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Trade and the environment: a critical assessment
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Abstract

This article critically assesses three links on how trade might harm the environment. First, trade liberalisation might exacerbate existing levels of resource depletion and environmental pollution. Second, open borders might allow companies to migrate to ‘pollution havens’, thus undermining high environmental standards in host countries. Third, the dispute settlement system of the World Trade Organization (WTO) might favour trade over environmental interests in case of conflict. It is shown that while trade liberalisation can lead to an increase in environmental degradation, pollution havens are not a statistically significant phenomenon. As concerns measures aimed at domestic environmental protection, the dispute settlement in the WTO is not biased against environmental interests. The relationship is more complicated with respect to measures aimed at extra-jurisdictional environmental protection and with respect to trade restrictions for health reasons under the Agreement on Sanitary and Phytosanitary Measures. The paper concludes with some constructive suggestions on how trade and the environment can be reconciled in future trade negotiations.

1. Introduction

Many environmentalists are critical towards trade liberalisation. In their view, free trade is responsible for many aspects of environmental degradation and for the failure of policy makers to adequately protect the environment. This critique cannot leave unconcerned those who both care for the environment and believe in a liberal world trading order. This article attempts to demonstrate that while there is indeed reason for being concerned about the environmental consequences of free trade, environmental protection and trade liberalisation need not clash with each other. It provides some suggestions on how trade and environmental protection can be reconciled in future rounds of trade negotiations.

The criticism of environmental activists and ecologically oriented academics towards trade liberalisation can be summarised in three points (see, for example, Greenpeace 1997, WWF et al. 1998, WWF 1999, FoE 1999a, Morris 1990, Daly 1993, Lang and Hines 1993, McGinn 1998):

- The liberalisation of trade is likely to exacerbate the existing high levels of environmental degradation.
- Countries will lower their environmental standards in order to attract foreign direct investment (FDI) into ‘pollution havens’ if trade liberalisation allows them to export their goods into countries with high environmental standards.
- The dispute settlement system of the WTO favours trade interests over environmental protection.

In this paper, I will critically assess what theory and empirical evidence can tell us with respect to these important topics.

2. Environmental degradation due to trade liberalisation

From an outside perspective, it might seem at times as if economists and free trade proponents unreservedly subscribed to the view that trade liberalisation is always in harmony with the environment. Such a perspective would be fundamentally wrong, however. First, there is a consensus among economists that trade liberalisation might harm the environment if the environment is not optimally managed. If externalities are not internalised, then free trade can make the already inefficient allocation of resources even more inefficient. In these circumstances, trade liberalisation can be like a fresh breeze of wind on a house that is already set on fire. Even the WTO (1997b, p. 1) readily admits that for the benefits of trade liberalisation to be realised and ‘for trade-induced growth to be sustainable, appropriate environmental policies determined at the national level need to be put in place’. What is more, if an economy that is liberalising its trade regime suffers from distortions to a great extent, an increase in trade can very well harm the country’s overall welfare, not just its environmental quality (Markandya 1994, p. 10).

Second, there exist both theoretical economic models and empirical evidence suggesting that trade liberalisation might harm the environment even if resources are efficiently allocated and the environment is optimally managed. At the most fundamental level, it is uncontested that if a country specialises in the production of pollution-intensive goods after an opening up towards trade, its emissions will rise and its environment will suffer. On the other hand, the other countries will become cleaner and their environment will benefit as they can satisfy their demand for pollution-intensive goods via increased imports (Rauscher 1991, p. 20f.), so that the overall amount of pollution need not increase. In other models, however, a global increase in pollution follows from trade liberalisation. In the two regions model of Copeland and Taylor (1994), for example, worldwide pollution increases even though emissions in the ‘North’ decrease be-

cause 'Southern' emissions increase even more. Behind this result stands the assumption — widely shared among economists — that the environment is a normal good. This means that demand for environmental protection increases with income growth. It follows that trade liberalisation which shifts the production of pollution-intensive goods towards the low-income, high-polluting South increases global pollution as the decrease in Northern emissions is insufficient at the margin to compensate for the increase in Southern emissions.¹

Third, the negative worldwide environmental effects of trade liberalisation described above become exacerbated if one of two conditions hold: first pollution is not local, but transboundary or global in nature and second, the environment is not optimally managed. In the first case, incentives to internalise the environmental externality are low, the most conspicuous example being greenhouse gases. In the second case, trade liberalisation can lead to an export of the resource misallocation to other countries and thereby to a deterioration in environmental quality. An example for this is Chichilnisky's (1994) influential two regions model in which ill defined property rights over natural resources in the South lead to an overproduction of environmentally intensive goods. The South has a comparative advantage in the production of this good — an advantage that is only apparent, however. Trade liberalisation 'makes things worse, in the sense that the overuse of the resource increases as the South moves from autarky to trade' (*ibid.*, p. 859). A final aspect of how trade liberalisation can harm the environment is via the increase in transportation. OECD (1997b) estimates that international transport is bound to increase by four to five per cent due to the increase in trade in the wake of the Uruguay Round.

That trade liberalisation can lead to worldwide environmental degradation is not an artefact of theoretical economic models. The empirical study by Cole, Rayner and Bates (1998) on the environmental effects of the Uruguay Round demonstrates that global

emissions of nitrogen dioxide, sulphur dioxide, carbon monoxide, suspended particulate matter and carbon dioxide are likely to have increased. Their study mirrors the finding from theoretical models that emission increases in the developing South overcompensate for possible emission decreases in the developed North. What the study demonstrates as well, however, is that the monetary value of the increased environmental damage is likely to be drastically lower than the welfare gain due to the other beneficial effects of trade liberalisation. This result echoes the theoretical finding of Anderson (1992, p. 29) that overall welfare is unambiguously higher with trade if environmental policy is not too far from its optimum 'despite the fact that the environment is more polluted'.

To sum up, both theoretical reasoning and empirical evidence show that trade liberalisation can lead to a global increase in resource depletion and to a global increase in environmental pollution. These effects are more likely to occur and are more likely to be stronger if property rights over resources are ill defined and if the environment is not optimally managed. There is ample evidence that, especially in many developing, but also in developed countries, environmental management is non-optimal and property rights over natural resources are ill defined (see, for example, World Bank 1992). As concerns the so-called global commons (climate, biodiversity etc.), property rights are practically non-existent and open access prevails leading to excessive resource depletion and pollution. The first concern of environmentalists is therefore well supported by theoretical models and empirical evidence: trade liberalisation can indeed exacerbate the existing high levels of environmental degradation.

This finding does not imply that overall welfare must fall if environmental degradation increases. Indeed, as argued above, overall welfare can well increase if environmental management and resource depletion are not too far from their optimum. Two

important observations follow: First, because trade liberalisation can lead to both overall welfare improvements and a deterioration of environmental quality, a fundamental clash can arise between free trade proponents and environmentalists. While the former can refer to the overall increase in welfare in justification for their calls for trade liberalisation, the environmentalists are likely to refer to increased resource depletion and environmental degradation in justification for their concern about or opposition to trade liberalisation. This clash is often not clearly recognised and it is not easily ameliorated. Second, the increase in environmental degradation could in principle overcompensate any other beneficial effect of trade liberalisation. In other words, a situation in which environmental degradation increases so much that overall welfare decreases cannot be ruled out per se. It is largely an empirical matter and would call for a careful assessment of the environmental consequences of trade liberalisation.

3. Pollution havens: Do developing countries lower their environmental standards to attract foreign investment?

The second fear that environmentalists share is that countries supposedly have an incentive to artificially lower their environmental standards in order to attract FDI from high-standard countries into their so-called 'pollution havens'. Trade liberalisation comes into play in so far as a freer trade regime allows the exportation of goods into the countries with the higher standards. From the environmentalists' perspective this is detrimental for two reasons. First, the environment in the pollution havens deteriorates substantially. Second comes a 'chilling effect' on environmental regulation such that countries fear to raise standards because of the threat of capital outflow that higher standards might induce. Worse still, capital outflows might actually put downward pressure on

existing environmental standards of the source countries: countries compete with each other in a 'race to the bottom' with respect to environmental standards in order to attract or keep capital. In the words of Daly (1993, p. 26f.): '...unrestricted trade imposes lower standards'.

There are two basic strands of economic theory that can give rise to results similar to the ones just described. For one strand, Oates and Schwab (1988) can serve as the prime model. If capital is internationally mobile and if countries want to acquire capital in order to gain capital tax revenue, then countries have an incentive to set their environmental standards below the optimal level in order to attract migratory capital. This result mirrors in the field of environmental standards a more general and much older finding from the literature on international tax competition. Similarly, pollution havens can arise if some countries fail to internalise all environmental externalities because the environmental pollution in question is transboundary, because policy makers are biased against environmental concerns or because of political-institutional failures in low standards countries (Neumayer 2000).

For the other strand of economic theory, Barrett (1994) is presumably the best known model. He shows that if international markets are imperfectly competitive, then countries can have an incentive to lower their environmental standards, which allows the home country's industry to expand its output and to shift some of the profits from international markets away from its foreign country's competitors.² Since all countries have this incentive, environmental standards are set inefficiently low worldwide. This result mirrors the more general and much older finding from the literature on research and development as well as export subsidies as a means to reap profits from international imperfectly competitive markets. Indeed, because lower environmental standards also hurt a country because of an increase in domestic pollution, they are only second best to

subsidies. But if R&D or export subsidies become incriminated by international trade agreements like the WTO, then to lower environmental standards can become the best instrument available.

The empirical evidence does not support the hypothesis that countries lower their environmental standards and industries migrate towards low standard countries, however. Practically all studies agree that apart from some specific cases there is no general detectable evidence that pollution havens are a significant phenomenon (see, for example, Leonard 1988; Tobey 1990; Jaffe, Peterson and Stavins 1995; OECD 1997a; Zarsky 1999). While it is true that pollution intensity as a share of total manufacturing output has increased in the developing world, whereas it has decreased in developed countries (see Lucas, Wheeler and Hettige 1992 and Mani and Wheeler 1997), this trend cannot be attributed to pollution havens as the consumption of pollution intensive goods in the developed world has decreased hand in hand so that the 'consumption/production ratios for dirty-sector products in the developing world have remained close to unity' (Mani and Wheeler 1997, p. 20). There are manifold reasons why transnational corporations do not migrate towards countries with low environmental standards. These reasons range from the fear of liability in case of accidents, risk to a multinational corporation's reputation, consumer demands for environmentally friendly production to the costs of unbundling technology and the anticipation of future more stringent environmental regulation in the host country (Neumayer 2000).

The reader should note two important caveats, however. The first caveat is that most empirical studies have so far looked at whether pollution prevention expenditures have prompted manufacturing industries to move to other locations with laxer environmental protection standards. Much less attention has been given to an examination of whether natural resource exploiting industries, from forest logging companies to open cast min-

ing, have relocated to places with less strict standards or have successfully used the threat of re-location to knock down the imposition of stricter standards.³ More attention seems warranted here for mainly two reasons: first, natural resource and environmental protection policies can lead to substantial costs for resource exploiting industries, thus strengthening the incentives for re-location. For example, the costs for logging companies are significantly different depending on whether or not they are required to use a forest sustainably. Second, natural resource exploitation can have tremendous environmental consequences if adequate environmental standards are not in place. For example, open cast mining can lead to substantial pollution problems and disturbance of natural eco-systems if standards for pollution containment and re-cultivation are not existent or are not enforced.

The second caveat to keep in mind is that environmental protection expenditures have been relatively small so far as a share of overall costs. Up to a certain threshold, these costs can increase without causing any major re-location. If these were to rise beyond a certain threshold, however, cost incentives for re-location could become dominant. That is, the decision to re-locate could be non-linear in costs, which would be realistic for sectors of imperfect competition and increasing returns to scale (for an economic model with these characteristics, see Markusen, Morey and Olewiler 1995).

4. WTO dispute settlement: trade above the environment?

The third critique of the environmentalists is that trade always supersedes environmental interests in the WTO's dispute settlement system – as it did before in the GATT. As Retallack (1997) has put it: '[I]n every case brought before it to date, the WTO has ruled in favour of corporate interest, striking down national and sub-national legislation pro-

protecting the environment and public health at every turn.’ In some sense, this is the environmentalists’ major critique against the WTO. Because, according to their perspective, trade liberalisation leads to more environmental degradation, sovereign nation states should at least have the right to impose stringent regulation to mitigate these environmentally detrimental effects — even if it interferes with trade interests. Indeed, because trade liberalisation induces countries to lower their environmental standards to keep existing or attract new capital, judged from the environmentalists’ view stringent regulation is only possible if it restricts trade. It is therefore worthwhile to take a closer look at the most important disputes where countries justified policies with one of the environmental exceptions in Article XX of the GATT, whereas other GATT or WTO members regarded those policies as violating their trade rights and therefore brought them before a panel to decide. It is important to distinguish between measures, which aim at the protection of the domestic environment, and measures, which aim at the protection of the environment outside a country’s jurisdiction. However, it will also be important to look at the European Union import ban of beef from hormone treated cattle. This ban was not justified under one of the exceptions in Article XX of the GATT, but under human health protection provisions of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), which forms part of the WTO system.

4.1 Measures aimed at domestic environmental protection

As concerns trade restrictions, which aim at the protection of the domestic environment, there have been four major decisions so far. All of them ended with the dispute panel (or the appellate body, respectively) ruling that the trade restriction was, partially at least, in non-conformity with GATT/WTO rules. However, in every decision each dispute panel has stressed that it had not decided against the protection of the domestic environment,

but merely against the intended or unintended effects of domestic regulation on imports from trading partners. In all cases, the panel has shown ways on how to protect the domestic environment without interfering with the trade rights of foreign countries. Let us have a closer look at these dispute settlement decisions.

In November 1987 a panel decided on Canada's export prohibitions of unprocessed salmon and herring (GATT 1987). Canada argued that these were necessary to protect its fish stocks that it said were under threat of depletion. The panel ruled that Canada had violated its GATT obligations and demanded that Canada brings its measures into conformity with the GATT. It is important to note, however, that the panel did not question Canada's fundamental right to put policies in place that protect its fish stocks. It merely ruled against Canada because it found that the export prohibitions were not 'primarily aimed at the conservation of an exhaustible natural resource to be considered as "relating to" conservation with the meaning of Article XX(g)' of the GATT (ibid., para. 4.6), which excepts measures 'relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption'. First, Canada did not prohibit the export of processed salmon and herring, thus not generally limiting the exploitation of its fish stocks. Second, Canada did not restrict access of its domestic producers to its unprocessed fish, thus effectively discriminating against foreign processors and privileging domestic ones (ibid., para 4.7). It is therefore most doubtful that Canada's export prohibitions of unprocessed salmon and herring were only motivated by genuine concern about the protection of these fish stocks. Because restrictions only applied to foreign producers, not to domestic ones, there is some reason for suspecting that the regulation served to disguise protectionist intentions. At the very least, one can say that Canada tried to protect its salmon and herring stocks entirely at the expense of foreign producers. The dispute

panel objected to this, but it did not rule against a regulation, which would protect the fish stocks more generally and would affect domestic and foreign producers alike.

In October 1990 a panel ruled against Thailand's restrictions on the importation of foreign cigarettes and its higher taxes on imported as opposed to domestically produced cigarettes (GATT 1990). Thailand had justified its policies with health protection. The panel ruled that because smoking constitutes a serious risk to human health 'measures designed to reduce the consumption of cigarettes fell within the scope of Article XX(b)' (ibid., para. 73), which excepts measures that are 'necessary to protect human, animal or plant life or health'. The panel stated 'that this provision clearly allowed contracting parties to give priority to human health over trade liberalization' (ibid.). In order 'for a measure to be covered by Article XX(b) it had to be "necessary"' to protect human life or health, however (ibid.). It went on in interpreting 'necessary' in the sense that 'there were no alternative measure consistent with the General Agreement, or less inconsistent with it, which Thailand could reasonably be expected to employ to achieve its health policy objectives' (ibid., para. 75). The panel suggested a whole range of possible restrictions on the sale and purchase of cigarettes that Thailand might have employed without violating the rights of foreign cigarette producers. In the end, it ruled against Thailand because its measure treated foreign cigarettes less favourably than domestic ones without this trade discrimination being necessary to achieve its health objectives.

In September 1994, a panel decided on several United States measures on automobiles: a luxury tax on cars sold for over \$30,000, a gas guzzler tax, which applied to automobiles in general, and the so-called Corporate Average Fuel Economy (CAFE) regulation (GATT 1994). The panel found the two taxes to be consistent, but the CAFE regulation to be inconsistent with GATT regulations. This measure required the average fuel economy per fleet of automobiles for cars manufactured in the United States or sold

by any importer not to exceed 27.5 miles per gallon. The panel did not find the fuel economy regulation as such to be inconsistent with GATT. It merely objected against a provision within the regulation, which required companies that both manufacture cars domestically and import cars from abroad to exceed this fuel economy minimum separately for both the domestically manufactured and the imported cars.

In April 1996, an appellate body overruled an earlier panel report concerning US regulation of fuels and fuel additives (WTO 1996b). The regulation was quite complicated, but in essence required refiners to supply cleaner fuels and fuel additives relative to 1990 baseline standards. However, whereas US refiners were allowed to invoke their individual 1990 baselines, foreign refiners in effect were faced with statutory baselines reflecting average 1990 US gasoline quality (ibid., pp. 4-6). The appellate body came to the conclusion that the baseline establishment rules fell within the terms of Article XX(g), thus effectively ruling that stricter regulations on the pollution impact of fuels and fuel additives are in accordance with GATT (ibid., pp. 13-21). It went on analysing whether it was also covered by the chapeau of Article XX which states that measures that fall under one of the environmental exceptions must not be ‘applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade’. It ruled that the US regulation violated this requirement stating that the US could have made individual baselines available to foreign refiners as well, thus avoiding discrimination against them (ibid., p. 25). It was not convinced by the US objection that individual baselines for foreign refiners would have generated insurmountable administrative problems saying that the US had failed to engage in serious efforts to achieve cooperative agreements with the home countries of foreign refiners to reduce these costs. As with the decision on Canada’s export prohibition of unprocessed salmon an

herring, the appellate body on US regulation of fuels and fuel additives clearly did not rule against the rights of the US to impose regulation in order to make cleaner fuels and fuel additives compulsory. It merely demanded that foreign and domestic suppliers of these fuels and fuel additives were treated on equal terms in allowing individual 1990 baseline standards. The United States Environmental Protection Agency has now agreed to evaluate foreign refiners on their individual baselines for minimum clean air standards as well, in order to remove the unequal treatment and to comply with the WTO ruling (ICTSD 1999d).

4.2 Measures aimed at extra-jurisdictional environmental protection

As concerns trade restrictions, which aim at environmental protection outside a country's jurisdictions, there have been two major decisions by trade panels and appellate bodies, respectively.

In August 1991 a panel ruled on the by now famous case of US import restrictions of tuna that was caught with fishing technology which resulted in the incidental killing of dolphins in excess of the killing rate of US fishing vessels (GATT 1993). The fundamental question to be decided was whether the US had the right to invoke Article XX(b) of the GATT to regulate production methods outside its own jurisdiction. While it was at pains to assure that 'the provisions of the General Agreement impose few constraints on a contracting party's implementation of domestic environmental policies' (ibid., para. 6.2), the panel was equally clear in ruling against the permissibility of extra-jurisdictional regulation. It argued that otherwise 'each contracting party could unilaterally determine the life or health protection policies from which other contracting parties could not deviate without jeopardizing their rights under the General Agreement' (ibid., para. 5.27). Similarly, with respect to Article XX(g) of the GATT, the panel ruled that 'a

country can effectively control the production or consumption of an exhaustible natural resource only to the extent that the production or consumption is under its jurisdiction' (ibid., para. 5.31).

In the possibly most important ruling so far, an appellate body in October 1998 overruled an earlier panel report concerning US import prohibition of certain shrimp and shrimp products (WTO 1998b). In essence, the US had prohibited the importation of these products from countries that were not certified by the US as employing harvesting methods which prevented the incidental killing of five species of sea turtles. The earlier panel had found that the US regulation would 'undermine the WTO multilateral trading system' and could thus not be permitted under Article XX of the GATT (WTO 1998a, para. 7.44 and 7.62). If this ruling had passed the appeal to the appellate body, it would have confirmed the environmentalists' worst expectations that under the WTO's dispute settlement trade always trumps the environment in case of conflict. The appellate body, however, fully rejected this finding noting that to maintain the multilateral trading system 'is not a right or an obligation, nor is it an interpretative rule which can be employed in the appraisal of a given measure under the chapeau of Article XX' (WTO 1998b, para. 116). It went on saying that the term 'exhaustible natural resources' from Article XX(g) should be interpreted not according to its meaning at the time of drafting the GATT agreement more than 50 years ago, but 'in the light of contemporary concerns' citing the preamble of the WTO Agreement which embraces 'the objective of sustainable development' (ibid., para. 129). It should thus be interpreted as encompassing not only mineral natural resources, but also living species.

The appellate body then went on examining whether the US import ban violated the chapeau of Article XX. It ruled that the ban amounted to an 'unjustifiable discrimination between countries where the same conditions prevail' stating that the 'most conspicuous

flaw in this measure's application relates to its intended and actual coercive effect on the specific policy decisions made by foreign governments (...) to adopt essentially the same policy (together with an approved enforcement program) as that applied to, and enforced on, United States domestic shrimp trawlers.' (ibid., para. 161). Further, it noted that the ban also affected 'shrimp caught using methods identical to those employed in the United States (...) solely because they have been caught in waters of countries that have not been certified by the United States' (ibid., para. 165). The panel further pointed out that while the US had negotiated and concluded the Inter-American Convention as a regional international agreement for the protection of sea turtles, no serious efforts were undertaken to negotiate similar agreements with the appellant countries India, Pakistan, Thailand and Malaysia. Due to this and some other aspects of the regulation, the panel judged that the regulation 'imposes a single, rigid and unbending requirement that countries applying for certification (...) adopt a comprehensive regulatory programme that is essentially the same as the United States' program, without inquiring into the appropriateness of that program for the conditions prevailing in the exporting countries' (ibid., para. 177). The appellate body also ruled that the US import ban amounted to 'arbitrary discrimination' as it found that the 'certification processes followed by the United States (...) appear to be singularly informal and casual' so that foreign countries could not be certain that they were 'applied in a fair and just manner' (ibid., para. 181).

In sum, the appellate body ruled against the way the US imposed its own regulatory standards upon foreign companies, but it did not rule against a need for protection for sea turtles. Indeed, the body reserved a full paragraph to emphasise this point:

We have not decided that the protection and preservation of the environment is of no significance to the Members of the WTO. Clearly, it is. We have not decided that the sover-

eign nations that are Members of the WTO cannot adopt effective measures to protect endangered species, such as sea turtles. Clearly, they can and should. And we have not decided that sovereign states should not act together bilaterally, plurilaterally or multilaterally, either within the WTO or in other international fora, to protect endangered species or to otherwise protect the environment. Clearly, they should and do. (ibid., para. 185)

Interestingly, the appellate body did not refer to the panel report concerning US import restrictions of tuna in its ruling. In effect, it did not uphold the principle, enshrined in the earlier tuna-decision, that the US was prohibited from regulating production methods for shrimp harvesting outside its own jurisdiction in order to protect sea turtles per se. This is the more important as the tuna panel report was never adopted by GATT or WTO, because Mexico, the complaining country, did not find it politically opportune to request adoption of the ruling by the GATT council at the time of the then still ongoing negotiations for a North American Free Trade Agreement (NAFTA). The appellate body in the shrimp-case thus opened the theoretical possibility for extra-jurisdictional environmental regulation to be consistent with WTO rules. It seems fair to say, however, that at the same time it put up so many conditions, which such a regulation would need to fulfil, that in practice it would be quite difficult for extra-jurisdictional unilateral environmental regulation to pass scrutiny.⁴ In the shrimp-case, the US would have had to engage in bilateral or multilateral negotiations with shrimp harvesting countries (ibid., para. 166). Only if these had proven to be unsuccessful could the US have introduced unilateral measures. These unilateral measures would have needed to be designed such that differing conditions in different countries are taken into account (ibid., para. 163-165), that all countries are granted the same 'phase-in' periods (ibid., para. 174), that the US undertakes the same effort in transferring sea turtle save harvesting technology to all relevant parties (ibid., para. 175), and that the certification process is transpar-

ent and allows affected countries to be heard and to appeal against non-certification (ibid., para. 180).

As an alternative to unilateral extra-jurisdictional regulation, the appellate body strongly calls for multilateral environmental agreements for the protection of endangered species. In response to the appellate body report, the United States is now considering both allowing shrimp imports from non-certified countries on a shipment-by-shipment basis if it can be proven that the shrimps have been caught without damage to sea turtles and engaging in negotiations for a regional treaty to protect sea turtles similar to the Inter-American Convention, which would include the four complainant countries (ICTSD 1999b). United States environmental NGOs are unsatisfied with this response, however, and have already successfully challenged the shipment-by-shipment device before the U.S. Court of International Trade (ibid.).

4.3 Trade restrictions for health reasons under the SPS Agreement

As concerns trade restrictions for health reasons, the major decision so far has been the by now famous so-called ‘beef hormones’ dispute. In January 1998 an appellate body overruled an earlier panel report on EC measures concerning meat and meat products (hormones) (WTO 1998c). The US and Canada had challenged the European Communities (EC) import ban on beef from cattle raised with growth hormones. The appellate body in principle upheld the earlier panel ruling that the import ban violated provisions of Article 5 of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), which forms part of the WTO system. As the panel did before, the appellate body ruled that the EC had not provided sufficient evidence in the form of a risk assessment to justify the import ban. In two other important aspects it overruled the earlier panel decision, however. First, it overruled the panel’s finding that the prima

facie burden of proof to demonstrate that the measures related to hormones are based on a risk assessment rests with the party imposing an SPS measure. Instead, it ruled that the party challenging the measures needs to demonstrate that they are not based on a risk assessment (ibid., footnote 180 and para. 253a). Second, the appellate body made clear that a risk assessment need not establish a minimum quantifiable magnitude of risk and that such an assessment need not be confined to quantifiable risks (ibid., para. 253j). In response to this ruling, the EC has commissioned studies aiming at providing a risk assessment for justifying its continued import ban (ICTSD 1999a, p. 10). At the time of writing, it was not clear how this conflict would be resolved. It remains to be seen how stringent the requirements on WTO-compatible risk assessments will be in order to justify higher food safety norms than those warranted by international standards. Article 5.7 of the SPS Agreement enshrines the precautionary principle, which says that preventive steps can be undertaken before definite scientific evidence is established, but subjects it to being provisionally and subject to a 'more objective assessment of risk'.⁵ There is a need for strengthening and clarifying the role of the precautionary principle in the WTO system. This will be the more important as future trade disputes about genetically modified organisms are already looming at the horizon. We will come back to this important question of the relationship between the precautionary principle and the WTO system further below in the next, concluding section.

5. In way of conclusion: Some suggestions for new rounds of trade negotiations

If trade liberalisation can lead to increased environmental degradation, then the first important thing is to be aware of what kind of degradation is caused by what factors exactly. Canada, the US and the EU are now committed to a comprehensive study of the environmental and sustainable development impacts of any potential new round of trade

negotiations (DFAIT 1999; White House 1999; Kirkpatrick and Lee 1999). Environmental NGOs should welcome this initiative and try to impact upon the scope and design of these and similar studies (as a first step, see WWF 1999a). Once the likely links between trade liberalisation and environmental degradation are established, the NGOs should try to use their influence to bring about adequate policies that can mitigate if not prevent environmental degradation. They must press for a strong message to WTO members that optimal environmental management needs to be in place if trade liberalisation is to be reconciled with environmental protection. As steps toward this, officials from national environmental ministries and relevant inter-governmental institutions should participate at certain stages in the trade negotiations (WWF 1999b, p. 3). Also, regular environmental assessments of the effects of trade agreements should be agreed upon.

The likelihood of success for such a strategy is heightened if NGOs also press for trade liberalisations that can actually have positive environmental effects if accompanied by adequate policies — for example, in agriculture, the energy and fisheries sector (see WTO 1997). NGOs could find strong support among free trade proponents for the removal of obstacles in the trade of environmental goods and services and for the gradual abolition of many subsidies that are both economically distorting and environmentally destructive (OECD 1998, de Moor 1999). In this respect, it is encouraging to see that in the US, Friends of the Earth, Taxpayers for Common Sense and the US Public Interest Research Group join together in the ‘Green Scissors Campaign’ with the aim of cutting wasteful and environmentally harmful spending (FoE 1999b).

The WTO has recently become much more open towards environmental and other NGOs, organising regular meetings and a high level symposium, derestricting the access to many official documents and installing a site for NGOs on its webpage (for a sum-

mary of these activities see WTO 1999, pp. 32-34). Environmental NGOs could press for a further derestriction of, say, dispute panel submissions and for panel hearings to take place in public rather than behind closed doors. They have won one battle already when, against the explicit demand of developing countries (ICTSD 1998, p. 8), the appellate body in the shrimp case ruled that panels are allowed to take into account statements from NGOs, so-called amicus curiae briefs, that are not part of one party's solicited submission (WTO 1998b, para. 108). The more open-minded representatives of the trade community clearly regard involvement of and approval by environmental NGOs as desirable which increases the chance that NGOs can strengthen their influence in future trade negotiations (see, for example, Sampson 1999). Indeed, they might have to compromise quite substantially and accommodate demands by NGOs, if the new round of trade negotiations is to be successful. In the case of the failed negotiations on a Multilateral Agreement on Investment (MAI) environmental and other NGOs have clearly demonstrated how important they can be in bringing down agreements that they fundamentally oppose (see Neumayer 1999b).

On the other hand, environmentalists should not, as Daly (1993, p. 26) does, press for tariffs that supposedly compensate for international differences in environmental regulation. As argued above in section 3, 'ecological dumping' and pollution havens have not been proven to be statistically significant phenomena. Pressing for environmental tariffs will boost the protectionist factions in the developed world, but will completely alienate the developing countries from the environmental case. If environmentalists call for environmental tariffs, they will soon find themselves in an unholy alliance with all sorts of protectionist factions, who welcome the call for tariffs for less idealistic reasons (DeSombre 1995).⁶

If environmentalists are particularly concerned about the environmental record of multinational corporations, then they should demand from host countries that they require their companies investing abroad to apply the same environmental standards as in the home country. However, in the end differences in environmental standards are partly the consequence of differences in both the absorptive capacity of differing environments and, more importantly, of differing policy priorities. They need not have anything to do with a deliberate attempt to attract dirty industries from developed countries.

Environmental NGOs should try to gain support for their case from developing countries, which are so far positively hostile to virtually any form of 'greening' of trade issues (see, for example, Shahin 1997, Lal Das 1998, and the comments by developing country delegates in a high-level WTO symposium on trade and the environment as documented in ICTSD 1999c). For them economic development and poverty alleviation take clear priority over environmental protection and they fear that their development is burdened with environmental obligations and their market access to developed countries is restricted under what they regard as flimsy environmental pretexts. As Das (1993, p. 356) has put it bluntly: 'There is a contemporary movement of idealists in the West — the global environmentalists — who might trigger another round of imperialism in the name of saving spaceship Earth'. Such fears might not do justice to most environmental NGOs, who often care about the fate of people in developing countries immensely and share many of the demands of developing countries to make the world trading system more favourable to them. However, the tensions are existent and environmental NGOs will find it helpful to alleviate them. One way to do this is for NGOs to press for the design of environmental measures in a way that they do not represent barriers to market access for developing countries. Many of these fear that they do not have adequate information and capacity to comply with, for example, ecolabels, which mainly affect

goods such as textiles, leather, footwear, forestry and food products that developing countries have a comparative advantage in producing and exporting (WTO 1996a).

As concerns the settlement of disputes, no changes to Article XX of GATT seem warranted as far as measures are concerned, which aim at domestic environmental protection. WTO members have ample leeway to formulate strong domestic environmental policies in a way that the trading rights of other members are not violated. In the cases decided by panels so far, measures were only found inconsistent with GATT/WTO rules because different regulations applied to foreign producers. In each case, the regulation could be easily amended to treat foreign and domestic producers alike without jeopardising in any respect the objective of environmental protection.

Things are far less clear with respect to measures, which aim at extra-jurisdictional environmental protection. While the appellate body in the shrimp case has in principle not decided against the possibility of such regulation, it has also set up many hurdles, which would be difficult to get over in practice. Environmentalists are generally in favour of unilateral regulation of production methods outside a country's own jurisdiction, if only as a measure of last resort (see, for example, von Moltke 1997, WWF et al. 1998, WWF 1999b). This is quite understandable as it would often seem to be the most direct way to undertake steps for the protection of endangered species abroad — with immediate impact upon those who threaten the species and so much more easier to achieve than tedious negotiations for an international agreement. And yet, unilateral measures aimed at extra-jurisdictional environmental protection might do more harm than good, even for the environmentalists' case. It would represent a falling back into a world where power dominates rules in solving international conflicts and the stronger countries unilaterally prescribe the weaker ones what they have to do, which is exactly why developing countries are unambiguous in their united opposition (see ICTSD 1999c). It would be a world

in which every country can try to impose its particular value system on others, but only the powerful ones succeed. Such actions would run counter to the spirit of cooperation which the world is so dire in need for the solving of international and global environmental problems.

There is a dilemma then: On the one hand, unilateral action is undesirable for the reasons mentioned above; on the other hand, multilateral action is difficult to bring about, often takes time and might very well be insufficient. As all real dilemmas, there is no easy solution. My personal view is that as long as it has not been convincingly shown that attempts for multilateral environmental agreements are doomed to failure, WTO members should not have resort to unilateral measures aimed at extra-jurisdictional environmental protection. However, WTO members should support the establishment of multilateral environmental agreements then and should ensure that the WTO does not stand in the way of effective multilateral agreements. This is because even if unilateral measures are ruled out, trade restrictions have a clear role to play in promoting environmental cooperation, as they can play a vital role as a self-enforcement device in international environmental treaties and to contain free-riding (Neumayer 1999a). The difference is that in these cases sanctions are authorised by multilateral agreement and are not unilaterally imposed on others. There needs to be clarification that trade restrictions in these multilateral environmental agreements cannot be challenged under the WTO dispute settlement — again, a task for environmental NGOs to press for in the next round of trade negotiations. So far, no country has tried to challenge the trade restrictions in the Montreal Protocol for the protection of the ozone layer or the Convention on International Trade in Endangered Species (CITES). But there is hardly any doubt that a potential for clash of rules exists, so clarification is important.

Another mechanism, which can help to achieve species protection (and animal welfare protection more generally), is via mandatory eco-labelling. The idea is to let consumers decide whether, to give two examples, they prefer shrimp caught with turtle safe devices or fur from animals caught without leghold traps. So far, Article III of the GATT, which states that 'like products' must not be treated differently, is likely to clash with eco-labelling that refers to non-product related process and production methods. The same is true for ecolabels for consumer goods based on ecological life-cycle assessments. A decision needs be taken at the WTO that such ecolabels are regarded as consistent with WTO rules and do not represent non-tariff or technical barriers to trade.

Yet another aspect on which clarification is important is with reference to the precautionary principle and food safety standards. Environmental NGOs should press for a clarification of the SPS Agreement such that it becomes clear that, in accordance with the precautionary principle, countries can introduce higher than international standards without conclusive scientific evidence being available. The appellate body in the case of EC import ban on beef from cattle raised with growth hormones noted that 'the Panel itself did not make any definitive finding with regard to the status of the precautionary principle in international law and that the precautionary principle, at least outside the field of international environmental law, still awaits authoritative formulation' (WTO 1998c, para. 123). It should be clarified that a dispute panel should only have the right to rule against a measure taken under the SPS Agreement if it comes to the conclusion that the scientific evidence provided is clearly inadequate to establish health risks. It should not have the right to determine the level of precaution itself a WTO member country is allowed to apply. In a world of uncertainty and ignorance science itself cannot prescribe the 'right' level of precaution necessary to avoid potential harm (Neumayer 1999c, chapter 4). Here as well as in many other cases mentioned above, environmental NGOs

have the important task to press for clarifications and modifications of existing WTO rules, which would lead to an environmentally more friendly next round of trade negotiations. After the disaster of the WTO Ministerial meeting in November 1999 in Seattle all negotiations are blocked for the time being. But the current stalemate will be overcome sooner or later. It is then that environmental and other NGOs will face a more important battle, which needs to be won.

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Note: All GATT and WTO documents apart from GATT (1993) and GATT (1994) are online available at <http://www.wto.org>

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NOTES

¹ The reader should note that this result represents a possibility, but is not robust to changes in the specification of the model. More comprehensive models are ambiguous with respect to whether trade liberalisation increases global pollution (see Copeland and Taylor 1997).

² This result depends on firms competing in quantities with each other (so-called Cournot competition). If instead they compete with each other in prices (so-called Bertrand competition), then profits from international markets can be reaped in charging higher prices. Governments have then the incentive to set stronger than optimal environmental standards, which allows firms to commit to higher price setting.

³ I am grateful to an anonymous referee for pointing my attention to this important aspect.

⁴ I am grateful to an anonymous referee for drawing my attention on this aspect.

⁵ The relevant passage reads as follows: 'In cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.'

⁶ In this respect, VanGrasstek's (1992) empirical finding that linking trade with environmental issues fosters support for import restrictions in the US Congress is interesting. More research in this area is clearly warranted.