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TRADE AND THE ENVIRONMENT: EFFICIENCY, EQUITY AND SOVEREIGNTY CONSIDERATIONS

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The Uruguay Round trade agreement includes a new programme of work to examine the relationship between trade and environmental policies. Environmental groups remain suspicious that trade liberalisation will undermine or discourage improvements in environmental standards. In this paper, the use of trade measures to protect producers from competition with goods produced under less stringent environmental standards is examined. It is shown that such measures will not improve national welfare, and may undermine environmental policies. Failure of a government to enact appropriate environmental policies constitutes an implicit subsidy, and equity considerations suggest that this will continue to create pressure for changes to the GATT to protect producers who are meeting higher standards.

In 1947 the General Agreement on Tariffs and Trade (GATT) was signed by 23 Contracting Parties, including both Australia and New Zealand. The parties sought to avoid a repetition of the protectionist policies of the 1920s and 1930s and to secure and expand the benefits accruing to nations from trade (Jackson 1969). Between 1965 and 1985, the value of world trade quadrupled in real terms (CEA 1986). By 1988, the General Agreement covered four-fifths of world trade (MERT 1990).

There have been eight subsequent rounds of multilateral negotiations during the past 40 years to expand the GATT and further liberalise the international trade regime. The Uruguay Round, started in 1986 and concluded in April 1994, was the latest of these negotiations, involving more than 110 countries.

Environmental Concerns About Trade Policy

Environmentalists have voiced concerns that open trade between nations may be harmful to the environment (Earthcare Network 1991, Royal Forest and Bird 1991). Some environmentalists claim that GATT rules make it difficult to raise environmental standards in one country when competing producers in other countries face lower standards. They note

* The views expressed in this paper do not necessarily represent the official views of the Ministry of Agriculture and Fisheries. The comments of Martin Harvey, Robin Johnson, Lindie Nelson and anonymous referees are gratefully acknowledged.

that progress on whaling and endangered species began with nations taking unilateral action to protect resources outside their jurisdiction. Others fear that if multilateral environmental agreements include measures which restrict trade, the agreements could be challenged under the GATT. In concluding the Uruguay Round, the signatory governments agreed that a Trade and Environment Committee of the new World Trade Organisation will analyse the relationship between environmental and trade policy.

International vs. Domestic Concerns

Environmental issues can be separated into two categories: issues which are international in nature, and issues which are primarily of domestic concern to one country. International concerns arise when an activity in one country has adverse environmental effects on one or more other countries, effects which can be called trans-boundary externalities. International issues include air pollution from one country affecting a neighbouring country, or the use of chloroflourocarbons that deplete the ozone layer in the Earth's atmosphere and adversely affect people around the world. Issues which are primarily domestic to one country include water pollution (unless another country also borders the water body) and land degradation.

The distinction between the two categories of environmental issues is not always clear. Destruction of native forests would appear to be primarily an internal issue for the nation involved, but residents in other countries might argue that they are adversely affected by losses of biodiversity and by contributions to global warming from deforestation. Furthermore, environmentalists might not recognise the distinction between internal and global issues, claiming a legitimate interest in all issues. Despite these difficulties, the distinction between domestic and international issues is useful because it forces those who claim an interest in activities in another country to specify the nature of that interest.

In this paper, the focus is on issues which are primarily domestic to one country, but which affect that country's 'competitiveness' relative to other countries. One country's policies on purely domestic environmental issues do not, by definition, create an environmental problem for other countries. Even so, such policies may cause commercial concerns related to effects on competitiveness.

Where environmental effects are trans-boundary or global, nations have a legitimate interest in environmental standards of other countries. Unilateral trade measures will not usually be the most effective way to resolve problems, but some use of trade measures may be appropriate as a component of the solution, as part of a multilateral agreement, for example. Thus, a large number of governments have agreed to trade restrictions in the Convention on International Trade in Endangered Species (CITES). Although questions have been raised about how such agreements should be dealt with by the GATT (WWF 1992), these questions are beyond the scope of this paper.

It is argued here that nations have sovereign rights to determine environmental standards within their own borders, that these rights are

consistent with the principles of free trade and comparative advantage, and that trade restrictions are not an efficient means of addressing environmental effects on 'competitiveness'. Equity considerations, however, suggest that questions regarding competitiveness cannot be ignored.

Effects of Using Trade Policy in Conjunction With Environmental Measures

Anderson (1992) addresses the concern that trade liberalisation might encourage more production and consumption of environmentally damaging products. Anderson uses welfare analysis to demonstrate that, in the case of agriculture, trade liberalisation is likely to improve environmental outcomes. Among other reasons, price support would be reduced in countries where resource use is highest.

In this paper, the simple model presented by Anderson is used to ask a related but different question: what are the likely effects on trade of the implementation of environmental policies? The analysis below draws substantially on the work of Anderson, and includes the following assumptions:

- (a) Small country: Domestic production and consumption have no significant effect on world prices.
- (b) Pollution: Production of a good causes pollution that increases with output. The pollution affects only the producing country.
- (c) Distortions: There are assumed to be no significant distortions in other markets.¹

Also, in examining the efficiency effects of a given policy, only the welfare of the country implementing the policy is considered, though trade implications for trading partners will be clear.

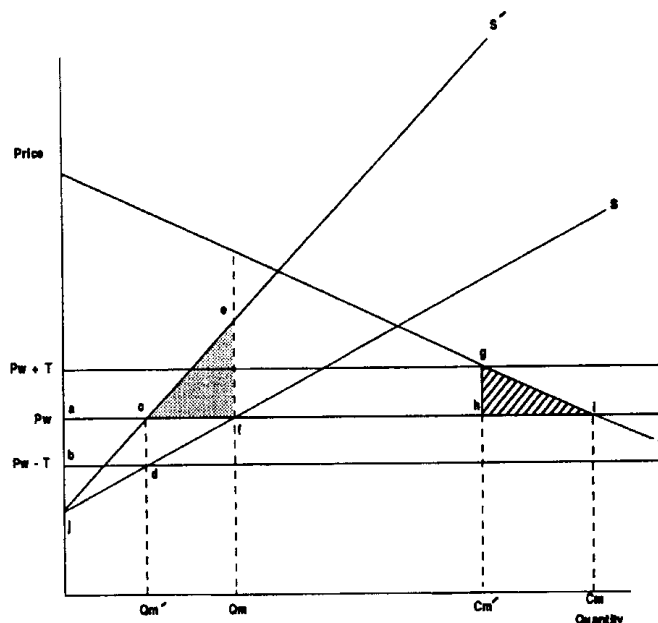
The Case of a Small Importing Country

Consider first an importing country. The initial situation is taken to be one of free trade, with no policy to internalise environmental costs associated with production of the good. Thus, in Figure 1, following Anderson (1992), S represents the private marginal cost (i.e., supply) curve, and S' is the social cost curve. That is, S' incorporates environmental costs which arise from production of the good.² D is the domestic demand curve.

¹ Of primary interest is whether the shift of resources away from production of the polluting good, due to environmental policies as discussed below, would cause increased production of goods which are even more polluting. This is not likely to occur as long as governments give priority to environmental issues which are causing the most damage, ie overall cost to society.

² As shown, S' assumes environmental costs increase by an increasing amount with each additional unit of output. Environmental costs are the lesser of the cost of pollution abatement and the cost of damage to the environment.

FIGURE 1
*Welfare Effects of Trade and Environmental Policies:
 The Case of a Small Importing Country*



In the initial situation, at a world price of P_w , open trade allows this price to be transmitted directly to the domestic market, where production is Q_m , consumption is C_m , and imports are therefore $C_m - Q_m$. The triangle cef represents a deadweight loss to the nation because at Q_m , the benefits, represented by P_m , are less than S' , total costs when environmental damage is included. Note that the deadweight loss can only be eliminated by reducing production to Q_m' .

Consider next the introduction of environmental policy in the form of a tax T on pollution equal to cd , i.e., calculated to move producers to output at Q_m' where S' intersects P_w . This pollution tax is assumed to be a fixed amount per unit of output, following Anderson (1992). Producers only receive $P_w - T$ after paying the tax, and thus reduce output to Q_m' . Producer surplus (profit) falls as producers absorb the full cost of the tax. Consumers still pay P_w , and consumption remains at C_m , causing imports to increase to $C_m - Q_m'$. Government collects the rectangle $abcd$ in tax revenue. Environmental costs are reduced and the deadweight loss is eliminated.

Such a policy maximises national welfare for the importing country, but it can create political pressures (for example, see Hoekman and Leidy 1992). Producers are likely to oppose an environmental policy which puts them at disadvantage and leads to increased imports. (Proponents might

argue the tax simply removes an inappropriate advantage the producers had before the tax.)

If forced to pay the pollution tax, producers might seek the support of environmentalists to obtain an equivalent tariff on imports that do not meet the same environmental standards. With both a pollution tax and an import tariff, consumers face a price $P_w + T$, and consumption falls to C_m' . Producers receive P_w , as they are able to pass the tax onto consumers, and production remains at Q_m . Imports drop to $C_m' - Q_m$, below their original level. Not only does the deadweight loss *cef* from environmental costs remain, but the tariff also causes a loss of consumer surplus *ghi*. This is a poor policy outcome from the viewpoint of the importing country.³ Other forms of import restrictions, such as a requirement that all imports meet similar standards, would have similar effects on national welfare.

Another option to protect producers from the loss of profits and jobs implied by a pollution tax is for the government to subsidise pollution control up to the current level of output. The cost of such a subsidy would be *jef*, assuming government pays actual pollution control costs, and that these are less than the damage cost of pollution. (See note 2. If control costs are greater than pollution costs, an additional deadweight loss is created.) Under a subsidy programme, producers and consumers both face the world price P_w , and production and consumption are unchanged at Q_m and C_m . The deadweight loss *cef* remains. Recall that an efficient solution can only be achieved if output is reduced to Q_m' .

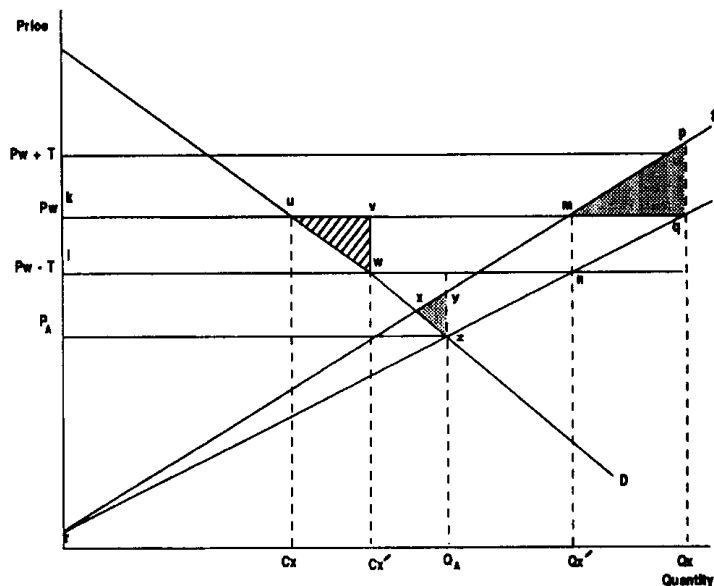
The problem of excessive pollution control costs (*cef*) could be corrected by requiring producers to reduce output to Q_m' . However, imports would increase in that case, and the political consequences of job losses would not be avoided. A better option would be to implement a training scheme for displaced workers, using revenue from a pollution tax, and refrain from policies which distort trade.

The Case of a Small Exporting Country

Now consider a small exporting country, shown in Figure 2. In this case, the world price P_w is above the intersection of the domestic supply and demand curves, generating an exportable surplus. Production and consumption are Q_x and C_x , and exports are $Q_x - C_x$. With free trade and no policy to internalise environmental cost, the area *mpq* is a deadweight loss.

³ The reduction in imports would lead to less production in exporting countries, and possibly less pollution, but this is of no benefit to the importing country, and the total pollution worldwide might be higher, as Anderson (1992) has shown. In any event, the more efficient way to address pollution is with policies addressing the environmental effects.

FIGURE 2



This loss can be eliminated by the introduction of a tax T on polluters equal to mn . That is, the tax is calculated to move producers to output at Q_x' where S' intersects P_w . Consumers still pay P_w , but producers only receive $P_w - T$ after paying the tax, and thus reduce output to Q_x' . Government collects $klmn$ in tax, and pollution cost is reduced.

However, this policy results in a loss of exports. Such a situation could create political pressure for alternative policies, especially if countries with lower environmental standards increase their share of the export market. One possibility would be to subsidise producers to reduce pollution rather than tax them. Producers are better off, as production and exports are maintained. However, if the subsidy provides for all costs of pollution abatement at current output levels (ie the triangle rpq), the area mpq still represents a deadweight loss to the country. The pollution problem has been solved, but at a high cost. Beyond Q'_x the costs of pollution abatement exceed the benefits of additional exports.

A subsidy programme could avoid this deadweight loss if producers were required to reduce output to Q_x' . Alternatively, the subsidy could be 'decoupled' from production and paid in a manner not related to output levels. As long as producers are required to meet the environmental standards or pay the pollution tax, they would choose to produce only Q_x' . Like 'decoupling' of price support from production levels, this separation would encourage producers to equate true costs and benefits of an extra unit of production.

If consumers are a stronger political force than producers, there could be pressure for an export tax in lieu of a tax on pollution. This lowers the effective price for both domestic producers and consumers to $P_w - T$. Output is at Q_x' , which is the optimal amount, but domestic consumption increases to C_x' . This causes a deadweight loss of uvw , because the amount $C_x' - C_x$ could have returned more benefits to the country had it been exported at price P_w rather than consumed domestically.

Yet another policy option is to ban exports altogether, which reduces the pollution associated with production while still allowing domestic consumers to enjoy the product. This drives the domestic price down to P_A , to the benefit of consumers and detriment of producers. This eliminates a good deal of pollution and the deadweight loss mpq , but creates another loss associated with pollution, xyz , plus a loss of umx from foregone profits from exports. Depending on the shape of the curves, this may or may not be an improvement over the original situation, but is unambiguously sub-optimal compared to the simple and direct environmental policy (e.g. a pollution tax).

Thus, a range of trade measures might be considered as substitutes for, or complements to, environmental measures to help exporters maintain competitiveness despite implementation of environmental policies. However, of all the alternatives, national welfare is maximised by having policies which internalise environmental costs to producers, and having no trade barriers to protect producers from these costs. All other policies result in deadweight losses to society.

Environmental Measures and the GATT

The GATT and related agreements such as the Subsidies Code give countries considerable flexibility to protect their own citizens and the natural resources within their boundaries. For instance, GATT Article XX(b) allows nations to restrict imports in order to protect against imported pests and diseases, as long as the requirements are necessary and scientifically justifiable. These rules are discussed in detail in the Appendix; see also Johnson (1993).

According to a recent GATT publication:

GATT rules, therefore, place essentially no constraints on a country's right to protect its own environment against damage from either domestic production or the consumption of domestically produced or imported products. Generally speaking, a country can do anything to imports or exports that it does to its own products, and it can do anything it considers necessary to its own production processes (GATT 1992, p. 23).

For instance, Germany is implementing requirements that packaging materials be taken back by suppliers of goods, including importers. Meeting the requirements may be more difficult for importers than for German firms, because of shipping requirements and because Germany is just one of many markets. Nevertheless, the regulations address a

domestic environmental problem, that of waste disposal. As long as importers are treated no differently than domestic producers, the law is probably consistent with the GATT, apart from a possible duty to notify other GATT members.

Despite flexibility under GATT to protect citizens and domestic resources, some difficult issues remain. Based on the few cases to date, GATT rules do not appear to allow an importing country to specify the production processes of an exporting country unless these are directly related to a characteristic of the product which is of legitimate concern to the importing country. For example, pesticide residues can affect human health and are therefore a valid basis for import restrictions, as long as requirements are scientifically based. On the other hand, the amount of soil erosion or the treatment of animals in an exporting country is not a legitimate basis for trade restrictions by an importing country. However, this does not preclude consumers in the importing country from discriminating on this basis.

If trade measures based on processes and production methods are not allowed, some difficult questions arise concerning the relationship between trade policies and environmental standards, especially when questions of competitiveness are involved. GATT rules are likely to be questioned in two situations in particular: (1) when home producers are disadvantaged by environmental standards which are strict compared to standards in other countries, and (2) when home producers are disadvantaged by environmental subsidies granted to competitors. These situations are considered separately below.

Competitiveness Effects of Differing Environmental Standards

Because different governments set different environmental standards, the costs to industries of meeting those standards will vary from one nation to another, sometimes from one region to another within the same country. Along with a variety of other costs, environmental compliance costs will help determine the ability of a given business to compete with other producers of like products. Thus, producers in countries or localities with lower standards will have an advantage over those who must meet higher standards. These advantages could potentially be large enough to have effects on trade flows, with producers subject to higher standards losing market share. This has implications for financial viability and jobs in affected industries.

Environmentalists argue that unless nations with high environmental standards can protect producers from cheap imports from countries with lower standards, governments will face strong political pressure to keep environmental standards no higher than major competitors (Shrybman 1990). Arden-Clarke (1993) argues this is 'the main factor delaying the implementation of the European Community's carbon tax'.

According to the theory of comparative advantage, the gains from trade are maximised when trade is not restricted, on the basis of production

methods or otherwise. Global welfare will be improved by free trade between countries, allowing production to occur where costs are lowest. This maximises the benefits that can be generated from a given set of resources. However, this requires that producers everywhere pay *all* costs of production, including environmental costs. If this occurs, any attempt to restrict trade will discourage specialisation and exchange and decrease global welfare by imposing additional costs.

This means that it can be efficient for a polluting industry to shut down in a country with high environmental standards and relocate to a country with low standards. For the first country, which puts a high value on environmental quality, the industry may not be able to meet the costs of high standards, and be forced to close. In another country, however, where pollution has a lower cost or development a higher value, the benefits of production might outweigh the environmental costs.⁴

In this situation, both countries would gain from a shift of production from the first country to the second. The shift increases global welfare because the same product would be produced at less total cost given the respective costs of pollution in the two countries (see GATT 1992).

Though this has sometimes been referred to as 'exporting pollution,' it can be a positive outcome. However, this assumes that the lower standards in the second country represent social values in that country, that is, that all costs have been fully taken into account. While this will be questionable in some cases, it is a matter of national sovereignty. Respect for sovereign rights would imply that no nation has a right to impose its values, environmental or otherwise, on another, nor to pass judgment on whether another nation has democratic or other political processes to ensure that policies reflect social values. It is only when the environmental effects cross international boundaries that nations have legitimate interests in the standards and laws of their neighbours.

In this regard, the Principles 2 and 11 of the Rio Declaration, agreed to at the United Nations Conference on Environment and Development (UNCED) in June 1992, are directly relevant:

- 2 States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.
- 11 States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Stand-

⁴ For example, loss of native forest would have a lower cost in countries where it is abundant compared to countries where it is scarce. Also, poor people may value the environment as much as wealthier people, but the poor have a higher opportunity cost of environmental protection because their marginal utility of income from development is higher than for wealthy people.

ards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries (UNCED 1992, pp. 2-4).

Thus, both efficiency and sovereignty considerations may be used to argue against the use of trade measures to protect domestic producers from imports subject to less stringent standards. However, when a country fails to reflect social values in its environmental policies, or subsidises polluters, issues of equity arise. These are discussed below.

Competitiveness Effects Arising from Environmental Subsidies

The effects of environmental subsidies on competitiveness are another area of concern, which is related to the discussion above concerning comparative advantage based on differing environmental standards. Consider two nations with roughly equivalent environmental standards, where one subsidises producers to comply with the standards while the other adopts the 'polluter pays principle,' requiring producers to bear the full cost of compliance. Producers from the first country will have a competitive advantage, unrelated to their production efficiency, over producers from the second.

Although this situation is similar to one country gaining advantage by having lower standards or not regulating at all, the analysis and conclusions are somewhat more complicated. The use of subsidies could alter trade flows, reducing gains from trade and therefore the total welfare of each country. As was shown above for both importing and exporting countries, pollution subsidies result in deadweight efficiency losses unless they are 'decoupled' from production.

Coase (1960) argued in a well-known article that so long as property rights are fully identified and tradeable, all costs will be internalised and the same outcome will result irrespective of the initial allocation of rights. In environmental terms, the same outcome will result regardless whether the laws provide a right to pollute (requiring a subsidy to reduce pollution) or liability for pollution (polluter-pays). This conclusion rests on assumptions about bargaining costs and access to information, however, and in many cases these assumptions will not be met.

Furthermore, environmental subsidies are equivalent to granting polluters a right to pollute, implying that society must pay polluters if it wants to reduce their pollution. It could be argued that this is a legitimate choice and a matter of national sovereignty. However, there is general support for the principle of 'polluter pays,' as opposed to the notion that society or the victims of pollution should pay.

⁵ For agricultural products, export subsidies have been allowed subject to conditions. The Uruguay Round agreements will require additional limitations on agricultural export subsidies.

The United Nations Conference on Environment and Development (UNCED) endorsed the principle that polluters should pay for the environmental damage they cause or for measures necessary to reduce or avoid pollution. Application of this principle helps to ensure that producers have financial incentives to reduce pollution or other environmental impacts. Again, the Rio Declaration is relevant. Principle 16 says:

National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment (UNCED 1992, p. 5).

The Rio Declaration's endorsement of the polluter pays principle is not unequivocal. Many countries continue to subsidise polluters, in some cases because a history of pollution is deemed to be an implicit property right. In other cases, countries or communities seem willing to bear the costs of pollution in order to attract or keep industries which provide jobs.

Subsidies have been recognised as having the potential to cause harm to the trade interests of other countries. GATT rules permit most subsidies other than export subsidies,⁵ but nations may impose countervailing duties on subsidised goods if injury to domestic producers is established. The GATT also provides that countries whose exports are limited as a result of subsidies in another country, including competing exporters, can challenge the subsidies (see Appendix).

Thus, to avoid distorting trade and breaching GATT rules, governments would need to design any subsidies so they do not provide price support to producers. For instance, a government concerned about rural de-population could pay people to stay in rural areas rather than subsidise specific enterprises. If historic buildings are deteriorating, a government could pay a caretaker rather than subsidise an enterprise that happens to occupy the building.

Equity vs. Sovereignty

Where subsidies distort trade and cause injury, they are considered unfair and can be challenged under the GATT. In this case, principles of equity and fairness to unsubsidised producers have taken precedence over the principles of comparative advantage, from which one could conclude that if one country is willing to subsidise a product it is to another country's advantage to buy it.

Environmentalists point out that the failure of a government to require producers to bear environmental costs is also a subsidy, even if the GATT does not recognise it as such. They argue that producers who face high environmental standards should be protected from those producers who do not (WWF 1992).

This problem is similar to that posed by differing wage levels in different countries. Nations do not discriminate or impose countervailing duties on the basis of wage or working conditions in other countries,

because these are recognised as the sovereign concerns of each country. (One exception is Article XX(e) of the GATT, which allows nations to restrict imports of goods produced with prison labour.) It may be argued that if the international community also recognises the sovereignty of nations to set environmental standards within their own boundaries, as agreed at UNCED, environmental standards in another country should not be a justification for trade barriers either.

On the other hand, the considerations of equity, which underpin the Subsidies Code, suggest that countries should have some protection from 'subsidised' imports produced under 'unduly lax' environmental standards. This is a treacherous area, however, because it could lead to protectionism based on any number of criteria, possibly including wages or working conditions.

There is no simple answer as to what would constitute appropriate protection from such implicit subsidies. Harmonisation is far from an ideal solution, except perhaps on global issues, because it fails to recognise that nations have different values and needs and therefore legitimate reasons to have differing standards. The problem is not the difference in standards, but situations where those in power deliberately ignore their nation's environmental values in order to gain financial advantage or market share for their own producers at the expense of producers in other countries.

It has been argued that companies which meet strict environmental standards earlier than their competitors gain a long-term advantage, because other companies will have to catch up when their governments later adopt similar policies (GATT 1992). If the early companies can market this 'green' image to consumers, the short-term disadvantage of higher costs may be converted to an advantage. If many companies can capture price premiums or market share through such a strategy, pressure on the GATT from environmentalists might be reduced. However, the issue will persist as long as producers oppose the imposition of environmental standards that are higher than standards faced by their competitors.

Agenda 21, agreed to at UNCED, is a comprehensive set of actions for countries to pursue sustainable development. It may, therefore, form a basis for assessing whether a government has appropriate environmental policies. Without specifying any environmental standards that must be met, Agenda 21 suggests a process to ensure that social values are considered and that corresponding policies are implemented. By accepting Agenda 21, nations have accepted that broad public participation in decision-making will be needed to ensure that environmental standards reflect social values.

However, Agenda 21 specifies so many actions that few if any nations will be able to implement them all, even for one particular sector. As an alternative to assessing a country's performance on the basis of Agenda 21, an international body could assess whether nations are enforcing their environmental laws. This would be one way of judging whether governments are ignoring social values in order to give their producers an

advantage over competitors in other countries. Any such judgments would need to recognise that even where governments have good intentions, financial constraints often prevent full enforcement of all environmental laws.

Conclusions

For either an exporting or importing country, national welfare is maximised when producers are required to bear the costs of pollution and trade is not restricted. Attempts to protect producers from effects of environmental policies on their ability to compete will not improve national welfare, and will often result in a failure to remove the excessive costs associated with environmental damage.

This conclusion is based on a simple model for a small country, assuming no significant distortions in other markets. Further analysis which relaxes these assumptions is needed to gain a more complete understanding of the effects of using trade restrictions to further domestic environmental objectives. Since many environmentalists are interested in effects beyond national borders, the total (ie worldwide) effects of such trade restrictions also need to be examined.

Under the GATT, environmental subsidies can be challenged if they cause demonstrable injury to producers in other countries. This can be avoided if governments require polluters to bear the costs of pollution, or if subsidies are carefully aimed.

GATT rules allow a member country to restrict trade if necessary to conserve the natural resources within its territory, and if corresponding restrictions are placed on domestic producers. There is no provision for governments to protect domestic producers by restricting imports produced under less stringent environmental standards.

However, the failure of a government to enact policies incorporating the true social cost of environmental damage is a *de facto* subsidy to producers, as well as being inefficient. Equity and efficiency considerations would suggest that some agreement is needed on the appropriate way to address the effects of such policies on competitiveness. These issues will be examined by a Committee on Trade and Environment of the World Trade Organisation, established by the Uruguay Round agreements.

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APPENDIX
GATT Rules on Environmentally-based
Trade Measures

Article XX and Related Agreements

The General Agreement on Tariffs and Trade provides some guidance on the acceptability of policies which distort trade in the pursuit of environmental objectives. Article XX (General Exceptions), clauses (b) and (g), are particularly relevant, as they provide exemptions from most GATT rules for certain types of trade policies:

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between two 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; ... (GATT 1986a).

These clauses have been the subject of considerable interpretation and negotiation (see Charnovitz 1991). The GATT Secretariat (1992) has taken the position that for a trade measure to qualify as 'necessary' under Article XX(b), there must be no other GATT-consistent measures available to achieve the goal and, if not, the measure chosen must be the least trade-distorting way to achieve the goal (p 23n). Charnovitz (1991) and WWF (1992) argue that this would be a difficult test to meet. There may be a middle ground, however, where interpretation of the GATT would allow exemptions if other less-distorting options are not reasonably available. The Uruguay Round agreement on sanitary and phytosanitary measures has moved in this direction (see below).

Article XX(g) has been interpreted as applying only to resources within the jurisdiction of the party concerned. An important precedent has been set in a GATT dispute between the United States and Mexico over a US law banning the importation of tuna which is caught using methods that result in the death of dolphins (GATT 1992). A GATT panel ruled in Mexico's favour, saying that the US could not use trade barriers to try to protect resources outside its jurisdiction, or to impose its standards on other countries.¹

¹ The ruling has not become a part of official GATT case law because Mexico has chosen to address the issues through bilateral negotiation, in lieu of formal GATT acceptance of the ruling. The EU has brought a related case against the same US law. A GATT panel has ruled in favour of the EU; formal acceptance of the decision by the contracting parties is pending.

Also of far-reaching significance was the panel's view that the principle of 'like treatment' of domestic and imported goods must apply to the goods themselves, not how they were produced (see GATT 1992). In other words, processes and production methods, sometimes called 'ppm's,' cannot be used as the basis for trade restrictions.

An earlier GATT panel on Canadian landing requirements for salmon and herring ruled that the exemption in Article XX(g) requires that measures be 'primarily aimed at conservation' (Charnovitz 1991).

Despite these rules, nations have maintained long-standing provisions and enacted new ones. Charnovitz notes examples of trade measures of dubious legality which have been implemented by governments: a ban by the European Commission on fur imports from animals caught with leg-hold traps, a US ban on fish from driftnet fishing, and import bans on animals hunted out of season, among others.

In the Uruguay Round, a new agreement on sanitary and phytosanitary (SPS) measures provides, *inter alia*, detailed rules for the interpretation of Article XX(b). A more detailed agreement on Technical Barriers to Trade (TBT) has also been concluded. Both agreements oblige GATT Members to use international technical standards wherever possible to avoid undue restrictions on trade, but countries are allowed to deviate from those standards if necessary to achieve an appropriate level of protection or if higher standards are scientifically justifiable (GATT 1993).

Paragraph 21 of the SPS agreement obliges Members establishing or maintaining higher standards to achieve a level of protection it deems appropriate, to 'ensure that such measures are not more trade restrictive than required to achieve their appropriate level of protection, taking into account technical and economic feasibility'. A significant footnote states

For purposes of paragraph 21, a measure is not more trade restrictive than required unless there is another measure, reasonably available taking into account technical and economic feasibility, that achieves the appropriate level of protection and is significantly less restrictive to trade.

Under the TBT agreement, deviations from international technical standards are allowed if such standards would be 'ineffective or inappropriate means of fulfilling legitimate objectives' which include among others 'protection of human health or safety, animal or plant life or health, or the environment' (GATT 1993). As in the SPS agreement, Members must ensure that technical regulations are not more trade-restrictive than necessary to fulfil a legitimate objective. These provisions are similar to the previous TBT agreement (see eg GATT 1992). The Uruguay Round agreement clarifies the conditions under which deviations could be justified.

Agreement on Subsidies and Countervailing Measures

In the Tokyo Round negotiations, agreement was reached on new provisions relating to subsidies, known as the Subsidies Code (GATT

1986b), to clarify and expand Articles of VI, XVI and XXIII of the General Agreement. The United States, the EU, and most other major trading countries are signatories. This Code will now be superseded by the Uruguay Round Agreement on Subsidies and Countervailing Measures (SCM).

Part III of the new SCM Agreement provides for action against certain subsidies. In particular, Article 6 provides that any subsidy greater than 5% ad valorem will be presumed to cause serious prejudice to other countries (GATT 1993). However, Part III does not apply to subsidies which are in accordance with the provisions of the agreement on agriculture (see below).

Article 8 of the SCM Agreement specifically allows subsidies for certain policy objectives, including 'assistance to promote adaptation ... to new environmental requirements ...,' subject to various conditions. These include, among others, that the assistance is a one-time non-recurring measure, is limited to 20 per cent of the cost of adaptation, and is directly proportionate to the reduction of pollution. Although such subsidies are 'non-actionable,' a Member may complain if it has reason to believe its domestic industry has suffered adverse effects due to subsidies maintained by another Member. If other remedies fail, the complainant Member may be authorised to take countermeasures.

Agreement on Agriculture

The Uruguay Round Agreement on Agriculture provides various exemptions from the obligation upon Members to reduce financial support to agricultural producers. Any policy for which exemption is claimed must (i) be provided through government funds and not involve transfers from consumers, and (ii) not have the effect of providing price support to producers (GATT 1993).

Additional requirements apply to any payments to agricultural producers made under environmental programmes:

- (i) Eligibility shall be determined as part of a clearly-defined government environmental programme and be dependent upon the fulfilment of specific conditions under the programme, including conditions related to production methods or inputs; and
- (ii) Payments shall be limited to the extra costs or loss of income involved in complying with the programme.