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Developments in the Trade and Environment Debate*

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Summary

This paper takes a constitutional view of recent changes in the regulation of world trade as it affects environmental issues. Emphasis is placed on setting the rules for non-discriminatory trade between countries and the role rules play in the conduct of trade. New rules for environmental issues are a comparatively recent development in the history of GATT and the WTO. The paper describes how these issues have been accommodated in the new WTO Agreements in comparision with agriculture issues. The scope and direction of the agenda of the new Committee for Trade and Environment (CTE) is discussed and comparisions made with the work of the Committee for Technical Barriers to Trade (CTBT) and the Committee for Sanitary and Phytosanitary Measures (CSPS). Within this framework, the suggested arrangements for risk evaluation and management are analysed and discussed.

Introduction

In dealing with the international implications of environmental measures, the GATT had a number of mechanisms in place in the arrangements for sanitary and phytosanitary measures (SPS) and measures involving the protection of natural resources, under Article XX, and through the Tokyo Round Agreement on Technical Barriers to Trade. No country could be prevented from taking measures necessary for the protection of human, animal or plant life and health, or the environment, provided the measures did not constitute an arbitrary or unjustifiable discrimination between countries. Provision was made, and has been utilised, for dispute resolution through the GATT arrangements. Such disputes serve to clarify what can be achieved in international fora in reaching unilateral or multilateral rapprochement for the measures introduced. In the new World Trade Organisation (WTO), however, separate agreements and arrangements have been made for dealing with SPS and environmental matters as discussed below.

With unequal arrangements for environmental protection between countries, some countries may wish to impose restrictions on imports because the exporting country pursued environmental policies different from its own, or had different standards of environmental protection. Countries have the right to pursue their own environmental policies provided they are not more trade restrictive than necessary to achieve the environmental objective, and do not discriminate between imports and like

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domestic products. The 1992 Rio Declaration endorsed this principle confirming that states have the sovereign right to exploit their own resources pursuant to their own environmental policies, but to have regard to the effects of their domestic policies on other states.

In common with the rest of the GATT and WTO agreements, these arrangements represent a constitutional view of the political economy of world trade (North 1987). Unfettered free trade can lead to unnecessary conflict and failure to deliver and complete exchanges, but a set of agreed rules can facilitate trade through a system of contracts and commercial obligations. North observes that expanding trade between countries is associated with rising transaction costs, unified political systems and effectively enforced rules and laws over a large area. Western societies are characterised by formal contracts, bonding of participants, guarantees, brand names, elaborate monitoring systems and effective enforcement systems. Although the resources devoted to such transactions are high, the productivity gains from trade are even higher. Thus the continued agreement on rules for world trade through GATT and now the WTO amply illustrate the principle described by North.

Constitutional economists also distinguish between operational and constitutional levels of decision making (Johnson D.B. 1991, p.341). The operational level consists of decisions made within a set of already existing rules. The constitutional level is where the rules are established including the allocation of property rights. Such rules should be established in an atmosphere of conceptual impartiality to give them some longterm viabilty and workability. Thus GATT and WTO can be seen as institutions created to agree and revise from time to time the rules for the conduct of international trade, and traders and countries work at the more operational level of achieving satisfactory results within the framework laid down. Even within the structure of WTO, there is a distinction between policy making bodies and operational bodies. The CTBT and the CSPS are working committees under the Council for Trade and Goods, while the CTE is a committee that advises the General Council and has direct access to the Ministerial Conference, the ultimate governing body of WTO. As discussed below, the CTE was instructed in the Marrakesh Agreement to make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required ... as regards... 'the need for rules to enhance positive interaction between trade and environmental measures...'(MFAT 1994, p.46).

This paper therefore explores changes in the international arrangements and rules for discussing and solving trade and environment problems particularly and their relationship to the whole WTO process. Some of the issues to be addressed by the CTE in the area of multilateral agreements and taxes are discussed next. Finally, some emerging issues in the TBT and SPS area are discussed with particular mention of introducing the process of risk management in the the environmental area.

GATT to WTO

The World Trade Organisation (WTO) was established on 1st January 1995. Governments had concluded the Uruguay Round negotiations on 15 December 1993 and Ministers had given their political backing to the results by signing the Final Act at a meeting at Marrakesh in April 1994. The Marrakesh Declaration of 15th April 1994 affirmed that the results of the Uruguay Round would 'strengthen the world economy and lead to more trade, investment, employment and income growth thoughout the world'. The WTO is the embodiment of the Uruguay Round results and the successor to the General Agreement on Tariffs and Trade (GATT)(WTO 1995b).

The WTO will have a larger membership than the GATT and a much broader scope in terms

of the commercial activity and trade policies to which it applies. The GATT only applied to trade in merchandise goods; the WTO covers trade in goods and services, and trade in intellectual property. It is the legal and institutional foundation of the multilateral trading system. It provides the principal contractual obligations determining how governments frame legislation and regulations. It is the platform on which trade relations among countries can evolve through collective debate, negotiation and adjudication (WTO 1995b).

The WTO itself emphasises that it is not simply an extension of the GATT but rather a replacement to its predecessor. The GATT was a set of rules or multilateral agreement with no institutional foundation apart from a small secretariat. The WTO is a permanent institution with its own secretariat and a considerably stronger set of rules. The GATT was applied on a provisional basis even if after more than 40 years governments chose to treat it as a permanent commitment. Some of the GATT Agreements were plurilateral instruments whereas all WTO instruments will be multilateral involving commitment for the entire membership. In addition, the GATT dispute system has been made faster and more automatic and is likely to be more effective and less of a blockage (WTO 1995b). Some observers characterise this development as a movement from 'soft' law to 'hard' law with greater emphasis on compliance (Abbott 1995).

The governing body of the WTO will be the Ministerial Conference meeting every two years (Chart 1). The Conference is enabled to make decisions on all mattters under any of the multilateral trade agreements and is the ultimate sanctioning body as far as changing the rules are concerned. Major decisions are meant to be made by consensus and not voting. Where consensus is not possible, the Agreement allows for voting. In such circumstances, decisions are taken by a majority of votes cast and on the basis of 'one country, one vote'. More than a majority is required to adopt an interpretation of any of the multilateral trade agreements, to waive an obligation imposed on a particular member by a multilateral agreement, to amend provisions of the multilateral agreements, and to admit a new member (WTO 1995b, p.14).

The day-to-day work of WTO falls on the General Council and subsidiary bodies, the Dispute Settlement Body and the Trade Policy Review Body. Below the General Council are three specialist councils for Trade in Services, Trade in Goods, and Trade Related Aspects of Intellectual Property Rights. Also reporting to the General Council are the Committees for Trade and Environment, Trade and Development, Balance of Payments, and Budget and Finance; plus the mangement bodies of the four plurilateral agreements - the International Meat Council, the International Dairy Council, the Committee on Government Procurement, and the Committee on Trade in Civil Aircraft.

Reporting to the Council for Trade in Goods are the working Committees for the individual agreements either created under, or confirmed by, the Uruguay Round. For present purposes, interest lies in the new Committee for Agriculture, the new Committee for Sanitary and Phytosanitary Measures, and the continuing Committee for Technical Barriers to Trade (established in the Tokyo Round).

Environmental Arrangements

The Committee for Trade and Environment

In conjunction with the conclusion of the Uruguay Round the Marrakesh agreement included a Decision to establish a Committee on Trade and Environment (CTE) as part of the newly-formed World Trade Organisation (WTO). The decision builds on and carries forward work on trade and environment at GATT which had been initiated in the immediate preceding years. The working group on

CHART 1: STRUCTURE OF WTO

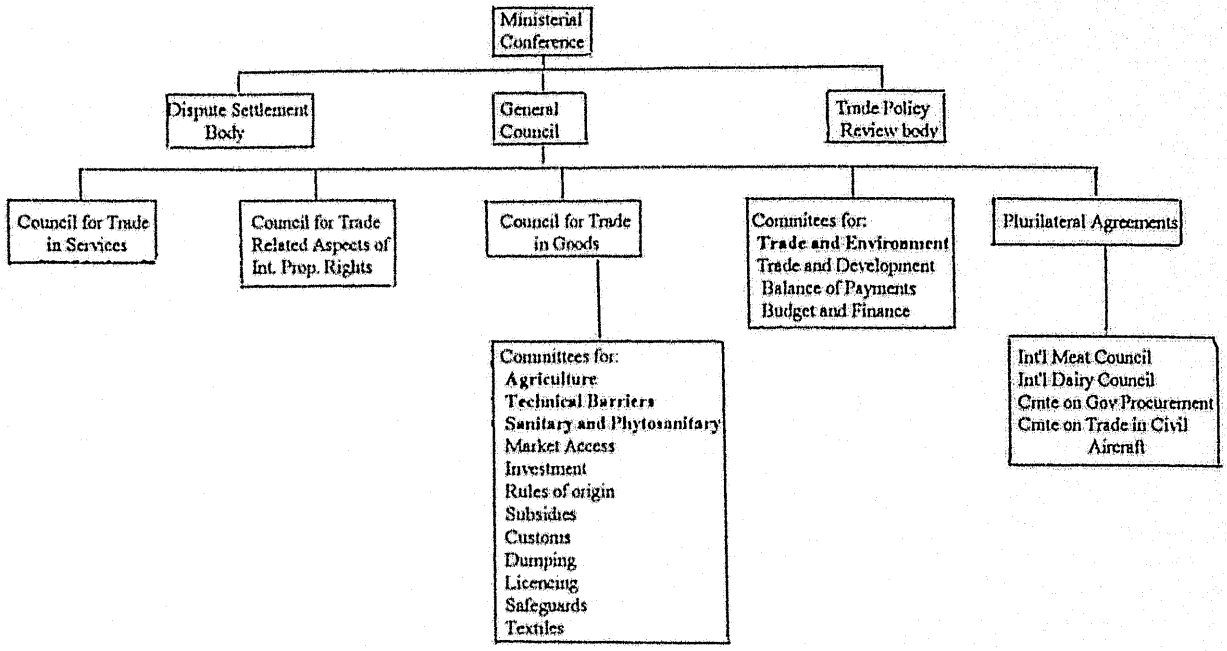
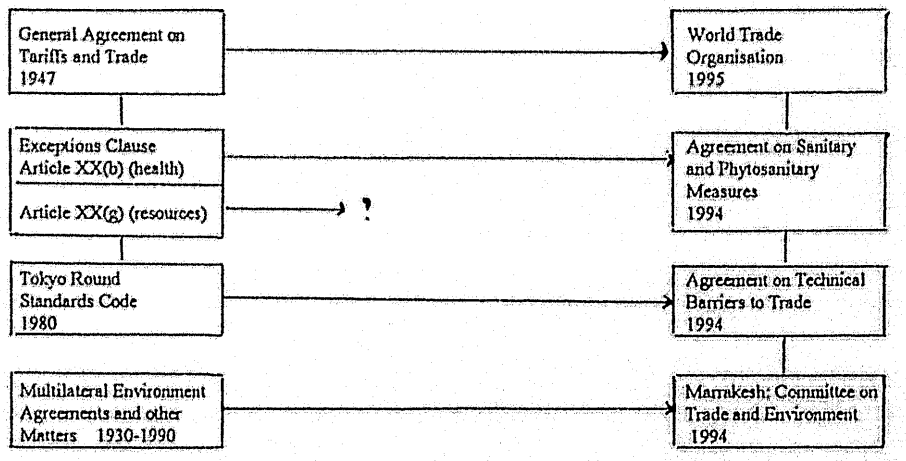


CHART 2: EVOLUTION OF ENVIRONMENTAL RULES



Environmental Measures and International Trade (EMIT) was considering trade provisions in international agreements vis a vis GATT principles and provisions; transparency of national environmental regulations likely to have trade effects; and trade effects of new packaging and labelling requirements aimed at protecting the environment (GATT 1992, p.10).

Up to the Tokyo Round, environmental matters had a low profile and were thought to be covered by the exceptions set out in Article XX of the GATT (Chart 2). The Tokyo Round Agreement on Technical Barriers to Trade (the Standards Code), in dealing with the need for uniformity in standards for traded products, specifically included protection of the environment as part of its exceptions clause (in addition to the domestic measures needed for the protection of human, animal and plant health).
In the WTO, the policy component for environmental issues and their effect on the multilateral trading system is separated off for the CTE to discuss and report back to the Ministerial Conference within two years. On the other hand, the day-to-day work on environmental issues will be spread between the Committees for Technical Barriers to Trade (CTBT) and for Sanitary and Phytosanitary Measures (CSPS). There is also some reference to environmental matters in the Agreement on Subsidies and Countervailing Measures and the Agreement on Agriculture

Pending entry into force of the WTO and the establishment of its committees, work on trade and environment was carried out by a sub-committee under the auspices of the Preparatory Committee of the WTO. The CTE's terms of reference cover all areas of the multilateral trading system as embodied in the WTO; goods, services and intellectual property. It has both analytical and prescriptive functions: to identify the relationship between trade measures and environmental measures in order to promote sustainable development; **and to make appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required to that end.** It is made clear that WTO competence for policy coordination in sustainable development is limited to trade, and that problems of policy coordination between trade and environment should be resolved in a way consistent with the open and non-discriminatory nature of the multilateral trading system. The latter point reflects the understanding that such a trading system should not act as an impediment to protection of the environment and that it is a key factor in the promotion of sustainable development in all countries and at the global level (MFAT 1994, p.11)

The Committee's programme of work includes consideration of multilateral environmental agreements, unilateral approaches to use of trade restrictions, environmental charges and taxes including cost-offsetting adjustments imposed at the border, packaging and recycling requirements, eco-labelling, processes and production methods, transparency, dispute settlement, export of domestically prohibited goods, environmental benefits of trade liberalisation and the effect of environmental measures on market access, especially of developing countries (MFAT 1994, p.12).

The Committee is tasked to report to the first biennial meeting of the Ministerial Conference to be held within two years of entry into force of the WTO. This will be the Ministerial Meeting to be held in Singapore in December 1996. The Committee is required to make recommendations to Ministers on whether modifications of the provisions of the multilateral trading system are required. While progress reports on the work of the Committee in 1995 have been available, the exact thrust of their 1996 report to Ministers is still being negotiated. Some of the issues involved are discussed below.

The TBT Agreement

The Agreement on Technical Barriers to Trade (TBT) defines the rights and obligations of countries with respect to the development or application of standards-related measures that affect trade. The aim of the Agreement is to ensure that such measures do not create unecessary barriers to trade. It explicitly recognises the rights of countries to use such measures to achieve environmental objectives and at levels they consider appropriate. Wherever possible, international standards should be used. The provisions do not apply to sanitary and phytosanitary measures. Standards related measures include mandatory technical regulations, voluntary standards and conformity assessment procedures that determine whether a product meets the requirements of a particular regulation or standard. Examples are regulations on vehicle exhaust emissions and energy efficiency labelling.

Since the Tokyo Round some 350 technical regulations that serve environmental objectives and differed from international standards have been notified under the Standards Code to the GATT by the countries applying them. Apparently, none of these notifications have been challenged in the GATT as being unnecessarily trade restrictive (MFAT 1994, p.20), though other challenges have been made on other grounds. On a wider basis, a search of the UNCTAD data base on trade and control measures for agricultural products (including the technical regulations reported above) for high income countries revealed 4885 nontaririff measures of which 19% were tariff quotas, seasonal tariffs and measures like taxes, levies and fees, 44% were some some type of quantity restriction, and 33% were technical regulations or standards including health and safety measures (Ndayisenga and Kinsey 1994). An increasing number were thought to be environment related.

The main environmental concerns that have been raised in the TBT context are that the Agreement limits a government's ability to pursue its environmental objectives and encourages downward harmonisation of environmental standards (MFAT 1994, p.19). However the agreement explicitly recognises protection of the environment along with the protection of human, animal and plant life and health, and prevention of deceptive practices as legitimate objectives. The agreement also explicitly recognises that countries have the right to take such measures at levels they consider appropriate to their circumstances.

The agreement requires governments to apply their technical regulations in a non-discriminatory way and to ensure that these measures are no more trade restrictive than is necessary to achieve the objective, taking account of the risk that non-fulfilment would create (Art 2.2). This provision means that in choosing between practicable regulatory measures that are intended to achieve a particular environmental objective, countries should choose the measure having the lesser effect on trade. The agreement continues the previous practice of requiring countries to notify WTO of the intended adoption of standards related measures that depart from international standards and the opportunity for other countries to comment on draft regulations. In setting regulations that have a trade restrictive effect, account should be taken of the environmental risks that could result if the objective of the regulation is not achieved. In effect trade measures should be less stringent when the environmental risk is low than when the risk is high (the proportionality principle). This is discussed further below. A footnote in the draft agreement spelt out the rationale of the proportionality principle but it does not appear in the final text (Runge 1994, p.125).

The agreement encourages countries to use relevant international standards where these exist, but it does not require domestic standards to be adjusted (upwards or downwards) where this would not be appropriate. Different circumstances between nations are recognised and the agreement explicitly allows for particular domestic measures to be used rather than international standards, if the latter are considered an ineffective or inappropriate means of achieving a country's desired level of environmental

protection. Where different regulations of another country achieve the same objectives, countries are encouraged to accept these regulations as equivalent to their own (the equivalence principle).

The Agreement on Sanitary and Phytosanitary Measures

A new Agreement was negotiated in the Uruguay Round for sanitary and phytosanitary (SPS) measures. SPS measures were previously covered by Article XX(b) of the 1947 Agreement and, in part, by the Tokyo Round TBT Agreement (the Standards Code). SPS measures cover two main areas: the spread or importation of animal or plant borne diseases; and the level of additives, contaminants, toxins or disease causing organisms in food, drink or feedstuffs. SPS measures include relevant laws, regulations, testing and inspection procedures and quarantine measures.

The SPS agreement continues to recognise the right of countries to take such measures as are necessary to protect human, animal and plant health within their boundaries. SPS measures should be based on scientific principles and the agreement encourages states to use international standards, guidelines and recommendations as used by the international standardising bodies (*Codex Alimentarius, the International Plant Protection Convention, and the Organisation International Epizootics*). Countries have the right to maintain higher levels of protection provided they can be scientifically justified or if they are determined by the regulating country to be appropriate given local conditions (Article 3.3). The equivalence principle is also adopted in this agreement, and SPS measures should not discriminate between countries which have identical or similiar conditions, nor constitute a disguised restriction on trade. Countries should choose measures which are least trade restrictive where there is a choice of measures which could be used. Finally, the SPS Agreement requires countries to base SPS measures on an assessment of risk to human, animal and plant life or health and to modify them accordingly.

Agreements on Subsidies and Agriculture

The Subsidies and Countervailing Measures agreement (SCM) distinguishes between actionable and non-actionable subsidies. Actionable subsidies run the risk of challenge, including countervailing action, by another country. Non-actionable subsidies, which cannot be challenged, include assistance for research activities, assistance for disadvantaged regions, and assistance to adapt existing facilities to new environmental requirements which result in greater restraints or financial burdens on firms (Art 8.2). For environmental requirements, the following conditions apply: that it is a one-time non-recurring measure limited to 20% of the cost of adaption; that ongoing costs are borne by the concerned enterprises; that there is a direct linkage with the reduction of adverse environmental effects, and, that it is available to all firms. These rules leave room for countries to take action against the measures if they fear they (the rules) are not being met (MFAT 1994, p.25).

The Agreement on Agriculture recognises that in many countries, governments pursue various programmes, including environmental programmes, which have minimal effect on the level of agricultural production and trade. In these cases governments are not obliged to reduce levels of support, providing programmes meet two general criteria: the support is provided through a publicly funded government programme with well-defined objectives, and that the programme does not have the effect of providing price support to producers (green box policies)(MFAT 1994, p.23). Additional requirements apply to any payments made to agricultural producers made under environmental programmes: eligibility shall be determined as part of a clearly defined government environmental programme and be dependent on the fulfilment of specific conditions under the programme, including conditions related to production methods or inputs; and

payments shall be limited to the extra costs or loss of income involved in complying with the programme (Sinner 1994). Article 13 of the Agriculture agreement exempts green box measures from the Subsidies Code for the 'implementation period' which is nine years as compared with six years for the main agreement (J.Sinner, pers.com.).

The outcome of the Uruguay Round has therefore been one of considerable clarification in the environmental area. The roles of the Environment, SPS and TBT Committees have been delineated and the policy function separated from the operational function. The programmes of the CTBT and CSPS are separated with distinct areas of responsibility (Article 1.5 of TBT) though the two committees are expected to work together. The CTBT also covers a number of common areas with CTE such as packaging and labelling though with different focus. In early 1996, there will be joint meetings of the CTE and CTBT to discuss requirements for environmental purposes relating to products, including standards, and technical regulations, packaging, labelling and recycling

The Policy Issues

Major attention in the CTE will be devoted to multilateral environment agreements (MEAs) in the work programme (Item one). These agreements relate to environmental problems which cross international borders such as pollutants in transboundary lakes, rivers or the sea and also in the atmosphere (transborder or global physical spillovers). Some of these environmental agreements were reached without consideration of trade implications and the task of the CTE is to advise Ministers on the compatibility of trade measures taken pursuant to MEAs and the WTO. A sub-task is to examine the adequacy of WTO transparency mechanisms concerning trade measures included in relevant MEAs (Item four)(WTO 1995a, T & E News and Views, 8 Dec 1995)

Surprisingly, nations reached 127 environmental agreements in the period 1930-90 of which only 17 have trade provisions (GATT 1992, p.10 gives more detail). The majority of the latter concern agreements on the protection of flora and fauna (Convention on International Trade in Endangered Species of Wild Flora and Fauna)(CITES), such as bans on the imports of ivory, whales, flying foxes, polar bears, fur seals and migratory birds. "The GATT permits its contracting parties to ban the domestic sale of a product and to enforce such a ban at the point of importation or exportation provided that the ban applies regardless of the origin or destination of the product. The most effective way of applying these environmental agreements is therefore likely to be also the one that would ensure consistency with the GATT" (ibid pp.10-11). Foreign products can be subjected to more stringent treatment under Article XX(b), where, for example, phytosanitary regulations prevent the spread of disease and pests across borders through trade in plant material, or through Article XX(g), where countries may take measures relating to exhaustible natural resources.

Another provision of some MEAs concerns discrimination between signing parties and non-signing parties though this has not as yet been tested under the then GATT arrangements (ibid p.11). The prospect of conflict between the various parties needs to be resolved through the development of principles to determine matters of priority and consistency (Runge 1994, p.20). There are also questions to be resolved in this context over whether countries have the right to impose trade measures in response to the environmental policies of other counries (territorial jurisdiction), over the legal standing in time of environmental agreements over trade agreements under the Vienna Convention on the Law of Treaties, and whether agreements like the Montreal Protocol are subject to the GATT exceptions for conservation of exhaustible natural resources (Runge 1994, pp.20-22). It is suggested that a GATT 'waiver' for international environmental agreements be introduced until better definitions and understanding can be worked out.

The CTE is also tasked to examine the relationships between dispute settlement mechanism in the multilateral trading system and those found in multilateral environmental agreements (Item five)(T&E 8 Dec). In the past decade the GATT dispute settlement process produced five panel reports that include relevant interpretations of GATT rules in the environmental area (GATT 1992, p.13). These include the the United States ban on tuna from Canada, a Canadian ban on on exports of unprocessed herring and salmon, a Thailand ban on imported cigarettes, a complaint against US taxes on petroleum, and most well known, the case of US bans on imported tuna where dolphins were part of the by-catch. These reports have served to clarify how the then GATT rules affected conservation of natural resources (herrings and salmon), non-justified discrimination against imports (cigarettes), justifiable border taxes (petroleum), and that countries do not have rights to impose conservation restrictions on other countries (tuna/dolphins). A good summary of the dolphin case (pp.71-80) and the salmon/herring case (pp.80-87) can be found in Runge (1994).

The CTE's mandate to look at the MEAs in this context is obviously a very wide one. According to the December newssheet, the Committee is focussing on the place of environmental expertise in trade dispute settlement, and the place of trade expertise in environmental dispute settlement. One view in this area could well be to leave the present dispute settlement process alone so that it could adjust to the new provisions laid down in the Uruguay Round.

The other big area in the CTE mandate concerns charges and taxes for environmental purposes, and requirements relating to standards and technical regulations, packaging, labelling and recycling (Item 3). The starting point here is clearly the dispute between Canada, the EU and Mexico against the US concerning taxes on petroleum and certain imported substances (GATT 1992, p.13). The tax was raised to finance in part a Superfund for cleaning up toxic waste sites. The panel found that the GATT rules on border tax adjustments apply regardless of the purpose of the tax and that the polluters pays principle(the alternative suggested by the EU) had never been adopted by the GATT, hence the tax in question was a legitimate border tax adjustment.

The CTE is carrying out a study of national environmental taxes and is generally looking at the role of taxes which could be adjusted at the border and their WTO consistency. In the case of energy taxes, adjustment allows for energy that has been used in the production of a product - this could be the thin end of the green wedge in allowing consideration of resource depletion back to a zero base. On standards and technical regulations pertaining to packaging, labelling and recycling, the CTE is examining the applicability of the TBT agreement to eco-labelling and proposes joint meetings with the CTBT. Further, they intend to examine the adequacy, from both the trade and the environmental perspective, of WTO rules regarding eco-labelling and the possible need for further disciplines and transparency as well as the same concerns for WTO rules for packaging, handling and other environmental regulations requirements and standards (T&E, 8 Dec1995).

The other Items in the work programme concern the effect of environmental matters on market access, the issue of exports of domestically prohibited goods, the relationship of environmental measures to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the environmental benefits of trade liberalisation and the relationship of the Services Agreement to the environment. The market access issue concerns protecting the rights of developing countries especially the least developed; this could be a contentious issue given the disparity of environmental standards in some countries and the different attitudes to conservation (eg tropical forests). Export of domestically prohibited goods concerns countries disposing of goods like pharmaceuticals in third country markets. The issue with regard to TRIPS is that the new Agreement is designed to encourage the world-wide transfer of technology -

importantly its role in improving the environmental protection capability of countries. The General Agreement on Trade and Services (GATS) is the first comprehensive multilateral agreement covering trade in services - attention here concerns GATS Article XIV which provides for a number of relevant general exceptions along the manner of Article XX of GATT. Both TRIPS and GATS have implications for MEAs.

Some Issues

There has been considerable growth in nontariff measures (NTMs) since the GATT was signed in 1947. GATT has always permitted the use of certain NTMs albeit under very specific circumstances. For example, temporary export restrictions may be used to deal with domestic food shortages, and import restrictions may be used to implement domestic agricultural programmes. Also import and export restrictions may be used, if necessary, for the application of standards for classification, grading and marketing. In addition, the numerous exceptions outlined in Article XX of the GATT provide considerable scope for countries to devise NTMs that lie on the borderline of GATT respectability. Indeed, it has been stated that 'the GATT exceptions have effectively expanded the trade policy space of governments by allowing them more latitude in choosing NTM as trade policy tools' (Ndayisenga and Kinsey 1994, p.280).

Running through the whole debate is the question whether Article XX of the GATT needs to be modified to include wider environmental concerns. The present wording allows exceptions for measures protecting human, animal and plant health, and for measures relating to the conservation of exhaustible natural resources. Dispute panels have previously extended exhaustible natural resources to cover fish stocks and hence widened the term from mineral resources which may have been of concern originally (Charnovitz 1991, p.45). In the Uruguay Agreement on SPS, 'animal' includes fish and wild fauna; 'plant' includes forests and wild flora; 'pests' includes weeds; and 'contaminants' include pesticide and veterinary drug residues and extraneous matter (Annex A). Only the TBT agreement links the exception for human, animal and plant health specifically to the protection of the environment (GATT 1992, p.23). It therefore seems possible, and discussions in the CTE confirm, that an additional clause might be added to Article XX specifically linking the protection of the environment and MEA-based trade measures in the list of general exceptions (T&E, 8 Dec p.5). Norway had proposed that an "environmental window" in Article XX should include a reference to environmental expertise in connection with dispute settlement (T&E, 22 March 1995).

There is reference in the press reports of the CTE that progress on the refinement of Article XIV of the Services Agreement should be delayed while work was continuing in the Committee on GATT Article XX (T&E News, 14 August 1995). The US suggested that consideration be given to applying measures for goods to those for services along the lines of Article XX(g). Compared to the firm definition given to Article XX(b) in the SPS Agreement, it appears that the provisions for the protection of exhaustible natural resources in Article XX(g) have not progressed very far.

A interpretation of Article XX is given by the GATT Secretariat (GATT 1992, p.8) to the effect that for a trade measure to be considered 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. As discussed below, this provision has been included in the SPS agreement and the TBT agreement.

Risk Assessment

There is common reference to risk assessment in both the agreement on TBT and SPS as far as exceptions to the general principles of trade liberalisation are concerned. The TBT provides for making the degree of environmental risk an important factor in choosing between environmental measures. The SPS provides for countries to base their measures on an assessment of the risk to human, animal and plant life, and seeks to identify what an acceptable level of risk might be. It also clarifies that SPS measures are designed to manage risk to acceptable levels.

In the Agreement on TBT, Article 2.2, concerning preparation, adoption and application of technical regulations by central government bodies, '... Members are to ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade... for this purpose, technical regulations shall not be more trade-restrictive than necessary, to fulfil a legitimate objective, taking account of the risks non-fulfilment would create'. 'Such legitimate objectives are: national security requirements; the prevention of deceptive practices; protection of human health and safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are: available scientific and technical information, related processing technology, or intended uses of products'.

In the Agreement on SPS, Article 5, concerning assessment of risk and determination of the appropriate level of sanitary or phytosanitary protection, '.. Members shall ensure ...that their measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organisations'. 'In the assessment of risks, Members shall take into account available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest- or disease-free areas, relevant ecological and environmental conditions; and quarantine or other treatment'. Following a statement of the economic factors to be taken into account in assessing risk and achieving the appropriate level of protection, '...Members should, when determining the appropriate level of of sanitary or phytosanitary protection, take into account the objective of minimising trade effects'.

Further,'...when establishing or maintaining ...measures to achieve the appropriate level of protection, Members shall 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'. To which a footnote has been added, '...a measure is not more trade-restrictive than required unless there is another measure, readily available taking into account technical and economic feasibility, that achieves the appropriate level of sanitary or phytosanitary protection and is significantly less restrictive to trade'.

It can be seen that both agreements cover the health and environmental outcomes and that the principle is the same in both, i.e that measures adopted should be no more trade-restrictive than required to achieve the appropriate level of protection. In assessing risks, both agreements require consideration of scientific and technical information and and relevant processes and production technology; the TBT then requires consideration of 'intended uses of products' whereas the SPS has further disease and quarantine requirements.

The TBT agreement states that 'account should be taken of risks non-fulfilment would create'. The implication is that high risk of non-fulfilment (a standard not achieving its legitimate objective with bad environmental consequences) justifies a more trade-restrictive technical regulation. Conversely, the regulation should be less stringent when the risk is low. The SPS agreement puts more emphasis on the *choice* of measures, defining the appropriate levels of protection in terms of risk,

and requiring the least trade-restrictive measure to be chosen to achieve that level of protection. In the case of the TBT agreement, it would be expected that any standard adopted for environmental reasons would already have a safety margin built into it. This would seem to make non-fulfilment a rather rare event. This is discussed further below.

Evaluating Risk Measures

Earlier, GATT recognised three steps in risk management in the SPS context (GATT 1992, p.9). They were: evaluating the likelihood of a disease or pest entering a country, or determining the potential adverse effects on health of additives or contaminants; determining the acceptable level of risk; and selection and application of measures that would limit risk to acceptable levels and which were compatible with trade requirements. The first is a question of scientific assessment or *evaluation*, the second is a question of *choice*; and the third is a matter of *design*. Evaluation is a matter for science and statistics; choice is a matter of political preferences, while design is what policy advisors and legal experts do. Economics has something to say on all three of these which is discussed next.

Figure 1a shows the normal trade-off between risk and net benefits; the EV line suggesting a positive relationship between greater benefits from the import or use of a product, and the risks to society created by that import or use. It is clear that 'zero risk' (in the sense of the Delaney amendment) means no imports or production (O), and that 'no unreasonable risk' means some threshold level as represented by AB.* The latter could be tolerances or maximum residue levels (MRLs) determined by the science agencies or international agreements. These are likely to have high safety margins. Other things being equal, domestic policy makers should seek measures that push the benefits from imports/production out to point B. Domestic agencies concerned with licencing or evaluation would need to be able to assess economic benefits from a proposed import/production process, undertake a risk assessment of the possible deletarious effects of the proposed import/process, and be able to identify environmental or other effects on human, animal and plant health. Further, if they legislate control measures, they should also have regard to their trade implications.

Figure 1b shows the case where an agency might impose conditions on the import and use of a product or compound. In SPS these conditions would be related to control measures that reduced the risks to society through disease if the product is imported. Thus risks could be reduced to a level which was acceptable to an importing authority. In the TBT case, the imposition of standards would create costs for producers and importers. The lower axis measures the increasing cost of control and the upper axis net social benefits. Curve MB shows marginal social benefits decreasing as amount of control increases and curve MC shows marginal costs of a unit of control rising at the margin. The optimium point of control is where the marginal equality is reached at D because total costs would exceed total benefits beyond D. The distance OD represents the cost of reducing a given amount of risk.

* 'Zero risk' refers to the amount of risk of a certain adverse outcome from legal imports of the product in question. However, there will always be some residual risk of the adverse outcome due to natural importation by birds or the wind, illegal imports, or legal imports of some other products. In this sense, zero risk does not really exist, and the EV curve would begin somewhere to the right of zero on the risk axis (J.Sinner, pers com.)

Figure 1a: Risk Trade Offs

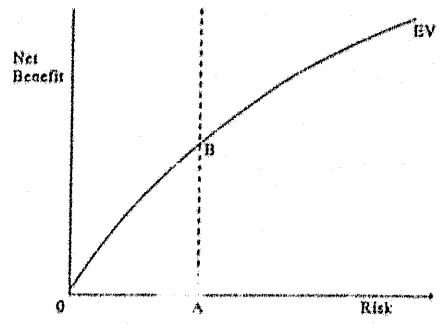
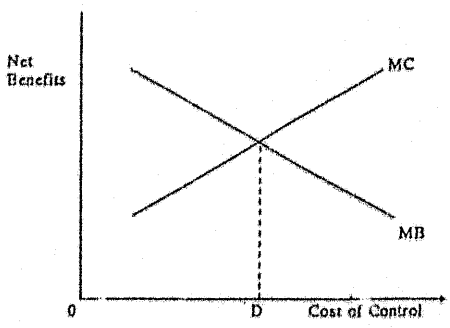


Figure 1b: Managing Risk



These simple analytics thus clarify the difference between the risk of an event occurring and the reduction of risk by suitable management procedures. The degree of acceptable risk remains a political choice in the absence of precise agreement on what is acceptable. Examination of various case studies of actual import decisions (involving SPS measures) reveals that importing authorities have varying standards of acceptable risk not entirely unrelated to the threat to a home based product posed by the admission of the particular import though cultural and other factors have a role as well (Johnson 1995). In the case of standards, the imposed costs may reach a stage where production is uneconomic and by implication to a situation where the risks of continuing production are too high. In both SPS and TBT terms, higher and higher costs of management/control indicate that the environmental or disease effects of the actions proposed are too great and should not be pursued.

In the SPS agreement, Art 5.5 requests Members to avoid arbitrary or unjustifiable distinctions in the risk levels they consider to be appropriate in different situations. When risk assessments for different products or situations resulted in similiar probability/value assessments, it would be desirable that they should uniformly be judged to be acceptable risks or not irrespective of the products or countries involved. The methodology for achieving consistency in such assessments are not further elaborated and the matter was left to be discussed by the CSPS in the future.

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