participate and contribute. This is the case for the biosafety protocol as for other legally binding MEAs

NOTES

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After this presentation the working group on biosafety held its third meeting in October 1997, where the issue of, *inter alia*, non-parties was discussed. Governments were invited to submit legal texts on this issue for the next meeting in February 1998.

CHAPTER 7

THE ROLE OF TRADE MEASURES IN TREATIES

Steve Charnovitz*

This conference will discuss the implementation of multilateral environmental agreements (MEAs) — in particular, the use of trade measures. My contribution will be to try to open our eyes a bit wider as we begin this analytical exercise. During this conference, we will be considering *how* MEAs use trade measures, *why* they use them, and *whether* trade measures are effective. These are important questions because some analysts believe that MEAs utilise trade measures in inappropriate or unnecessary ways.

In this paper I want to report on some research we have done at the Global Environment & Trade Study (GETS). Our study looks at the utilisation of trade measures in treaties. Before discussing the typology and case studies, let me summarise four observations gleaned from the study.

- 1. Trade measures have been used in treaties for a long time indeed, many decades before the GATT was written.
- 2. Trade measures are employed in many different kinds of treaties—for example, health, sanitary, commodity, and culture. The use of trade measures in environmental treaties is *not* exceptional. Thus, when presenting hypotheses about trade measures in MEAs, analysts should be careful to test such hypotheses with data sets from other multilateral agreements.
- 3. Trade measures are employed for many different purposes in treaties. We identified 19 purposes in the GETS research. Given this variety, it is hard to generalise about the role of trade measures. An analyst needs to look at specific agreements, which is the approach that will be taken at this conference.

Our study presents a typology of how trade measures are employed in treaties. This typology has proven useful in showing how treaties operate. The case study method helps identify patterns. By using historical as well as contemporary examples, we see what methods have stood the test of time.

4. Any evaluation of the effectiveness of trade measures in MEAs should not be done in isolation. Effectiveness is relative. One needs to ask: effec-

tive compared to what? By looking not only at MEAs but at other treaties too, one gains reference points for judging effectiveness.

Participants who were at the 1996 Roundtable may see the symmetry in this point to my talk last year when I suggested that any policy-oriented or legal analysis of the appropriateness of trade measures in MEAs should be tested by looking at trade measures in *trade* treaties. Such self-examination is especially appropriate for the trade regime when it tries to give guidance to the environmental regime.

In carrying out this research, I was surprised at the apparent lack of prior theoretical or empirical work on the role of trade measures in treaties. For analysts looking for new international research topics, this would be a particularly good topic for further study.

I. ANALYSIS OF THE USE OF TRADE MEASURES IN TREATIES

Being a voluntary transaction, trade in goods (or services) across national borders can be expected to improve the welfare of both the buyer and the seller. But trade can have side effects on others — not participating in the transaction — that can undermine their welfare. Thus, governments may find it appropriate to use trade measures to limit certain harmful cross-border exchanges.

One can classify harm from trade into three categories:

- 1. where the traded product causes physical harm.
- 2. where trade engenders physical harm through the market.
- 3. where trade engenders economic harm through the market.

Physical harm from a traded product can occur in several ways. First, harm can spring from relocation. For example, an innocuous insect in one country can create havoc in another when it arrives as part of cargo. Second, consumption can have negative side effects. For example, heroin use may lead to violent crime. Third, disposal can have negative side effects. For example, imported toxic waste may leak after it is buried. Fourth, transportation can have negative side effects. For example, oil may spill from tankers. Fifth, the commodity itself can be harmed in transit. For example, tropical birds may die in transit to consuming nations.

Physical harm engendered by the market may occur in several ways. First,

domestic demand for an import can increase production, harvesting, or extraction in other countries. For example, feather fashions in the early 20th century caused the destruction of many birds. Second, trade can strengthen potential adversaries by enabling them to buy weapons of aggression. For example, oil trade can finance terrorism. Physical harm differs from physical harm engendered by the market in that with the former, the introduction of the product through trade can directly transmit ill effects. In the latter, the physical harm typically occurs before the cross border transaction and can occur again as a result of trade-induced production.

Economic harm engendered by the market may occur in several ways. First, imports can displace internal production leading to instances of unemployment and loss of profits. Second, defective or injurious exports can damage the reputation of producers. Third, trade in counterfeit goods can undermine the innovation process in the country of invention. Physical harm differs from economic harm in that the former involves life and health, and the latter involves financial concerns.

Before discussing the use of trade measures in international regimes, let me begin with a few definitions. A *trade measure* (or instrument) is the application of a tax or regulation exclusively to a traded good — typically an import but also an export. A trade preference can also be a trade measure. When used as a trade measure, taxes can be nondiscriminatory (e.g., simple tariffs) or discriminatory (e.g., antidumping duties). Discrimination means that "like" products are treated differently. Regulations can be standards or bans. Bans can be *absolute*. They can also be *contingent* — i.e., contingent on actions by governments or practices of producers.

A trade measure should be distinguished from a *domestic measure* which is the application of a tax or a regulation to an internally-produced good, or to the "like" imported good. Some applications of domestic measures to imported goods may resemble trade measures. For example, a domestic product ban (e.g., no unpasteurised cheese) may prevent the entry of a tasty import. To the disappointed exporter, that may look like a trade measure, even though the same rule is applied to internal production.

For domestic measures, taxes and regulations can be aimed at production, consumption, or disposal. While this talk will generally focus on trade measures, it is important to remember that international regimes can also utilise domestic measures. For example, an agreement to remove lead from gasoline would not involve trade measures per se, although imported fuel would be held to the same standard as domestically-produced fuel.

Finally, return to the three harms noted above. I suggest that a trade instrument can be an appropriate instrument to deal with these harms because all three are driven by trade. This is not to imply that the trade instrument is the best instrument, only that it is not obviously an incorrect instrument.

A. Use of Trade Measures: General Considerations

Since a trade measure, by definition, can only act upon trade, the efficacy of a trade measure may depend on the nexus between trade and the harmful behaviour being addressed. While trade measures could be used for purposes wholly unconnected to trade, this is unlikely to occur in a multilateral agreement (as opposed to a unilateral action). Thus, in the prototypical situation, a trade measure in an environmental treaty is used to control trade as part of a programme for preventing future environmental harm.

Do trade measures work? It is often said that trade instruments are not likely to be an effective way to deal with environmental problems. Petersmann finds six different approaches for addressing cross-border pollution that would likely be more effective than trade instruments. Kirchgässner and Mohr report that "in most cases trade restrictions are — at best — third best solutions." That is so because trade restrictions usually attack a problem only indirectly and are much too far away from the source of the problem to be fully effective.

address environmental problems. There are two difficulties with this frameexist detached from non-trade goals Viewed in this manner, all trade problems melt away. No pure trade problems rious dumping is not trade, but rather inharmonious competition policies mestic industry (or perhaps overvalued currency). The root cause of injuunport-induced unemployment is not trade, but rather uncompetitive doenvironment, we should also do so for other issues. Thus, the root cause of cause the root cause is harvesting, not trade. But if we do that for the we might say that endangered species trade is not a trade problem beproblems as "environmental" by pointing to the root cause. For instance ple, traffic in endangered species. Of course, one can denote particular work. First, some environmental problems are trade-related — for examdress trade problems, while environmental instruments should be used to the environment" literature) that trade instruments should be used to adto start by dismissing the simplistic notion (prevalent in the "trade and In considering when trade measures should be used, it may be helpful

The second difficulty with this "use trade for trade" notion is that the distinction between trade and environment *instruments* is ambiguous. Is a tax a trade instrument or an environmental instrument? How about regulations or quotas? These are instruments of both trade and environmental policymakers. They do not "belong" more to one regime than the other. (Of course, a tariff might be viewed as principally a trade instrument. But so far, none of the trade and environment conflicts have involved tariffs.)

A related misconception is that trade instruments are used to solve trade problems. Actually, trade instruments are commonly directed at non-trade problems (e.g., unemployment, industry uncompetitiveness, aggressive foreign pricing, etc.) and typically "solve" them only by helping favoured groups while hurting consumers, exporters, or unprotected industries. Trade itself is rarely a real problem. Thus, while the use of a trade instrument for an environmental purpose might indeed be third best, it is important to keep in mind that the use of a trade instrument for a "trade" purpose may be fourth best (or even first worst).

B. Trade Measures in Treaties

Although many applications of trade measures are unilateral, treaties also utilise trade measures. By utilise, I mean that the treaty requires or "authorises" the use of trade measures. An example of a treaty requiring a trade measure is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which imposes import bans contingent on foreign and domestic government certification. An example of a treaty authorising a trade measure is the Wellington Convention which states that parties "may also take measures, consistent with international law, to ... prohibit the importation of any fish ... which was caught using a driftnet." Another example is the GATT which states that parties "shall be free" to use trade measures in cases of serious economic injury from imports.

Trade measures in treaties can be nondiscriminatory or discriminatory. For example, the Phosphorus Match Convention is nondiscriminatory in barning the importation of phosphorus matches regardless of the source. The Bamako Convention on Hazardous Wastes is discriminatory by prohibiting the importation of waste from non-parties.

Provisions that discriminate against non-parties are problematic. One factor to consider in determining the appropriateness of such provisions is whether the treaty has open entry. The Bamako Convention is not open to countries outside of Africa. The Montreal Protocol —

which also requires import bans against non-parties — is open to universal membership. An in-between case is the WTO which permits, but not does explicitly authorise, discrimination against non-parties. The new WTO is technically open to universal membership, but some countries have been denied entry. For example, China has sought membership for ten years.

Trade measures can be divided into several different categories, based on purpose (A-G) and based on type of harm (1-3). These categories are shown in the typology below:

Purpose

- A. To encourage governments to join a treaty. Trade benefits can be used as incentives for membership; penalties can be used as disincentives against non-membership.
- B. To persuade parties to comply with a treaty. Trade sanction countervailing duties can be used to police compliance with a treaty.
- C. To conform production practices to those specified in a treaty. Trade controls can be applied to parties or non-parties.
- D. To make a treaty more effective by preventing diversion of trade or leakage of traffic. Trade controls can be used to attain a closed system.
- E. To prevent free riders from gaining economic benefits from non-membership. Trade measures can be used to counteract non-cooperation.
- F. To assist other countries in enforcing their laws. Trade controls can be used by one government to help another government.
- G. To prevent relocation through trade. Trade controls can be used to stop certain transfers.

Type of Harm

- Physical harm from/to a product.
- 2. Physical harm engendered by the market.
- 3. Economic harm engendered by the market.

Each specific utilisation of a trade measure in a treaty can be described by its purpose and the type of harm it addresses. In many instances, trade provisions involve a mix of purposes.

II. CASE STUDIES

We have examined 31 cases in which trade measures were drawn upon in the design of a treaty. All of these cases involve bilateral, plurilateral, or multilateral treaties; no cases of unilateral trade measures are presented. To maintain the clarity of the presentation, we will not discuss every trade measure included in these 31 treaties. Instead, specific provisions will be selected to illustrate how trade instruments can be used. Thus, for example, while the Basel Convention contains multiple trade measures, only one is discussed here.

In explaining the purpose of each trade measure (i.e., categories A-G) and what harms the trade measure aims to address (i.e., categories 1-3), we have tried to select the best category or categories that fit each case. Others may find other plausible categories, but hopefully not more accurate categories.

Phylloxera (1878) — The earliest treaty to use trade measures for a health/environment purpose was the International Phylloxera Convention, an agreement to protect against a plant louse that damages wine vineyards. The treaty called for common internal measures (e.g., delimitation of areas affected by the disease) as well as trade bans. Torn vines and dried shoots were excluded from international commerce. The purpose of the ban on torn vines was to prevent relocation of Phylloxera through trade. The harm addressed was physical harm to vineyards.

Sugar Bounties (1902a) — The Sugar Bounties Convention sought to limit the use of governmental subsidies. As enforcement, the Convention had a provision requiring parties to impose countervailing duties on sugar imports from parties and non-parties who continued to use proscribed bounties on production or export. The purpose of these trade penalties was to persuade parties to comply and to prevent non-parties from gaining an advantage. The harm addressed was economic harm to domestic producers engendered by foreign government action that affects the market.

Birds Useful to Agriculture (1902b) — The Convention for the Protection of Birds Useful to Agriculture provided for common action to protect certain birds that eat insects. This included a prohibition on killing such birds and a ban on the importation and sale of their nests, eggs, and broods.

The main purpose of the import ban was to prevent relocation of birds through trade. The harm addressed was seemingly the physical harm to bird populations engendered by the market.

Phosphorus Matches (1906) — The Phosphorus Match Treaty was established to deal with the problem of "phossy jaw," a dreaded occupational disease among match workers. The treaty provided for prohibition of the manufacture, importation, and sale of matches made with phosphorus. Although the dangers from phosphorus were well recognised, many governments were reluctant to forbid that chemical because the substitute production methods were more expensive. The solution found was for governments to act jointly to outlaw the use of phosphorus. The purpose of the import ban was to discourage the phosphorus production method. The harm addressed was physical harm to match workers engendered by the market.

Fur Seals (1911) — The Fur Seals Treaty established the first international environmental regime to protect an endangered species. The four parties agreed to prohibit their nationals from engaging in pelagic sealing. They also agreed to ban the import of sealskins taken from a protected area in the ocean and the import of other sealskins except those marked as taken from approved breeding grounds. The purpose of the import ban on skins taken from the ocean was to discourage pelagic sealing. The purpose of the contingent import ban on skins taken on land was to assist parties in enforcing their own laws. The harm addressed was physical harm to seals engendered by the market for sealskin.

Migratory Birds (1916) — The Migratory Birds Treaty established a close season for game birds and prohibited all hunting of insectivorous and non-game birds. The treaty also prohibited the export of birds or bird eggs during the close season and prohibited international traffic of birds taken or shipped contrary to municipal law. The purpose of the export ban may have been to prevent Canadian and US citizens from diverting bird trade to other countries. The purpose of the contingent trade ban was to assist Canada and the US in enforcing their laws. The harm addressed was physical harm to birds engendered by the market.

African Liquor (1919) — The African Liquor Convention was a treaty of colonial powers who agreed to cooperate in keeping distilled beverages out of Africa because they were "especially dangerous to the native populations." The treaty forbade the importation, sale, or possession of certain "injurious" beverages. The purpose of the import ban was to prevent relocation of liquor through trade. The harm addressed was physical harm to African natives from liquor.

Livestock (1928) — The Mexico-US Livestock Convention provided for joint measures to prevent the spread of livestock disease. The measures included the maintenance of livestock "sanitary police" at ports of importation, disinfection of vessels, and an import ban on ruminants from countries with a recent outbreak of disease. The purpose of the import ban was to prevent relocation of infectious ruminants through trade. The harm addressed was physical harm to domestic livestock from imported livestock.

Plaice and Flounder (1929) — The Agreement Regarding the Regulation of Plaice and Flounder in the Baltic Sea provided for a close season and set minimum size requirements. Fish smaller than the prescribed size were not to be landed in port. The purpose of the import ban was to discourage fishing practices that failed to respect minimum size requirements. The harm addressed was physical harm to fisheries engendered by the market.

Ivory (1932) — The agreement between Great Britain and Italy on ivory and rhino horn trade across the frontiers of Kenya and Somalia provided that cross-border trade be contingent on certificates of legal possession from the country of origin. The purpose of the trade control was to assist countries in enforcing their own conservation laws. The harm addressed was physical harm to species engendered by the market for ivory and horn.

Rubber (1934) — The Agreement for the Regulation of Production and Export of Rubber established national quotas and enforced them through controls on exports, imports, and planting. Net exports of rubber were limited to the quota. In addition, the Agreement prohibited the export of any living portion of a rubber plant that could be used to propagate it. The purpose of the export control on rubber was to make the commodity agreement more effective by preventing diversion. The purpose of the export control on rubber seeds and buds was to prevent relocation of rubber plants. The harm addressed was economic harm to the rubber industry.

Transit of Animals (1935a) — The International Convention concerning the Transit of Animals provided for international rules relating to sanitary problems. One of the rules was that animals may only be transported across borders in wagons constructed to prevent the dropping of excreta. The purpose of this rule was to encourage utilisation of salutary sanitary practices. The harm addressed was physical harm to humans and animals from foreign animal waste.

Animal Products (1935b) — The International Convention concerning the Export and Import of Animal Products provided disciplines on the use of trade measures for sanitary purposes. The Convention also required that listed animal products be imported duty-free from countries that had ratified the International Convention for the Campaign against Contagious Diseases of Animals. This was one of earliest linkages of trade to social policy — in this case, guaranteeing trade access for countries that had ratified a health treaty. The purpose of the trade preference was to encourage other governments to join the campaign against contagious diseases. The harm addressed was physical harm to agriculture and human health from disease-laden products.

Property of Historic Value (1935c) — The Pan American Treaty on the Protection of Movable Property of Historic Value restricted export of monuments unless specimens of similar value remained in the country. In the definition of "natural movable wealth," the treaty included rare species threatened with extermination. The purpose of the contingent export ban was to stop relocation of rare birds. The harm addressed was physical harm to rare species engendered by the market.

Protection of Birds (1950) — The International Convention for the Protection of Birds provided for close seasons and for the elimination of certain hunting practices such as automatic guns and stupefying agents. The Convention banned taking or trade in young, wild birds during breeding season, and banned trade in birds captured in violation of the Convention. The purpose of these trade bans was to change bird hunting practices. The harm addressed was physical harm to birds engendered by the market.

Opium (1953) — The Opium Treaty promulgated international rules for opium manufacture and traffic. It provided that if a party failed to carry out its obligations, or a non-party seriously impeded the administration of the Convention, the Opium Board could order parties to embargo the import or export of opium to or from that country. The purpose of the embargo was to encourage parties to comply with the treaty and to prevent non-parties from undermining the opium control system. The harm addressed was physical harm from products of opium.

Narcotic Drugs (1961) — The Single Convention on Narcotic Drugs consolidated international rules on narcotics traffic. The Convention provided that parties shall not knowingly permit the export of drugs to any country except in accordance with the laws of that country. The purpose of this contingent export ban was to assist countries in enforcing their laws. The harm addressed was physical harm from narcotics to another country.

Cultural Property (1970) — The Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property states that illicit trade causes the "impoverishment of cultural heritage." The parties undertake to prohibit the importation of cultural property stolen from a museum, monument or similar institution. The purpose of this import ban was to help the other country enforce its laws and to prevent relocation through trade. The harm addressed was physical harm engendered by the market.

CITES (1973a) — CITES provides comprehensive regulation of trade in endangered species. Trade with non-parties is permitted, but only when competent authorities in that government issue "comparable documentation" to that required of parties. The purpose of applying the same trade rules to non-parties was to encourage governments to join CITES. This provision also prevented trade diversion, that is, parties using non-parties as intermediaries. The harm addressed by CITES was physical harm to species engendered by the market.

Polar Bears (1973b) — The Agreement on the Conservation of Polar Bears commits parties to take action to protect polar bears and their ecosystems. For example, the use of aircraft for hunting polar bears is generally prohibited. The Agreement forbids imports of polar bears (or bear parts) taken in violation of the Agreement. The purpose of the contingent ban on imports was to discourage bear hunting not in conformity with the treaty. The harm addressed was physical harm to polar bears engendered by the market.

Textiles (1973c) — The Multi-Fiber Arrangement provides a special procedure to deal with countries whose textile exports are causing market disruption. Importing countries begin by consulting formally with exporting countries to seek export restraints or another settlement. If the exporting country prefers to maintain a free market approach, the importing country "may decline to accept imports" above a certain level. The purpose of these standby quotas was to encourage target governments to join the Arrangement. The harm addressed was economic harm to import-competing producers engendered by the textile market.

Whaling (1978) — The International Whaling Commission (IWC) directed member nations to take all practicable steps to prevent the transfer of factory ships or gear used in whaling operations to any nation which is not a member of the IWC. The purpose of this export ban was to encourage governments to join the treaty and to make it harder for certain whalers to get access to whaling gear. The harm addressed was physical harm to whales engendered by the market.

Ozone Layer (1987) — The Montreal Protocol on Substances that Deplete the Ozone Layer provides a comprehensive regime regarding the production, consumption, and trade of certain controlled substances. The treaty requires parties to ban the importation of controlled substances, or products containing them, from non-parties unless those non-parties are determined (by a Meeting of the Parties) "to be in full compliance" with the production and consumption regime of the Protocol. The main purpose of the import ban on non-parties was to prevent leakage of trade in chlorofluorocarbons (CFCs) and other controlled substances. The import bans also serve the purpose of encouraging countries to join or, if they remain non-parties, to comply with the regime. Although the harm addressed by the Protocol is a physical harm from CFCs and similar substances, the trade provisions address the physical harm engendered by the market. A CFC is no more harmful in one country than another. But the trade bans aim to suppress future production of CFCs.

Hazardous Waste (1989) — The Basel Convention on Transboundary Movements of Hazardous Wastes and their Disposal provides a comprehensive regime for the disposal of and trade in waste. Among its numerous trade provisions, the Convention bans the export of wastes (including recyclables) to a non-party. One purpose of the export ban to non-parties is to encourage non-parties to become members, especially those that desire to engage in re-processing. Another purpose of this ban is to render the treaty more effective by moving toward a closed system in waste. The harm addressed was physical harm from waste in the country of disposal. It should be noted that hazardous waste differs from CFCs in that waste can be more harmful in one country than in another. This can occur if the quality of waste treatment or absorptive capacity differs.

Iraq (1990) — Following the invasion of Kuwait by Iraq, the UN Security Council imposed a trade embargo on Iraq. The Resolution directed UN members to prevent imports of all commodities originating in Iraq. The purpose of the embargo was to encourage Iraq to comply with its UN treaty obligations and a previous Security Council resolution. The harm addressed by the embargo was the potential physical harm to other counties from an economically strong Iraq.

CITES (1991a) — According to CITES, when the Secretariat determines that CITES provisions "are not being effectively implemented," it shall communicate that information to the party concerned. The information provided by the party is reviewed at the next CITES Conference which "may take whatever recommendations it deems appropriate." Relying upon this authority, the CITES Standing Committee, in 1991, recommended that

parties prohibit all trade with Thailand in fauna and flora species covered by the Convention. The purpose of this recommendation was to encourage Thailand to comply with the treaty. The harm addressed was physical harm to monkeys, birds, and reptiles engendered by the market.

Antarctica (1991b) — The Antarctica Protocol on Environmental Protection establishes a protective regime for the Antarctica environment. Among its provisions is a ban on the importation into Antarctica of live poultry. The purpose of this trade ban was to prevent relocation of certain microorganisms through trade. The harm addressed was physical harm to the Antarctic ecology.

TRIPS (1993) — The Agreement on Trade-Related Aspects of Intellectual Property Rights of the World Trade Organisation directs parties to comply with various treaties related to intellectual property. Parties are also required to detain goods at the border when such goods were produced without authorisation of a copyright or trademark holder. The purpose of these border controls was to discourage production lacking the proper licenses. The harm addressed was economic harm engendered by the market.

Bananas (1994a) — The Framework on Banana Imports was a trade agreement between the European Union (EU) and developing countries to limit the importation of bananas into the EU and to allocate trade by national quota. In return for large quotas, four nations agreed not to seek adoption of a GATT panel report criticising the EU's banana regime. One purpose of the quotas was to encourage governments to join the Framework, thus neutralising opposition to a continuation of the EU's banana restrictions. The harm addressed was economic harm to EU farmers and former colonies engendered by the banana market.

Shipbuilding (1994b) — The OECD Shipbuilding Agreement seeks to eliminate most governmental subsidies granted directly to shipbuilders or indirectly to ship operators. The Agreement contains tough dispute settlement mechanisms to respond to export subsidies and certain kinds of domestic support. Under these mechanisms, a complaining party receiving a favourable judgment by a dispute panel may suspend trade benefits to the defendant government, if that government does not take the remedial steps dictated by the panel. Parties forgo their right to complain about this trade sanction under the rules of any other agreement (e.g., the WTO). The purpose of such trade enforcement was to encourage parties to comply with the treaty. The harm addressed was economic harm engendered by foreign governmental action affecting the market.

Trade and the Environment: Bridging the Gap

dered by the market. the treaty. The harm addressed was physical harm to fisheries engenpurpose of this import ban was to prevent free riders from undermining global conservation and management measures on the high seas." The manner which undermines the effectiveness of subregional, regional or of fish where it has been established "that the catch has been taken in a parties "may" adopt regulations to prohibit the landing or transshipment tal cooperation to respond to dwindling fish stocks. According to the treaty, ment of Straddling Fish Stocks provides new methods of intergovernmen-Fish Stocks (1995) — The UN Agreement on Conservation and Manage-

each row in column 3; type of harm is shown on the bottom of that row. most pertinent categories for each. Purpose is shown on the top part of Table 1 summarises the trade measures in these 31 cases and lists the

Year	Case	Categories	Summary
1878	Phylloxera	ជ	Bans trade in vines and shoots.
1902a	Sugar Bounties	B,E 3	Requires countervailing duties against member and non-member countries using sugar bounties.
1902b	Birds Useful to Agriculture	G 2	Bans import of certain bird eggs.
1906	Phosphorous Matches	C 2	Bans import of phosphorous matches.
1911	Fur Seals	C 2	Bans import of sealskins taken from ocean.
		F 2	Bans import of sealskins when unlawfully taken from land.
1916	Migratory Birds	D 2	Bans export of birds during close season.
		7 F	Bans trade in birds caught contrary to local law.

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Requires import ban on stolen cultural property.	F,G 2	Cultural Property	1970
Bans export of opium except in accordance with law of importing country.	⊢ 1 1	Narcotic Drugs	1961
Authorises Opium Board to impose embargo on the export or import of opium to a country.	B, D 1	Opium	1953
Bans imports of birds caught in prohibited ways.	2 C	Birds	1950
Forbids export of irreplaceable objects including rare species.	G 2	Property of Historic Value	1935с
Requires unrestricted entry of animal products from countries ratifying the Contagious Diseases Convention.	1 A	Animal Products	1935b
Requires that animals be transported in wagons designed to prevent the dissemination of excreta.	1 0	Transit of Animals	1935a
Bans export of seeds.	3 G		
Bans export of rubber above a quota amount.	3 U	Rubber	1934
Bans trade in ivory without certificate of legal possession.	2 ਸ	Ivory	1932
Bans import of fish below a minimur length.	C 2	Plaice and Flounder	1929
Bans import from countries with a recent outbreak of disease.	1	Livestock	1928
Bans import of liquor into Africa.	1 ന	African Liquor	1919

1989 1987 1978 1973c 1973b 1973a 1990 1993 1991b 1991a 1995 1994b 1994a CITES Polar Bears CITES Iraq Waste Ozone Layer |Whaling Textiles Shipbuilding Bananas TRIPS Fish Stocks Antarctica Hazardous Ą,D 2 2 Ą.G A, D ωЪ ωЪ သ ထ ω \cap 20 <u>പ</u> വ 28 20 00 Ą,D NE Requires parties to give effect to private property treaties. Enforces with Recommends trade ban applying to Thailand on CITES-covered species. shipbuilding. governments found to subsidise stances from non-parties whale hunting equipment to nonviolation of agreement. endangered species to non-parties Provides for trade sanction against Antarctica. Bans import of live poultry into invasion of Iraq. UN embargo on Iraq following Bans export of waste to non-parties Bans imports of controlled submembers. Directs countries to ban export of countries to adopt export restraints. Authorises import bans to force Bans trade in polar bears taken in Applies the same trade controls on that undermines treaty. Permits import bans on fish catch bananas Establishes managed trade in border controls

III. LESSONS AND POLICY IMPLICATIONS

A. Summary of Findings

For over a century, drafters of treaties have made use of trade measures in the design of international regimes. Trade measures continue to be used; the most recent example might be the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, in which parties undertake not to transfer any antipersonnel mines to states not bound by (or agreeing to apply) the Protocol.

As Part II shows, trade measures have been employed in a wide range of regimes. Of the 31 cases presented, five relate to sanitary and phytosanitary matters, four relate to commodities, 14 relate to the environment, four relate to human health, two relate to commerce, one relates to security, and one relates to culture.

Part I outlined seven purposes for which trade measures might be used. We presented at least two examples of each purpose. Environmental treaties employed trade measures for all seven of these purposes. Commodity and commerce treaties employed trade measures for six of these purposes.

Part I also outlined three harms from trade to which trade measures could be addressed. We presented several examples of each. Environmental treaties used trade measures to address two harms (1 and 2). Commodity and commerce treaties used trade measures to address only one harm (3). There is no overlap here.

There were 21 possible combinations (7x3) of purpose and type of harm. We found 19 examples of them. These are presented in Table 2. There are no cases of E1 and F3. Since the cases presented are neither exhaustive nor random, one cannot make any judgments about the distribution of the combinations. One should also not infer that most environmental or health treaties use trade instruments; most do not.

B. Are Trade Measures Necessary?

Some analysts have suggested that international regimes do not really need to use trade measures. That may often be right. Certainly, many effective international regimes do not draw upon trade measures.

In general, it will always be possible to address physical and economic harms by agreement upon actions that governments can take as an

exercise of their own sovereign jurisdiction. If an appropriate agreement can be reached and if all parties can be relied upon to honour it, there will be no need for trade measures. For example, in the *Phylloxera* Convention, the parties could have agreed to stamp out the plant louse and to prevent any movement on vines and shoots.

Yet while there is always a hypothetical treaty that may have been obtainable, trade measures have been used as epoxy where parties were unable to dovetail their positions. The case of CITES is particularly instructive because the parties at that time would never have agreed to harmonise their domestic wildlife conservation policies. CITES focuses on commerce only because deeper harmonisation was unachievable.

Because perfect treaties are elusive, negotiators will use available instruments to cobble together regimes that might work. Trade measures can be helpful in dealing with complications of intentional non-compliance (e.g., shipbuilding subsidies), inadvertent inspection failure (e.g., Phylloxera), or transitional periods (e.g., CFC phaseouts). Without trade measures, many of the treaties discussed above may never have been consummated, since the alternative regime might have looked ineffectual or one-sided. International cooperation often stumbles over free riders. Trade measures provide one way of responding to that problem (e.g., 1902a and 1995).

International agreements are typically about transborder issues involving either physical or economic harms. Because of the transborder nature of the problem, a transborder tool (like a trade measure) may enable a workable remedy. In all of the environmental cases discussed above, the trade tool used was directly related to the perceived harm. For example, the Polar Bear treaty applies only to trade in polar bears. It does not ban trade in widgets as a means of enforcing better conservation behaviour. By contrast, some of the commerce treaties do use trade tools unrelated to the perceived harm. For example, the Shipbuilding agreement threatens trade sanctions on unrelated products.

C. Are Trade Measures Effective?

The short answer to the question of whether trade measures are effective is: compared to what? There is an infinite variety of carrots and sticks that might have been substituted for trade measures, and that might have been more effective. For example, in the Fur Seals treaty, international observers could have been placed on all fishing vessels in the North Pacific to monitor compliance. In the Shipbuilding agreement, each country

could have posted a US\$ 50 million bond with the OECD to be surrendered if they were caught breaking the anti-subsidy rules. But there is little use in comparing politically feasible trade measures to infeasible carrots and sticks.

It is beyond the scope of this paper to present a detailed evaluation of the 31 cases to determine whether the regimes worked and, if so, whether trade measures were critical to the success. Such an evaluation could find many successes however. For example, the Phosphorus Match treaty solved the problem of phossy jaw. That import ban proved effective in forcing several countries, such as Great Britain, to join the agreement. Although it remains a bit leaky, the Montreal Protocol has been an overall success. The trade bans were important in promoting new membership.

Of course, trade measures work in bad treaties as well as good ones. The Multi-Fiber Arrangement continues to prevent "market disruption" 24 years after its inception. Perhaps the WTO will be successful in emancipating textile trade. But the future-tilted liberalisation schedule makes one wonder whether such liberalisation will ever occur.

While many of the 31 treaties were unsuccessful, there is no obvious evidence that the use of trade measures was responsible for that lack of success. If anything, it was the failure to follow through with trade measures that undermined some of these treaties. But trade measures can only go so far. They cannot create a "meeting of the minds" among countries when that does not exist.

D. Do Trade Measures Need to Be Discriminatory?

Some commentators have suggested that if environmental treaties use any trade measures, such measures should only be nondiscriminatory. Any trade measure that distinguishes between countries is discriminatory. This includes cases 1902a, 1928, 1935b, 1953, 1973c, 1978, 1987, 1989, 1990, 1991a, 1994a, and 1994b. In addition, any trade measure that treats "like" products differently depending on their production method would also be viewed as discriminatory by some GATT experts. This includes cases 1911, 1916, 1950, 1973b, 1993, and 1995. Trade measures aimed at helping another country enforce its law are also technical discrimination. This includes cases 1911, 1916, 1932, 1961, and 1970. But those trade measures would probably never be adjudged discriminatory because the other country is unlikely to lodge a complaint.

There is no reason why the environmental regime should eschew trade discrimination when the trade regime utilises it. Several of the clearest examples of trade discrimination occur in commodity agreements. See cases 1902a, 1973c, and 1994a. The GATT permits discrimination in Article VI (countervailing duties) to force changes in the domestic policies of other countries. So does the WTO Dispute Settlement Understanding.

But even if the trade regime did not violate its own norm of nondiscrimination, there would still be a justification for the environment regime to use discrimination. While "equal treatment" may be very useful in *deregulating* trade, it is not so useful in *regulating* production in order to safeguard the environment. Environmental regulation needs to be targeted. This illustrates one of the basic clashes between the trade and environment regimes. The environment regime cannot operate on the norm that it does not matter *how* an item is produced or *where* it is produced.

One useful distinction is between trade measures used to control the flow of trade (e.g., 1902b, 1906, 1919, 1934, 1935c, 1970, 1978, 1987, 1989, 1990, 1991b, and 1994a) and trade measures used as punishment (e.g., 1902a, 1953, 1990, and 1994b). The latter might be viewed as a less essential use of a trade measure. For example, in the Sugar Bounties convention, any punishment could have been used to thwart subsidies. But in the 1902 Birds convention, trade controls on eggs was part of the strategy to preserve bird populations.

While there have been several environmental treaties that ban trade in items whose production (using the term loosely) violates the treaty (i.e., 1911, 1950, and 1973b), the Fish Stocks agreement (1995) goes one step further in linking the trade ban to actions that undermine a treaty. This is expanded enforcement. It will be interesting to see whether it proves effective.

A few of the treaties recommend or require trade discrimination against non-parties (e.g., 1978, 1987, and 1989). One treaty, the WTO, can require countries to change their trade and intellectual property laws as the price for membership. The issue of trade relations with non-members is a difficult issue that will continue to arise in new treaties. We will probably see more "A" and "E" cases in the future if new environmental agreements are negotiated that are costly to implement.

E. Linkage to Other Regimes

In two cases, trade measures were used in one treaty to promote the goals of another treaty. The Animal Products treaty (1935b) provided bet-

ter trade access to countries that ratified the Contagious Diseases Convention. TRIPS required parties to give effect to property rights treaties.

These cases differ from the more common circumstance where a trade measure was used to promote a "non-economic" objective of the treaty itself. For example, the Multi-Fiber Arrangement sought to preserve textile production in certain countries. The Fur Seals treaty sought to preserve seals. But these goals were inherent to the Textile and Fur Seal regimes.

IV. CONCLUSION

For over a century, multilaterally-approved trade measures have been utilised in the design of international regimes. This paper has tried to explain the logic of such techniques. We have also tried to point out that the use of trade measures in environmental treaties is similar to the use of trade measures in economic and health treaties.

In view of the fact that the environment regime does not use trade measures differently than the trade regime does, it is astonishing that the trade regime has had the temerity to question such use. Environmentalists are being put through psychoanalysis to explain why they depend on trade measures; yet the habits of the trade regime receive no similar scrutiny (or self-scrutiny). Given this situation, the best strategy for environmentalists is to point out the hypocrisy in the trade regime's stance toward MEAs.

NOTES

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¹ The six approaches are: (1) avoidance of intergovernmental disputes through decentralised international private law solutions, (2) international "Coase negotiations" between the private parties affected or their respective home countries, (3) intergovernmental environmental agreements, (4) dispute settlement proceedings on damage prevention or compensation, (5) supra-national primary law rules like the Treaty on European Union, and (6) supra-national secondary law rules, like European Commission regulations and directives.

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