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## Part V

## Can non-tariff barriers be tamed?

## Chapter V

# TAMING NON-TARIFF BARRIERS: CAN THE WORLD TRADE ORGANIZATION FIND A SOLUTION?

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### Introduction

In 1947, the multilateral trading system was established through the formalization of the General Agreement on Tariffs and Trade (GATT) with the objective of ensuring the elimination of border protection measures arising from the pursuit of discriminatory policies. The process of trade liberalization that was thus initiated has since become almost synonymous with the lowering of tariffs. Yet, the critical issue of NTBs has remained sidelined. The consideration given to this issue appeared to be just enough to protect the protagonists of trade liberalization against criticism that they were reluctant to ensure distortion-free markets were put in place. The results were along expected lines. For a number of decades, GATT had to face the criticism that it had established a regime that had worked for the lowering of tariffs while turning a blind eye to the growing incidence of NTBs.

WTO could scarcely do any better. Disciplining NTBs was included as a part of the negotiations on non-agricultural products. More importantly, the two agreements that were explicitly included in the Uruguay Round package for monitoring the growth of standards in recent decades have been questioned regarding their effectiveness, and were substantially left outside the purview of the current round.

An issue that assumes importance in the context of the handling (or non-handling) of the NTB issue by the multilateral trading system is the identification of an NTB. The assumption has been that these barriers result in distortions in the marketplace, stemming essentially from their discriminatory application. However, this is only the beginning of the problem in identifying NTBs. The policy regimes that countries have established have also spawned instruments that are aimed at addressing "market failures". Thus, "barriers" have been put up to ensure that the markets do not result in undesirable outcomes. Analysts have tried to differentiate such "barriers", which have been introduced as a way of addressing "market failures", by christening them as NTMs. However, the jury is still out on whether an NTM can, under some circumstances, appear as an NTB.

This chapter is in the nature of a status report of the handling of the NTB issue by the multilateral trading system during the six decades that it has been in existence. Section A reflects on how the received literature has addressed NTBs. The focus of the analysts has largely been on NTMs, which, in the view of the authors, has shifted attention away from the NTBs and which therefore needs urgent attention at this juncture.

The handling of NTBs by the multilateral trading system is discussed in sections B and C. The main focus of this discussion is on the current round of negotiations in which WTO members are expected to provide a framework for disciplining NTBs. This discussion indicates that the identification of NTBs by WTO members has revealed that their exporters consider some of the so-called NTMs to be technical barriers, and sanitary and phytosanitary measures as NTBs.

This brings us back to the point made above – it is imperative for the WTO members to carry out a detailed review of the agreements on technical barriers to trade (TBT), and sanitary and phytosanitary (SPS) measures to ascertain whether these so-called NTMs are behaving more like NTBs. The authors believe that this review is necessary, given the high degree of proliferation of these measures since 1995. Section D makes this point while analysing the trends in the growth of TBT measures.

### A. Understanding the phenomenon of NTMs

This section explores the analytical framework as well as the evidence for understanding the phenomenon of NTBs, beginning with a discussion of some of the more contemporary literature on the subject. A brief discussion follows regarding available data on NTMs, with the focus on the widely consulted UNCTAD Trade Analysis and Information System (TRAINS) database (see annex table 1).

The existing literature on NTMs covers a vast area of trade policy instruments that are beyond the simple definitions of tariffs (ad valorem and non-ad valorem). Based on two broad classifications of goods and services, these can be categorized into two groups: those that discriminate trade in goods and those that distort market access for service providers. A number of studies have been carried out on the trade distortion effect of non-tariff instruments since the 1970s, covering instruments from subsidies to trade facilitation issues. This section attempts to briefly present the broad contours of those studies, which covered the use of "regulatory protection" as a trade policy tool and looked at its trade-distorting effects.

In a seminal work in 1970, Baldwin defined non-tariff instruments as measures (public or private) that caused internationally traded goods, services, or resources devoted to the production of these goods and services, to be allocated in such a way as to reduce potential real world income. Baldwin's classification seems to have expanded NTMs beyond the trade policy arena, covering even micro elements such as transfer pricing that fall under competition-related matters. This definition was too ambitious to apply in the real world, as concepts such as potential real world income are very fuzzy and difficult to define.

A rather simple approach was adopted by Greenway (1983, p. 132). He categorized these regulatory instruments into direct and indirect instruments, based on explicit and notional effects on trade flows. They covered a large variety of instruments belonging to quantitative, fiscal and administrative measures. Taking a similar line, Hillman (1991)

provided a general definition covering all forms of restrictions, other than traditional customs duties, that act as NTMs by distorting international trade. However, it should also be noted that defining trade distortion may not be always easy, as it is often very difficult to quantify it, especially when "expectations" are taken into account.

However, the most practical approach to understanding the negative impact of NTMs was largely taken in the context of its probable effect on trade flows (Deardorff and Stern, 1998). Hence, the most common element in the definition of NTMs in a large number of studies was the negative impact on trade volumes, directly and indirectly through price effects. But as Beghin and Bureau (2001) point out, a unifying methodology for assessing the impact of NTMs does not exist given the heterogeneous nature of these regulations.

The nature of the coverage of various instruments under the WTO agreement brought some distinction to the definitional approach used in the studies on NTMs. These studies defined NTMs based on the legitimacy of certain instruments provided in the various agreements, and therefore excluded issues on negative impacts related to compliance and transparency. In their attempt to define NTBs, Hillman (1997) and Roberts and De Remer (1997) sought to distinguish between those regulations designed to protect local industry and those designed to protect consumers. Subsequently, Roberts (1998) and Roberts and others (1999) defined NTMs as a set of regulations that included many policy instruments. Accordingly, they categorized the instruments by the scope of the barrier, regulatory goal, legal discipline, type of market restriction, product category and geographical region. Again, it was a broad definition, and it clearly highlighted differences in the protectionist nature of various measures. They found an overall equilibrium impact in a sector or in the economy where the NTM was applied. The analytical framework suggested in this case is to take account of three broad effects: (a) regulatory protection effect - rent to domestic sector; (b) supply shift effect - compliance cost impact in terms of increase in domestic supply; and (c) demand shift effect - new information effect, which leads to increased demand. All these effects are analysed in a welfare-oriented approach.

The approach adopted was intended to isolate only those measures as NTMs that restrict trade alone, and it did not address some legitimate concerns of governments/ countries (protection of health and the environment, and safety). The measure, which would address the legitimate concerns under TBT and SPS, would not be termed as NTMs. Hence, legitimacy of the measure becomes an important criterion for the NTM definition. Some these trends can be observed in a large number of surveys conducted on business concerns of WTO issues by United States business councils such as the United States – China Business Council (2003). This survey made clear distinctions of SPS and TBT measures (standards and regulations) from that of other NTMs such as quotas, licensing/tendering requirements, and government and industrial restrictions.

On the other hand, Maskus and others (2001) suggested a method of comparing a measure to a situation when the measure would have been implemented if it had been designed for domestic purposes. Here, the principle of national treatment is taken as

a criterion for judging the measure. It would mean that if the regulation or standard is applied for both foreign and domestic products, then the measure is not trade-distorting and hence not an NTM. Maskus suggested the need for closer examination of the impact on trade and national welfare in the context of standards and technical regulations (NTMs).

The literature also identifies the effects of small and large firms on NTMs. The cost of regulations affects these two segments of an industry in different ways, thus modifying the structure of competition or the size of the relative markets affecting the profit mark-up and rents. Granslandt and Markusen (2000) also accounted for the fact that standards could impose a fixed cost of entry that would affect competition, and might also lead to multiple equilibria, an effect well known in industrial organization. The simplest approach to standards is that when they differ between countries, they constitute a real trade cost for exports trying to penetrate the foreign market. However, the study by Granslandt and Markusen (2000) suggested that incompatible standards were particularly harmful for small/poor countries who could not win a "standards war". As there is a fixed cost of any standard, with multiple equilibrium, they suggested that the welfare differences between different players would be large, creating an important coordination role for public policy. However, the study clearly highlighted the lack of quality in empirical evidence, given that the existing data sources did not provide sufficient information regarding the various quantitative effects.

In the context of shift in supply curves, Bureau and others (1998, pp. 437-462) and Bureau and Marette (2000, pp. 170-198) argued that regulations bring information and therefore avoid or reduce the cost of assessing product quality (the "lemon problem"). Similar views can be found in Casella (1996) and Fisher and Serra (2000), who suggested that such measures would behave like a public good and would manifest similar effects. Casella concluded that standards and regulations respond to a society's demand for specific public goods, and as such can we expect them to be shaped by preferences, endowments, and technologies - the fundamental determinants of this demand. There is no a priori reason why standards should be equal in different societies. This paper also studied the interaction between standards and international trade. It showed that although standards can be used to manipulate trade flows, there is no logical connection between standards harmonization and gains from trade. Moreover, standards themselves will be modified by the opening of trade and under reasonable assumptions; harmonization will be one of the outcomes of free trade. The empirical evidence suggests that industry groups are assuming an increasing role in shaping government regulations (Casella, 2001). In this perspective, standards need not be automatically identified with national policies, and the possibility of international alliances of industry groups must be considered. This study supports the results of the study by Milner across industries. The result of market integration is then international harmonization together with increased differentiation across industries (Casella, 1995 and 1996).

Regulations and standards can also lead to a rise in the elasticity of substitution in demand, leading to network externalities and even economies of scale, by permitting producers to settle on a limited range of products. However, the supply of a range of

products that do not necessarily fit consumers, demand a variety of attributes. Such a trend could also manifest in a manner that would help technologically capable countries over those, which do not have technological capability in terms-of-trade effect (Harrison and Tar, 1996; Maskus and Wilson, 2000). Although at the micro level the results could be mixed, at the macro level technological capability and financial control can seriously influence the trading patterns in favour of the industrial countries.

Incorporating environmental factors, Blyde (2000) showed that, if a country specialized in the production of dirty goods, it did not necessarily become dirtier, as predicted by the pollution haven hypothesis. Trade equilibrium is constructed where a rich country specializes in the production of the clean good, a poor country specializes in the production of the dirty good, and both countries become cleaner after the gains from trade are internalized. The result casts serious doubts on the effectiveness of using trade restrictions to improve the environmental conditions of developing countries, as proposed by some environmental groups. From the environmental point of view, the use of restrictions can be counterproductive, not only for the poor country but also for the rich country (Blyde, 2000).

The review of literature on NTMs and their effects on trade clearly highlights an important point that there are other effects of standards and regulations that need to be addressed. Further, there is a large gap between the ambitious analytical framework and the applied estimates of the effects of NTMs. The approaches that have been adopted can be categorized as follows:

- (a) Trade effect mercantile measure constructing the tariff equivalent;
- (b) Welfare effect entire economy effect (global);
- (c) Distribution effect use of social account matrix;
- (d) Resource cost effect deadweight losses (administrative cost and cost of resources to rent seeking); and
- (e) The impact of industrial restructuring.

To analyse the above-mentioned effects, empirical models have to analyse the effects of regulations and standards on various issues such as supply, the extra cost induced, the price differences between foreign and domestic producers, among others. However, most of the studies undertaken so far have been carried out in the context of effects on developed countries, firms and markets. In terms of sectors taken up for analysis, existing studies have attempted to analyse the impact of standards and regulations for agricultural and animal products largely in the context of developed markets. Most studies have not captured the effects of the standards that are being set by the developed countries and, more recently, by the advanced developing countries, on other developing and the least developed countries. This, in the view of the authors, is a serious flaw since it does not take into consideration the fact that the least developed countries face severe

Annex table 3 provides the salient features of some of these studies.

constraints arising from their limited availability of resources and are thus unable to meet the challenges posed by the increasing proliferation of regulations and standards. As a result, the ability of those countries to enhance their market access prospects looks rather bleak.

The constraints that these countries face are epitomized by their limited technological capabilities, which have long been recognised as impediments to improving their presence in the global markets. Although the global community has been discussing this issue for a considerable period, mainly through the efforts made by UNCTAD to improve the conditions of under which developing countries can access technologies that can improve their ability to compete in the global markets, very little progress has been made in that direction. More recently, WTO also began considering this issue after the Doha Ministerial Conference mandated the establishment of the Working Group on Trade and Technology Transfer, which is expected to submit "recommendations on steps that might be taken within the mandate of WTO to increase flows of technology to developing countries". In the light of the above-mentioned factors, addressing the differences in capabilities to meet standards and regulations (which exist globally and even between groups of countries) becomes imperative while analysing the economic effects of NTMs.

One of the major limitations in understanding the implications or the potential implications of NTMs/NTBs is the lack of a proper database that captures these measures in a comprehensive manner. This can alone lead to focused policy initiatives being taken to address the problems that are faced because of these measures. The efforts that have been made towards documenting NTMs/NTBs, most notably by UNCTAD, are discussed briefly below.

The pervasive impact of NTMs was first recognized at the international level in the 1960s after the Kennedy Round of GATT negotiations included it in its negotiating mandate.<sup>2</sup> Following this, UNCTAD took the lead in developing an inventory of NTMs of the participating countries.<sup>3</sup> In 1973, the compendium contained more than 800 NTMs. In 1986, UNCTAD conducted a comprehensive research project to identify country-by-country NTMs, which revealed many more NTMs (Laird and Yeats, 1990).

The most comprehensive compilation of publicly available information on NTBs/NTMs is contained in the UNCTAD TRAINS database, which is accessible through the World Integrated Trade Solution (WITS) software. The NTB data incorporated in TRAINS indicate the existence of categories of NTBs classified according to the UNCTAD Coding System of Trade Control Measures (TCMCS) for particular products or groups of products. Additional information such as a brief description of each NTB, an indication of affected or excluded countries, and footnotes on exact product coverage are provided, where available.

Developments related to NTMs in GATT are discussed in greater detail in a later section.

The format for this inventory is included in annex table 1.

TCMCS currently under rinsion. identifies more than 100 different types of NTBs at its most detailed level (annex table 2). This classification does not include measures applied to production or to exports. NTBs are broadly classified into six chapters, from 3 to 8 (chapters 1 and 2 are reserved for tariff and para-tariff measures, respectively), according to the intent or immediate impact of the measures:

- (a) Chapter 3 price control measures. Measures intended to control the prices of imported articles for the following reasons:
  - (i) To sustain domestic prices of certain products when the import price is inferior to the sustained price;
  - To establish the domestic price of certain products because of price fluctuations in the domestic market or price instability in the foreign market; and
  - (iii) To counteract the damage caused by the application of unfair practices in foreign trade.

Most of these measures affect the cost of imports to a variable degree calculated on the basis of the existing difference between two prices for the same product, compared for control purposes. The measures initially adopted can be administrative fixing of prices and voluntary restriction of the minimum price level of exports or investigation of prices to subsequently arrive at one of the following adjustment mechanisms: suspension of import licences, application of variable charges, anti-dumping measures or countervailing duties;

- (b) Chapter 4 finance measures. Measures that regulate access to, and the cost of foreign exchange for imports as well as define the terms of payment. They may increase the import costs in a fashion similar to tariff measures;
- (c) Chapter 5 automatic licensing measures. Freely granted approval of applications for imports or monitoring of import trends for specified products, sometimes through inscription in a register. They may be applied to signal concern over import surges and to persuade trading partners to reduce export growth. They may also be applied for environmental purposes. Sometimes they are a precursor to import restraints.
- (d) Chapter 6 quantity control measures. Measures intended to restrain the quantity of imports of any particular good, from all sources or from specified sources of supply, through restrictive licensing, fixing of predetermined quotas or prohibitions.
- (e) Chapter 7 monopolistic measures. Measures that create a monopolistic situation by giving exclusive rights to one economic operator or a limited group of operators for social, fiscal or economic reasons.
- (f) Chapter 8 technical measures. Measures referring to product characteristics such as quality, safety or dimensions. They include the applicable administrative provisions, terminology, symbols, testing and test methods, packaging, marking and labelling requirements as they apply to a product.

Its comprehensive coverage notwithstanding, the TRAINS database has several limitations. The first problem with this database stems from the large diversity of measures deemed to be causing the market access problems that it covers. Because these measures are so diverse and sometimes non-transparent, their trade-distorting effects are extremely difficult to assess. Except for quotas, for which tariff-equivalents can be estimated, albeit with a fair amount of statistical margin of error, for other NTMs there are no theoretically correct and empirically sound measures for the estimation of trade distorting effects (Martin, 1997). In addition, the quality of databases on NTMs has often been pointed to as an additional problem; this limitation shows up especially when NTMs are used for explaining trade distortion effects. Even the most recent NTMs database provided by WITS does not cover the latest information on new, and additions to existing standards (annex table 4).

These limitations seem ungainly when considering the fact that the TRAINS database is a combined attempt by three premier multilateral institutions (the World Bank, the United Nations Statistical System and UNCTAD). Researchers who make extensive use of the TRAINS database would perhaps be justified in expecting this database to adopt a more scientific approach in providing data that is of such prime importance. The database needs to be significantly improved in terms of the clarity it affords in respect of the various measures that it covers. However, perhaps most importantly, information on NTMs for a relatively longer period is not available for many countries.

The only available data set for across-country NTM frequency is for the case of 20 countries. Here again a two-point comparison of NTMs based on WITS for a set of 20 countries (for which two-point data on NTMs is available – 1999 and 2001) suggests that in 2001, nearly 23 per cent of products (many of which represent two-digit HS codes) did not indicate the relevant objective and the type of NTMs applied by the country concerned. In addition, while NTM details are available along national lines, NTMs for which no description was provided in 2001 headings under the respective chapters in the database. Quite clearly, it is a serious case of non-transparency, where the objective for the application of NTMs is unavailable for empirical analysis. Hence, although the missing NTM objectives across this set of 20 countries stands at 23 per cent, their exact coverage at the six-digit level may be much higher; however, these would depend on the number of subheadings under the respective chapters in the database.

It is also expected that WITS would provide a comprehensive view of the market access conditions. However, WITS has been found to provide limited coverage. The country-wise updating of the database suggests that only in the case of 22 countries, NTM data were available for two separate periods; in addition, for all those countries, the latest coverage year was 2001. Of this list, only one country belonged to the developed category. The coverage of NTMs as per the available information from WITS is better for developing countries than for developed countries. Among the QUAD (with the exception of Japan), the two largest markets – the United States and the European Union – have information up until 1999.

Information on NTMs is a critical component of trade policy formulation. Therefore, the non-availability of such information during negotiations on critical agreements, such as that on agriculture as well as non-agricultural market access (NAMA), urgently needs to be addressed. This information gap is one of the biggest constraints facing WTO negotiators, particularly those from the developing countries.

### B. GATT and market access negotiations

The foregoing discussion provides a useful backdrop to understanding the manner in which the multilateral trading system has dealt with the issue of NTBs. Established in 1947 through the adoption of GATT, the multilateral trading system was expected to substantially reduce tariffs and other barriers to trade, and to eliminate discriminatory treatment in international commerce.<sup>4</sup> With regard to NTBs, the focus of GATT was on the most prevalent form, i.e., quantitative restrictions (QRs) that the GATT Contracting Parties had imposed for a variety of reasons, including addressing balance of payments problems. Accordingly, several articles of GATT dealt with the issue of QRs.

Evidence of a dilution in dealing with NTBs became evident as the GATT Contracting Parties provided the larger picture of their intent in the form of the Havana Charter, which was to have formed the basis of the functioning of the International Trade Organization (ITO). Several critical deviations were made from the expressed intent by GATT to deal with the "other barriers" to trade, and these deviations formed a part of Article 20 of the Havana Charter, which provided for general elimination of QRs. While articulating the need to eliminate the prohibitions or restrictions other than duties, Article 20 provided the prospective members of the organization with the freedom to impose restrictions necessary for the application of standards or regulations for the classification, grading or marketing of commodities in international trade.

Furthermore, Article 21 allowed any member "to restrict the quantity or value of merchandise permitted to be imported... in order to safeguard its external financial position and balance of payments". It was clarified that such QRs could only be applied by a member to (a) forestall the imminent threat of, or to stop, a serious decline in its monetary reserves, or (b) in the case of a member with very low monetary reserves, to achieve a reasonable rate of increase in its reserves. The QRs imposed by a member were to be progressively relaxed and ultimately eliminated, as that member's external financial position improved. This idea, mooted in the Havana Charter, was subsequently modified as GATT Article XVIII:B. This Article was designed to allow developing countries to control the general level of their imports by restricting the quantity or value of merchandise

<sup>&</sup>lt;sup>4</sup> Preamble to GATT, 1947.

<sup>&</sup>lt;sup>5</sup> Interim Commission for the International Trade Organization, 1948.

<sup>&</sup>lt;sup>6</sup> ITO was envisaged as a part of the triumvirate of organizations that was expected to ensure the orderly conducting of business in the global economy. However, ITO was not established because of opposition by the United States.

permitted to be imported, in order to safeguard their external financial position and ensure a level of reserves adequate for the implementation of their economic development programmes.

Much of the efforts in the initial years of GATT were devoted to the elimination of QRs. During those years, notable progress was made towards the elimination of restrictions applied under Article XII (GATT, 1973). However, concerns were expressed with regard to the "residual restrictions" that were imposed on products where BOP safeguards were not warranted and no GATT justification existed (GATT, 1983).

However, while GATT appeared to have moved towards restricting the use of QRs, it had also to contend with new developments that were ostensibly aimed at restricting trade. Two developments are particularly noteworthy - not the least because the initiatives for imposing those restrictions were taken by the United States. In 1955, the United States sought a waiver of the provisions of Article II and Article XI of GATT in order to implement Section 22 of its Agricultural Adjustment Act of 1933, which allowed the farm administration to provide price support to farmers. An amendment was adopted in 1951, which stipulated that no international agreement into which that the United States had entered would be applied in a manner inconsistent with the provisions of Section 22. According to the United States, the waiver was required in order to remove any possible inconsistency between the obligations of the United States under the General Agreement and that Section to permit the fulfilment of this Congressional mandate (GATT, 1955). Although several Contracting Parties were in favour of eliminating the restrictions by a specific date, the United States maintained that such an action ran contrary to the objectives for which the waiver was being sought. The implications of this waiver granted to the United States were far-reaching - it provided carte blanche use of QRs in the agricultural sector, which was in voque until the Uruquay Round negotiations took the decision to convert all NTBs existing in agriculture into tariffs. This point needs particular emphasis since the decision to grant the waiver did not affect the obligations of the United States under any other provisions of the Agreement, and particularly its obligations under Article XIII that did not allow discriminatory administration of quantitative restrictions.

The second major development that introduced export restrictions was the adoption in 1961 of the Short-Term Arrangement Regarding International Trade in Cotton Textiles. Major importers of cotton textiles in the developed world argued that rapid imports from the developing countries were putting their domestic industries at considerable risk. The United States pointed out that an increase in imports of cotton textiles in 1960, which reflected a growing trend over many years, raised both economic and political problems for the country. In the view of the United States, a "Short-Term Arrangement" was required to mitigate the immediate problem faced by its domestic textiles industry by imposing restraints on textiles imports and that this could be replaced later by a "Long-Term Arrangement" after giving due consideration to the interests of the parties involved in trading in cotton textiles. As in the case of agriculture, the import restrictions, accomplished in this case by using import quotas, became a permanent feature of the international trade until it was finally dismantled in 2005. Ironically, the "Short-Term Arrangement" was adopted

after the Committee III, which was established to consider measures needed to promote trade of developing countries as a part of the Programme of Action Directed towards an Expansion of International Trade.

QRs, both agricultural and non-agricultural, were the subject of negotiations during the Kennedy Round (1963-1969), but little progress was made. However, an important initiative was taken during that period to develop an Inventory of Non-tariff Measures that was undertaken under the guidance of the Committee on Trade in Industrial Products. It was in the area of NTMs rather than QRs that the Kennedy Round made a new beginning. This was the result of the agreement between the GATT Contracting Parties that the negotiations would deal not with only tariffs but also with NTMs. The main outcome of that effort was the development of the Anti-dumping Code in 1967.

The GATT work programme on NTMs experienced significant expansion during the Tokyo Round. In fact, six multilateral instruments on non-tariff measures were negotiated during the Tokyo Round:

- (a) Agreement on Technical Barriers to Trade;
- (b) Agreement on Interpretation and Application of Articles VI, XVI and XXIII;
- (c) Agreement on Import Licensing Procedures;
- (d) Agreement on Implementation of Article VI;
- (e) Agreement on Government Procurement; and
- (f) Agreement on Implementation of Article VII.

Although the Uruguay Round negotiations were formally launched in 1986, the blue-print for that eighth Round of GATT negotiations was, in effect, provided by the Declaration adopted at the end of the Ministerial Conference held in 1982. With regard to NTMs, the 1982 Ministerial Declaration took the following decision: "To review, in a group created for the purpose, existing quantitative restrictions and other non-tariff measures, the grounds on which these are maintained, and their conformity with the provisions of the General Agreement, so as to achieve the elimination of quantitative restrictions which are not in conformity with the General Agreement or their being brought into conformity with the General Agreement, and also to achieve progress in liberalizing other quantitative restrictions and non-tariff measures, adequate attention being given to the need for action on quantitative restrictions and other measures affecting products of particular export interest to developing countries". Backed up by this elaborate statement of intent, the Uruguay Round negotiating mandate merely reiterated that the aim of the negotiations was "to reduce or eliminate non-tariff measures, including quantitative restrictions..."

The Negotiating Group on Non-Tariff Measures established for dealing with the issues at hand had the daunting task of defining the scope of the negotiations. Some of

See annex table 5

the delegations argued that since the Tokyo Round had taken the initiative to rein in several NTMs, the Negotiating Group should focus on the "most serious problem areas such as import prohibitions, quantitative restrictions, VERs, variable levies, MFA restrictions and non-automatic licensing". It was further suggested that in order to effectively deal with the issue of NTMs, an adequate database should be established. The need to establish a database for identifying NTMs was particularly significant, as it indicated the difficulties that the GATT Contracting Parties continued to face while dealing with this vexing issue, despite expending considerable amount of negotiating capital since the decision to prepare the NTMs inventory was taken during the Kennedy Round.

It is interesting to note that the framework and procedures for the negotiations on NTMs was not adopted until February 1990, i.e., more than three years after the launch of the Uruguay Round. In fact, the negotiating process required an additional set of guidelines from the Ministers, which was provided through the mid-term review that was undertaken in April 1989. The negotiating guidelines provided by the mid-term review included the following key elements:

- (a) Various negotiating approaches can be applied to these negotiations, including multilateral, formula and request-offer approaches. However, approaches, which ensure the widest participation and broadest possible liberalization, are to be preferred;
- (b) To ensure that concessions to reduce or eliminate non-tariff measures are not subsequently nullified or impaired, participants agree to explore the most appropriate measures to achieve this objective.
- (c) There should be provisions for immediate or staged implementation of results over agreed time-frames.
- (d) If elimination of a non-tariff measure is not possible, consideration may be given to transforming it into a tariff.
- (e) Participants will receive appropriate recognition for the liberalization measures that they have adopted.

In keeping with the above-mentioned negotiating guidelines, the framework and procedures for the negotiations on NTMs proposed three sets of approaches for dealing with the issue. These were (a) multilateral rule-making approaches, (b) multilateral formula approaches, and (c) request and offer approaches.

The GATT Contracting Parties proposed multilateral rule-making approaches for a number of NTM categories. The more prominent of these were issues related to pre-shipment inspection, Rules of origin and import taxes. The focus of negotiations in that set of approaches was, however, on the issues of pre-shipment inspection and rules of origin.

Australia made a strong pitch for the formula approach, suggesting that the two most common elements of non-tariff protection, i.e., price- and quantity-based measures,

could be effectively addressed by using this approach. Australia's views were based on the request lists that countries had submitted with regard to NTMs that they wanted removed. The list showed that the price- and quantity-based measures were the most numerous. The measures included in the list were licensing, price support measures, prohibitions, quantitative restrictions, tariff quotas, voluntary export restraints (VERs), export subsidies and levies.

Taking a contrary view of this issue, the European Communities (EC) opined that "it will be difficult, if not impossible, to engage in a systematic or formula-based trade negotiation to reduce or eliminate NTMs as required by the Uruguay Round Declaration". Even in the area of quantitative restrictions, which, according to the EC members, was "the most homogeneous and theoretically quantifiable NTM", the "trade-inhibiting effect of different kinds of restrictions" was very difficult to measure. The EC members were therefore of the view that it was "unrealistic to seek to establish a standard procedure for tackling trade negotiations in this or any other sector of non-tariff measures where evaluation is currently subjective or entirely lacking".

The request-and-offer approaches were expected to be bilateral consultations based on the initial request lists submitted by the Contracting Parties. At the same time, plurilateral discussions involving participants having shared interests were to be encouraged. The negotiations on NTMs indicated that some GATT Contracting Parties were interested in establishing new rules with regard to only two areas, i.e., pre-shipment inspection and rules of origin. These issues were incorporated in the Final Act of the Uruguay Round negotiations in the form of two independent agreements. However, the request-and-offer approach was backed by too few Contracting Parties for it to make a mark in the disciplining of NTMs as mandated by the Punta del Este Ministerial. While the requests were made by more than 30 countries, only two Contracting Parties (one of which was the EC members) tabled their offers.

The lack of progress in the negotiations aimed at disciplining NTMs was appropriately summed up by the Chairman of the Negotiating Group on Market Access, formed after the Brussels Ministerial Conference failed to conclude the Uruguay Round negotiations in 1990. It was stated that there was "no substantial progress in the negotiations with respect to product-specific, non-tariff measures not dealt with in other negotiating groups. This adversely affects the prospects of achieving a balanced market access package for many participants" (GATT, 1991).

This statement remains a poignant reminder of the fact that the failure to introduce disciplines on NTMs has introduced an imbalance in the multilaterally agreed set of rules. While quantitative restrictions that the GATT Contracting Parties had maintained for balance of payments reasons were subject to a "sunset clause", the other restrictions on imports

<sup>&</sup>lt;sup>8</sup> While agreeing on the "Understanding on the Balance-of-Payments Provisions of the General Agreement on Tariffs and Trade 1994" that was adopted at the end of the Uruguay Round negotiations, "members confirm their commitment to announce publicly, as soon as possible, time-schedules for the removal of restrictive import measures taken for balance-of-payments purposes" (paragraph 1).

(including those that were the result of discriminatory use of standards) were eventually not addressed as a part of the rubric of market access negotiations. With SPS measures and technical barriers to trade being addressed by stand-alone agreements, abridgement of market access conditions resulting from the use of these standards were expected to be addressed by the disciplines introduced therein.

The inclusion of NTBs in the negotiating mandate of the Doha Round once again highlights the point that effective disciplines are needed to address problems that these market access restrictions can cause. The negotiating mandate, however, kept the focus of negotiations on this issue restricted to only non-agricultural products. However, as is shown in the following discussion, this narrowly defined scope has brought forth several practical problems in making any kind of progress towards fulfilling the negotiating mandate.

### C. WTO and the disciplining of NTBs

One of the most significant outcomes of the Uruguay Round negotiations was that several NTMs were brought under closer scrutiny. The agreements covering those NTMs provided an institutional mechanism for monitoring and evaluating the functioning of NTMs. At the same time, it firmly established a distinction between the "WTO-compatible" barriers (C-NTBs) and "WTO non-compatible" barriers (NC-NTBs). Although it is too early to make a clear distinction between these two categories, some preliminary judgements can be formed based on the nature of agreements. The ongoing negotiations are primarily addressing the issue of elimination and restriction of those instruments that fall into the category of NC-NTBs. However, there are those such as the Agreement on Sanitary and Phytosanitary Measures and the Agreement on Technical Barriers to Trade, which are discussed in the context of compliance and transparency with regard to making NC-NTBs compatible under the WTO framework.

The latter part of this chapter discusses C-NTBs that are covered under the SPS and TBT Agreements. It could be said that the need for such "regulatory" measures, which are different from "standards", was a direct outcome of high living standards and increased air, water and soil pollution that led to the search for environmentally-friendly products. Combined with this, the nature of international production networks and the relative advantages enjoyed by the developed countries in terms of technological superiority may also be considered as having contributed to the emergence of these measures.

<sup>&</sup>lt;sup>9</sup> There is an important distinction between product regulation and standards. The difference between a standard and a technical regulation lies in compliance. While conformity with standards is voluntary, technical regulations are mandatory by nature. They have different implications for international trade. If an imported product does not fulfil the requirements of a technical regulation, it will not be allowed onto the market. In the case of standards, non-complying imported products will be allowed on the market, but then their market share may be affected if consumers prefer products that meet local standards (e.g., quality or colour standards for textiles and clothing).

# 1. 'WTO non-compatible' NTBs and non-agricultural market access negotiations

The Doha Ministerial Declaration made a major departure from the past when it mandated the market access negotiations to address the problem of "non-tariff barriers" instead of the more ubiquitous "non-tariff measures" that were included in the negotiating mandates in the past. This change in nomenclature had two significant dimensions. First, the focus on NTBs could be considered as a step towards clarifying the scope of the negotiations. As discussed above, the focus of the Uruguay Round market negotiations on NTBs created the problem in that several of the "non-tariff measures" were being discussed in other negotiating groups, and this created jurisdictional overlaps. The second dimension, and one which caused a new set of problems, was that the Declaration gave no guidance as to how NTBs would be identified. In fact, much of the negotiating capital has been devoted to defining the scope of the negotiating mandate on NTBs.

A second set of issues of critical importance from the point of view of the negotiations was the modalities/methodologies to be adopted for the conduct of the negotiations. This dimension has immense significance from the point of view of ensuring that definite outcomes, which are also practical from the point of view of implementation, are obtained at the end of the negotiations. These issues are dealt with in the following discussion.

The NTB work programme in the Doha Round was preceded by some work that the WTO members had done on this issue with regard to the IT sector. In this sector, steps have been taken towards the identification and subsequent development of a harmonized structure on NTBs under the WTO work programme. The NTB work programme, which began at the end of 2000, had three phases. In November 2000, a "Non-Tariff Measures Work Programme" was launched by the Committee of Participants on the Expansion of Trade in Information Technology Products (ITA Committee) to identify NTBs and assess their impact on IT trade.

In 11 submissions to the ITA Committee, the participating countries identified wide-ranging forms of NTBs. Although a majority of the identified NTBs fell within the standards and the conformity assessment area, customs procedures and import licensing were some of the more prominent among the other forms of NTBs. Following a Canadian proposal, the Committee took up a pilot project for specific standards-related NTBs regarding conformity assessment procedures for electromagnetic compatibility/electromagnetic interference (EMC/EMI). The EMC/EMI Pilot Project resulted in a set of "guidelines" for EMC/EMI conformity assessment procedures, prepared by the ITA Committee.

The successful completion of the EMC/EMI Pilot Project raises the substantial point of using the experience gained for addressing the issue of NTBs in the NAMA negotiations. Several participants in the ITA Committee commented on the likely linkages with the NTBs agenda being pursued by the Negotiating Group on Market Access (NGMA) (WTO, 2004 and 2005). The key issue in this regard is the whether or not the approach followed in the EMC/EMI Pilot Project could be extended to cover other areas. This point assumes importance in view of the fact that, so far, there is no agreement within the ITA

Committee to use the EMC/EMI Pilot Project experience in other areas. There seems to be some divergence of opinion in this regard, with some participating countries indicating that particular areas of concern for developing countries could be examined using the template provided by the EMC/EMI Pilot Project. It may appear that the EMC/EMI experience has limited applicability given that the progress achieved under ITA with regard to NTMs has not been satisfactory. The long list of unfinished standards under the ISO, and looking at the similar number of other formalized standards that require an understanding at the multilateral level, is testimony to this fact.

### (a) Defining the scope of NTBs

In one of the early submissions to NGMA, New Zealand focused on this issue in a systematic manner, pointing out that the top seven of the so-called NTBs identified by its exporters included those that could, on examination, be found to be "WTO-legal". They included standards and certification, customs procedures, food safety and health requirements. To obviate this problem, New Zealand suggested the scope of the negotiations on NTBs could be defined using the following classifications:

- (a) Issues that might be addressed in negotiations elsewhere under the Doha mandate;
- (b) Issues or proposals involving substantial change to existing WTO agreements;
- (c) Proposals involving clarification of existing rules;
- (d) Issues involving disputed interpretation of rules;
- (e) Issues open to bilateral resolution;
- (f) Products of interest to developing countries;
- (g) Capacity issues;
- (h) Implementation issues;
- (i) Special and differential provisions (WTO, 2002a).

Canada provided similar guidance on defining the scope of the negotiations on NTBs, based on the views expressed by the country's exporters. Canada identified four sets of so-called NTBs (WTO, 2002b). These were:

- (a) Quotas:
- (b) Import licensing, rules of origin, customs valuation, SPS and TBT;
- (c) Tariff classification;
- (d) Border-related measures including customs procedures, fees and administration.

Of these four categories, Canada's view was that the NTB negotiations could take up only the first set of issues, since all the other sets included issues that either were a part of existing WTO agreements or were being negotiated in other negotiating groups.

Yet another suggestion, which addressed a more specific issue concerning the developing countries, was made by India. In India's view, legitimate instruments that developing countries might use under the various WTO agreements for development of their industries should not be included as NTBs. For example, export tariffs or levies are generally used to generate resources to develop an industry by diversification in the product profile and development of value-added products for export. India, therefore, suggested that "export duties be negotiated...outside the Doha mandate" (WTO, 2002c).

In their submissions, members identified three sets of NTBs that, in their view, were outside the purview of the NTB negotiations being conducted by NGMA. These were:

- (a) NTBs related to existing WTO agreements (e.g., customs valuation, import licensing, PSI, SPS and TBT) that are not subject to a specific negotiating mandate;
- (b) NTBs related to other WTO agreements that are also the subject of a negotiating mandate (e.g., AD and CVD);
- (c) NTBs that are already part of the Doha Declaration (e.g., trade facilitation, transparency in government procurement, and services).

A parallel process for identifying NTBs that could be included in the market access negotiations was initiated by the NGMA chairman in 2002. Two letters were sent, requesting notification by members of NTBs that their exporters were facing in various markets. This, in effect, meant that the chairman was putting in place a process for the development of a database of NTBs, in a manner similar to that which had been attempted in the past. As mentioned above, an initiative was taken during the Kennedy Round (in 1968) for developing the Inventory of Non-Tariff Measures (annex table 6) in the context of the work done in the Committee on Trade in Industrial Products. The format for the submission of notifications as suggested by the Chairman was based on the structure that was used for developing the Inventory. This process resulted in the submission of a large number of notifications in which WTO members identified the NTBs that their exporters were facing (see WTO, 2003c and WTO, 2003d).

Fliess and Lejarraga (2005) provided an interesting analysis of submissions made by the WTO members in which they reported NTBs that their exporters were facing (WTO, 2006b). In those submissions, members identified the relevant GATT/WTO Articles/Agreements that could be applied to the NTBs thus identified. Fliess and Lejarraga reported that the NTB categories with the highest incidence of notifications were TBTs (530 NTB entries – almost half the total), customs and administrative procedures (380 entries) and SPS (137 entries). Quantitative restrictions, trade remedies, government participation in trade, charges on imports and barriers falling under the other groups amounted to less than 5 per cent of total NTB entries. Interestingly, the SPS Agreement was also identified as a source of NTBs. This was the case, too, when market access for non-agricultural products was under scrutiny.

Quite clearly, the SPS measures used by countries affected not only the food/feed sectors, but also the industrial sectors. 13 This finding raises the question as to whether the WTO members had used the TBT Agreement to impose trade restrictions that were not intended to "create unnecessary obstacles to international trade", but rather to develop "international standards and conformity assessment systems" that could make contributions "by improving efficiency of production and facilitating the conduct of international trade". Given that the objective of improving market access is one of the fundamental objectives of the current round of negotiations, the above-mentioned evidence with regard to NTBs raises the critical issue of whether the tendency to exclude measures taken under the TBT and SPS Agreements from the purview of NTBs can be justified in the light of the evidence presented above. The importance of the point can be better understood from the discussion later in this chapter pointing to the rapidly increasing tendencies shown by the WTO membership to use TBT and SPS measures. The authors' view is that there is merit in critically examining the TBT and SPS measures as a part of the market access negotiations, given that the Doha Ministerial Conference provided the mandate for introducing effective disciplines on NTBs.

### (b) Specific modalities and methodologies

The submissions made by the participating WTO members in NGMA on the modalities/methodologies that can be adopted for dealing with NTBs can broadly be divided into five categories:

- (a) Vertical or sectorial approaches;
- (b) Horizontal or multilateral approaches;
- (c) Requests/offers, bilateral, or plurilateral;
- (d) Dispute settlement;
- (e) Tariffication of NTBs.

The first three approaches were also supported by the WTO members in the July framework, which was adopted in order to put the Doha Round back on track after the failed Cancun Ministerial Conference had severely eroded confidence, particularly of the major trading nations, in the multilateral trading system.

A careful analysis of the SPS notifications introduced by the United States and their potential coverage of the measures included in these notifications. An example in this regard will clarify this point. In 2003, the United States issued an SPS notification covering "Products that use the pesticides 1,3 benzene dicarboxylic acid etc." The scope of this SPS measure was elaborated by the Environmental Protection Agency (EPA) (Federal Register: 7 March 2003 [vol. 68, No. 45]). EPA clarified that the potentially affected entities may include, but were not limited to crop production, animal production, food manufacturing, pesticide manufacturing and antimicrobial pesticide. EPA further stated that this listing was not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by this action.

The vertical or sectorial approach found considerable support among the WTO membership in the early phase of the negotiations. The sectoral approach was often considered useful in addressing NTBs in sectors of key importance to a country or groups of countries. Support for the vertical approach is based on two sets of considerations. First, most countries feel that this approach is consistent with the overall framework of "sequenced globalization". Countries can engage in "cherry picking", selecting the sectors that best suit their larger economic objectives for a "fast track" removal of NTBs. The second "positive" in favour of the vertical approach, a point made by the United States, was that countries are increasingly engaging in the process of dismantling market access barriers in specific industries. While in WTO, the ITA has been witness to discussions being conducted for the reining in of NTBs, members of APEC have been dealing with similar issues in the chemicals and automobiles sectors (WTO, 2003a).

The United States, which has been the strongest supporter of the vertical approach, considers NTB packages that bundle together a number of NTB issues relevant to a single industry could be a creative new approach for dealing with NTBs (WTO, 2003b). According to the United States, this approach has practical relevance in today's world as industries are becoming increasingly networked; intra-industry confabulations have often dealt with issues related to NTBs from the point of view of their industry. Adopting this single industry, or vertical, approach as one NTB modality could, in view of the United States, lead to better management of the negotiating process.

Thus far, the option of following the sectorial approach has been explored actively in a wide variety of sectors, including marine products, textiles, pharmaceuticals and automobiles. In addition to the United States, which sponsored two meetings on NTBs in the automotive and footwear industries, the possibility of adopting the vertical approach was actively pursued by several countries. The Republic of Korea focused on the electronics industry, Canada on forestry products, New Zealand on wood products, and Switzerland on pharmaceuticals and chemicals. In July 2005, members including the United States, New Zealand and the Republic of Korea met informally to discuss common sectoral positions on forestry products (to harmonize building codes), electronics and automobiles.

However, despite the apparent advantages, particularly in terms of calibrating the process of liberalization, the negotiations on NTBs have given rise to several contentious issues. Among the more problematic proposals that have been made thus far is the one put forward by the United States on automobile NTBs. The United States has argued that the automobile industry faces a plethora of market access barriers that include:

 (a) Strict and/or excessively burdensome restrictions on the ability of the private sector to offer financing, hampering the ability of consumers to purchase motor vehicles;

-

Among the industries that fit the description given by the United States is the automobile industry. The Global Auto Industry Dialogue (GAID) has seen broad-based consultations between automotive industry associations in a large number of developing and developed countries. GAID has, in recent years, increasingly been calling for the introduction of enhanced disciplines on NTBs.

- (b) A lack of openness in respect of distribution channels for imported products;
- (c) The application of vehicle taxes based on engine displacement in a manner that burdens foreign manufacturers disproportionately because they produce vehicles with large engine sizes;
- (d) Foreign equity restrictions that constrain or distort investments in automotive production;
- (e) Barriers to importing and selling manufactured products.

These so-called market access restrictions mentioned by the United States deal with issues that are in no way related to the market access negotiations for the reasons indicated below. The issue pertaining to the distribution channels is currently being discussed in the services negotiations. The investment-related issue is one that members have decided not to include in the current round of negotiations, while the issue of domestic taxation is an area outside the jurisdiction of WTO. Thus, even while recognizing the utility of following the vertical approach, WTO members need to be careful not to allow non-issues to influence the negotiating process.

Although the horizontal approach did not find as much support as that given to the vertical approach, the former has one inherent advantage as WTO members have some degree of prior experience in dealing with it as a part of the negotiations on the Customs Valuation Agreement and the Agreement on Import Licensing Procedures. More importantly, they are now actively engaged in the negotiations on trade facilitation. Support for the horizontal approach has come from the EC. According to the EC, "disciplines on specific non-tariff barriers are unlikely on their own to be effective in removing all obstacles to trade, especially when some of them are immediately replaced by new barriers. For this reason, members should explore whether additional horizontal mechanisms could be useful in addressing unnecessary barriers affecting market access so that measures taken by members are not more trade-restrictive than necessary to fulfil a legitimate objective".

The request-offer approach has not been widely discussed yet, but this approach can emerge as one of the stronger options given that the WTO members have already prepared a not insignificant list of NTBs that their exporters face. However, as pointed out above, NGMA would first have to address the critical jurisdictional issue, as many NTBs that were identified by the members were essentially those that were clearly outside the purview of this negotiating group.

More recently, the NAMA-11 group of developing countries<sup>15</sup> and members of the EC have proposed that the NTB issue can be addressed by setting up an "NTB Resolution Mechanism" (WTO, 2006b). These countries have argued that the "NTB Resolution Mechanism" would be "guided by the principle of 'good faith' and conciliatory negotiations wherein every member would make a concerted effort to resolve the NTB at hand, under

<sup>&</sup>lt;sup>15</sup> The following WTO members made the submission on behalf of the NAMA-11 group: Argentina, Venezuela (Bolivarian Republic of), Brazil, Egypt, India, Indonesia, Namibia, the Philippines, South Africa and Tunisia.

the guidance of a mutually agreed 'facilitator'. Members would be required to engage with the intention of arriving at a solution to the NTB. It would be informal, low-key and less adversarial than the Dispute Settlement Understanding (DSU), and without prejudice to the rights of members under the DSU". The key objective of the mechanism, as visualized by the NAMA-11 group would be to find pragmatic solutions to trade effects by using expert facilitators to find the "solution". An NTB (which could include sectoral/plurilateral elements) submitted to the resolution mechanism would require the facilitator to provide recommendations on the solution after establishment of facts and trade effects. It was further provided that procedure adopted would be flexible and the "facilitator" would be free to choose the preferred method. The "facilitator" would consult the involved members, either individually or collectively, the WTO Secretariat, affected industries and other experts, including from industry and non-governmental organizations.

A similar proposal has been made by the members of the EC for addressing the vexing issue of NTBs. The EC members have stressed the need to "add to existing structures a new horizontal mechanism that enhances the opportunities for members to address – in a conciliatory and expedient manner – any trade measure that affects trade with another member. This would provide a means of resolution that could make resorting to dispute settlement unnecessary in certain cases". The EC members argued that the "establishment of horizontal mechanism, in the form of a procedure for problem-solving in the area of NTBs, with short timelines as well as with the involvement of a facilitator, can assist countries in reaching mutually agreed solutions" (WTO, 2006a).

### 2. Trends in the use of "WTO compatible" TBT measures

Nearly four decades after the initiation of a multilateral negotiation on the reduction of NTMs for free global trade and enhancing market access, the world is now facing one of its most difficult and complex regimes. Since the establishment of WTO in 1995, both the number of TBTs and the spread of such measures across the member countries are fast outstripping and undermining the trade liberalization achieved by way of tariff reduction and elimination. As the table below clearly shows, the use of TBTs by WTO member countries has been on the rise, especially under the WTO regime. In 1995, 365 TBT notifications were issued, while in 2005, 900 notifications were issued.

As the table shows, the number of TBT notifications issued has not seen a secular increase, but has fluctuated around an increasing trend. After an initial spurt was witnessed between 1995 and 1997, when the total notification issues reached almost 850, TBT notifications fell by almost a third by 2001. This phase was followed, however, by one in which the notifications increased by nearly 60 per cent over the 2001 trough. A more noteworthy feature of the TBT notifications is the steep increase in the number of countries that have been involved in issuing notifications. In 1995, only 26 of the 123 WTO members issued TBT notifications, yet during 2005, 67 of the 148 members were active in issuing TBT notifications.

Quite obviously, the increase in the number of countries active in terms of issuing TBT notifications was because of increased interest shown by developing countries. Again,

### Use of TBTs by WTO members, 1995-2005

(Unit: Number of notifications issued)

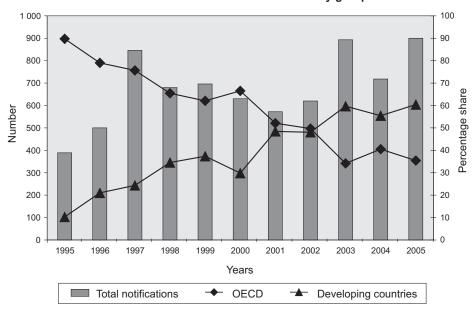
Year	OECD members	Developing countries	Former centrally planned economies	Total
1995	349	40	0	389
1996	395	105	0	500
1997	640	206	0	846
1998	445	235	0	680
1999	432	260	4	696
2000	419	188	23	630
2001	298	277	7	572
2002	308	298	14	620
2003	305	533	55	893
2004	291	398	29	718
2005	319	544	37	900

Source: Centre for WTO Studies, IIFT, New Delhi.

the number of developing countries that issued TBT notifications far outstripped the OECD member countries. This phenomenon is illustrated by the following figure showing trends in TBT notifications.

In 1995, the developing countries had a mere 10 per cent share in the total notifications issued during that year. However, in 2005, the share of those same countries had increased to more than 60 per cent. The emergence of developing countries as new players in the application of TBTs is reflected in the increased number of notifications made by them, from 40 in 1995 to almost 550 in 2005. In sharp contrast, the OECD members saw a fall in their total number of notifications, from 349 in 1995 to 319 in 2005. However, despite increasing the number of notifications issued during recent years, the share of developing countries in the total notifications issued during 1995-2005 was just over 41 per cent. In other words, the OECD member countries have continued the process of building in new standards to the already existing list of NTMs that existed even before the Uruguay Round negotiations, and developing countries appear to be in an undue hurry to catch up. However, the fact that the former group of countries will continue to have a larger number of TBTs in the foreseeable future can have significant implications for developing countries that will be seeking greater market access in the larger economies at the end of the current round of negotiations.

Yet another interesting feature of the TBT notifications observed over time is that most countries with a relatively high share of the total notifications in more recent years belong to the group of countries having relatively low tariffs. In 2005, for example, China had the largest share (13 per cent) of TBT notifications issued while Brazil had a 7 per cent share. None of the top 10 per cent countries in terms of total notifications issued in



Trends in TBT notifications across country groups

Source: Centre for WTO Studies, IIFT, New Delhi.

2005 had average industrial tariffs exceeding 10 per cent. They included OECD members belonging to the European Union as well as the United States and Japan. This observed association between tariffs and the use of NTMs such as TBTs appears to confirm the view that the focus of the multilateral trading system on tariff reduction has only resulted in a proliferation of NTBs. The authors, however, are aware that substantially more work needs to be done in this direction to allow conclusive comments to be made on this issue.

### D. Conclusion

As mentioned at the start of this chapter, this discussion is in the nature of a status report on how the multilateral trading system has addressed the issue of NTBs. An attempt has been made to describe the developments in both GATT and, more recently, WTO in order to analyse this issue. Past developments have made it fairly clear that a considerable distance will have to be traversed before the multilateral trading system can put in place a meaningful set of disciplines covering NTBs.

This observation should be viewed with some concern since, in recent years, there has been a proliferation of NTBs. WTO members participating in NGMA have indicated that their exporters perceive the so-called WTO-legal NTMs, such as TBT and SPS measures, as market access barriers. The increase in the use of TBT measures, particularly by the more advanced developing countries, is contributing to the increase in complexities in what seems to be a veritable maze of NTBs.

### **Annex**

Annex table 1. Non-tariff measures data coverage across countries: TRAINS database (as of 2005)

SI. No.	Countries for which two years' NTM data are available	Years available			
1	Algeria	2001, 1999			
2	Argentina	2001, 1999			
3	Bolivia	2001, 1999			
4	Brazil	2001, 1999			
5	Brunei Darussalam	2001, 1997			
6	Chile	2001, 1999			
7	China	2001, 1997			
8	Colombia	2001, 1999			
9	Ecuador	2001, 1999			
10	Egypt	2001, 1999			
11	Japan	2001, 1996			
12	Mexico	2001, 1999			
13	Morocco	2001, 1999			
14	Nigeria	2001, 1994			
15	Paraguay	2001, 1999			
16	Mexico	2001, 1999			
17	Morocco	2001, 1999			
18	Paraguay	2001, 1999			
19	Peru	2001, 1999			
20	Taiwan Province of China	2001, 1999			
21	Uruguay	2001, 1999			
22	Venezuela (Bolivarian Republic of)	2001, 1999			
Summai	y of WITS database	Number of countries			
А	NTMs data available, of which	88			
	Developed	13			
	Developing	75			
В	No record on NTMs	71			
С	Total countries	159			

Source: Collated and compiled by the authors.

Annex table 2. UNCTAD coding system on trade control measures

Code	Description
1000	Tariff measures
1100	Statutory customs duties
1200	MFN duties
1300	GATT ceiling duties
1400	Tariff quota duties
1410	Low duties
1420	High duties
1500	Seasonal duties
1510	Low duties
1520	High duties
1600	Temporary reduced duties
1700	Temporary increased duties
1710	Retaliatory duties
1720	Urgency and safeguard duties
1900	Preferential duties under trade agreements
1910	Interregional agreements
1920	Regional and subregional agreements
1930	Bilateral agreements
2000	Para-tariff measures
2100	Customs surcharges
2200	Additional taxes and charges
2210	Tax on foreign exchange transactions
2220	Stamp tax
2230	Import licence fee
2240	Consular invoice fee
2250	Statistical tax
2260	Tax on transport facilities
2270	Taxes and charges for sensitive product categories
2290	Additional charges, n.e.s.
2300	Internal taxes and charges levied on imports
2310	General sales taxes
2320	Excise taxes
2370	Taxes and charges for sensitive product categories
2390	Internal taxes and charges levied on imports, n.e.s.
2400	Decreed customs valuation
2900	Para-tariff measures, n.e.s.
3000	Price control measures

### Annex table 2. (continued)

0.400	I
3100	Administrative pricing
3110	Minimum import prices
3190	Administrative pricing, n.e.s.
3200	Voluntary export price restraint
3300	Variable charges
3310	Variable levies
3320	Variable components
3330	Compensatory elements
3340	Flexible import fees
3390	Variable charges, n.e.s.
3400	Anti-dumping measures
3410	Anti-dumping investigations
3420	Anti-dumping duties
3430	Price undertakings
3500	Countervailing measures
3510	Countervailing investigations
3520	Countervailing duties
3530	Price undertakings
3900	Price control measures, n.e.s.
4000	Finance measures
4100	Advance payment requirements
4110	Advance import deposit
4120	Cash margin requirement
4130	Advance payment of customs duties
4170	Refundable deposits for sensitive product categories
4190	Advance payment requirements, n.e.s.
4200	Multiple exchange rates
4300	Restrictive official foreign exchange allocation
4310	Prohibition of foreign exchange allocation
4320	Bank authorization
4390	Restrictive official foreign exchange allocation, n.e.s.
4500	Regulations concerning terms of payment for imports
4600	Transfer delays, queuing
4900	Finance measures, n.e.s.
5000	Automatic licensing measures
5100	Automatic licence
5200	Import monitoring
5210	Retrospective surveillance
5220	Prior surveillance
	I

### Annex table 2. (continued)

5270 Prior surveillance for sensitive product categories 5700 Surrender requirement 5900 Automatic licensing measures, n.e.s. 6000 Quantity control measures 6100 Non-automatic licensing 6110 Licence with no specific ex-ante criteria 6120 Licence for selected purchasers 6130 Licence for specified use 6131 Linked with export trade 6132 For purposes other than exports 6140 Purchase of local goods 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6162 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibition 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6350 Import diversification 7 Prohibition on the basis of origin (embargo)		
Automatic licensing measures, n.e.s.  6000 Quantity control measures  6100 Non-automatic licensing  6110 Licence with no specific ex-ante criteria  6120 Licence for selected purchasers  6130 Licence for specified use  6131 Linked with export trade  6132 For purposes other than exports  6140 Licence linked with local production  6141 Purchase of local goods  6142 Local content requirement  6143 Barter or counter trade  6150 Licence linked with non-official foreign exchange  6151 External foreign exchange  6152 Importer's own foreign exchange  6160 Licence combined with or replaced by special import authorization  6170 Prior authorization for sensitive product categories  6210 Global quotas  6210 Global quotas  6211 Unallocated  6212 Allocated to exporting countries  6220 Bilateral quotas  6230 Seasonal quotas  6240 Quotas linked with export performance  6250 Quotas linked with purchase of local goods  6270 Quotas linked with purchase of local goods  6270 Quotas for sensitive product categories  6290 Quotas, n.e.s.  6300 Prohibitions  6310 Total prohibition  6320 Suspension of issuance of licences  6330 Seasonal prohibition  6360 Import diversification  Prohibition on the basis of origin (embargo)  Prohibition for sensitive product categories	5270	Prior surveillance for sensitive product categories
6000 Quantity control measures 6100 Non-automatic licensing 6110 Licence with no specific ex-ante criteria 6120 Licence for selected purchasers 6130 Licence for specified use 6131 Linked with export trade 6132 For purposes other than exports 6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Seasonal prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	5700	Surrender requirement
6100 Non-automatic licensing 6110 Licence with no specific ex-ante criteria 6120 Licence for selected purchasers 6130 Licence for specified use 6131 Linked with export trade 6132 For purposes other than exports 6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	5900	Automatic licensing measures, n.e.s.
6110 Licence with no specific ex-ante criteria 6120 Licence for selected purchasers 6130 Licence for specified use 6131 Linked with export trade 6132 For purposes other than exports 6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas, n.e.s. 6200 Quotas, n.e.s. 6300 Prohibition 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition on the basis of origin (embargo)	6000	Quantity control measures
Licence for selected purchasers Licence for specified use Linked with export trade For purposes other than exports Licence linked with local production Purchase of local goods Local content requirement Barter or counter trade Licence linked with non-official foreign exchange Licence linked with non-official foreign exchange Licence linked with non-official foreign exchange Licence combined with or replaced by special import authorization Prior authorization for sensitive product categories Non-automatic licensing, n.e.s. Cuotas Global quotas Global quotas Unallocated Allocated to exporting countries Bilateral quotas Seasonal quotas Cuotas Guotas Iinked with export performance Quotas Iinked with export performance Quotas Inked with purchase of local goods Cuotas, n.e.s. Prohibitions Total prohibition Suspension of issuance of licences Seasonal prohibition Temporary prohibition Import diversification Prohibition on the basis of origin (embargo) Prohibition or sensitive product categories	6100	Non-automatic licensing
6130 Licence for specified use 6131 Linked with export trade 6132 For purposes other than exports 6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6110	Licence with no specific ex-ante criteria
6131 Linked with export trade 6132 For purposes other than exports 6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas, n.e.s. 6300 Prohibition 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6120	Licence for selected purchasers
For purposes other than exports Licence linked with local production Purchase of local goods Local content requirement Barter or counter trade Licence linked with non-official foreign exchange External foreign exchange Importer's own foreign exchange Licence combined with or replaced by special import authorization Prior authorization for sensitive product categories Non-automatic licensing, n.e.s. Quotas Clobal quotas Global quotas Unallocated Allocated to exporting countries Bilateral quotas Seasonal quotas Quotas linked with export performance Cato Quotas for sensitive product categories Quotas linked with purchase of local goods Cato Quotas, n.e.s. Quotas, n.e.s. Cato Cato Cato Cato Cato Cato Cato Cato	6130	Licence for specified use
6140 Licence linked with local production 6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6131	Linked with export trade
6141 Purchase of local goods 6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6132	For purposes other than exports
6142 Local content requirement 6143 Barter or counter trade 6150 Licence linked with non-official foreign exchange 6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6140	Licence linked with local production
Barter or counter trade  6150 Licence linked with non-official foreign exchange  6151 External foreign exchange  6152 Importer's own foreign exchange  6160 Licence combined with or replaced by special import authorization  6170 Prior authorization for sensitive product categories  6190 Non-automatic licensing, n.e.s.  6200 Quotas  6210 Global quotas  6211 Unallocated  6212 Allocated to exporting countries  6220 Bilateral quotas  6230 Seasonal quotas  6240 Quotas linked with export performance  6250 Quotas for sensitive product categories  6270 Quotas for sensitive product categories  6290 Quotas, n.e.s.  6300 Prohibitions  6310 Total prohibition  6320 Suspension of issuance of licences  6330 Seasonal prohibition  6340 Temporary prohibition  6350 Import diversification  6360 Prohibition or the basis of origin (embargo)  6370 Prohibition for sensitive product categories	6141	Purchase of local goods
Licence linked with non-official foreign exchange External foreign exchange Importer's own foreign exchange Licence combined with or replaced by special import authorization Prior authorization for sensitive product categories Non-automatic licensing, n.e.s. Cuotas Global quotas Global quotas Glibal Quotas Gl	6142	Local content requirement
6151 External foreign exchange 6152 Importer's own foreign exchange 6160 Licence combined with or replaced by special import authorization 6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6143	Barter or counter trade
Importer's own foreign exchange Licence combined with or replaced by special import authorization Prior authorization for sensitive product categories Non-automatic licensing, n.e.s. Quotas Global quotas Unallocated Allocated to exporting countries Bilateral quotas Seasonal quotas Quotas linked with export performance Quotas linked with purchase of local goods Quotas, n.e.s. Quotas, n.e.s. Suspension of issuance of licences Seasonal prohibition Sason Seasonal prohibition Import diversification Prohibition on the basis of origin (embargo) Prohibition for sensitive product categories	6150	Licence linked with non-official foreign exchange
Licence combined with or replaced by special import authorization Prior authorization for sensitive product categories Non-automatic licensing, n.e.s. Quotas Global quotas Global quotas Global Quotas Global Quotas Bilateral quotas Bilateral quotas Guotas Gasonal quotas Quotas linked with export performance Quotas linked with purchase of local goods Quotas for sensitive product categories Quotas, n.e.s. Global Quotas dinked with purchase of local goods Global Quotas for sensitive product categories Quotas, n.e.s. Global Quotas dinked with purchase of local goods Global Quotas for sensitive product categories Global Quotas, n.e.s. Global Quotas dinked with purchase of local goods Global Quotas for sensitive product categories Global Quotas, n.e.s. Global Quotas dinked with purchase of local goods Global Quotas dinked with purchase of lo	6151	External foreign exchange
6170 Prior authorization for sensitive product categories 6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6152	Importer's own foreign exchange
6190 Non-automatic licensing, n.e.s. 6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6160	Licence combined with or replaced by special import authorization
6200 Quotas 6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition for sensitive product categories	6170	Prior authorization for sensitive product categories
6210 Global quotas 6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition for sensitive product categories	6190	Non-automatic licensing, n.e.s.
6211 Unallocated 6212 Allocated to exporting countries 6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6200	Quotas
Allocated to exporting countries Bilateral quotas Seasonal quotas Quotas linked with export performance Quotas linked with purchase of local goods Quotas for sensitive product categories Quotas, n.e.s. Prohibitions Total prohibition Suspension of issuance of licences Seasonal prohibition Temporary prohibition Import diversification Prohibition on the basis of origin (embargo) Prohibition for sensitive product categories	6210	Global quotas
6220 Bilateral quotas 6230 Seasonal quotas 6240 Quotas linked with export performance 6250 Quotas linked with purchase of local goods 6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6211	Unallocated
Seasonal quotas  G240 Quotas linked with export performance  G250 Quotas linked with purchase of local goods  G270 Quotas for sensitive product categories  G290 Quotas, n.e.s.  G300 Prohibitions  G310 Total prohibition  G320 Suspension of issuance of licences  G330 Seasonal prohibition  G340 Temporary prohibition  G350 Import diversification  G360 Prohibition on the basis of origin (embargo)  Prohibition for sensitive product categories	6212	Allocated to exporting countries
G240 Quotas linked with export performance G250 Quotas linked with purchase of local goods G270 Quotas for sensitive product categories G290 Quotas, n.e.s. G300 Prohibitions G310 Total prohibition G320 Suspension of issuance of licences G330 Seasonal prohibition G340 Temporary prohibition G350 Import diversification G360 Prohibition on the basis of origin (embargo) G370 Prohibition for sensitive product categories	6220	Bilateral quotas
G250 Quotas linked with purchase of local goods G270 Quotas for sensitive product categories G290 Quotas, n.e.s. G300 Prohibitions G310 Total prohibition G320 Suspension of issuance of licences G330 Seasonal prohibition G340 Temporary prohibition G350 Import diversification G360 Prohibition on the basis of origin (embargo) G370 Prohibition for sensitive product categories	6230	Seasonal quotas
6270 Quotas for sensitive product categories 6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6240	Quotas linked with export performance
6290 Quotas, n.e.s. 6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6250	Quotas linked with purchase of local goods
6300 Prohibitions 6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6270	Quotas for sensitive product categories
6310 Total prohibition 6320 Suspension of issuance of licences 6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6290	Quotas, n.e.s.
Suspension of issuance of licences Seasonal prohibition Temporary prohibition Import diversification Prohibition on the basis of origin (embargo) Prohibition for sensitive product categories	6300	Prohibitions
6330 Seasonal prohibition 6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6310	Total prohibition
6340 Temporary prohibition 6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6320	Suspension of issuance of licences
6350 Import diversification 6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6330	Seasonal prohibition
6360 Prohibition on the basis of origin (embargo) 6370 Prohibition for sensitive product categories	6340	Temporary prohibition
6370 Prohibition for sensitive product categories	6350	Import diversification
	6360	Prohibition on the basis of origin (embargo)
6390 Prohibition, n.e.s.	6370	Prohibition for sensitive product categories
	6390	Prohibition, n.e.s.

### Annex table 2. (continued)

6600	Export restraint arrangements
6610	Voluntary export restraint arrangements
6620	Orderly marketing arrangements
6630	Multi-fibre arrangement (MFA)
6631	Quota agreement
6632	Consultation agreement
6633	Administrative cooperation agreement
6640	Export restraint arrangements on textiles outside MFA
6641	Quota agreement
6642	Consultation agreement
6643	Administrative cooperation agreement
6690	Export restraint arrangements, n.e.s.
6700	Enterprise-specific restrictions
6710	Selective approval of importers
6720	Enterprise-specific quota
6790	Enterprise-specific restrictions, n.e.s.
6900	Quantity control measures, n.e.s.
7000	Monopolistic measures
7100	Single channel for imports
7110	State trading administration
7120	Sole importing agency
7200	Compulsory national services
7210	Compulsory national insurance
7220	Compulsory national transport
7900	Monopolistic measures, n.e.s.
8000	Technical measures
8100	Technical regulations
8110	Product characteristics requirements
8120	Marking requirements
8130	Labelling requirements
8140	Packaging requirements
8150	Testing, inspection and quarantine requirements
8190	Technical regulations, n.e.s.
8200	Pre-shipment inspection
8300	Special customs formalities
8900	Technical measures, n.e.s.

Source: UNCTAD, 1994, Directory of Import Regimes, Part I.

Annex table 3. Analytical frameworks for measurement of NTMs: A summary of existing works

S. No.	Principles	Authors/year	Sectors/markets covered	Conclusion of the study	Practical issues
A.			Price wedge (tariff-equivalent) method	nethod	
	Trade impact of NTMs     Impact on domestic prices	Campbell and Gossette (1994)	Food and agriculture (apples)	Cannot provide useful information on tariff equivalent of NTMs	Export prices not dependable – show considerable variation     NTMs barrier was a residual function
	3. Provide tariff equivalents	Andriamananjara and others (2003)	Footwear, wearing apparel and processed food (CGE model)	NTM liberalization may lead to higher gains	3. Choice of price series would influence the results
		USITC (1995)	Food and agriculture		4. Externalities like efficiency of
		European Commission (2001)	Agriculture (pigs, poultry, apples and tomatoes)	Pessimistic about the validity	transportation services affects results 5. Assumes perfect substitutability of exports and imports
					6. Available data to aggregate to analyse;
					7. It captures unwarranted effects – rents due to price discrimination and transaction cost etc.
					8. Does not appear reliable for large-scale studies.
В.			Inventory-based approaches	se	
	Quantitative and Qualitative assessment of domestic	Swann and others. (1996)	British export and imports		When limited number of countries use regulations then they tend to be
	regulations	Moenius (1999)	Manufacturing sector		used as barriers
	1. number of regulations;	Otsuki and others (2001)	Food products		Standards vary in importance across     markets     Counct molecularities between
	Irrequency or detentions;     and     Ada on complaints from	Fontagne and others (2001)	Environmental regulations		those that have an impact on trade more from those that have an impact on made
	industry  Import Coverage Ratios	Henson and others (1999, 2000, 2001)	Food sector, European Union and United States (imports of diary products)		4. International Dataset have limitation of partial coverage of countries (uneven reporting)
	existence of NTMs  • Trade and product  coverage of NTMs	Lux and Henson (2000)	European Union exports to United States		5. Only United States makes data on actual detentions at border available.

# Annex table 3. (continued)

S. No.	Principles	Authors/year	Sectors/markets covered	Conclusion of the study	Practical issues
ပ			Survey Based Approaches	S	
	Makes a distinction between measures in terms of	Thornsbury (1998, 1999)	Based on USDA's survey: Agricultural Exports		Firms centric and biased by individual/sample
	intensity of trade effects Industry specific and	Roberts and De Remer (1997)	Based on USDA's survey: Agricultural exports		specific interests – survey biased 2. Most studies done by government
	market-specific approach (more effective)  Based purely on Survey	United States Trade Representative (various years)			
	DOLLAN	European Commission (various years)			Use to analyse hidden variable difficult to measure (administrative cost)
		OECD (1999)	55 firms, 3 sectors, (US, EU UK, Japan and Germany): Diary products	Standards make it difficult for new firms to compete; and Bulk dealers reported few difficulties.	Industry concerns better captured     Ability to quantify NTMs is     questionable     Cannot be used for dispute
		Henson and others (2000)	Survey done based on response from contact points (Codex country point in developing countries)	Animal products	settlement procedures (Weyerbroeck and Xia (1998) and United States Government Accounting Office (1997)
		European Commission (2001)		Administrative burden (delay and predictability) are the major issues, not tariffs and NTMs	
D.			Gravity model-based approaches	ches	
	<ul> <li>Explaining trade flows</li> </ul>	Head (2000)			1. These studies does not explain NTM
	based on relative size of economies and distances in term of location and other considerations – using the theoretical backing of	McCallum (1995)	United States and Canada trade flows	All things equal (distance and cost) intra-Canadian trade was 22 times higher than trans-border trade	impact alone  2. Results sensitive to assumption of the model  3. Some standards do not show
	imperfect substitutability between goods • Explains situation like Monopolistic competitions	Anderson and Van Wincoop (2001)	Challenged the study of McCallum on United States and Canada trade flow (used dummy for local characteristics)	Introduced a concept of "multilateral resistance" (promotion of bilateral trade to protect itself from multilateralism)	statistically significant variability

# Annex table 3. (continued)

Practical issues								SPS Agreement pays little attention to economic analysis based on C-B	approach  2. Uncertainties that surround such risks and their economic consequences; and  3. Effect of standards on consumers'	willingness to pay for goods is difficult to quantify (subjective risks or ethical characteristics of the goods)	
Conclusion of the study							it measures	Identified economic effects and probability aspects of risk	Economic effects – asked for comprehensive economic review to determine those measures which pass C-B analysis	Most systematic use can be very costly for tax payer and consumers	US\$ 138 billion loss due to all invasive species of more than 50,000 that enter the United States.
Sectors/markets covered	Used fixed effects model to avoid heterogeneity bias.	Impact of TBTs on trade flows – used "standards" (voluntary norms) rather than "regulations" due to data limitations; 471 Industries and 12 Western European countries (1980-1995)	European "aflatoxin standards" on African exports: fruit and nuts	Food sector	Food sector	Food sector	Risk assessment-based cost-benefit measures	Pest infestation	Quarantine regulations	Health and environment	Pest infestation
Authors/year	Cheng and Wall (1999)	Moenius (1999)	Otsuki and others (2000)	Hillberry (2001)	Burfisher and others (2001)	Vido and Prenctice (2001)	Risl	Bigsby and Whyte (2000)	James and Anderson (1998)	Arrow and others (1996)	Pimentel and others (2000), and Mumford (2000)
Principles	Distinction of "hone bias" or the "border effect" in trade	Trade foregone due to     "border effect"     Residual approach to     explain NTMs effect on     trade flows;						Used in combination with cost-benefit analysis to	understand the effects of NTMs  Does not quantify the effects but helps in making a qualitative judgement	(welfare loss)  • Low benefits from	a measure would mean that it is trade distorting
S. No.							ш				

# Annex table 3. (continued)

Practical issues			The limitation of these approaches is their robustness to the simplifying assumptions	<ol> <li>Difficult to provide estimates of the various effects in empirical implementations</li> </ol>	3. Quantification of consumer responses and maker equilibrium displacement to new NTMs is difficult.  Aifficult.	anonino.				High level of aggregation and quality of data are two important limitations		
Conclusion of the study	Led to large transfer the United States producers compared to small potential cost of a pest infestation	oaches							market models			Domestic government maximized the country's welfare
Sectors/markets covered	Pest risk (Mexico and United States done by USDA) — ban on "Mexican avocados".	Stylised micro-economic approaches	NTMs and structure of competition between firms	Strategic interaction between firms owing to regulations (reacting to new regulations)	Effect of regulations based on information available to consumers	Welfare effects are different if the consumer can assess or not the quality of the products (before or after consumption)	Regulation and its effect on the cost of signalling quality	Network externalities and economies to scale	Quantification using sectoral or multi-market models	Cost and benefit of ban on Mexican avocados	Japanese imports of apples from the United States	Risk-based method of United States tariff protection against beef imports from countries with foot-and-mouth disease
Authors/year	Orden and Romano (1996)		Boom, (1995), Crampes and Hollander (1995a)	Grossman and Horn (1988), Crampes and Hollander (1995b)	Shapiro (1983), Donnenfeld and others (1985)	Marette and others (2000)	Falvey (1989)	Katz and Shapiro (1985)	Quanti	Orden and Romano (1996)	Calvin and Krissoff (1998)	Paarlberg and Lee (1998)
Principles			Effect to be analysed in the context of displacement of the market equilibrium	Effect to be analysed in the context of displacement of the market equilibrium     Estimation of effects in terms of supply and demand, shadow price, price-taking firms and perfectly informed consumers     Economic mechanisms     Economic mechanisms     at stake rather than provide quantitative estimates of the impact of NTMs						These are partial equilibrium models	Impact of regulation and welfare effects analysed	Attempt explicit summary of effects of regulation on production, consumption, trade and welfare
S. No.		щ							G.			

Annex table 4. Latest year for which NTM data are available in the TRAINS database (as of 2005)

Year available	Number of countries
2001 (latest)	32
2000	2
1999	33
1998	8
1997	13
1996	8
1995	6
1994	5
1993	2
1992	1

Source: Compiled from WITS Internet version database provided by the World Bank, UNCTAD and IMF.

Annex table 5. GATT inventory of non-tariff measures

Part 1	Government participation in trade
Α	Government aid
AA	Countervailing duties
В	Government procurement
ВВ	Restrictive practices
С	State trading
Part 2	Customs and administrative entry procedures
В	Anti-dumping duties
С	Valuation
D	Customs classification
E	Consular formalities and documentation
F	Samples
G	Repayment of duties
Н	Customs formalities
Part 3	Standards
А	Industrial standards
В	Health and safety standards
С	Other standards concerning product content
D	Requirements concerning packaging and labelling and marks of origin

Annex table 5. (continued)

Part 4	Specific limitations	
А	Quantitative restrictions and import licensing	
В	Embargoes and other restrictions	
С	Screen-time quotas and other mixing regulations	
С	Exchange control	
E	Discrimination resulting from bilateral agreements	
F	Discriminatory sourcing	
G	Export restraints	
Н	Measures to regulate domestic prices	
1	Tariff quotas	
X	Others	
Part 5	Import charges	
А	Prior import deposits	
В	Surcharges, port taxes, statistical taxes	
С	Discriminatory film taxes etc.	
D	Discriminatory credit restrictions	
E	Variable levies	
F	Border tax adjustments	
G	Emergency action	

Source: GATT, 1973.

Annex table 6. World Trade Organization inventory of non-tariff measures

Parts and sections	Description
Part I	Government participation in trade and restrictive practices tolerated by governments
А	Government aids, including subsidies and tax benefits
В	Countervailing duties
С	Government procurement
D	Restrictive practices tolerated by governments
E	State trading, government monopoly practices, etc.
Part II	Customs and administrative entry procedures
A	Anti-dumping duties
В	Customs valuation
С	Customs classification
D	Consular formalities and documentation
E	Samples

### Annex table 6. (continued)

F	Rules of origin		
G	Customs formalities		
Н	Import licensing		
I	Preshipment inspection		
Part III	Barriers to trade		
A	General		
В	Technical regulations and standards		
С	Testing and certification arrangements		
Part IV	Sanitary and phytosanitary measures		
А	General		
В	SPS measures including chemical residue limits, freedom from		
	disease, specified product treatment etc.		
С	Testing, certification and other conformity assessment		
Part V	Specific limitations		
А	Quantitative restrictions		
В	Embargoes and other restrictions of similar effect		
С	Screen-time quotas and other mixing regulations		
D	Exchange controls		
E	Discrimination resulting from bilateral agreements		
F	Discriminatory sourcing		
G	Export restraints		
Н	Measures to regulate domestic prices		
I	Tariff quotas		
J	Export taxes		
K	Requirements concerning marking, labelling and packaging		
L	Others		
Part VI	Charges on imports		
А	Prior import deposits		
В	Surcharges, port taxes, statistical taxes, etc.		
С	Discriminatory film taxes, use taxes, etc.		
D	Discriminatory credit restrictions		
E	Border tax adjustments		
Part VII	Other		
А	Intellectual property issues		
В	Safeguard measures, emergency actions		
С	Distribution constraints		
D	Business practices or restrictions in the market		
E	Other		

Source: World Trade Organization, 2003e.

#### References

- Anderson, J.E., and E. van Wincoop, 2001. "Gravity with Gravitas: A Solution to the Border Puzzle". NBER Working paper 8079, National Bureau of Economic Research, Cambridge, MA.
- Andriamananjara, S., M. Ferrantino and M. Tsigas, (2003), Alternative Approaches to Estimating the Effects of Non-Tariff Measures: Results from Newly Quantified Measures, USITC Office of Economics Working Paper 03-12-C, December.
- Arrow, K.J., M.L. Cropper, G.C. Eads, R.W. Hahn, L.B. Lave, R.G. Noll, P.R. Portney, M. Russell, R. Schmalensee, V.K. Smith, and R.N. Stavins, 1996. "Is there a Role for Benefit-Cost Analysis in Environmental, Health and Safety Regulation?" Science 272: 221-22.
- Baldwin, R., 1970. *Non-Tariff Distortions in International Trade*, Washington, D.C., Brookings Institution.
- Beghin, John C. and Jean-Christophe Bureau, 2001. Quantification of Sanitary, Phytosanitary, and Technical Barriers to Trade for Trade Policy Analysis, *Center for Agricultural and Rural Development*, Working Paper 01-WP 291, Iowa State University, December.
- Bigsby, H.R., and C.F. Whyte, 2000. "Quantifying Phytosanitary Barriers to Trade." In *Interdisciplinary Food Safety Research*. edited by N. Hooker and E. Murano. Boca Raton: CRC Press.
- Blyde, Juan S., 2000. "Does international trade hurt the environment? Old theory, new developments", *International Trade Journal*, vol. 14, No. 4; pp. 343-353.
- Boom, A., 1995. "Asymmetric International Minimum Quality Standards and Vertical Differentiation". The Journal of Industrial Economics 43(1): 101-19.
- Bureau, J.C. and S. Marette, 2000. "Accounting for consumers preferences in international trade rules", in Board of Agriculture and Resources (ed.), *Incorporating Science Economics and Sociology in Developing Sanitary and Phytosanitary Standards in International Trade*, National Research Council, National Academy Press, Washington, D.C.
- and A. Schiavina, 1998. "Non-tariff trade barriers and consumers' in formation: The case of EU-US trade dispute over beef", *European Review of Agricultural Economics*, vol. 25, No. 4; pp. 437-462.
- Burfisher, M., D. Pick, G. Pompelli, and S. Zahniser, 2001. "North American Trade in an Era of Multiple Trade Agreements: A Gravity Analysis." Paper presented at the American Agricultural Economics Association annual meeting, Chicago, August 5-8.
- Calvin, L., and B. Krissoff, 1998. "Technical Barriers to Trade: A Case Study of Phytosanitary Barriers and U.S.-Japanese Apple Trade." Journal of Agricultural and Resource Economics 23(2): 351-66.

- Campbell, K., and R. Gossette, 1994. "A Study of Canada's Non Tariff Trade Barriers: The Equivalents of Quantitative Import Restrictions." Research Branch, Canadian International Trade Tribunal, Ottawa, Ontario, Canada.
- Casella, A., 1995. "Free trade and evolving standards". Centre for Economic Policy Research, London. Available at www.cepr.org/pubs/dps/DP1204.asp.
- \_\_\_\_\_\_, 1996. "Free trade and evolving standards", in J.N. Bhagwati and R.E. Hudec (eds.), Fair Trade and Harmonization, Prerequisites for Free Trade? Cambridge, MA, MIT Press.
- \_\_\_\_\_\_, 2001. "Product standards and international trade: Harmonization through private coalitions?" *Kyklos*, vol. No. 54; pp. 2-3.
- Cheng, I.H., and H.J. Wall, 1999. "Controlling for Heterogeneity in Gravity Models of Trade." Working Paper No. 99-01013, March, Federal Reserve Bank of St. Louis, St. Louis, MO.
- Crampes, C., and A. Hollander, 1995a. "Duopoly and Quality Standards." European Economic Review 39: 71-82.
- \_\_\_\_\_\_, 1995b. "How Many Karats is Gold: Welfare Effects of Easing a Denomination Standard." Journal of Regulatory Economics 7: 131-43.
- Deardorff, A.V. and R.M. Stern, 1998. "Measurement of non-tariff barriers", *Studies in International Economics Series*, Ann Arbor, MI, University of Michigan Press.
- European Commission, 2000. "Report on United States barriers to trade and investment", Brussels.
- \_\_\_\_\_\_, 2001. "A set of coordinated studies for the preparation of the next round of trade negotiations", final report, Project FAIR-97-CT3481, Task 3, Agricultural Directorate, Brussels.
- Donnenfeld, S., S. Weber, and U. Ben-Zion, 1985. "Import Controls under Imperfect Information." Journal of International Economics 19: 341-54.
- Fisher, R. and P. Serra, 2000. "Standards and protection", *Journal of International Economics*, vol. 52; pp. 377-400.
- Fliess, B. and I. Lejarraga, 2005. "Analysis of non-tariff barriers of concern to developing countries", OECD Trade Policy Working Paper No. 16, Paris.
- Falvey, R.E., 1989. "Trade, Quality Reputations and Commercial Policy." International Economic Review 30(3, August): 607-22.
- Fontagné, Lionel and others, 2001. A First Assessment of Environment-Related Trade Barriers, International Trade Centre, Geneva, http://www.intracen.org/mas/pdfs/pubs/etb\_english.pdf)
- Granslandt, M. and J.R, Markusen, 2000. "Standards and related regulations in international trade: A modelling approach". Available at http://www.worldbank.org/research/trade/conference/markusen.pdf.

- GATT, 1955. "Report of Working Party 6 on the United States waiver", L/339.
  \_\_\_\_\_\_\_, 1973. "Quantitative restrictions including embargoes and export restraints:
  Background Note by the Secretariat", COM.IND/W/99, Committee on Trade in Industrial Products Working Group 4.
  \_\_\_\_\_\_\_, 1983. "Past GATT activities relating to quantitative restrictions and other
- non-tariff measures: Background Note by the Secretariat", NTM/W/2, Group on Quantitative Restrictions and Other Non-Tariff Measures.
- \_\_\_\_\_\_, 1991. Communication from the Chairman of the Negotiating Group on Market Access to the Chairman of the Trade Negotiations Committee, Group of Negotiations on Goods, GATT.
- Greenway, D., 1983. *International Trade Policy: From Tariffs to the New Protectionism*, London, Macmillan Publishers Ltd.
- Harrison, R. and D.G. Tarr, 1996. "Increased competition and completion of the market in the European Union: Static and steady state effects", *Journal of Economic Integration*, vol. 11, No. 3; pp. 332-365.
- Head, K., 2000. "Gravity for Beginners." Teaching notes, Department of Economics, University of British Columbia, Vancouver.
- Henson, S.J., R. Loader, A. Swinbank, M. Bredahl, and N. Lux, 2000. "Impact of Sanitary and Phytosanitary Measures on Developing Countries." Center for Food Economics Research, University of Reading, Reading, UK. Hillman, J.S., 1991. *Technical Barriers to Agricultural Trade, Boulder, CO, Westview Press.*
- Hillberry, R., 2001. "Disaggregating the 'Border Effect': What Can We Learn from U.S. Commodity Flow Data?" Paper presented at the American Agricultural Economics Association annual meeting, Chicago, August 5-8
- Interim Commission for the International Trade Organization, 1948. "Final act and related documents (Havana Charter", United Nations Conference on Trade and Employment, New York.
- James, S., and K. Anderson, 1998. "On the Need for More Economic Assessment of Quarantine Policies." Australian Journal of Agricultural and Resource Economics 42(4): 425-44.
- Katz, M.L., and C. Shapiro, 1985. "Network Externalities, Competition and Compatibility." American Economic Review 75(June): 424-40.
- Laird, S. and A. Yeats, 1990. *Quantitative Methods for Trade-Barrier Analysis*, London, Macmillan Press.
- Lux, N., and S.J. Henson, 2000. "The Impact of Food Safety and Quality Standards in EU Cheese Exports to the United States." Working Paper, Department of Agricultural and Food Economics, The University of Reading.
- Marette, S., J.C. Bureau, and E. Gozlan, 2000. "Product Safety Provision and Consumers' Information." Australian Economic Papers 39(4, December): 426-41.

- Martin, W.J., 1997. "Measuring welfare changes with distortions", in J.F. Francois and K.A. Reinart (eds.), *Applied Methods for Trade Policy Analysis*, Cambridge, Cambridge University Press.
- Maskus, K.E. and J.S. Wilson, 2000. "Quantifying the impact of technical barriers to trade: A review of past attempts and the new policy context", paper presented at the World Bank Workshop on "Quantifying the Trade Effect of Standards and Technical Barriers: Is it Possible?" 27 April 2000, Washington, D.C.
- and T. Otsuki, 2001. "An empirical framework for analyzing technical regulations and trade", in K.E. Maskus, and J.S. Wilson (eds.), *Quantifying the Trade Effect of Technical Barriers: Can it be Done?*, Ann Arbor, MI, University of Michigan Press.
- McCallum, J., 1995. "National Borders Matter: Canada-US Regional Trade Patterns." American Economic Review 95(June, 3): 615-23.
- Moenius, J., 1999. "Information versus Product Adaptation: The Role of Standards in Trade." Working paper, University of California, San Diego.
- Organisation for Economic Co-operation and Development, 1999. "An assessment of the costs for international trade in meeting regulatory requirements". Paris.
- Orden, D., and E. Romano, 1996. "The Avocado Dispute and Other Technical Barriers to Agricultural Trade under NAFTA." Paper presented at the conference, "NAFTA and Agriculture: Is the Experiment Working?" San Antonio, TX, November.
- Otsuki, T., J.S. Wilson and M. Sewadeh, 2000. "Saving two in a billion: A case study to quantify the trade effect of European food safety standards in African exports", Working Paper, World Bank, Washington, D.C.
- Paarlberg, P.L., and J.G. Lee, 1998. "Import Restrictions in the Presence of a Health Risk: An Illustration Using FMD." American Journal of Agricultural Economics 80(1): 175-83.
- Pimentel, D., L. Lach, R. Zuniga, and D. Morrison, 2000. "Environmental and Economic Costs Associated with Non-indigenous Species in the United States." Working paper, College of Agriculture and Life Sciences, Cornell University. http://www.news.cornell.edu/releases/Jan99/species costs.html
- Roberts, D., and K. DeRemer, 1997. "Overview of Foreign Technical Barriers to U.S. Agricultural Exports." ERS Staff Paper No. 9705. U.S. Department of Agriculture, Economic Research Service, Washington, D.C., March.
- Roberts, D., 1998, "Preliminary assessment of the effects of the WTO Agreement on Sanitary and Phytosanitary Trade Regulations", *Journal of International Economic Law*, vol. 1, No. 3; pp. 377-405.
- Roberts, D., and K. DeRemer, 1997. "Overview of Foreign Technical Barriers to U.S. Agricultural Exports." ERS Staff Paper No. 9705. U.S. Department of Agriculture, Economic Research Service, Washington, D.C., March.

- Roberts, D., T. Josling and D. Orden, 1999. "A framework for analyzing technical trade barriers in agricultural markets", *Technical Bulletin*, No. 1876, United States Department of Agriculture, Economic Research Service, Washington, D.C.
- Shapiro, C, 1983. "Premiums for High Quality Products as Returns to Reputations." Quarterly Journal of Economics 98: 659-79.
- Swann, P., P. Temple, and M. Shurmer, 1996. "Standards and Trade Performance: The UK Experience." Economic Journal 106: 1297-313.
- Thornsbury, S., 1998. "Technical Regulations as Barriers to Agricultural Trade." PhD dissertation, Virginia Polytechnic Institute.
- Thornsbury, S., D. Roberts, K., DeRemer, and D. Orden, 1999. "A First Step in Understanding Technical Barriers to Agricultural Trade." In Food Security, Diversification and Resource Management: Refocusing the Role of Agriculture? Edited by G.H. Peters and J. von Braun. Brookfield, VT: Ashgate.
- United States Government Accounting Office, 1997. "Agricultural exports: US needs a more integrated approach to address sanitary/phytosanitary issues", report to Congressional Requesters 98-32, Washington, D.C.
- United States International Trade Commission (USITC). 1995. "The Economic Effect of Significant US Import Restraints." Investigation 322-325, 2699, United States International Trade Commission, Washington, D.C.
- United States China Business Council, 2003. "Membership Priorities WTO Survey", September; pp. 1-5. Available at http://www. uschina.org.
- United States Trade Representative, various years. "National trade estimate report on foreign trade barriers", Office of the United States Trade Representative, Washington, D.C. Available at http://www.ustr.gov.
- Vido, E., and B. Prentice, 2001. "Methodological Issues in Gravity Model Analysis with Applications to Canadian Pork and Lentil Trade." Paper presented at American Agricultural Economics Association annual meeting, Chicago, August 5-8.
- Weyerbroeck, S. and T. Xia, 1998. "Technical trade barriers in US/Europe agricultural trade", Working Paper, University of Delaware.
- World Trade Organization, 2002a. "Scope of the negotiation on non-tariff barriers: Submission by New Zealand", Negotiating Group on Market Access, TN/MA/W/4. Geneva
- \_\_\_\_\_\_, 2002b. "WTO non-agricultural market access non-tariff barriers: Communication from Canada", Negotiating Group on Market Access, TN/MA/W/9/Add.1. Geneva.
- \_\_\_\_\_\_\_, 2002c. "Market access for non-agricultural products: Submission by India", Negotiating Group on Market Access, TN/MA/W/10. Geneva.
- \_\_\_\_\_\_, 2003a. "Modalities for non-agricultural market access Proposal on modalities for addressing non-tariff barriers (NTBs) Addendum", Negotiating Group on Market Access, TN/MA/W/18/Add.1. Geneva.



# Comment

# TAMING NON-TARIFF BARRIERS: CONTRIBUTION OF TRADE FACILITATION

By Yann Duval

Dhar and Kallummal provide an insightful historical report in this chapter on how the multilateral trading system has attempted to address the issue of NTBs, from the Kennedy Round of GATT negotiations in the 1960s to the ongoing Doha Round of WTO negotiations. This comprehensive report suggests that, despite wide recognition of the need to tame NTBs, the multilateral trading system has throughout this extended period been unable to tackle this issue successfully.

This commentary first elaborates on some important issues raised here by Dhar and Kallummal and then briefly highlights the relevance of the ongoing trade facilitation negotiation as a small step towards taming NTBs at the multilateral level.

#### A. Negotiating NTBs across existing agreements

While the Doha Ministerial Conference has indeed provided a mandate for introducing effective disciplines on NTBs, what is – or is not – an NTB remains open to discussion. The legitimacy of an NTM (e.g., under an existing WTO agreement) and its compliance with key WTO principles – in particular, the principle of national treatment – appear to provide a good basis for assessing whether an NTM is, in fact, an NTB. However, this approach has the effect of restricting the scope of negotiations during the ongoing round of negotiation to a subset of potential NTBs.

Specifically, building on the Dhar and Kallummal report presented in this book, and taking the four-set classification proposed by Canada (World Trade Organization, 2002), quotas could be negotiated by the Negotiating Group on Market Access (NGMA) while border-related measures including customs procedures, fees and administration could be negotiated by the Negotiating Group on Trade Facilitation (NGTF). This leaves import licensing, rules of origin, customs valuation, SPS and TBT out of the current round of negotiations since they are part of agreements not up for negotiation in the current round. Given that many, if not most, NTMs identified as barriers to trade are related to agreements not up for negotiation in the current round, the hope for WTO to find an effective solution to tame NTBs in this round following this "legalistic" approach would seem rather dim.

As suggested here by Dhar and Kallummal, a decision by WTO members that any NTMs related to any WTO agreements may be assessed as potential NTBs could be a pre-requisite for WTO to be in a position to tame them effectively. This, however, would be a major undertaking, which could stall the Doha Round of negotiations completely if agreed to during this round.

An alternative, therefore, may be to go along with the legalistic approach and close this round quickly, following it with a new round more specifically dedicated to addressing NTBs related to all existing WTO agreements. This would have the major advantage of allowing an orderly review of all relevant agreements and their in-built mechanisms to more effectively address NTBs – as opposed to an add-on, overlapping and possibly unwieldy NTB agreement that might result from comprehensive negotiations on NTBs during this round.

#### B. Different modalities for different NTBs

The advantages and disadvantages of the five modalities identified by NGMA for dealing with NTBs are clearly described here by Dhar and Kallummal and do not need further elaboration. However, it is worth noting that modalities are intrinsically linked to the nature of NTBs. Since the nature of NTBs varies widely, it is likely that a combination of modalities may be needed to tackle them successfully. For example, trade facilitation-related NTBs may be best handled using a horizontal or request/offer mechanism, while many of the SPS-related and TBT-related NTBs may be best handled using vertical (i.e., sectoral) modalities.

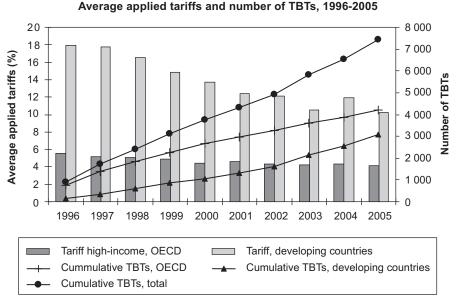
This point again provides support for the option of reviewing NTBs under each relevant WTO agreement rather than as part of a separate agreement on NTBs, as might be envisaged under the current round, given its agreed scope.

### C. Have members over-negotiated on tariffs?

Dhar and Kallummal provide some evidence of a rise in the number of TBT measures since 1995, and they argue that the number and spread of the measures are "fast outstripping and undermining the trade liberalization achieved by way of tariff reduction and elimination". While more research may be needed to support that claim, it appears increasingly evident that the apparent success of the multilateral trading system in reducing tariffs has been mitigated by a rise in "WTO-compliant" TBTs and other measures perceived by exporters as de facto NTBs (see figure).

If a negative correlation between tariff levels and the number/frequency of use of NTBs exists, the nature of the relationship remains difficult to investigate conclusively since there is no observed period during which a rise in (MFN) tariffs has led to either stabilization or a decrease in TBTs. Nonetheless, such a negative relationship may have wide-ranging implications for ongoing and future multilateral trade negotiations. For example, exporters may be reluctant to push their governments to negotiate further tariff cuts if there is a possibility that those cuts might be replaced by NTBs leading to higher overall trade costs.

Given the current relative lack of transparency of many WTO-compliant NTMs notified to the WTO Secretariat, due to the complexity of the measures or the way they are implemented, many exporters and governments might even consider higher tariffs if they



Source: Ng (2006) and B. Dhar and M. Kallummal, 2007.

were compensated by removal of existing NTBs. This is something that has happened before, following the transformation of most quantitative restrictions into tariff equivalents.

That being said, the existing "water" between most favoured nation (MFN) rates and the applied rates in most WTO member countries makes it unlikely that governments would be ready to reduce or limit their use of NTBs in exchange for an opportunity to revise their bound tariffs upward. This suggests that tariff and non-tariff measures are not substitutes, making the tariffication of NTBs, other than quantitative barriers or for analytical purposes<sup>1</sup>, a very difficult proposition. On the other hand, it suggests that even if excessive reduction in tariffs may have prompted the use of NTBs, backtracking on tariff concessions would not be a way to tame NTBs. Focusing on the simplification, standardization, harmonization and transparent implementation of NTMs may be more effective in removing the "trade protection" element embedded in some of the measures, while ensuring that the legitimate purposes of the measures are also achieved.

## D. NTBs and the trade facilitation negotiation

Dhar and Kallummal provide an excellent account here of the various and evolving views on the scope of NTBs. Interestingly, no less than 95 per cent of NTBs reported by exporters relate to TBT, Customs and Administrative Procedures, and SPS (Fliess and

See Ferrantino (2006) for a recent review of quantitative techniques for measuring effects of NTMs.

Lejarraga, 2005). Therefore, since TBTs and SPS are currently not up for negotiation, the most effective contribution of the Doha Round to taming NTBs, as perceived by exporters, may be achieved through the negotiations on trade facilitation as they cover at least some of the measures of concerns to exporters.

It must be acknowledged, however, that the negotiations on trade facilitation are limited only to GATT Article V (Freedom of Transit), Article VIII (Fees and Formalities) and Article X (Publication and Administration of Trade Regulations), such that many NTBs that fall within the "Customs and Administrative Procedures" mentioned above may not be addressed. Private sector surveys conducted by the Asia-Pacific Research and Training Network on Trade (ARTNeT) in five developing countries indeed suggest that customs valuation (i.e., GATT Article VII and the related implementation agreement) remain a primary concern of exporters, although it is outside the scope of the current negotiations (see table).

Most problematic areas in conducting trade in selected developing countries in Asia and the Pacific

	Overall ranking	Bangladesh ranking	China ranking	Fiji ranking	India ranking	Indonesia ranking	Nepal ranking
Customs valuation	1	1	2	2	1	3	2
Inspection and release of goods	2	2	6	5	2	2	1
Tariff classification	3	3	5	3	3	4	3
Technical or sanitary requirements	4	7	1	1	7	5	4
Payment of fees and penalties	5	6	4	8	6	1	n.a
Obtaining an import licence	6	5	3	7	5	6	n.a
Submission of documents for clearance	7	4	6	6	4	7	n.a
Identification of origin of the goods	8	8	8	4	8	8	n.a

Sources: Studies in Trade and Investment No. 57, ESCAP; and ARTNeT Working Paper No. 24.

Nevertheless, what NGTF achieves during this round may give some useful insights on what may or may not be achieved in a future round of negotiation that may be dedicated to NTBs. In that regard, recognition of the importance of capacity-building and technical assistance in ensuring satisfactory implementation of the measures negotiated, and the exploration of new, typically softer, mechanisms to monitor compliance (e.g., through peer and policy review mechanisms), may be particularly relevant to future negotiations on tackling NTBs related to TBT, SPS and other existing WTO agreements.

Considering the question addressed by Dhar and Kallummal in their paper, another question that comes to mind at a time when many countries in Asia and the Pacific region are negotiating bilateral and regional trade agreements, is whether these preferential trade agreements may also provide a solution for taming NTBs. In that context, rules of origin and their potential role as NTBs deserve particular attention (e.g., Deb, 2007).

#### References

- Deb, U.K., 2007. "Non-Tariff Barriers in Agricultural Trade: Issues and Implications for Least Developed Countries", ARTNeT Policy Brief No. 12, May 2007.
- Dhar, B. and M. Kallummal, 2007. "Taming non-tariff barriers: Can WTO find a solution?" In Future Trade Research Areas that Matter to Developing Country Policymakers, ESCAP, Bangkok.
- ESCAP, 2006. "An exploration of the need for, and cost of selected trade facilitation measures in Asia and the Pacific in the WTO negotiations", *Studies in Trade and Investment* No. 57. Bangkok. Available at http://www.artnetontrade.org.
- Ferrantino, M., 2006. "Quantifying the Trade and Economic Effects of non-tariff measures", OECD Trade Policy Working Paper No. 28, Paris.
- Fliess, B. and I. Lejarraga, 2005. "Analysis of non-tariff barriers of concern to developing countries", OECD Trade Policy Working Paper No. 16, Paris.
- Ng, F., 2006. Data on Trade and Import Barriers. Available at http://go.worldbank.org/ LGOXFTV550.
- Prasad, B.C., 2006. "Trade facilitation needs and customs valuation in Fiji", ARTNeT Working Paper No. 24. Available at www.artnetontrade.org.
- World Trade Organization, 2002. "WTO non-agricultural market access non-tariff barriers: Communication from Canada", Negotiating Group on Market Access, TN/MA/W/p/Add.1.