

## Pervasiveness and Patterns of Non-tariff Measures Affecting EU Agri-food Exports

Peter Walkenhorst \*

### Abstract

*Evaluating the importance of non-tariff measures (NTMs) remains a major challenge. This paper reports evidence on the prevalence of NTMs in the agri-food sector based on an EU inventory of business complaints. This data source has the advantage of drawing on experiences of economic agents that are directly involved in trading activities, of containing information on domestic governance issues, and of covering procedural aspects of NTMs. The results suggest that business complaints about price control measures, quantitative import controls, monopolistic measures, technical measures, and certification are particularly frequent.*

**Keywords:** *Market access, non-tariff measures, complaints inventory.*

**JEL Classification:** *Commercial policy; protection; promotion; trade negotiations (F130); Country and industry studies of trade (F140)*

### Background

After the success of earlier rounds of multilateral trade negotiations in significantly reducing the level of customs tariffs, increasing attention has focused on the impacts of domestic policies on international trade and the use of non-tariff measures (NTMs). Policies that are implemented to pursue domestic objectives can restrict market access for foreign producers, and sometimes do so to a considerable extent. One major challenge in this context is to determine the relative importance of different types of NTMs in order to be able to make recommendations on which measures policy makers might want to focus on when considering regulatory and trade policy reform.

There is a wide range of NTMs. Some are directly trade-related (e.g. import quotas, import surcharges, anti-dumping measures), others have a link to trade in as far as their implementation is monitored at the border (e.g. labelling, packaging, sanitary standards), while a third group arises from general public policy (e.g. government procurement, investment restrictions, extent of property rights protection). Methodologies for classifying and measuring the effects of NTMs have been discussed by Deardorff and Stern (1998) and Roberts, Josling and Orden (1999), but considerable problems of data availability and assessment remain (Maskus, Wilson and Otsuki, 2001).

Empirical analysis concerning the use of NTMs has often been based on qualitative and quantitative information drawn from inventories and surveys. Data on the preva-

---

\* Organisation for Economic Co-operation and Development, 2 rue André-Pascal, F-75775 Paris Cedex 16, France (Tel.: +33 1 4524 8934; Email: Peter.Walkenhorst@OECD.org). The views expressed in the paper are not necessary those of the OECD or its Member countries.

The author would like to thank an anonymous referee and the Editor for their constructive comments that have helped to improve the analysis. Any remaining errors are the author's responsibility.

lence of regulations, for example, has been used to derive simple indicators, such as frequency measures. The latter can be unweighted, as in the case of frequency ratios that correspond to the share of tariff lines subject to certain NTMs (Ndayisenga and Kinsey, 1994; Swann, Temple and Shurmer, 1996; Brenton, Sheeby and Vancauteran, 2001), or weighted, as for import or export coverage ratios that measure the percentage of imports or exports subject to particular NTMs (Clark, 1992).

While such frequency measures can be useful to provide information on the occurrence of different types of NTMs in a sector or economy, counting recorded regulations has some recognized shortcomings. The lists of regulations are generally not comprehensive and international comparisons are difficult as not all governments are equally careful in reporting changes in regulations, which might result in incomplete coverage of measures. And most importantly, the nature and effects of regulations vary largely, so that the latter are generally not comparable and frequency counts are hence of limited information value.

Business surveys or structured interviews represent another approach that has been used to obtain information on the importance of NTMs (Roberts and DeRemer, 1997; OECD, 1999; Henson and Loader, 2001). Survey investigations have the advantage of using tailor-made questionnaires to collect data for a specific analytical purpose. In addition to information concerning the frequency of NTMs, they also make it possible to gather data on the relative importance of different measures, such as their trade restrictiveness or trade impact. However, surveys tend to be very resource-intensive to undertake, which often forces researchers to compromise on the scale of the investigation. This in turn limits the number of observations and the scope for statistical analysis. Also, while estimates of the trade restrictiveness of individual NTMs can provide useful information, survey responses to corresponding questions are to some extent subjective and individual expert's estimates of trade impacts can vary considerably.

This paper reports information on the prevalence of NTMs from yet another information source, namely an inventory of complaints from businesses about export impediments. Such a listing is compiled and regularly updated by the European Commission.<sup>1</sup> Inventories of business complaints have the advantage of relying on information from entities that are directly confronted with non-tariff barriers in their export operations. Also, the simple fact that a firm has made the effort of filing a complaint with public authorities might be seen as an indication that the recorded entries correspond to "serious" impediments to trade. Moreover, unlike many other information sources on NTMs, the EU inventory also covers domestic governance issues, such as impediments related to government procurement, investment restrictions, or insufficient property rights protection, reports procedural problems associated with particular NTMs, and offers a relatively large number of observations, thereby reducing the influence of "outliers" on the statistical results.

Based on this inventory information, the analysis in this paper investigates the incidence of different types of NTMs encountered by EU exporters. Indicators of relative prevalence are derived and compared. The analysis thereby focuses on agri-food products. While NTMs exist across all sectors, trade in agricultural and food products seems particularly susceptible to such barriers (OECD, 2001). Because of the nature of their products, agri-food exporters are often subject to measures that are sector-specific, in addition to generally applicable barriers. Such sector-specific measures include provisions to safeguard against the import of exotic species, pests, and diseases, regulations

to ensure food safety and animal and plant health, and requirements to provide information to consumers on production methods concerning environmental practices, animal welfare, or biotechnological modification. Some observers even foresee a future proliferation of technical barriers to international agri-food trade as a result of expected trade policy reforms and changes in consumer demands (Weyerbrock and Tian, 2000).

The remainder of the paper is organized as follows. Section 2 presents a brief discussion of the data source and measurement issues. Section 3 then reports findings on the prevalence of NTMs in the agri-food sector broken down by product group. In section 4, further analysis is carried out with respect to particular types of NTMs and procedural barriers associated with them. Finally, section 5 presents conclusions.

### **Business complaints about non-tariff measures**

The European Commission's Market Access Database, which is maintained by the Directorate-General for Trade, provides information on exporting from the European Union (EU) into non-EU countries. One part of this database consists of a listing of trade barriers that have been brought to the attention of the Commission by businesses. The aim of this inventory is to improve transparency in trade relations and inform exporting companies about impediments that other exporters have encountered when trying to enter particular markets. The material might also serve as background information for trade negotiations.

The recorded business complaints give indications of the type of the NTM, as well as the product category and country in which they were encountered, and sometimes report information on the procedural problems that have arisen. They do not contain information about the trade impact of particular measures or the costs associated with overcoming a barrier. However, the existence of a complaint suggests that some economic agents have perceived the measures to be unduly trade-restrictive.

While frequency counts of NTMs should generally be interpreted with care, some insights about the relative importance of different types of barriers can be gained from looking at the prevalence of NTM complaints. For example, the observation that there are no or only very few complaints about a particular type of NTM in a given sector might be taken as an indication that the trade barrier in question does not exist or is not impeding international commerce to a significant extent. Conversely, a large number of business complaints concerning a particular type of import barrier might suggest that further analysis on the underlying trade policy issue is warranted.

Yet, the data source has some drawbacks. The inventory of business complaints might not be fully representative, as the listing was produced for other purposes than analysis of non-tariff barriers. Also, it is not clear whether business complaints were always registered in a comprehensive and consistent manner, even though there might be no obvious biases apparent. Moreover, some business complaints might originate more from a subjective feeling of commercial injury than from unjustified or discriminatory regulation. With these caveats in mind, the subsequent analysis tries to establish which types of NTMs are most frequently encountered and which product-lines are most often affected by NTMs.

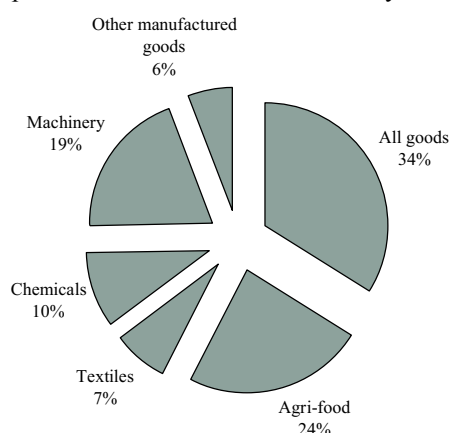
### **The Prevalence of non-tariff measures in the agri-food sector**

The inventory as of April 2000 registered a total of 1708 business complaints about

non-tariff border measures in goods sectors. Complaints by EU businesses referred to NTMs in 46 different countries, with about 39 per cent of NTM-complaints concerning high-income countries and 61 per cent developing countries. More than half of all NTMs were encountered by exporters trying to sell into Asian markets, followed by complaints about market access in non-EU Europe (22 per cent) and the Americas (18 per cent).

Agri-food is the sector in which NTM-complaints are most prevalent (Figure 1). In total, there are 406 complaints regarding NTMs concerning agriculture and food products in the inventory, i.e. 24 per cent of all entries. In addition, a share of the complaints that do not mention any specific product group is likely to concern agriculture and food exports. The absolute number of complaints is, of course, an imperfect measure of importance of NTMs across sectors, as the latter vary in economic size. Yet if the number of complaints is related to sectoral export value or value-added, agri-food turns out to be also the sector with the largest number of NTM-complaints in relative terms, followed by the sectors producing textiles, and chemicals.

**Figure 1.** Business complaints about non-tariff measures by sector

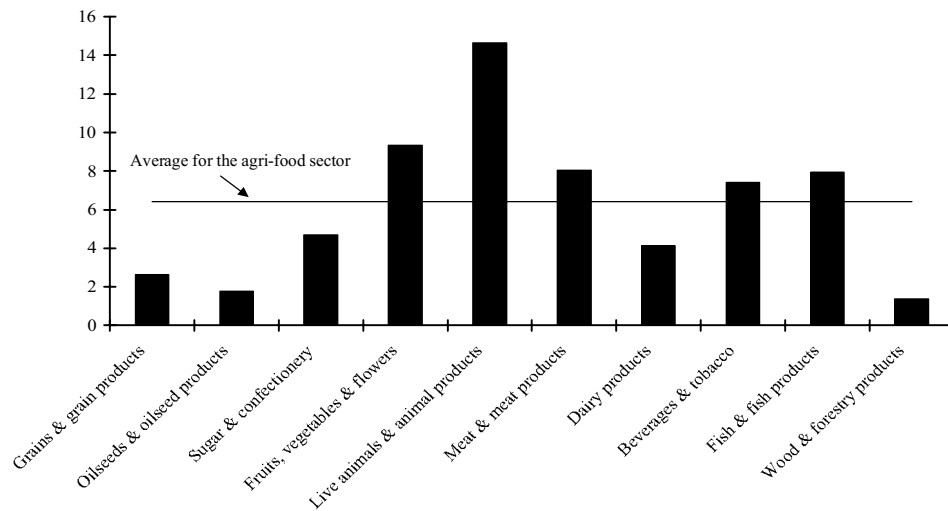


If a complaint mentioned more than one product, a weight of less than one was assigned to the individual products, such that the sum of product observations adds up to the total number of business complaints in the EU database.

Source: Author based on EU market access database.

A further breakdown by sub-sector reveals that NTM-complaints related to agricultural raw materials account for two-fifths of all agri-food complaints and those related to processed food for three-fifths. On a product-line basis, most complaints were registered for beverages and tobacco (24 per cent of total agri-food complaints), fruits, vegetables and flowers (13 per cent), and meat and meat products (9 per cent). Yet, the ranking of most-affected product-lines changes considerable, if the importance of trade in the products, as measured by exports, is taken into account (Figure 2). In particular, exports of live animals and animal products appear most severely impeded by NTMs when complaints are expressed in relative terms. Other product-lines with above average levels of NTM-incidence are fruits, vegetables and flowers, meat and meat products, fish and fish products, and beverages and tobacco.

**Figure 2.** Relative prevalence of business complaints about NTMs by product-line (NTM-complaints per billion US dollars of exports)



Source: Author based on EU market access database.

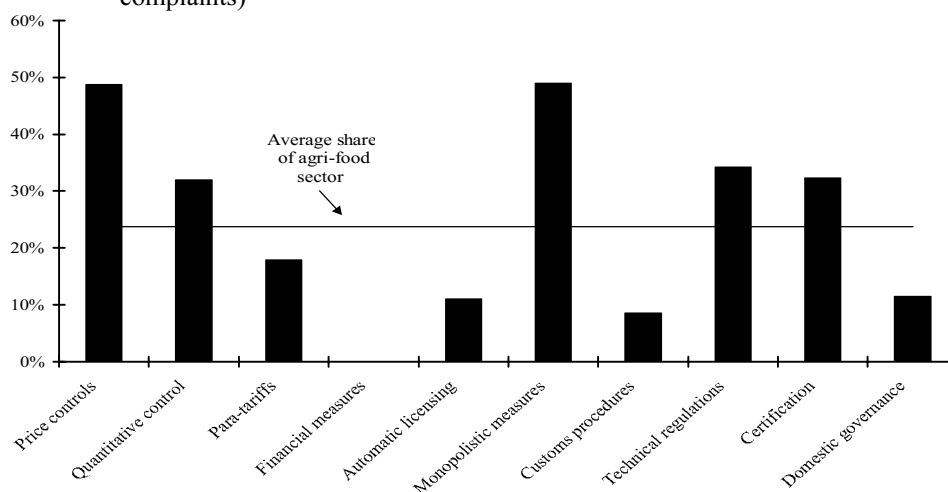
### Types of non-tariff measures in the agri-food sector

The typology of NTMs used in study is largely based on UNCTAD's classification of trade control measures, while providing a more comprehensive and detailed representation of domestic governance issues, such as trade-impeding regulations concerning government procurement, foreign direct investment, or lack of intellectual property rights protection (Annex Table 1). The classification relies on economic rather than legal criteria, so that the entries do not distinguish between GATT-consistent and inconsistent measures.

The most frequently encountered complaints about NTMs in the agri-food sector concern certification (20 per cent of all agri-food complaints) and quantitative import controls (19 per cent). Together with technical measures, price controls and monopolistic measures, these are also the NTMs that are relatively more prevalent for agri-food products than for other goods (Figure 3). On the other hand, regulations concerning para-tariffs, automatic licensing, and domestic governance issues appear less trade-impeding for agriculture and food than for other branches of the economy. There are no complaints about import financing measures related to agri-food products in the data set.

Table 1 gives a general overview of the distribution of NTMs across product-lines. Three levels of relative NTM-intensity are distinguished according to the share of complaints about a particular barrier in a particular sub-sector relative to the corresponding share for the agri-food sector as a whole. The threshold levels for the categories of 75 and 125 per cent were thereby established such as to generate a balanced distribution of items in the different categories across NTMs and product-lines.

**Figure 3.** Relative prevalence of different types of NTMs in the agri-food sector  
(Share of NTM-complaints referring to agri-food products in all goods-related complaints)



Source: Author based on EU market access database.

**Table 1.** Distribution of business complaints about non-trade measures in the agri-food sector

	All agri-food products	Grains & grain products	Oilseeds & oilseed products	Sugar & confectionery	Fruits, vegetables & flowers	Live animals & animal products	Meat & meat products	Milk & Dairy products	Beverages & tobacco	Fish & fish products	Wood & forestry products	Non-specified agri-food products
<b>All non-tariff measures</b>	100%	7%	1%	3%	13%	8%	9%	5%	24%	4%	1%	26%
Price control measures	6%	●	○	●	●	○	●	⊙	○	○	○	⊙
Quantity control measures	19%	⊙	○	●	⊙	●	⊙	●	○	●	○	⊙
Para-tariff measures	7%	○	○	●	○	○	○	○	●	○	○	○
Automatic licensing measures	1%	○	●	○	○	○	○	●	⊙	⊙	●	●
Monopolistic measures	6%	●	●	●	⊙	○	○	●	⊙	○	●	○
Customs procedures	2%	●	○	⊙	○	○	○	○	●	●	○	●
Technical regulations	16%	○	○	⊙	●	○	●	○	⊙	⊙	○	⊙
Certification	20%	○	●	○	⊙	⊙	●	⊙	○	●	○	●
Domestic governance	16%	○	⊙	○	○	○	○	●	●	○	○	⊙
Miscellaneous	8%	●	●	○	⊙	●	○	○	○	○	●	○

●: the share of complaints about the particular measure in all complaints encountered in the particular sub-sector is at least 25 per cent higher than for the agri-food sector overall.

○: the share of complaints about the particular measure in all complaints encountered in the particular sub-sector is at least 25 per cent lower than for the agri-food sector overall.

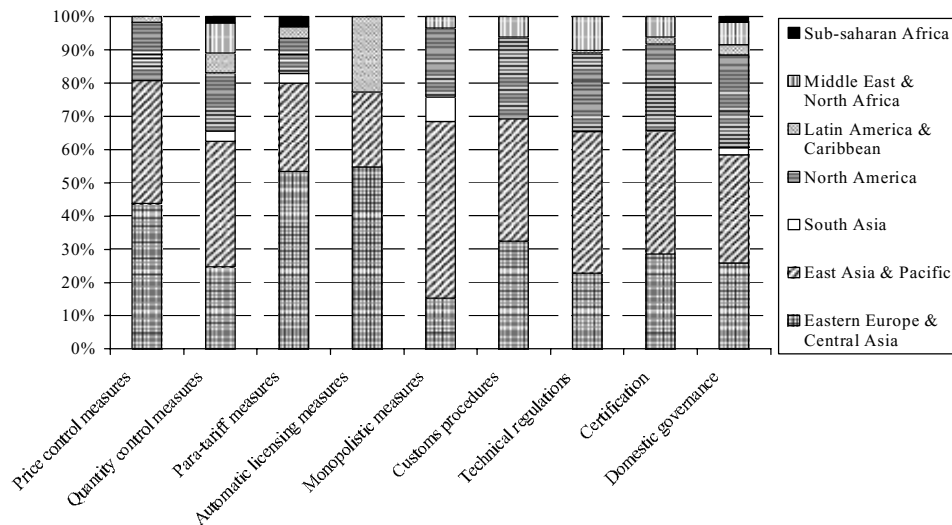
⊙: the share of complaints about the particular measure in all complaints encountered in the particular sub-sector amounts to 75 to 125 per cent of the corresponding ratio for the agri-food sector overall.

Source: Author based on EU market access database.

It turns out, for example, that para-tariff measures, such as customs surcharges, are frequently a business concern for exporters of sugar and confectionery as well as beverages and tobacco. For all other product-lines, para-tariff measures are of relatively minor importance. Conversely, exporters of grains and grain products, for example, complained relatively often about price controls, monopolistic measures, such as single import channels, customs procedures, and miscellaneous border measures. However, it should be noted that for barriers, such as automatic licensing, or product-lines, such as oilseeds and oilseed products, for which there are only a small number of observations in the data set, the information in Table 1 should be interpreted with care.

The use and the extent to which NTMs give rise to trade concerns differ, of course, across countries and regions. Figure 4 illustrates the share of complaints about particular types of NTMs in different regions. For example, EU-based companies exporting to Eastern Europe complain relatively frequently about licensing requirements, while those trying to sell into the Asia-Pacific region about monopolistic measures.

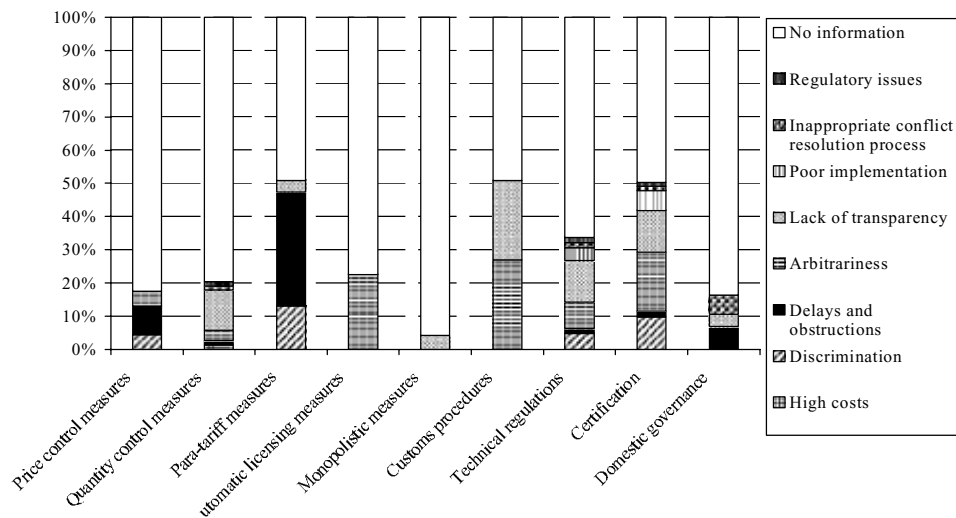
**Figure 4.** Regional distribution of complaints in the agri-food sector by NTM type



Source: Author based on EU market access database.

About 30 per cent of all business complaints concerning agri-food products also report qualifying information on the procedural problems that are associated with the trade impediments. Most often cited are problems of arbitrariness, followed by complaints about procedural delays or obstructions, and protests concerning procedural discrimination against imports. Arbitrariness is often alleged in connection with complaints about customs procedures, delays or obstructions are repeatedly mentioned in relation to para-tariff measures, and discrimination is frequently associated with para-tariff measures and certification (Figure 5).

**Figure 5.** Procedural problems associated with NTMs in the agri-food sector (Share of complaints mentioning particular problems)



Source: Author based on EU market access database.

## Conclusions

Obtaining consistent information on NTMs is a major challenge and even establishing lists of measures that can be used for quantification is cumbersome and time-consuming. This paper reported evidence on the prevalence of NTMs in the agri-food sector based on an EU inventory of business complaints. This information source has the advantage of drawing on experiences of economic agents that are directly involved in trading activities. Moreover, it contains information on domestic governance issues and procedural aspects of NTMs that is not available in many other large-scale surveys of non-tariff barriers.

According to the EU inventory, business complaints about NTMs are more prevalent in the agri-food sector than in other goods-producing parts of the economy. The largest number of complaints relative to the value of exports is observed for live animals and animal products, fruits, vegetables and flowers, meat and meat products, fish and fish products, and beverages and tobacco. The most prevalent complaints about NTMs in the agri-food sector concern certification and quantitative import controls. This finding is consistent with the results of Ndayisenga and Kinsey (1994), who base their research on UNCTAD's database of trade control measures, even though quantitative controls appear to have become less important over time.

Domestic governance issues seem to be a major problem only in some sub-sectors, such as those producing beverages and tobacco, and milk and dairy products. These barriers are frequently associated with inappropriate regulations, while arbitrariness is often alleged in connection with certification procedures, and delays and obstructions are repeatedly mentioned in relation to technical measures. However, the quantitative findings in this study should be interpreted with care as frequency ratios are sometimes poor indicators of the economic and trade effects that result from NTMs. Indeed, there is a risk



that measures of frequency are construed as being indicators of importance, even though the information they provide is limited.

In this context, analysis to complement frequency counts would, in particular, have to focus on the trade restrictiveness and impact of NTMs. Different measures can have largely varying effects on groups of consumers, producers, and taxpayers. Roberts, Josling, and Orden (1999) propose an analytical framework for technical regulations that groups the impacts into three categories, namely the regulatory protection effect, the supply shift effect, and the demand shift effect. The regulatory protection effect refers to the restrictive impact of an NTM on imports that generates additional profits for domestic producers. The supply shift effect captures the expansionary impact of reduced imports for domestic supply, and the demand-shift effect accounts for the additional information that a regulation provides to consumers which in turn might increase their confidence in the product and as a result the demand for it.

Quantifying these effects is very data intensive, especially if the analysis is not confined to the particular occurrence of an NTM for which the specific details of its implementation are known, but rather aims to provide a sector-wide or economy-wide overview. Yet, conducting a broad assessment of NTMs has certain analytical advantages, such as making it possible to capture the interaction of several NTMs applying to a product, or to take into account multi-market and general equilibrium effects in cases where a measure applied to one product affects trade in another (Deardorff and Stern, 1998). Hence, there is a trade-off between information requirements and analytical comprehensiveness that has to be considered in the framework of on-going and future NTM-related research.

### Notes

1. The Commission's Market Access Database can be accessed via the internet at <http://mkacddb.eu.int>. To some extent similar compilations of business complaints are also provided by the US Office of the Trade Representative ("National Trade Estimates Report of Foreign Trade Barriers") and Japan's Ministry of Economy, Industry and Trade ("Report on the WTO Consistency of Trading Policies by Major Trading Partners").

### References

- Brenton, P., J. Sheeby, and M. Vancauteran, 2001. "Technical Barriers to Trade in the European Union: Importance for Accession Countries." *Journal of Common Market Studies* 39(2): 265-284.
- Clark, D.P., 1992. "Recent Changes in Non-tariff Measure Use by Industrial Nations." *International Trade Journal* 6(3): 311-322.
- Deardorff, A.V., and R.M. Stern, 1998. *Measurement of Non-Tariff Barriers*. Ann Arbor: University of Michigan Press.
- Henson, S.J., and R. Loader, 2001. "Barriers to Agricultural Exports from Developing Countries: The Role of Sanitary and Phytosanitary Measures." *World Development* 29(1): 85-102.
- Maskus, K., J.S. Wilson, and T. Otsuki, 2001. "Quantifying the Impact of Technical Barriers to Trade: A Framework for Analysis." Working Paper, The World Bank, Washington, D.C.

- Ndayisenga, F., and J. Kinsey, 1994. "The Structure of Non-Tariff Trade Measures on Agricultural Products in High Income Countries." *Agribusiness* 10(4): 275-292.
- OECD (Organisation for Economic Co-operation and Development), 1999. *An Assessment of the Costs for International Trade in Meeting Regulatory Requirements*. Paris: OECD Publications.
- OECD (Organisation for Economic Co-operation and Development), 2001. *Agricultural Policies in Emerging and Transition Economies: Special Focus on Non-tariff Measures*. Paris: OECD Publications.
- Roberts, D., and K. DeRemer, 1997. *Overview of Foreign Technical Barriers to U.S. Agricultural Exports*. Staff Paper No. 9705, Economic Research Service. Washington D.C.: US Department of Agriculture.
- Roberts D., T. Josling, and D. Orden, 1999. *A Framework for Analyzing Technical Trade Barriers in Agricultural Markets*. Technical Bulletin No. 1876. Economic Research Service. Washington D.C.: US Department of Agriculture.
- Swann, P., P. Temple, and M. Shurmer, 1996. "Standards and Trade Performance: The UK Experience." *Economic Journal* 106: 1297-1313.
- UNCTAD (United Nations Conference on Trade and Development), 2000. *Non-tariff Measures with Potentially Restrictive Market Access Implications Emerging in a Post-Uruguay Round Context*. New York: United Nations Publications.
- Weyerbrock, S., and T. Xia, 2000. "Technical Trade Barriers in US/Europe Agricultural Trade." *Agribusiness* 16: 235-251.

**Appendix****Table 1.** Classification of non-tariff measures

NTM category	Type of NTM	Example
Core NTMs	Price control measures	Administrative price fixing Variable charges Anti-dumping measures Countervailing measures
	Quantity control measures	Non-automatic licensing Quotas Prohibitions Export restraint arrangements
Non-core border NTMs	Para-tariff measures	Customs surcharges  Additional charges Internal taxes and charges on imports
	Automatic licensing measures	Automatic licence
	Monopolistic measures	Import monitoring Single channel for imports Compulsory national services
	Customs procedures	Customs valuation Customs classification Customs clearance Rules of origin
Behind the border barriers	Technical regulations	Product standards  Production standards Mandatory labelling Marking Packaging
	Certification	General certification Quarantine Inspection Testing
	Domestic governance	Government assistance issues Public procurement issues Investment restrictions Distribution restrictions Transportation restrictions Lack of intellectual property rights protection
Miscellaneous measures		Measures not elsewhere classified

Source: Author, amended from UNCTAD (2000).