor countries—despite the historical importance of child labor in rich countries—and if these ethical objections are thought to outweigh the effects of abolishing child labor on the material well being of the poor, then the rich countries should take their concerns to the ILO, not to the WTO. Trade regulations are not the appropriate tool for effecting altruistic changes in process and production methods.

Professor Bhagwati makes it clear that there are strong objections to confusing 'domestic' and 'international' issues, to linking trade, environmental and labor debates, to disguising 'egotistical' objectives as 'altruistic' ones, and to resorting to unilateral action to resolve trade disputes. He is right to do so.

Ecolabeling: developing country apprehensions

BINDU N. LOHANI AND PRODIPTO GHOSH

1. Introduction

Bhagwati (this volume) affirms that 'labeling' is an appropriate option in ensuring that 'genuine moral preferences' are reflected in the choice of production process and methods (PPMs) by exporters of goods to one's country. This paper briefly explores (in the case of ecolabeling) the validity of this recommendation, in relation to fears of developing countries that such practices are prone to misuse as disguised trade barriers.

'Ecolabeling' means the use of labels in order to inform consumers that a labeled product is less damaging to the environment relative to other products in the same category. The principle of most ecolabeling programs, is that the initial analysis of the product's life cycle identifies qualitatively the most important environmental impacts throughout a

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product's life cycle. These impacts are used to determine 'eco-criteria' and thresholds. Products that conform with these criteria are granted an eco-label.

While, in principle, ecolabeling programs are voluntary and open to both domestic and foreign suppliers, nevertheless ecolabeling may act as a barrier to trade for comparable products not receiving the label. Even if the criteria for granting labels are the same for domestic and foreign suppliers, certain administrative procedures, besides the 'cradle-to-grave' approach, which considers, among other things, PPMs as well as raw materials use, may in practice discriminate against developing countries, as the latter may be exporters of primary products and may not use 'clean' production processes in the sense that the domestic manufacturers apply them.

The trade effects of ecolabeling schemes would depend crucially on whether the label has a market impact. From the perspective of ecolabel schemes themselves, the market impacts of ecolabeled products in an indication of success—the bigger the market impact, the greater the potential trade effect. On the other hand, if an ecolabel has no impact on sales, then no matter how high is the potential for discriminating against foreign goods, there would be no real trade effect. Scattered evidence indicates that market penetration for ecolabeled products like textiles and leather has been no more than 2–4 per cent (IOW, Berlin, 1997). In some other products such as timber, fish, or organic food, the market penetration may be much higher, at 20–24 per cent (Ibid.). In some cases such as tropical timber, environmental certification of labeling may be a precondition for restoring lost market access (Crossley, Carlos, and Varangis, 1997).

While ecolabeling has not been specifically included in any of the chapters or agreements of the final text from the Uruguay Round of trade negotiations, several provisions of the WTO apply to ecolabeling. These provisions as well as the Panel rulings with respect to some of these provisions have important implications for determining the WTO compatibility of ecolabeling schemes. The question whether ecolabeling schemes can constitute a technical barrier to trade remains unresolved, though much discussion on this issue has clarified several points.

2. Concerns of developing countries

Developing countries are principally concerned whether it is possible for ecolabeling criteria, methodologies, and certification procedures to be applied in a manner that denies or impedes market access to their products. Such a protectionist effect, whether intentional or not, runs counter to principles of a liberalized system of international trade.

Some of the more specific concerns of developing countries are as follows:

The *selection of product categories* for ecolabeling may be more easily guided by industry interests and consumer preference in the importing country as they directly participate in the process of product selection, while foreign firms do not. Developing countries may find it difficult to

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represent their interests in national ecolabeling schemes of OECD countries, because, first, they do not participate in the process of selection of product categories, and, second, they cannot afford to fund the necessary research on their export products.

Further, the selection of product categories may be so narrow as to exclude other like products in the same category. For example labeling schemes on tropical timber exclude temperate or other such woods.

In some cases, the *selection of criteria and thresholds* may be so narrow that they may actually mandate a particular technology or a particular production process. For example in the case of a private labeling proposal on textiles in Germany, environmentally friendly chemicals used in dyeing are defined so narrowly as to exclude natural dyes which are inherently environmentally friendly.

Plant inspection may pose particular problems in developing countries, because a number of their competitive export products are manufactured in the informal sector with very small, often household level units. It is unlikely that small, developing country firms would either be able to sponsor a product for ecolabeling, or to pay for on-site plant checks, required by several OECD ecolabeling schemes.

Packaging requirements aimed at reducing packaging waste may mean higher costs for imported than domestic products. Low value, but inherently environmentally safe packaging materials from developing countries, such as jute bags, may also be placed at a disadvantage by mandatory recycling requirements, which may mean re-export of the bags to the supplier.

Employing *foreign firms to certify* domestic firms may increase costs and reduce competitiveness. For example in the case of leather, obtaining ecolabels in terms of the criteria developed by The Netherlands would cost about 50 per cent more in testing alone (Zarrilli, Jha, and Vossenaar, 1997).

National ecolabeling schemes of developing countries have not been very successful in the market place. Substantial investment in public awareness, consumer campaigns, etc. would be required to generate consumer demand for 'green' products. Instead of expensive national labeling schemes, *developing countries may find it more fruitful to develop regional schemes for ecolabeling for only such products whose market access may be threatened without a label.*

3. Trade rules in relation to developing countries concerns

The provisions of the GATT which may apply to ecolabeling are Articles I, III, X, and XI. Article I lays down the basic GATT rule prohibiting discrimination among supplying countries. Article III prohibits imported products from being treated less favorably than 'like-products' of domestic origin. Article X contains provisions relating to the publication of rules and requirements affecting sale and distribution of products. Article XI prohibits the use of import restrictions through import licensing or other measures, which may also be relevant to ecolabeling.

More explicit rules that may apply to ecolabeling programs, are contained in the Agreement on Technical Barriers to Trade (TBTA). Article 7 deals with 'certification systems' operated by 'central government bodies',

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and Article 9 requires Parties to 'take such reasonable measures' to ensure that local government bodies and non-governmental bodies comply with the relevant provisions of Article 7. Whether ecolabeling systems result in the creation of unnecessary obstacles to trade, and thus infringe the provisions of Article 7, will depend on whether or not the criteria are based on objective and scientific considerations. Alternatively, if the conditions stipulated are more difficult to meet for foreign, than for domestic producers, then the system may cause obstacles to trade.

These provisions have been further strengthened in the revised TBTA text, which stipulates that Parties should take such reasonable measures to ensure that governmental and voluntary standardization bodies accept and comply with the 'code of good practice for the preparation and adoption of standards', contained in its Annex 3. The TBTA code requires that standardization bodies ensure that standards, including labeling schemes, are not applied or set so as to erect barriers to trade, and do not result in 'according to imported products treatment, which is less favorable than 'like products of national origin', or, 'like products originating in outside countries'. Further, it calls on standardization bodies to base their national standards in international standards, and, if such international standards do not exist, to promote their development for products for which they propose to adopt new standards.

In good part, the tension between ecolabeling and international trade rules stems from the lack of an international consensus on the approach which should be taken towards environmental certification programs under the GATT, WTO, and TBTA, which create the institutional framework for trade governance.

Several GATT/WTO Panel rulings, although not directly involving ecolabeling, nevertheless have implications for their potential use as trade barriers by way of interpretation of GATT/WTO/TBTA provisions, and provide some safeguards against protectionist misuse. Similarly, domestic legislation in importing countries has a bearing on ecolabels. The main considerations are false and misleading claims, unauthorized use of the ecolabel, trade mark registration, and organized boycotts of unlabeled products.

Conclusion

The discussion above points to some possibilities of the use of ecolabeling for purposes of responding to consumers' preferences for environmental protection. It also indicates that the multilateral trading regime has evolved sufficiently in the past two decades to provide significant legal safeguards against this misuse. Of course, actually availing of these remedies by developing countries may mean significant effort and expense on their part. Furthermore, developing country exporters need to be proactive in ensuring that their concerns and situations are sufficiently taken into account during formulation of ecolabeling schemes, and that the schemes themselves are based on reliable scientific evidence of risks.

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Trade and environment linkage and a possible World Environmental Organisation

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1. Background

In his article, 'On thinking clearly about the link between trade and the environment' Jagdish Bhagwati suggests that there are limits to trying to use trade negotiations not only to deal with issues of market access but environmental concerns as well.[1] Likening policy instruments to stones, Bhagwati warns that 'trying to kill two birds with one stone is a recipe for missing both birds'. He proposes 'fashioning new stones', using as an example the setting up of a World Migration Organisation as one approach to dealing with the issue of exploitation of labour from poor countries. In this present paper, the merits of another perhaps more central 'new stone' are discussed, in the form of a possible World Environmental Organisation (WEO). We argue, like Bhagwati, that the WTO can at best deal with only a small part of the global environmental situation.

We see global environmental problems as involving various forms of trans-border externalities. From this point of view, surprisingly little internalisation of these externalities has occurred in recent decades, and the

This paper draws on a background paper prepared for a project on a possible World Environmental Organization supported by the MacArthur Foundation, Chicago. These issues are also discussed in a related paper by Whalley and Zissimos (2000).

[1] The idea that environmental considerations should be linked to trade negotiations was advocated by Bill Clinton at the WTO Ministerial Meeting in Seattle during December 1999, apparently receiving widespread support from other developed country policy makers. See *http://ft.com/wto*. We give other examples of linked trade-environmental agreements in Section 'Comparing the WEO with other proposals; advantages and limitations' below.

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global environmental challenge is indeed to achieve that outcome. Because global externalities are at issue, the structure of the WTO does not lend itself to achieving the desired internalisation. Negotiations based on exchanges of concessions, as in trade, do not fit. Trade principles, such as MFN and national treatment, have no obvious role. Given the inappropriateness of the WTO for tackling environmental problems, there is justified concern that these will be sidelined further on the international agenda if steps are taken to make this the main international organisation through which environmental concerns are addressed. A new entity reflecting problems which are different from those involved with achieving trade liberalisation seems to be needed.

2. A WEO and global externalities[2]

The potential contribution of a WEO to improving the worlds environment can be guaged by drawing attention to the set of currently unresolved problems that such an organisation might be able to address. We also explain why it is not possible to address these problems using institutions that already exist, and particularly the WTO.

One way to think about the trans-border component of the environmental problems currently faced by the global community is in terms of global environmental externalities. The environmental effects involved remain 'external' to market transactions because environmental goods (such as slowed deforestation) yield benefits that are public in nature and markets for trading rights to use these typically fail to exist. This is principally because such goods are non-excludable—it is not possible to prevent someone from enjoying them, and this in turn limits the willingness of others to pay for their use. Two preconditions for the existence of markets in environmental goods is that their ownership is defined by a well determined set of property rights (Coase, 1960) and that they can be traded. If property rights do not exist, then there is no need to pay for the benefits from such goods, and this inevitably leads to their misuse from a global point of view.

The main purpose of a WEO would be to put in place markets in which environmental goods could be traded for non-environmental considerations (including money), and thereby internalise the associated externalities. What this would mean in practice is that if a party, or group of parties, had interests in particular aspects of the global environment (such as forests), then the WEO would provide the institutional arrangements—organizational, legal, financial—required for deals to be struck to achieve this end. A WEO would thus seek to initiate environmental deals; offering services to verify that the terms of a deal had been met; giving guarantees to parties to the deal that its financial terms would be executed if authenticated; and creating packages of deals so as to reduce incentives to free ride. In short, it would aim to do everything possible to offset the current barriers to global environmental deals that apply at present.

One weakness of this proposal, which we note in passing, is that it does

[2] See the discussion of a WEO proposal by Newell and Whalley (1999).

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not resolve ambiguities over property rights. This is a problem to which we return below, but we also argue that the potential contribution of a WEO has to be seen relative to the status quo, rather than evaluated relative to an absolute standard.

Why do pre-existing arrangements fail to establish markets for environmental goods and assets? There are two key elements to the present regime. One is a set of international principles (short of a treaty since they do not define explicit rights and obligations as in the WTO) largely embodied in the Rio Declaration (Agenda 21). These principles offer no explicit recognition of the need to internalise global externalities, nor offer any mechanisms by which this could be achieved. There is also a series of around 150 largely issue-specific environmental treaties, which have evolved in a largely *ad hoc* manner over recent years. Most of these are the result of scientific processes; identifying harmful substances, and setting acceptable levels for emissions. Effective side payments (compensation) hardly exist in these treaties.[3] And because many of the key global environmental issues (deforestation, species extinction, for example) are unidirectional between one group of countries and other countries, the outcome of such narrowly focussed treaties has typically been the lowest common denominator and often minimal.

Bargains that preserve the environment by internalizing an environmental externality (Coasian internalization deals) are thus little encouraged and not consciously facilitated by these regimes. What are missing are mechanisms to guide and focus efforts towards the internalization of global externalities, the absence of which underlies global environmental failure.[4] While international transactions in tradable emissions permits are foreseen in the Kyoto protocol, they are a vehicle for implementing globally agreed emissions reduction targets, rather than putting in place facilitating mechanisms for Coasian internalization deals. Similar comments could be made about Joint Implementation and projects which may be funded in future through the Clean Development Mechanism.[5]

3. Contributions of a WEO

There is a range of possible exchanges involving environmental concessions for non-environmental considerations that could potentially take place through a WEO. These include direct cash payments for firmer environmental management (targets on the percentage of land under forest cover, for instance). Another alternative would be a commitment to

[3] Aid and technology transfer to developing countries have been a part of environmental agreements in the past, but not as part of explicit internalisation arrangements. They have also been criticised for failing to provide a solid basis for tackling real environmental concerns and advancing development for a range of reasons (see Newell and Whalley, 1999).

[4] Principles and global mechanisms need not, however, be mutually exclusive. An advantage of the WEO is that it provides a deal-brokering 'service' that does not require agreed principles of the Agenda 21 type in order to get started.

[5] For more on these instruments see Grubb *et al.* (1993) and Newell (1998).

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undertake policy concessions abroad in exchange for undertaking environmental management at home.

There are several reasons why markets for such exchanges currently fail to exist: these include time consistency; verification and compliance; free riding; the estimation and representation of preferences of large numbers of people in such agreements; and incomplete or ambiguous property rights. These are now explained in turn, together with ways in which a WEO would offer solutions to these problems. First there are problems of time consistency. If, say, Brazil were to promise to restrain deforestation over a period of time (say 40 years) in return for financial inflows, the issue arises as to exactly when the transaction should be executed. If funds were paid immediately, Brazil could potentially demand even more funds after the initial receipt, effectively holding the forest to ransom. If funds were paid at the end of the period, Brazil would have no assurance that payment would be forthcoming if they met their environmental commitment. Added to this, an arrangement entered into by one government may not be honoured by a following government which is either unwilling or unable to fulfil the terms of the agreement made to another party outside the country. Some form of intermediary guarantor is needed on both sides to reduce the risk involved in these transactions. A WEO could act as such a guarantor, receiving funds for deals agreed to and holding them in escrow pending verification of execution of the commitment. If the environmental target is deemed to have been met, funds would be released to the country or group making the commitment, if not they would be returned to the country or group pledging the funds.

Problems of verification and compliance arise because of ambiguities over how a determination is to be made that the pledged environmental target has been met, and what are the remedies if this is not the case. Here, WEO staff could monitor compliance on environmental commitments, and make determinations of whether or not commitments have been met. These, in turn, would require undertakings from parties to deals monitored by the WEO to accept WEO determinations, and a system of dispute resolution and appeal would probably follow.

A third problem area is free riding. If, for example, many countries have existence value over Brazilian forests and deals are bilateral, free riding can greatly undermine the ability of environmental deals to be struck at a global level, since the benefits of any pair of bilateral actions are spread much more widely. All OECD countries may benefit from a forest cover target negotiated in, say, Malaysia with Germany (or a German NGO). A WEO would be able to reduce free riding, by putting together multilateral rather than bilateral environmental deals, bringing together consortia of interested parties to deals. Jha and Schatan (2000), for instance, note the very small aggregate value of debt-for-nature swaps achieved over the last ten years.

A fourth problem is the estimation and representation of consumer preferences in making deals. Who assesses, and acts on behalf of the collective willingness to pay in OECD countries for slowed deforestation, for example? A WEO could identify the potentially relevant parties to a deal;

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national and sub-national governments, NGO groups, landowners, forest authorities, and others. By undertaking studies, producing willingness to pay measures for enhanced global environmental quality, a WEO could play a role in facilitating a range of multi-actor deals. There is no presumption that WEO deal making would be limited to national governments.

Finally there are the impediments to global environmental deal making which arise from ambiguities over property rights. These occur both within and between countries. Across countries, national governments typically assert their implicit rights to regulate economic activity in other countries, including over environmental matters, in various ways. For instance, OECD countries often argue that the rainforests are the lungs of the earth (globally common property resources) and thus they should have rights to limit imports of tropical timber until improvements in environmental quality (forest cover targets) occur in exporting countries. Developing countries with forest cover argue that such measures constitute a form of eco (or green) imperialism which, if enforced, involve them slowing their growth and development to yield environmental benefits to other (mainly wealthy) countries. They instead argue they should be compensated for showing environmental restraint over the use of their own environmental assets. The issue, therefore, is one of property rights; whether forests are a global or a national asset (McCleary, 1991).

It is difficult for a WEO to arbitrate or settle such property right disagreements. These also implicitly lie at the heart of global environmental policy and the trade and environment debate in the WTO. In so far as developing countries control environmental assets in their territory and have 'squatters rights', groups concerned over their environmental management may still choose to enter into arrangements involving them in the WEO. *De facto* property rights may thus also be sufficient to drive WEO deals, even where *de jure* rights do not exist.

Steps would have to be taken to organise the WEO in a way that it did not fall foul of criticisms levelled at previous multilateral organisations. The biggest risk is that it is seen as, or actually becomes, a bureaucratic leviathan. This could be minimised by designing the institution around a devolved power structure, possibly involving national WEO offices responsible for working with local NGOs.

4. Comparing the WEO with other proposals; advantages and limitations

Seeing the need for a WEO in terms of setting up markets for trading environmental goods reveals the reasons why proposals to deal with environmental issues within the context of the WTO will fail to address the main issues in the area. The WTO does not provide a market in which environmental goods can effectively be traded, and provides no way in which environmental problems that arise through internalisation failure can be tackled.

It is natural to ask, then, why proposals to link trade and the environment within the WTO have achieved such a high profile. It is over this

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issue that perhaps the major current rift on trade between developed and developing countries has occurred (along with labour standards), and one to which Bhagwati gives considerable attention. He draws attention to the fact that while developing countries consider themselves to have ownership rights over the major share of the world's remaining environmental assets, the developed countries argue that they belong to everyone. This assertion is used to justify the threat of using trade sanctions on environmental grounds.[6] Moreover, a number of environmental regimes rely on trade-discriminating measures as an enforcement mechanism, including CITES, the Basel convention and the Montreal Protocol. One fear is that developing countries could even retaliate with their own new barriers, giving rise to a new trade war.[7]

This outcome can, once again, be explained as a failure to agree on property rights over environmental assets. But perhaps there is a wider problem, namely that markets are missing in the trade of environmental goods, and by completing them better deals could be struck. If the scope of bargains involving the environment were increased, where each dimension covers a different area, this would broaden the trade-offs for trade concessions and the range of potentially favourable outcomes could be expanded considerably. If cash were offered in exchange for environmental commitments, flows of financial resources not foreseen in the WTO framework might be bargained for improved environmental quality. A broadened and more inclusive WEO bargaining framework going well beyond the WTO may help to deliver such improvements in eventual bargained outcomes to custodian/developing countries.

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[6] In a recent paper, Whalley and Zissimos (2000) show that where environmental concerns exist, and environmental clean-up is costly, the members of a trade agreement can potentially gain by raising tariffs against countries that do not adopt an environmental standard. Their analysis suggests that the threat of higher tariffs for environmental reasons may be credible, though by no means the best way of dealing with the problem.

[7] There is greater likelihood of this response from large developing countries, like India and China, and other developing countries that have power on world markets, such as those from the Organisation of Petroleum Exporting Countries (OPEC), than from smaller primary product producers.

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Avoiding trade and environment conflicts

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Clear thinking about linkages between trade and environmental policy should begin with Article XX of the General Agreement on Tariffs and Trade, the basic framework of international trade law that has successfully guided trade expansion since 1947. Within that framework, world trade has grown at twice the rate of world output and trade barriers have fallen markedly. Over the same timespan, all OECD countries and many non-OECD countries have constructed effective legal and regulatory regimes to protect their environments. Dozens of international environmental treaties have been negotiated and ratified. Even more remarkably, all this was accomplished with few conflicts between trade and environmental regimes, until recently. How was this achieved?

Article XX of the GATT states

> Subject to the requirement that such measures are not applied in a manner which would constitute an arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures ...
> (b) necessary to protect human, animal, or plant life or health ...
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption ...

This provides a broad exemption for trade-related environmental measures, even from the core GATT mandates of non-discrimination and national treatment. Within broad limitations, the parties to the GATT, including all who subsequently adhered to the agreement, afforded a great deal of deference to national governments in the framing of environmental and resource protection measures that affected international trade.

The language of Article XX illuminates Professor Bhagwati's contention

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that measures to protect marine mammals, turtles, fur seals, or other creatures represent only efforts by more powerful countries to impose their ethical and aesthetic values on other countries. Though conservation is a value, it is specifically endorsed in the GATT. Under the GATT, countries are explicitly allowed to restrict imports in the interests of conservation, provided that they are accompanied by restrictions on domestic consumption or production.

In the light of recent acrimonious disputes, Article XX is also notable for what it does not provide:

- It does not say that measures to conserve natural resources or to protect the health and safety of plants, animals, and humans must be confined to those within national borders.
- It does not say that measures to protect or conserve resources outside national borders in the global commons must be taken only within the context of a multinational agreement.
- It does not say that plants and animals must be deemed endangered before they can be protected through conservation measures.
- It does not say that environmental measures must be supportable with (a) overwhelming scientific evidence, (b) scientific consensus, or (c) 'sound science'.
- It certainly does not say that trade-related environmental measures must be the least trade-restrictive of all environmental policy instruments potentially available.

All these strictures—and others—have been applied by WTO dispute resolution panels adjudicating trade conflicts among members, including the notorious tuna–dolphin and shrimp–turtle cases to which Professor Bhagwati refers, or adopted in sub-agreements negotiated by trade representatives, such as those governing technical barriers to trade. In my view, it is not coincidental that the eruption of conflicts between the trade community and environmentalists follow these efforts by the former to narrow the degree of discretion afforded to national governments in the construction of their environmental policies that affect international commerce. The valid core of environmentalist concerns is that unrepresentative WTO trade dispute panels operating in virtual secrecy can, without any of the democratic safeguards that must accompany the enactment of environmental laws or regulations, invalidate them.

Granted that a great many environmentalists bring to the debate an appalling confusion about international trade and investment and many strong emotions, including some Wendell Berry-ish nativism, some Herman Daly-ish growth phobias, and some Ralph Nader-ish hatred of large corporations. One might wish that those who thronged the streets of Seattle had prepared by finding out about the issues, not by learning how to dangle from rooftops. My fantasy has police barricades admitting to the demonstration only those who could correctly identify David Ricardo. Elitist perhaps, but most demonstrators seemed totally unaware that the world's worst polluters have been the inefficient inward-looking, market-restricting economies; that labor-intensive export industries, such as footwear manufacturing, have drastically reduced poverty in developing

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countries; that the factories of multinational companies are usually cleaner than those of local firms in the same industries and often cleaner than the mutinational's factories in its home country; or that a humane and reasonable developing country government might well adopt lower environmental standards than a rich country government would. In fairness, those who complain that the WTO is closed to environmental input should ensure that their own minds are open to a greater understanding of the workings of the international economy.

Also, in fairness, I recall when, back in India in the 1960s, Professor Bhagwati and his distinguished friend Professor Srinivasan used to amuse themselves and confound the foreign aid agencies by constructing elegant rationales for India's trade restrictions based on domestic market failures—such as a maldistribution of income or a disequilibrium labor market—premised to be impervious to direct, first-best solutions. Consistency suggests that Professor Bhagwati acknowledge that the first-best solution to trade and environment problems—that all countries enforce appropriate domestic environmental standards and join multilateral agreements on global environmental issues—may not be available; and, in that case, the second-best solution is not necessarily to liberalize international trade and investment anyway. Trade restrictions in the presence of environmental market failures may enhance national and global welfare.

It also strikes me that a taxonomy of measures based on national motives—egotistical versus altruistic—is unproductive. Individuals may occasionally act from pure motives but representative governments never do, because enacting almost any measure requires putting together a coalition of diverse interests. Putting national governments on the analyst's couch to discover their motives is not a promising policy approach. Thus, though we may raise an eyebrow at the AFL-CIO's concern for the poor workers of the developing world when they have displayed little concern for the interests of non-unionized workers even in the United States, the Afl-CIO's trade policy positions should nonetheless be considered on merit.

However, Professor Bhagwati's paper is most helpful in reminding us that other policy approaches can be more effective and beneficial to all parties in resolving environmental problems than trade measures, including technical assistance, financial support, and negotiated agreements. Unilateral trade measures should be the last resort, not the opening salvo. It should be pointed out that the United States government conducted protracted but unsuccessful international negotiations to protect dolphins from tuna-fishing gear and is engaged in extensive programs of bilateral cooperation and technical assistance with regard to greenhouse gas mitigation, among other issues. It has also championed the Clean Development Mechanism, which would finance carbon emissions reductions in developing countries below their business-as-usual scenarios.

Probably the best advice to all participants in the trade–environment disputes would be 'Back off!'. The trade community has plenty to do without worrying overmuch about green protectionism, which by any measure is trivial compared to the amount of ordinary protectionism left in the world. Existing safeguards embodied in Article XX are adequate to

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deal with the protectionist measures that will inevitably appear under an environmental banner. Trying to go further is not only unnecessary but also politically unwise, since more than 80 per cent of the citizenry in the US and Europe identify themselves as environmentalists and very few people call themselves free traders.

Environmentalists should devote themselves to their own national environmental problems and let environmentalists in other countries do the same. The United States did not fulfill its voluntary commitments made at Rio to stabilize greenhouse gas emissions, which are currently 10 per cent above 1990 levels, and the US Congress shows no sign of ratifying the Kyoto Protocol. Surely, this is something for American environmentalists to demonstrate about. The Endangered Species Act is failing in the United States. For every endangered species that is recovering, nine are declining. The few much-trumpeted success stories, such as the peregrine falcon and the bald eagle, are results of the ban on organochlorine pesticides, little thanks to the Endangered Species Act, which Congress consistently refuses to fund adequately. Isn't this reason enough to take to the streets?

People in developing countries are by no means impervious to their own environmental problems even without prodding from the Sierra Club. Urban air pollution, inadequate water and sanitation, and the degradation of rural areas are of great concern, especially to those who have achieved some economic security. The financial crises in Asia and Latin America were environmental as well as economic disasters because they threw many millions of people back into poverty. International economic cooperation to raise living standards in the developing world is one of the most powerful environmental protection measures and will help in achieving international cooperation to protect the global environment as well.

International dimensions of environmental policy

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1. Introduction

When pollution and its effects are not limited to one country but are associated with cases where activities in one country create negative externalities not only in the country itself but also in other countries, then policies to regulate environmental externalities acquire international dimensions. Such problems include the pollution of rivers and lakes that border more

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than one country—a transboundary pollution problem—and regional or global environmental problems, which are by now well known, such as acid rain, ozone depletion, and global warming.

However enlarging environmental regulation to include international aspects inevitably creates a link between environmental and trade policies. Two basic approaches for analysing the issue can be considered. The first concentrates on local or domestic environmental issues and focuses on the potential effects of domestic environmental policy on environmental quality and trade.[1] It has been argued that trade liberalization could create excess pollution in countries resulting from the use of non-environmentally friendly process and production methods, or 'flight of capital', and loss of international market share of countries that follow relatively tougher environmental policies. This is the primary issue that is explored in the central paper of this forum.

The second approach, which is the one on which this note concentrates, considers transboundary or global pollution problems. The focus of the analysis is to examine whether trade policy can help to design and enforce international agreements in the presence of transboundary or global pollution problems.

2. Environmental policy and global pollution

Economic theory suggests that the analysis of global pollution belongs to the theory of the voluntary provision of 'public bads', since global pollution satisfies non-rivalry in consumption and non-excludability. The general theoretical approach to analysing a global pollution problem involves the following steps:

- To determine the non-cooperative emissions, where countries choose their emissions—for example their greenhouse gasses (GHGs)—without taking into account the external costs that their emissions impose on other countries through increases global warming.
- To determine cooperative emissions, where countries determine their emissions by taking into account the cost of their emissions for the rest of the countries, so that a Pareto efficient outcome is obtained.
- To establish the inefficiency of the laissez-faire or non-cooperative equilibrium compared to the cooperative case.
- To propose a course of action that can achieve the efficient outcome, which is the global pollution level that satisfies the Pareto criterion.

This approach is similar to the one used to regulate domestic pollution problems. There is, however, one important institutional difference between global and domestic pollution problems. In a domestic pollution problem the policy chosen by the environmental regulator can in principle be enforced, given the legal framework and the informational constraints associated with the problem. In a global environmental problem, there is not however a regulator *per se* vested with the power to enforce a given policy in a number of nations. In the absence of such an authority, the policy needs to be agreed upon. This particularity related to global

[1] For a survey of these issues see Ulph (1994).

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environmental problems suggests, as Carraro and Siniscalco (1991) note, that the analysis should shift from the context of government intervention—the regulation approach—to the context of negotiations between nations and international policy coordination.[2]

Negotiations among nations should lead to some international agreement, which specifies policies that should be adopted by countries participating in the agreement.[3] Thus an international agreement could refer to the adoption by the signatory countries of the obligation to reduce domestic emissions in a uniform or a discriminatory way by following some type of national or internationally coordinated environmental policy.[4]

3. International environmental agreements and lessons from economic theory

Perhaps the major obstacles to the successful establishment of international agreements to reduce emissions associated with global environmental issues are free-riding incentives and asymmetries among countries. Free-riding incentives develop because of the common access character of global environmental problems. It might be a in a country's best interest not to participate in an agreement to reduce emissions while the rest of the countries participate, since by doing so it can reduce its own cost of abating pollution and enjoy the benefits from the overall pollution reduction brought about by the cooperation of the rest of the countries. If countries have strong free-riding incentives, the agreement cannot be sustained.[5]

When countries have major asymmetries regarding their fundamentals, moving from the noncooperative equilibrium to cooperation could create gainers and losers. In this case some countries will be better off if everybody cooperates to reduce emissions and other countries will be better off if no country cooperates to reduce emissions. It seems that this might be the most likely situation in a world where countries with predominant

[2] For an analysis of the issues related to international environmental problems, see, for example, Barrett (1992, 1995), Carraro (1997, 1999a, b), (Carraro (ed.) (1999), Xepapadeas (1997, chapter 6).

[3] The Montreal Protocol or the Kyoto Protocol can be regarded as classic examples of such agreements. As noted by Barrett (1995) the United Nations Environmental Programme lists 132 multilateral agreements adopted before 1991 and several that were adopted afterwards.

[4] For example according to the Kyoto protocol the reduction in the emissions of the six greenhouse gasses in the Annex I countries can be obtained by using the mechanisms of 'Joint Implementation', 'Clean Development' and 'International Emission Trading'.

[5] This situation corresponds to the well-known prisoners' dilemma. In a repeated prisoners' dilemma with symmetric countries, cooperation can be sustained through trigger strategies. In a trigger strategy situation a country participates in the agreement if the other countries have done the same in the past and refrains from cooperation forever in the future once the agreement is violated by another country. As Barrett (1991) notes, a trigger strategy can be recognized in the 1957 North Pacific Seal Treaty (Article 12).

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asymmetries contribute to a global environmental problem. In such a case, although cooperation to reduce emissions increases the joint pay-off, cooperation is not individually rational since a country might be better off without the agreement. This could happen because of differences in abatement costs or in environmental damages from global pollution among countries. So, a country might not be willing to join the environmental agreement because the cost to its country of reducing emissions to satisfy the agreement might exceed the perceived benefits to the country from the mitigation of the global environmental problem.

An international environmental agreement, or, as it is also called, an environmental coalition, to reduce emissions will be sustainable and self-enforcing if it is:[6] (i) *profitable*, that is a country profits from joining the coalition relative to not joining it, and (ii) *stable*, that is there are no incentives for countries to leave the coalition, or countries outside the coalition to join it. As, however, has been shown, a sustainable self-enforcing coalition is formed in general by a small number of countries.[7]

If we consider asymmetries and free riding as two distortions in the objective of achieving a profitable and stable international agreement, then economic theory tell us that we need two instruments to make the correction (Carraro (1999b). The two instruments that have been proposed are *transfers* and *issue linkage*.

Transfers or side payments aim mainly at making the coalition profitable. The main idea is that gainers from the environmental coalition compensate losers, through a transfer mechanism, so that everybody is better off relative to the non-cooperative case.[8] Self-financing transfer mechanisms can also satisfy the stability criterion if a group of countries *commits* to cooperation and then uses the self-financing mechanism to induce other countries to join the coalition.[9]

Issue linkage[10] refers to the idea of linking an agreement about an environmental issue to agreement among the same group of countries on another issue. Formally issue linkage can help design profitable and stable coalitions without the commitment requirement. At the applied policy level, while transfers are rarely observed in international environmental agreements,[11]

[6] See Carraro and Siniscalco (1994).

[7] See for example Barrett (1994), Hoel (1992), Heal (1994).

[8] It has been shown in the literature (Chander and Tulkens, 1994, 1995) that there exist self-financing transfer mechanisms that make every country better off when they cooperate in reducing emissions.

[9] The commitment requirement is analysed for the symmetric case by Carraro and Siniscalco (1993) and for the asymmetric case by Petrakis and Xepapadeas (1996). In the latter case the countries that commit to cooperation are identified as the environmentally conscious countries.

[10] The concept of issue linkage in environmental agreements was introduced by Folmer, van Mouche and Ragland (1993), Cesar (1994), Cesar and de Zeeuw (1996).

[11] Exceptions are the 1957 North Pacific Seal Treaty in which the US and the USSR agreed to pay Canada and Japan, and the 1972 agreement between France and the Netherlands in which the Netherlands agreed to pay cleaning-up costs for the river Rhine (Cesar and de Zeeuw, 1996).

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it is more common to have an international agreement in which the agreement on the part of a country or group of countries to reduce emissions is linked to agreements among the same countries on other issues. In the London amendment of the Montreal Protocol for example, the developing countries agreed to phase out the CFCs, but their agreement was linked to technology transfers from the developed countries.[12] Linking the environmental agreement to R&D cooperation has been proposed by Carraro and Siniscalco (1995, 1997) and Katsoulacos (1997). There have also been discussions about linking the environmental agreement to agreements on trade liberalization, or using trade threats to enforce environmental commitments (e.g. Whalley, 1991; Barrett, 1995).

Managing the global commons, on issues like global warming, involves issues of intergenerational equity and goes beyond the imposition of the 'values' of one country to the environmental problems which are of domestic concern to another country. It seems that the design of sustainable agreements requires some form of linkage between the environmental issue and corresponding issues that are of concern to the countries involved. The extent to which the desirable linkage has a 'benign' nature like R& D cooperation, or involves punishments or trade threats, is an issue that should be associated with the design of the specific environmental treaty. Nevertheless there are strong indications that some kind of issue linkage is necessary in order to create sustainable agreements on global environmental problems.

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[12] See Cesar (1994) and Cesar and de Zeeuw (1996) for more examples on issue linkage involving environmental agreements.

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A note on Bhagwati's 'On thinking clearly about the linkage between trade and environment'

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1. Introduction

The linkage between trade and environment can hardly be denied. The recent literature has highlighted three main effects: the *scale effect* implies that trade may worsen the environmental quality by increasing the scale of economic activity (Lopez, 1994); the *composition effect*, that trade may influence environmental quality by relocating production towards countries with more lenient regulations, where the global impact is ambiguous (Ulph, 1996); and the *technology effect*, that trade may improve the environmental quality by increasing the adoption and the diffusion of cleaner technologies (Xepapadeas and de Zeeuw, 1999).

Actually, the relevant question is whether trade measures can be justified on environmental grounds, in general, and whether, in particular, environmental issues can be brought into the trade context and institutions.

Bhagwati (1999) suggests a comprehensive framework in which the environmental damage is classed as either domestic (local) or international (global), while the countries addressing the environmental issues are split into egoistic and altruistic.

Focusing on *local* environmental problems, he reaches two instructive conclusions. First, the linkage between trade and environment makes sense when the country addressing the environmental issues is *egoistic*. However, the suspension of market access should not be allowed automatically to a national that objects unilaterally to exports of products made by a process that the former condemns on environmental grounds. Nor should the upgrading of environmental standards be demanded in developing countries as a condition for exporting. Second, when the country addressing the environmental issues is *altruistic*, the linkage between trade and environment is not necessary. In any case, free trade and environmental agendas should be pursued in different fora.

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In this note I will develop a simple model to identify the conditions under which trade measures which as the automatic suspension of the market access or the harmonization of the environmental standards may be advocated and trade liberalization supported on environmental grounds.

2. A model

Consider two groups of countries and label them developed and less developed (DCs and LDCs); in my notation, attributes of the former are upper-cased and of the latter are lower-cased.

The 'trade and labor standards' and the 'trade and environment' issues cna be brought back to a single framework. In the former case it is the flow of violations that generates discomfort, while in the latter both the flow and the stock of pollution cause damage. Let us call Z and z the violations or the pollution in DCs and LDCs, respectively, and refer to the amount of violations or pollution S as the sum of violations or pollution in both countries ($S = Z + z$), while the amount of current pollutants emitted by both countries add to the existing stock of pollution S according to the standard dynamic ($S = Z + z - \delta S$, where δ is the natural pollution decay rate). I will develop the static analysis throughout by referring to the global level of pollution for short; I will only recall results from the dynamic analysis.

Bhagwati (1999) suggests a taxonomy in which environmental damage is local or global (on rows) and the country addressing it follows either egoistic or altruistic objectives (on columns), and identifies four sets of problems. To my mind, only two are relevant (those on the main diagonal of the matrix). For, if DCs are concerned with the level of pollution in LDCs, they will refer to it as a global phenomenon; if not, they will call it a local phenomenon. Let us call B_1 and B_2 the disutility to people in DCs from pollution in DCs and LDCs, respectively, and β_1 and β_2 the disutility to people in LDCs from pollution in LDCs and DCs, respectively. I assume that LDCs do not care about pollution either in DCs or in LDCs ($\beta_1 = \beta_2 = 0$).

Given imperfectly competitive markets, there may be demands in a country for trade penalties, such as countervailing quotas or tariffs on imports from countries with laxer environmental regulations (Rauscher, 1994). In order to abstract from this aspect, we consider a single polluting good supplied by DCs and LDCs in the same competitive market and produced by both at the same cost. I will call X and x the amount of the good produced in DCs and LDCs, respectively.

Let the utility of both groups of countries be unaffected by their levels of production. This assumption allows us to leave out protectionism in a country to increase its own welfare or to decrease other countries'.

Moreover, even with perfectly competitive markets, demands may be raised for restrictions of trade to reduce the overall consumption of the polluting good (the *scale effect*). In order to abstract from this, we assume that the levels of consumption in DCs and LDCs are fixed. I will call A and α the demand for the good in Dcs and LDCs, respectively; for simplicity, I assume them to be equal ($A = \alpha$).

Let pollution intensity, defined as the emission-output ratio, be constant

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within each group of countries but different between them. This assumption prevents us from considering the advocacy of trade liberalization to increase the adoption and the diffusion of cleaner technologies (the *technology effect*). I will call Ω and ω the supposed pollution intensity in DCs and LDCs, respectively; without loss of generality, I assume $\omega \geq \Omega$.

Therefore, the analysis will consist of two steps.

I will study the decision made by DCs about the distribution of production of the polluting good between DCs and LDCs (the *composition effect*), based on the relative disutility of domestic and foreign pollution and the relative damage to the environment from the technology applied in DCs and in LDCs. Without loss of generality, let *IM* (with $IM \geq 0$) be the level of imports of the polluting good by DCs from LDCs. The production level in DCs is thus given by consumption less imports ($X = A - IM$), while production in LDCs is given by domestic consumption plus DCs' imports ($x = A + IM$). In other words, I will identify the optimal level of these imports (IM^*) for DCs.[1]

For the sake of simplicity, let Ψ (with $0 \leq \Psi < 1$) denote a unilateral trade initiaitve applied by DCs to its imports ($\Psi\, IM^*$), where a smaller Ψ represents a trade restriction and a larger Ψ a trade liberalization.

Next, I will analyse the impact on the global level of pollution ($S_s^* = \Omega(A - \Psi IM^*) + \omega(A + \Psi I'm^*)$) of the three trade measures mentioned above: (i) automatic suspension of market access will be represented as an *ex-post* restriction of trade by DCs (a smaller Ψ) in response to LDCs' adoption of a supposedly more polluting technology (a smaller ω); (iii) trade liberalization will be represented as an *ex-post* opening of markets by DCs (a larger Ψ) regardless of the technology adopted by LDCs (a larger or smaller ω). In other words, I will identify the effectiveness of these trade measures for global environmental quality.[2]

Note that an *ex-ante* reduction of imports by Dcs would be ineffective.[3]

3. Some insights

Without loss of generality, let the disutility in DCs from pollution in LDCs (B_2) be the discriminant variable and refer to it as a function of the disutility arising in DCs from domestic pollution (B_1) as well as of the supposed pollution intensities in LDCs (ω) and in DCs (Ω).

The introduction of three thresholds (λ, μ, and ν with $\lambda \geq \mu \geq \nu > 0$) for the disutility to people in DCs from pollution in LDCs and of one threshold (ξ with $\mu > \nu$ if and only if $\omega < \xi$) for the supposed pollution intensity in LDCs allows us to distinguish two main scenarios.[4]

[1] $IM^* = \arg\max_{IM} A(IM) - 1/2(IM)^2 - 1/2[\beta_1 6(A - IM) + B_2\varphi(A + IM)]^2$ s.t. $0 \leq IM \leq A$.

[2] $^2\partial^2 S_s^*/\partial\Psi\partial\omega$ as a function of B_1, Ω, B_2, and ω.

[3] S_s^* does not depend on Ψ when *IM* is replaced by ΨIM in the previous maximization problem.

[4] $IM^* > 0$ if and only if $\beta_2 < \lambda(B_1, \Omega, \omega) = \sqrt{(1 + B_1^2\Omega^2)/\omega^2}$; $\partial^2 S_s^*/\partial\Psi\partial\omega > 0$ if and only if $B_2 < \mu(B_1, \Omega, \omega)$ with $\mu_{B1}' > 0$, $\mu_6' > 0$, $\mu_\omega' < 0$ and $\mu < \lambda$ with $\lim_{\omega\to\Omega} \mu = \lambda$; $IM^* < A$ if and only if $B_2 > \nu = (B_1\Omega)/\omega$; $\partial^2 S_s^*/\partial\Psi\partial\omega > 0$ at $B_2 = \nu$ if and only if $\omega < \xi(B_1, \Omega) = (2B_1^2\Omega^3)/(2B_1^2\Omega^2 - 1)$.

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1. *People in DCs are concerned about the pollution level in LDCs to a small extent* ($v < B_2 < \mu < \lambda$) and *the pollution intensities in DCs and in LDCs are supposed to be similar* ($\beta < \varphi < \chi$).

(a) An increase in the supposed pollution intensity in LDCs (a larger ω) will lead to an increase in pollution in LDCs ($\partial z / \partial \omega = A + IM^*$) and to a small reduction of imports of DCs ($\partial IM^* / \partial \omega < 0$). This in turn will imply a small increase in production, hence, in pollution, in DCs (($\partial Z / \partial X$) ($\partial X / \partial IM^*$) $= -\Omega$) together with a small decrease in production, hence, in pollution, in LDCs (($\partial z / \partial x$) ($\partial x / \partial IM^*$) $= \omega$). However, the supposed similarity of pollution intensity in the two groups implies that the decrease in pollution in LDCs ($\omega(\partial IM^* / \partial \varphi)$) will be offset by a similar increase in DCs ($-\Omega (\partial IM^* / \partial \omega)$). Thus, an *ex-post* restriction of trade by DCs (a smaller Ψ) is required to reduce their imports and, therefore, to improve global environmental quality.[5] (b) A like argument holds for a reduction of the supposed pollution intensity in LDCs (a smaller ω).

Notice that when people in DCs are very little interested in the level of pollution in LDCs ($B_2 < v$), a corner solution applies with them not producing the good domestically ($IM^* = A$) and scenarios 1(a) and 1(b) are relevant for any supposed pollution intensities in DCs and LDCs.[6]

2. *People in DCs are concerned about the pollution level in LDCs to a large extent* ($v < \mu < B_2 < \lambda$) or *the pollution intensities in DCs and in LDCs are supposed to be different* ($\beta < \chi < \varphi$).

(a) An increase in the supposed pollution intensity in LDCs (a larger φ) will lead to an increase in pollution in LDCs and to a large reduction in the imports of DCs. This in turn implies a large increase in production, hence, in pollution, in DCs together with a large reduction in production and pollution in LDCs. However, the supposed difference between the pollution intensities in DCs and in LDCs implies that the decrease in pollution in LDCs is not fully offset by the increase in DCs. Thus, there is scope for an *ex-post* liberalization of trade by DCs (a larger Ψ) without worsening global environmental quality. (b) A like argument holds for a decrease in the supposed pollution intensity in LDCs (a smaller φ).

Note that the findings in this static context also apply in a dynamic framework, because the unique globally and asymptotically stable linear strategy outcome in the latter leads to a steady-state stock of pollution that is proportional, via the natural pollution decay rate, to the global level of pollution in the former.[7]

Therefore, DCs can reduce the global level of pollution by such punitive measures as *automatic suspension of the market access* (scenario 1(a)) and through positive incentives implied in *harmonization of environmental standards* (scenario 1(b)) when they are relatively unconcerned about the level

[5] $\partial S_s^* / \partial \omega = A + \Psi IM^* - \Omega\Psi(\partial IM^* / \partial \omega) + \omega\Psi(\partial IM^* / \partial \omega)$.

[6] $\partial S_s^* / \partial \omega = \Psi IM^*$.

[7] $S_s^* = \delta S_D^*$ where S_s^* is the global level of pollution for the static context, δ is the natural pollution decay rate, and S_D^* is the steady-state stock of pollution for the dynamic context.

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of pollution in LDCs and are unwilling to take a greater commitment to environmental issues than LDCs. DCs can also improve global environmental quality through *trade liberalization* (scenarios 1(b) and 2(a)) if the couple it with appropriate measures.

4. Conclusion

The simple insights discussed above allow us to interpret, from a different point of view, some positions of policy makers and advisers, on the assumption that they are motivated by a real concern for the environment.

Those who advocate automatic suspension of market access and harmonization of the environmental standards have been shown to be against the idea of 'integration and sustainable development', according to which environmental problems in LDCs are international issues, and hostile to the principle of 'common but differentiated responsibility', by which most of the burden of the global costs of adjustment should be born by developed countries. Thus, those who share Bhagwati's values can only agree with him and oppose these measures.

Advocates of trade liberalization, on the other hand, by our findings are not necessarily against the idea or hostile to the principle just set forth. Thus, even those who share Bhagwati's values may partially disagree with him and maintain that the environmental issues can be brought into the trade context and institutions, once the matter has been thoroughly examined.

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