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TRADE AND THE ENVIRONMENT: EFFICIENCY, EQUITY AND SOVEREIGNTY CONSIDERATIONS

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ABSTRACT

The inter-relationships between trade and environmental policies are being identified as the "next generation" of issues for the GATT. Environmental groups remain suspicious that free trade will undermine or discourage improvements in environmental standards. The paper examines the use of trade measures to protect producers from competition with goods produced under less stringent environmental standards. 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 meeting higher standards.

KEY WORDS:

Trade, environment, comparative advantage, GATT, competitiveness, subsidies

International trade has played a pivotal role in the economic development of nations and has made an essential contribution to improving human welfare. Based on the work of David Ricardo and J. S. Mill, neo-classical economics has provided a simple model, the theory of comparative advantage, that shows how individuals, regions, or nations can benefit from trade, and therefore why free trade will improve the welfare of nations (see eg Samuelson 1976, ch. 34).

According to the theory of comparative advantage, a nation is better off importing a good or service if its own cost of providing that good or service exceeds the cost of importing it. The domestic resources no longer required to produce the product can then be redeployed to produce something else of higher value. The theory also shows that a country can gain from trade even if it produces all goods more efficiently, ie with fewer resources, than its trading partner, if the opportunity costs of the resources are lower in the trading partner.

The same principles apply to specialisation of labour within a community or wider society. Individuals do not do everything for themselves because they can improve their overall welfare if they specialise in what they do best and trade to acquire the other items they want or need. People have been trading on this basis for thousands of years.

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), and at last count, the number of Contracting Parties had risen to 105.

1 The views expressed in this article are those of the author and do not necessarily represent the official view of the Ministry of Agriculture and Fisheries. The comments of Martin Harvey, Robin Johnson, Lindie Nelson and other colleagues are gratefully acknowledged.

There have been eight subsequent multilateral negotiations during the past 40 years to expand the GATT and further liberalise the international trade regime. The Uruguay Round, started in 1986, is the latest of these negotiations.

ENVIRONMENTAL CONCERNS ABOUT TRADE POLICY

Even while governments attempt to conclude the Uruguay Round, there are increasing concerns being voiced by environmentalists that open trade between nations may be harmful to the environment. Others 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 that progress on whaling and endangered species began with nations taking unilateral action to protect resources outside their jurisdiction. Some fear that if multilateral environmental agreements include measures which restrict trade, the agreements could be challenged under the GATT (Earthcare Network 1991, Royal Forest and Bird 1991).

In a case that has received a great deal of attention, a GATT panel in 1991 ruled against a United States law banning the importation of tuna which is caught using methods that result in the death of dolphins (GATT 1992). Although the panel ruling rested primarily on the fact that the US was attempting to impose its environmental standards on resources beyond its territorial jurisdiction, the ruling seems to have increased the suspicion amongst the environmental community that free trade and the GATT undermine improvements in environmental quality.

Some environmentalists have, implicitly or explicitly, questioned whether in some cases the uncounted costs to the environment from open trade and adherence to GATT principles might exceed the benefits. These are serious issues which could be the subject of the next round of GATT negotiations. Indeed, these issues could force yet another major delay in the completion of the Uruguay Round if parties to the negotiations decide they must be resolved within the current negotiations.

INTERNATIONAL VS. DOMESTIC CONCERNS

Environmental issues can be separated into two categories: issues which are global or international in nature, and issues which are primarily of internal concern to one country. Global or international issues include situations in which the production or consumption of a product in one country has adverse environmental effects on one or more other countries, effects which might be called trans-boundary externalities. Such issues would include air pollution from one country affecting a neighbouring country, or the use of chloroflourocarbons depleting the ozone layer in the Earth's atmosphere, adversely affecting people around the world.

Issues which are primarily domestic or internal to one country include water pollution (unless another country also borders the water body) and land degradation.

The distinction between the two categories 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 any 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.

This paper focuses on issues which are primarily internal to one country, but which affect that country's "competitiveness" relative to other countries. One country's behaviour on domestic environmental issues does not create an environmental

problem for other countries, but 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, eg as part of a multilateral agreement, may be appropriate as a component of the solution. 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 or appropriate means of addressing environmental effects on "competitiveness." Equity considerations, however, suggest that competitiveness questions cannot be ignored.

EFFECTS OF USING TRADE POLICY IN CONJUNCTION WITH ENVIRONMENTAL MEASURES

Anderson (1992) addresses the concern of environmentalists that trade liberalisation might have adverse environmental effects by encouraging 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 some cases, countries would need to establish appropriate environmental policies to ensure a positive result.

The simple model presented by Anderson can also be 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 makes 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, which increases with output. The pollution affects only the producing country.
- (c) Distortions: There are assumed to be no significant distortions in other factor markets.

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.

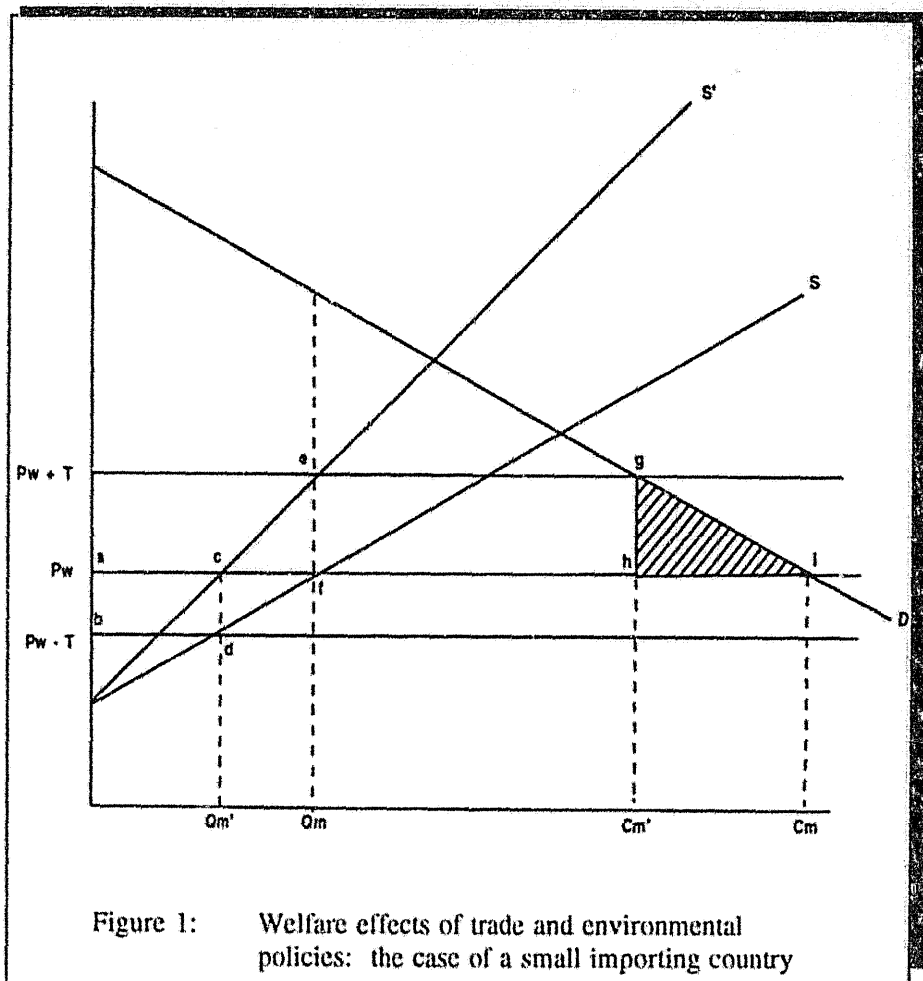
THE CASE OF A SMALL IMPORTING COUNTRY

Consider first an importing country. The initial situation is taken to be one of free trade and 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 (ie supply) curve, and S' is the social cost curve, ie it incorporates

environmental costs which arise from production of the good.² D is the domestic demand curve.

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_w , 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 , ie calculated to move producers to output at Q_m' where S' intersects P_w . Again, following Anderson, this pollution tax is assumed to be a fixed amount per unit of output. Producers only receive $P_w - T$ after paying the tax, and thus reduce output to Q_m' . Producer surplus, ie profit, falls as producers absorb the full cost of the tax. Consumers still pay P_w , and consumption remains at C_m , causing

2 S' is the lesser of the cost of pollution abatement and the cost of damage to the environment.

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. Producers are likely to oppose an environmental policy which puts them at disadvantage, and leads to increased imports. Producers might seek the support of environmentalists to obtain, along with the pollution tax, an equal tariff on imports that do not meet the same environmental standards.

In this case, 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 is the deadweight loss *cef* from environmental costs not eliminated, but a new deadweight loss *ghi* is created. This is caused by reducing consumption to a point where consumers' willingness-to-pay, D' , is more than it would cost the nation to acquire the goods, ie P_w . This is clearly 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 is for the government to subsidise pollution control for the current level of output. In this case, producers and consumers both face the world price P_w , and production and consumption are unchanged at Q_m and C_m . Government subsidy costs are represented by *jef*, and 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 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. Yet another option would be to avoid trade restrictions and use the revenue from a pollution tax to re-train workers who lose their jobs.

THE CASE OF A SMALL EXPORTING COUNTRY

Now consider an 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.

This loss can be eliminated by the introduction of a tax T on polluters equal to *mn*, ie 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 gain market share. One possibility would be to subsidise producers to reduce pollution rather than tax them. Producers are clearly better off, as production and exports are maintained. However, if the subsidy provides for all costs of pollution abatement, ie the triangle *rpq*, at current output levels, the area *mpq*

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 appropriate environmental policies.

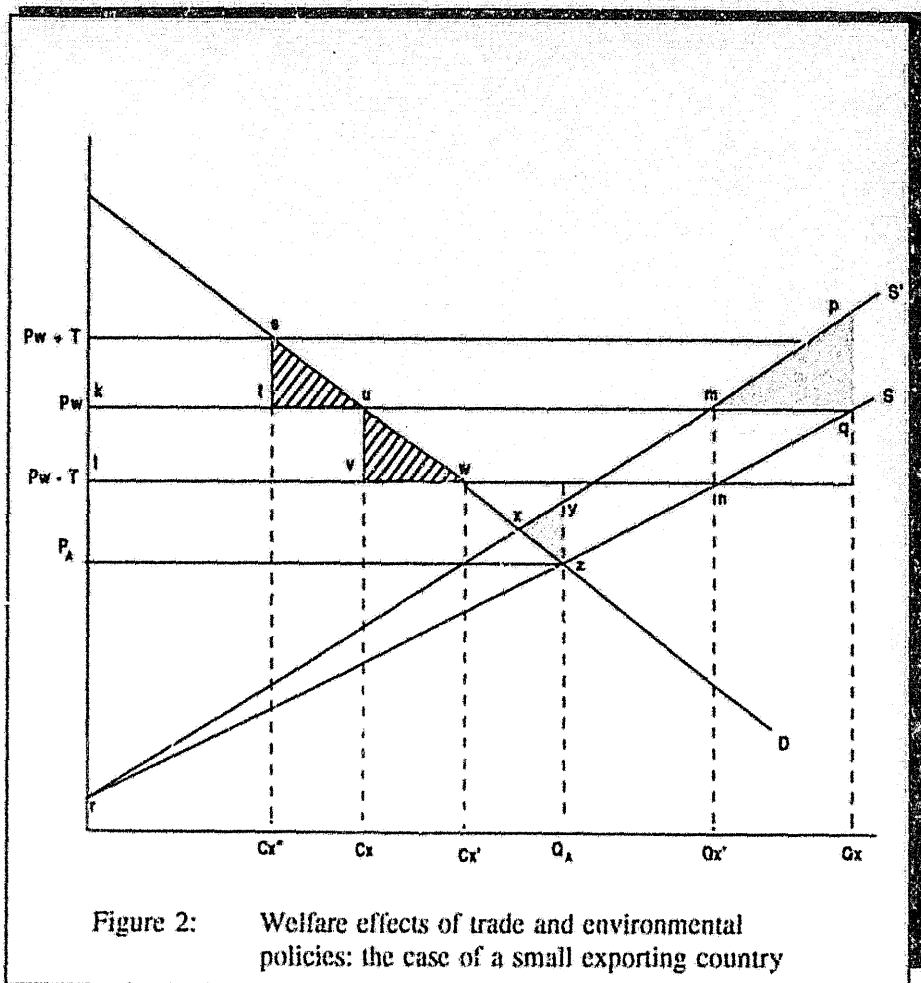


Figure 2: Welfare effects of trade and environmental policies: the case of a small exporting country

still represents a deadweight loss to the country. The pollution problem has been solved, but at a high cost. Beyond Q_x' the benefits of more exports are exceeded by the costs of pollution abatement.

A subsidy programme could avoid this deadweight loss if producers were required to reduce output to Q_x' . Alternatively, producers could be paid the full subsidy regardless of production levels, in which case producers would choose to produce only Q_x' . Like "de-coupling" of income 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 polluter pays tax. 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. The result is a deadweight loss of xyz associated with pollution, plus a loss of umx from foregone export revenues.

Finally, a government might institute a pollution tax T in conjunction with an export rebate, both equal to the amount mn . Producers would be left neutral compared to the initial situation, and the pollution costs of mpq remain as a deadweight loss. Consumers must pay $P_w + T$, and therefore purchase only C_x'' , creating another deadweight loss stu . What is more, exports increase to $Q_x - C_x''$. To competitors on the world market, this rebate would look like an export subsidy.

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 no trade barriers and appropriate environmental policies.

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, Article XX(b) allows nations to restrict imported products 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).

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 are clearly targeted at 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 this flexibility 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. 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, this gives rise to some difficult questions concerning the relationship between trade policies and environment 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 strict environmental standards compared to lower standards in other countries, and (2) when home producers are forced to bear costs of meeting environmental standards 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 and consequent implications for financial viability and jobs.

Environmentalists argue, therefore, that unless nations with high standards can protect producers from cheap imports, 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."

Quite apart from rules in the GATT, the theory of comparative advantage suggests nations should not restrict trade on the basis of production methods. The total welfare of all nations will be improved by allowing production to occur where costs are lowest, with free trade between countries. This will maximise the benefits that can be generated from a given set of resources. However, this requires that all costs, including environmental costs, be taken into account by producers. If this has been done, any attempt to discourage specialization and exchange will 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 seeing the production shift from the first country to the second, because the same product would be produced at less total cost (see GATT 1992).

4 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.

Though this has sometimes been referred to as "exporting pollution," it can in fact be a positive outcome. However, this assumes that the lower standards in the second country do in fact represent social values in that country, ie that all costs have been fully taken into account. While this will be questionable in some cases, it is a matter of national sovereignty. 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. When the environmental effects cross international boundaries, however, 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 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. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries (UNCED 1992).

Thus, both efficiency and sovereignty considerations argue against the use of trade measures to protect domestic producers from imports subject to less stringent standards. Equity issues are discussed below.

COMPETITIVENESS EFFECTS ARISING FROM ENVIRONMENTAL SUBSIDIES

Related to the discussion above, concerning comparative advantage based on differing environmental standards, are the effects of environmental subsidies on competitiveness. 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 cost. Producers from the first country will have a competitive advantage over those from the second, unrelated to their production efficiency.

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. Comparative advantage again suggests that the use of subsidies could distort trade flows, eg if the second nation has lower production costs than the first. This would reduce gains from trade and therefore the total welfare of both countries. As was shown above for both importing and exporting countries, pollution subsidies might result in deadweight efficiency losses.

Decisions to subsidise could be taken on the basis of social values in the subsidising nation, ie compensation for benefits provided by reducing pollution. In addition, if subsidies are "de-coupled" from production, they need not distort trade flows and need not create efficiency losses.

Coase (1960) argued in a well-known article that so long as the pollution rights were fully identified and tradeable, ie the costs fully taken into the decision-making process, the same environmental outcome will result regardless whether the laws

provide a right to pollute or liability for pollution. This conclusion rests on assumptions about access to information and bargaining costs, however, and in many cases these will not hold true.

Furthermore, environmental subsidies are equivalent to granting polluters a right to pollute. Subsidies imply 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.

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).

In addition, subsidies have been recognised as having the potential to cause harm to the trade interests of other countries. GATT rules allow most subsidies, including environmental subsidies, but also allow nations to impose countervailing duties on subsidised goods if there is injury to domestic producers. 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 the Appendix, part 2.)

Thus, governments that wish to use subsidies need to target them carefully so they do not provide price support to producers and distort trade. For instance, a government concerned about rural de-population should not subsidise specific rural enterprises, but rather pay people to stay in rural areas regardless of their occupation. If historic buildings are deteriorating, a government should consider paying a caretaker rather than subsidising an enterprise that happens to occupy the building.

EQUITY VS. SOVEREIGNTY

Where subsidies distort trade and cause injury, they are considered inappropriate and unfair. In this case, principles of equity and fairness to unsubsidised producers have taken precedence over the theory of comparative advantage, which would otherwise suggest that if one country is willing to subsidise a product it is to other countries' advantage to buy it.

Environmentalists are quick to point out that the failure of a government to implement appropriate environmental policies is also a subsidy, even if the GATT does not recognise it as such. They argue that governments should be able to protect their domestic producers in these cases (WWF 1992).

This problem has similarities 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. 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.

The equity considerations 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 down a slippery slope to protectionism in a number of areas, including wages and working conditions.

What would constitute appropriate protection from such implicit subsidies is problematical. Harmonisation is far from ideal, except perhaps on global issues, because it fails to recognise that nations do have different values and needs and therefore legitimate reasons to have differing standards.

What needs to be addressed 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 where this impacts on producers in other countries.

It is 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 can be converted to a value-added advantage. If many companies can demonstrate this to be the case, it might reduce pressure on the GATT from environmentalists, but the problem does not seem likely to go away.

Though Agenda 21 from UNCED has a number of problems, it perhaps points to one possible solution. Without specifying any environmental standards that must be met, Agenda 21 suggests the steps that need to be taken to ensure that social values are considered and that appropriate policies are put in place. 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.

Environmental protection and economic development are truly dependent on each other. Without development, low income countries will never have the means to afford to look beyond the next year, let alone pay for environmental protection. Yet unless we protect our natural resources, the sustainability of our entire world economy is in doubt.

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 the competitiveness effects of environmental policies will not improve national welfare, and will often result in a failure to remove excessive environmental costs.

Under the GATT, governments are allowed to use subsidies to achieve environmental goals, but must not harm producers in other countries. Thus, any subsidies need to be carefully targeted; governments should be encouraged to require polluters to bear the costs of pollution.

The GATT allows member countries to restrict trade if this is necessary to conserve the natural resources within its territory, and if corresponding restrictions are placed on domestic producers. This does not allow 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. Equity considerations suggest that some agreement is needed on the appropriate way to address the effects of such policies on competitiveness.

Agenda 21, agreed to at UNCED, sets out steps that all countries need to take in order to integrate development and environmental objectives and achieve sustainable development. It may form the basis for assessing whether a government has appropriate environmental policies in place.

It will continue to be necessary to consider the relationship between trade rules and environmental policies, but this should not be used as an excuse to delay current negotiations. Reduction of trade barriers in agriculture, textiles and services through a successful conclusion of Uruguay Round is critical for sustainable development. An agreement would help to generate the wealth to pay for environmental protection, and it would allow the world's poor to look beyond today's crises to the well-being of future generations.

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APPENDIX 1: GATT RULES ON ENVIRONMENTALLY-BASED TRADE MEASURES

1 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) takes 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 GATT would allow exemptions if other less-distorting options are not reasonably available. A GATT panel took such an approach in a complaint against Thailand's virtual ban on imported cigarettes. The panel, noting that other less-distortive options were available, ruled against Thailand's claim that the ban was necessary to protect human health (see GATT 1992, Charnovitz 1991).

Article XX(g) has been interpreted as applying only to resources within the jurisdiction of the party concerned. As noted above, an important precedent has been set in a GATT dispute between the United States and Mexico over US laws on catching dolphins with tuna, and associated import restrictions. 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.⁵

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, production processes and 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 of fish from driftnet

5 The ruling has not become a part of official GATT case law because the US and Mexico are trying to settle the dispute through bilateral negotiation, in lieu of formal GATT acceptance of the ruling.

fishing, and import bans on animals hunted out of season, among others.

In the Uruguay Round, parties are negotiating a new sanitary and phytosanitary (SPS) agreement (see Johnson 1993), which provides *inter alia* detailed rules for the interpretation of Article XX(b). A more detailed agreement on Technical Barriers to Trade is also being negotiated. Both agreements oblige signatories to use international technical standards wherever possible to avoid undue restrictions on trade, but countries are allowed to deviate from those standards if necessary.

For example, under the existing TBT agreement, deviations are allowed if standards are "inappropriate for the Parties concerned, for inter alia such reasons as ... protection of human health or safety, animal or plant life or health, or the environment...." Under this Agreement, an exporting country can challenge another country's import restrictions on the basis that the restrictions are not based on scientific criteria and therefore constitute an unnecessary barrier to trade (GATT 1992).

The proposed Uruguay Round agreements clarify the conditions under which these exemptions could be applied.

2 The Subsidies Code

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 EC, and most other major trading countries are signatories.

Article 11 of the Subsidies Code specifically allows subsidies for various policy objectives, including "(f) redeployment of industry in order to avoid congestion and environmental problems." Other types of environmental subsidies, eg to help businesses meet the cost of reducing air pollution, also appear to be allowed. However, signatories are still obliged to take account of potential adverse effects on trade and to seek to avoid causing injury to other signatories. Countries which employ subsidies may be subject to countervailing duties or other trade measures if such harm does occur.

A new Subsidies Code is being negotiated in the Uruguay Round. The "Dunkel text" for the new code provides that any subsidy greater than 5% ad valorem will be presumed to cause harm or serious prejudice to other countries. Subsidies of less than 1% ad valorem would be presumed not to cause harm (GATT 1991). Whether or not the Subsidies Code applies to agriculture remains unclear.