



# **UNCTAD TRAINS:**

## **The Global Database on Non-Tariff Measures**

### **User Guide (2017, Version 2)**







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## SUMMARY

- The Non-Tariff Measures (NTMs) database TRAINS provides information on a broad range of policy instruments including traditional trade policy instruments, such as quotas and price controls, as well as regulatory and technical measures that stem from important non-trade objectives related to health and environmental protection (Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT)). The database is a systematic source of information and aims to enhance the transparency in NTMs.
  - NTMs are here defined as policy measures, other than customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both. The concept of NTMs is neutral and does not imply a negative impact on trade nor any legal judgement.
  - The International Classification of Non-Tariff Measures (UNCTAD, 2013) provides a taxonomy of NTMs. The classification has been developed jointly by UNCTAD and the MAST group, a multi-agency group (FAO, IMF, ITC, OECD, UNCTAD, UNIDO, World Bank and WTO) supporting transparency in trade. The data structure follows the MAST classification.
  - A joint global effort by the African Development Bank, ALADI, ERIA, GRIPS, ITC, KIEP, Tripartite (EAC, COMESA, SADC), UNECE, World Bank, and WTO, coordinated by UNCTAD, collected the NTMs data mostly in cooperation with the governments. The collected data are official measures currently imposed by the country that affect imported or exported products
  - The data collection follows a standardized approach (UNCTAD, 2016) that ensures cross-country comparability.
  - The data is a comprehensive map of NTMs applied at the time of data collection in a country. Data include technical (SPS and TBT) and non-technical measures, divided in chapters named A to I. These are all import NTMs. There is also a chapter on export measures, named P. Import and export NTMs group, respectively, conditions for import and for export. TRAINS covers NTMs data for more than 85 per cent of world trade, and more than 100 countries.
  - The data include the specific product/s to which they apply, using the HS classification system at the tariff line or 6 digit level. Data also include the partner country to which the regulation is imposed, implementation dates and the exact source information from official legislation.
  - The data is publicly available in the web application TRAINS ([trains.unctad.org](http://trains.unctad.org)) and WITS ([wits.worldbank.org](http://wits.worldbank.org)) as well as in MacMap. A researcher file is available at the web application TRAINS (Analysis) in STATA format.
  - Descriptive indicators such as frequency ratio, coverage ratio and prevalence score can be more easily constructed using the latter, available in the web application TRAINS (Analysis).
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The UNCTAD NTMs TRAINS database is a product of the Trade Information Section in the Trade Analysis Branch of UNCTAD's Division on International Trade and Commodities.

The NTMs data collection is conducted jointly by UNCTAD with several regional and international partners: African Development Bank, Latin American Integration Association (ALADI), Economic Research Institute for ASEAN and East Asia (ERIA), National Graduate Institute for Policy Studies (GRIPS), International Trade Centre (ITC), Korea Institute for International Economic Policy (KIEP), Tripartite (EAC, COMESA, SADC), UN Economic Commission for Europe, World Bank, and WTO.<sup>1</sup> We thank our partners and the project leaders in these organisations, in particular, Jean-Guy Afrika (AFDB), Soledad Villanueva, Santiago Teperino (ALADI), Lili Yan Ing, Shujiro Urata (ERIA), Ken Kawasaki (GRIPS), Mondher Mimouni (ITC), Bo-Young Choi, Jongduk Kim (KIEP), Vonesai Hove (TMSA), Hana Daoudi (UNECE), Aaditya Matoo, Chad Bown (WB), and Jürgen Richtering (WTO). We would like to thank our donors, in addition to our partners, Canada, European Commission, Japan, the Russian Federation and the United States.

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The views expressed in this paper are those of the authors and do not necessarily reflect those of the United Nations or its Member States. Any errors remain the authors' own. The data are not official government data and are the sole responsibility of the authors.

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<sup>1</sup> WTO only notified data.

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# 1. INTRODUCTION

Trade patterns and policies have become more complex and multi-faceted. The ability to gain and to benefit from market access depends increasingly on compliance with trade regulatory measures such as sanitary and quality requirements for goods. Such Non-Tariff Measures (NTMs) represent a growing challenge for exporters, importers and policy makers. Due to their important primary objectives (e.g. protection of health or the environment) these types of measures cannot simply be eliminated. Other trade and trade related policies include price and quantity measures, licensing requirements, subsidies, competition related policies, export measures, etc.

Businesses, policy makers, trade negotiators and researchers are often hindered by a lack of clear and systematic information about such policies. The objective of the TRAINS database is to increase the transparency in the use of policy instruments affecting international trade by providing information on regulations and trade control measures.

In 1994, United Nations Conference on Trade and Development (UNCTAD) began to collect and classify NTMs in order to give due consideration to the increasing complexity of trade policy instruments. In 2006, UNCTAD's Secretary General established the Group of Eminent Persons on Non-tariff Barriers (GNTB), composed of leading economists. A Multi-agency Support Team (MAST) group composed of experts from international agencies, namely Food and Agriculture Organization (FAO), International Monetary Fund (IMF), International Trade Centre (ITC), Organization of Economic Cooperation and Development (OECD), UNCTAD, United Nations Industrial Development Organization (UNIDO), the World Bank, and World Trade Organization (WTO) provided substantial support to the GNTB (UNCTAD, 2009). The GNTB provided a definition for NTMs and the MAST group a related taxonomy that allows the detailed classification and development of a database of NTMs.

The International Classification of NTMs<sup>2</sup> covers all NTMs and distinguishes at the most detailed level 177 types of measures. This classification is a common language of NTMs and designed to facilitate the collection, analysis and dissemination of data on NTMs, with the final objective to increase transparency and understanding about the subject.

The Transparency in Trade initiative (TNT), launched by UNCTAD, the African Development Bank, ITC and the World Bank in 2012 aims to enhance availability and accessibility of trade data. UNCTAD has developed a standardized approach to collect NTM data and coordinates

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<sup>2</sup> UNCTAD (2013), Classification of Non-tariff Measures: 2012 Version, UNCTAD/DITC/TAB/2012/2, New York and Geneva.

the global effort in NTMs data collection. Our partners are the African Development Bank, Latin American Integration Association (ALADI), Economic Research Institute for ASEAN and South East Asia (ERIA), National Graduate Institute for Policy Studies (GRIPS), ITC, United Nations Economic Commission for Europe, World Bank and World Trade Organisation. The collection of data on NTMs is complex and resource intensive. It entails the identification regulatory policies that can have an effect on trade and classification of them according to codes of the International Classification of Non-tariff Measures, as well as identifying the products codes for the goods to which measures apply. The information about the policies stems from official legal documents such as laws, regulations, directives, decrees and rules. Data is then published through several dissemination tools, notably UNCTAD TRAINS database accessible through UNCTAD TRAINS ([trains.unctad.org](http://trains.unctad.org)) and WITS ([wits.worldbank.org](http://wits.worldbank.org)). The same data is also accessible for private sector users in ITC MacMap. A researcher file is available for download at [trains.unctad.org](http://trains.unctad.org) (analysis) showing processed data at HS6 digit level.

The purpose of this manual is to provide information for users of the TRAINS database about the NTMs data structure and data collection process. It explains the classification and to what extent and how the consistency among different countries and comprehensiveness of regulations have been achieved. It also indicates how to read the data and its different variables presented through all dissemination tools mentioned above. This manual has been created with the intention of covering a wide range of issues of interest for database users. However, if uncertainties still persist, users are encouraged to read the guidelines to collect NTMs. If questions remain, please submit them to **[trains@unctad.org](mailto:trains@unctad.org)**.



## 2. IDENTIFYING NON-TARIFF MEASURES

### 2.1 DEFINITION OF NTMs

Non-tariff Measures (NTMs) are defined as “policy measures, other than customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both” (UNCTAD, 2009). This definition covers a broad range of policy instruments including traditional trade policy instruments, such as quotas or price controls, as well as regulatory and technical measures that stem from important non-trade objectives related to health and environmental protection (Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT)).

### 2.2 NEUTRAL APPROACH, NTBs VERSUS NTMs

The concept of NTMs is neutral and does not necessarily imply a negative impact on trade. Some NTMs might even have a positive impact of trade, though many NTMs are thought to have important restrictive and/or distortionary effects on international trade regardless of whether they are applied with protectionist intent or to address legitimate objectives, such as protecting health or safety, or the environment. This is why the word Measure is purposely used instead of Barrier. Non-tariff barriers (NTBs) are defined as a subset of NTMs that have a protectionist or discriminatory intent, or where the trade restrictiveness exceeds what is needed for the measure’s non-trade objectives, implying a negative impact on trade. All NTMs are collected and included in the UNCTAD TRAINS database, irrespective of their effect.

Data collected originates from “Official Sources”, i.e. publicly available legal official texts that represent the enforced regulation of a country. The data includes all requirements, not only those that are assumed to be a problem or imply a high cost. This complete and transparent information offers the user the possibility to decide which method to use to distinguish those measures that constitute a barrier or obstacle to trade. This does not only depend on different methodological approaches, but also varies across countries, companies, and time. This is why the data is collected in a neutral approach, without judgement of impact or legitimacy.

## **2.3 NTMs ARE BASED ON OFFICIAL MEASURES ONLY**

The TRAINS database compiles data on requirements enacted in Official Regulations, i.e. legal texts in force. Voluntary measures are therefore not included in this database. For example, private standards (requisites put forward by private entities such as retail companies) are not collected. International standards (those issued by international organizations, such as the International Organization for Standardization (ISO), the International Electrotechnical Commission or ASTM, or CODEX Alimentarius) are not included either.

Only when a country adopts any of these standards in its national legislation does it become a national mandatory requirement. In this case, the international standards are considered NTMs for that particular country and included in our database.

Procedural obstacles are not included within the scope of NTMs, as they represent obstacles arising not from the regulations themselves, but from the way they are implemented (delays in receiving a certificate, non-transparent rules etc.).

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# 3. NON-TARIFF MEASURES CLASSIFICATION

Non-tariff measures include a diverse array of policies that countries apply to imported and exported goods. Since the definition of NTMs is broad, a detailed classification is critical so as to better identify and distinguish among the various forms of NTMs.

The classification of non-tariff measures presented here is a taxonomy of all those measures considered relevant in international trade today. It has been extensively discussed and agreed upon by the MAST group during the period 2007 to 2012 when the classification was tested in the field for data collection. The 2012 version is the outcome of those discussions and testing. The classification comprehensively cover all relevant policies, impacting both imports and exports, including technical measures, (such as sanitary or environmental protection measures), instruments of commercial policy, (e.g. quotas, price control, exports restrictions, or contingent trade protective measures), and other behind-the-border measures, (such as competition, trade-related investment measures, government procurement or distribution restrictions). Figure 1 shows the chapters of the classification.

The classification is regularly revised by the MAST Group to ensure that it evolves and adapts to the reality of international trade. This NTMs classification is widely accepted by international organizations, think tanks, and researchers as a global standard to identify and classify NTMs. The data that accompanies this note was collected until 2017, and so follows the 2012 NTM Classification. The forthcoming update to the NTM Classification by the MAST group will be used for data collection in the future.

This classification does not judge on legitimacy, adequacy, necessity or discriminative nature of any form of policy intervention used in international trade. It acknowledges existence of NTM and is designed to organize information in a database format. The classification is structured by chapters covering broad issues such as SPS, TBT, Contingent trade-protective measures, or Export-related measures, each one labelled with letters from A to P,<sup>3</sup> as shown in the boxes below.

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<sup>3</sup> For more information on the classification see UNCTAD (2013), Classification of Non-tariff Measures: February 2012 Version, UNCTAD/DITC/TAB/2012/2, New York and Geneva.

Figure 1. Chapter organization in the NTM classification

Import-related measures	Technical measures	A	Sanitary and Phytosanitary (SPS) measures
		B	Technical barriers to trade (TBT)
		C	Pre-shipment inspections and other formalities
	Non-technical measures	D	Contingent trade-protective measures
		E	Non-automatic licensing, quotas, prohibitions and quantity-control measures
		F	Price-control measures, including additional taxes and charges
		G	Finance measures
		H	Measures affecting competition
		I	Trade-related investment measures
		J	Distribution restrictions
		K	Restrictions on post-sales services
		L	Subsidies (excl. export subsidies)
		M	Government procurement restrictions
		N	Intellectual property
		O	Rules of origin
Export-related measures	P	Export-related measures	

### 3.1 CHAPTERS IN THE CLASSIFICATION

Measures are divided into two broad categories: import measures and export measures. All chapters from A to O reflect the requirements of the importing country on its imports. Only chapter P comprises export measures, which refer to requirements imposed by the exporting country on its own exports. Import measures can be executed or verified in either the exporting or the importing country, but always relate to a condition for the importation of the product.

Import measures are further subdivided into technical measures and non-technical measures. The first group is comprised of three chapters (A to C): SPS, TBT, and pre-shipment inspection and other formalities. Non-technical measures are subdivided into twelve chapters (D to O). Export measures comprise only one chapter (P). Box 1 summarizes the type of measures comprised in each of the chapters of the classification.

Note that, for now, measures falling within chapters J through O are not collected. So the data are available on Chapters from A to I, and Chapter P.



### Box 1. Brief description of each chapter in the classification

**Chapter A** on SPS measures refers to measures such as restrictions for substances, hygienic requirements, or other measures for preventing dissemination of diseases. It also includes all conformity assessment measures related to food safety, such as certification, testing and inspection, and quarantine.

**Chapter B** on technical measures, refers to measures such as labelling and other measures to protect the environment. It also includes conformity assessments that relate to technical requirements such as certification, testing and inspection.

**Chapter C** classifies the measures related to pre-shipment inspection and other formalities performed in the exporting country prior to shipment.

**Chapter D** refers to contingent measures, which are measures implemented to counteract particular adverse effects of imports in the market of the importing country, including measures aimed at unfair foreign trade practices. They include antidumping, countervailing, and safeguards measures.

**Chapter E** includes licensing, quotas, and other measures that have the intention of limiting the quantity traded. It also covers those licences and import prohibitions which are not SPS or TBT related.

**Chapter F** includes price control measures, which are implemented to control or affect the prices of imported goods in order to, inter alia, support the domestic price of certain products when the import prices of these goods are lower; establish the domestic price of certain products because of price fluctuation in domestic markets, or price instability in a foreign market; or to increase or preserve tax revenue. This category also includes measures, other than tariff measures, that increase the cost of imports in a similar manner (para-tariff measures).

**Chapter G** concerns finance measures, referring to measures restricting the payments of imports, for example when the access and cost of foreign exchange is regulated. This chapter also includes restrictions on the terms of payment.

**Chapter H** concerns measures affecting competition. These measures grant exclusive or special preferences or privileges to one or more limited group of economic operators. They refer mainly to monopolistic measures, such as state trading, or sole importing agencies, or compulsory use of national services or transport.

**Chapter I** concerns trade-related investment measures, group measures that restrict investment by requiring local content or requesting that investment should be related to export to balance imports.

**Chapter J** includes distribution restrictions, referring to restrictive measures related to internal distribution of imported products.

**Chapter K** concerns restriction on post-sales services, for example, restrictions in the provision of accessory services.

**Chapter L** contains measures that relate to subsidies that affect trade.

**Chapter M** containing government procurement restriction measures, refers to the restrictions foreign bidders may find when trying to sell their products to the national Government.

**Chapter N** concerns restrictions related to intellectual property measures and intellectual property rights.

**Chapter O** on rules of origin, groups the measures that restrict the origin of products, or their inputs.

**Chapter P** includes export measures, grouping the measures a country applies to its exports. It includes export taxes, export quotas or export prohibitions.

## 3.2 TREE STRUCTURE

Each individual chapter is disaggregated using a tree/branch structure with depth of up to three additional levels (and one to three numerical digits within each chapter). More digits indicate more disaggregation, that is, more detailed measure

categories. For example, chapter A includes nine sections, A1 through A9. Then, each of these sections is further differentiated into sub-sections. For example, A8 includes A81 through A86, and also A89. Then, A85 is subdivided further into: A851, A852, A853 and A859 (see box 2)

### Box 2. The Classification's Tree Structure

#### *Tree structure -- for example:*

- A Sanitary and Phytosanitary (SPS) measures
  - A1 Prohibitions/restrictions of imports for SPS reasons
    - A11 Temporary geographic prohibition
    - (...)
  - A2 Tolerance limits for residues and restricted use of substances
    - (...)
  - A3 Labelling, marking, packaging requirements
    - (..)
  - A4 Hygienic requirements
    - (...)
  - A5 Treatment for the elimination of pests and diseases
    - A51 Cold/heat treatment
    - A52 Irradiation
    - (...)
  - A6 Requirements on production/post-production processes
    - (...)
  - A8 Conformity assessment
    - A81 Product registration
    - A82 Testing requirement
    - A83 Certification requirement
    - A84 Inspection requirement
    - A85 Traceability requirement
      - A851 Origin of materials and parts
      - A852 Processing history
      - (...)
    - A86 Quarantine requirement
    - A89 Other conformity assessments

# 4. NON-TARIFF MEASURES DATA COLLECTION APPROACH

The data collected are official measures currently imposed by the country and that affect imported or exported products. They include measures that may be checked at the customs, and behind the border measures/requirements for imported product to be allowed to be sold in the domestic market. Measures that affect *only* domestically produced goods are not collected. However, measures that affect traded products, and are thus collected, very often also affect domestically produced goods. Non-official information related to NTMs, such as perceptions and concerns expressed by the private sectors, are not accounted for in the data.

The data is collected according to the following steps:

1. Identification:
  - a. Identifying sources of information (e.g. Official Gazette)
  - b. Identifying documents from each source
  - c. Identifying regulations from each document
2. Classification:
  - d. Identifying and classifying measures within each regulation
  - e. Identifying and classifying affected products for each measure
  - f. Identifying and classifying affected countries for each measure
  - g. Identifying and classifying objectives, dates etc. for each measure  
(in total 67 variables per measure are coded, see Annex 1)

## 4.1 IDENTIFICATION

The first three steps in the data collection procedure serve to systematically register the origin of information. They are essential to make sure that the data is traceable, and can be verified and updated. From each source, one or more legal documents can be obtained. These documents may also contain one or more regulations.

To ensure that the information collected is as comprehensive as possible, in the sense that it covers all the NTMs applied on imports/exports in a given country, data collectors follow four principles: They collect all trade control requirements that:

- i. Are currently applied (no matter if the issue date is recent or old)
- ii. Apply to international trade (excluding purely internal regulations)

iii. Government issued and mandatory (no private standards or voluntary measures)

iv. Detailed and specific (regulations describing specific requirement, not just general guidelines)

#### 4.1.1 SOURCES

This first step of data collection varies according to the country. In some countries, the information is available at a centralized location, where one official source compiles all legal measures. In other countries, the information needs to be obtained from different locations/institutions that constitute the regulatory authority over a traded product. Table 1 provides a non-exhaustive overview of government agencies that are likely to deal with different NTM categories. This list is not exhaustive.

#### 4.1.2 SOURCE FOR ANTI-DUMPING MEASURES

Anti-dumping measures are part of the Contingent Trade Protective Measures classified in the Chapter D of the Classification on NTMs. The anti-dumping measures registered in the UNCTAD TRAINS database are extracted from two sources:

1. WTO I-TIP AD<sup>4</sup>, which is sourced on the WTO semi-annual reports of antidumping-actions<sup>5</sup>

2. World Bank Global Anti-dumping Database (GAD)<sup>6</sup>, which is part of the Temporary Trade Barriers Database

WTO I-TIP is now the main source for the data. UNCTAD maps measures in I-TIP with corresponding ones in GAD to complement missing HS codes and identify the exact anti-dumping

**Table 1. Examples of government agencies likely to deal with different NTM categories**

<i>NTM chapter</i>		<i>Government bodies potentially responsible</i>
<b>A</b>	SPS measures	Ministry of Agriculture; Standardization Agency; Ministry of Health
<b>B</b>	TBT measures	Standardization Agency; Ministry of Health; Ministry of Ecology; Ministry of Industry
<b>C</b>	Pre-shipment inspection and other formalities	Customs Agency; Standardization Agency
<b>D</b>	Contingent trade protective measures	Ministry of Finance; Ministry of Economy or Trade
<b>E</b>	Non-automatic licensing, quotas, prohibitions and other quantity control measures	Ministry of the Economy (or Trade, Foreign Relations)
<b>F</b>	Price control measures including additional taxes and charges	Ministry of Economy (or Trade, Foreign Relations); Customs Agency
<b>G</b>	Finance measures	Ministry of Finance; National Bank
<b>H</b>	Measures affecting competition	Ministry of Economy (or Trade, Foreign Relations)
<b>I</b>	Trade-related investment measures	Ministry of Economy (or Trade, Foreign Relations)
<b>P</b>	Export-related measures	Ministry of Economy (or Trade, Foreign Relations); Customs Agency

<sup>4</sup> <http://i-tip.wto.org/goods/Forms/Methodology.aspx>

<sup>5</sup> To see information on the latest Semi-annual report, click the legend "Semi-annual report" in the following link: [https://docs.wto.org/dol2fe/Pages/FE\\_Browse/FE\\_B\\_009.aspx?TopLevel=1435#/](https://docs.wto.org/dol2fe/Pages/FE_Browse/FE_B_009.aspx?TopLevel=1435#/)

<sup>6</sup> Permanent link for GAD: <http://econ.worldbank.org/ttbd/gad/>. Permanent link for Temporary Trade Barriers Database: <http://go.worldbank.org/KJWGLO6DL0>

action. The resulting work is also used for the World Tariff Profiles.<sup>7</sup>

The HS codes for products affected by anti-dumping measures are registered at 6-digit level using the same revision of HS nomenclature that the country uses for reporting trade statistics.

## 4.2 CLASSIFICATION

### 4.2.1 MEASURES ARE IDENTIFIED WITHIN A REGULATION (LEGAL TEXT)

Once the regulation has been identified, all measures contained within the regulation (or legal text) are classified according to the classification presented above. Note that within a single regulation there may be one or more measures (individual requirements). Therefore one regulation may be registered several times, once for each NTM. The database also provides an extract of the text describing the requirement (under “Measure description”). This serves as a summary of the requirement imposed. Figure 2 illustrates the process.

## 4.3 CLASSIFICATION OF PRODUCTS

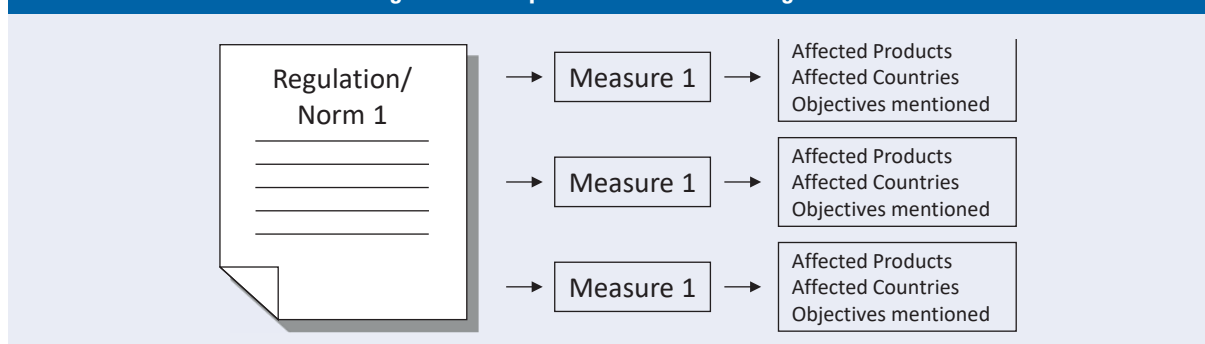
The national tariff line based on the Harmonized Commodity Description and Coding System (HS) is generally used for collecting the data.<sup>8</sup> Regulations can be product specific, but often affect a group of products, or even to all traded products. For example, if a regulation affects all food products, then that regulation is mapped to all products codes corresponding to food. Each measure has a detailed “Product description” in textual form and the corresponding HS code/s, which is also available (more details below).

### 4.3.1 “PARTIAL PRODUCT COVERAGE”

#### Principles for the use of “partial product coverage”

The products indicated in a regulation are sometimes very specific and cannot be univocally associated with a specific code in the Harmonized System or national tariff line product classifications. For example, a regulation may apply only to ‘used cars’ or provide exceptions for ‘folkloric clothing’, two categories of products which don’t have a specific HS code. Such regulations are flagged as “partial coverage” under the relevant HS codes (in this example: motor vehicles, and clothing). Although often necessary, the use of partial product coverage is avoided to the extent possible. The following principles and examples provide guidance on the approach used in this respect.

Figure 2. Principle work flow for each regulation



<sup>7</sup> [https://www.wto.org/english/res\\_e/reser\\_e/tariff\\_profiles\\_e.htm](https://www.wto.org/english/res_e/reser_e/tariff_profiles_e.htm)

<sup>8</sup> National tariff lines have mostly 8 to 10 digits, and are specific to each country. They are also more disaggregated than HS coding system, which is common to all countries in the world and is disaggregated to up to 6 digits only.

### Partial product coverage is used when:

(i) The affected products are more specific than the products defined at the national tariff line or HS six-digit level.

*Example 1:* If a tariff line defines apples, but a measure only affects green apples, the corresponding product codes are marked as partial coverage. The reason is explained in the “Partial\_coverage\_indication” column of the data entry template, for example, “exclusively applied to green apples”.

*Example 2:* A measure affects all apparel products, except folklore apparel, and then the corresponding product codes for apparel partial coverage should be indicated. The exception is explained in the “Partial\_coverage\_indication” column, for example, “except folklore apparel”.

(ii) Products may be affected only if they are used for certain purposes. Product codes may be identified, but the measure is only applied in case the product has a specific use or application.

*Example 1:* Plastics that come into contact with food need to comply with certain purity requirements. In this case, for the corresponding product codes of plastics, partial coverage should be indicated. The reason should be explained in the “Partial\_coverage\_indication” column, for example, “only applied to materials to be in contact with food”.

*Example 2:* There is an importer registration requirement for hemp seeds when they are not intended for sowing. In this case, for the corresponding product codes of hemp, partial coverage should be indicated. The reason is given in the “Partial\_coverage\_indication” column, for example, “exclusively related to hemp seeds that are not intended for sowing”.

## 4.4 OTHER INFORMATION THAT IS COLLECTED

### 4.4.1 AFFECTED COUNTRIES

1) Identifying the countries of origin to which the measure applies

In most cases, NTMs follow the principle of non-discrimination and are applied to all countries. “World” is then registered as an affected region in the data. However, some measures only affect certain countries.

*Example 1:* Countries of origin that belong to the same regional trade agreement as the importing country may be exempted from certain additional taxes or certification requirements.

*Example 2:* The SPS measure “Geographical restrictions on eligibility” (A12) is imposed upon all countries until a country proves that it complies with certain levels of protection against health hazards. Countries that have proven their eligibility are included in a so-called “positive list”.

2) Export-related measures: registering destination countries

Again, in most cases, export-related measures apply to all exports irrespective of the destination country. “World” is registered as the affected region. If the measure only affects certain destination countries, this is specified in the data.

*Example:* Exports of arms to certain countries (e.g. country A) are prohibited through embargoes (“Export prohibition” P11). Country A is registered as “inclusion” in this case.

### 4.4.2 DATES OF IMPLEMENTATION AND REPEAL

Dates for implementation (and repeal, if available) are registered. This allows determining when a measure came into place. The date attached to a measure is the implementing date stated in the regulation (the latest that was issued if the regulation replaces a previous one).

It was mentioned above that the legal text that is picked is the one that describes the most detailed requirements. This is normally the implementing regulation (decree, ordinance, order, or regulation) that is linked to a more general act or law. As a consequence, the starting date for the measure is the date for the latest change in the implementing regulation.

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It may happen that one regulation replaces a previous one, with similar requirements. In this case, the latest is registered.

#### **4.4.3 WHETHER THE MEASURES ARE ALSO APPLIED TO PRODUCTS THAT ARE PRODUCED AND SOLD DOMESTICALLY**

Some types of NTMs only affect internationally traded goods, whereas others may apply both to internationally traded products and products that are produced and sold domestically.

A variable in the data collection template (“Measure\_also\_domestic”) indicates whether the measure is equally applied to domestically produced goods when sold on the domestic market. If the measure is also applied to domestic producers selling on the domestic market, ‘Yes’ is indicated. If the measure only applies to imported or exported goods ‘No’ is entered.<sup>9</sup>

The question of domestic application of measures is particularly relevant in the case of SPS and TBT measures (chapters A and B). Measures that are generally applied to imported goods only (Measure\_also\_domestic: ‘No’) are the following: pre-shipment inspections (chapter C), contingent trade protective measures (chapter D), quantitative restrictions (chapter E), most price-control measures and additional taxes (codes F1-F6), finance measures (chapter G) and measures affecting competition (chapter H). It may also be the case that a regulation does not specify or mention whether a measure is domestically applied or not. Then, ‘Not specified’ is registered in the database.

*Example 1:* A legislative text states “The regulations in this part prohibit or restrict the importation of certain plants, plant products, and other articles to prevent the introduction and dissemination of plant pests and noxious weed.” For all the respective measures in this part of the regulation it is indicated that they do not affect domestic products: Measure\_also\_domestic: ‘No’.

*Example 2:* A regulation reads “Raw livestock and poultry carcasses and parts that retain water from post-evisceration processing and that are sold, transported or received in commerce, must bear a statement on the label in prominent letters stating the maximum percentage of water that may be retained”. In this case, the labelling requirement applies to both imported and domestic products: Measure\_also\_domestic: ‘Yes’.

#### **4.4.4 OBJECTIVES OF SANITARY AND PHYTOSANITARY MEASURES AND TECHNICAL BARRIERS TO TRADE**

The measure objectives are registered only for SPS and TBT measures. This includes measures from chapters A and B, and from branch P6. For other measures no objective is indicated.

For each SPS and TBT measure, one or several objectives may be selected if, and only if, this objective is stated in the regulation. However, it is very common that regulations do not explicitly indicate an objective. An objective is not presumed or interpreted if it is not clearly expressed in the regulation. If no objective is stated, “no objective specified” is indicated in the data entry template.

For the time being, this information is not being published. It can be shared after a specific request.

## **4.5 STRENGTHS AND LIMITATIONS OF THE NTMs DATA**

The strength and limitations of the TRAINS NTMs data are as follows:

### **4.5.1 STRENGTHS**

- Data are comprehensive, i.e. they include all official mandatory measures of chapters A-I and P that are in place at the time of collection irrespective of the year it came into force, the issuing agency, etc.
  - if despite all efforts, some regulations may not have been found, (especially when hard copies are

<sup>9</sup> This information is provided in TRAINS web application

the source of information and/or they are scattered across relevant agencies), they are then included when that data in that country is updated, and with the actual implementation dates.

- Data can be traced back to the regulation: each document and regulation is registered with extensive bibliographical information to ensure that information can be traced back to its source, including the government implementation agency.
- Data are comparable, i.e. a standardized approach is used to collect the data across countries. UNCTAD accompanies the data collectors throughout the collection process and has very rigorous quality checking procedures. The data collection is performed by following the UNCTAD Guidelines to Collect Data on Official NTMs (UNCTAD, 2016). This standardized process ensures comparability in the dimensions of the regulations registered and the codes used. Still, another dimension may show outliers for a few countries; it is the number of repetitions of the same code within the same countries and product. This is for two reasons:
  - Countries have very different and often incomparable legal systems regarding the issuance of regulations. For example, in some countries regulations with similar requirements may be issued by different ministries. There are cases where it is difficult to judge if it is exactly the same requirement mentioned by two independent ministries, that should ideally only be coded once, or if there are two distinct requirements, which would require two different entries in the database.
  - Also, the available original legal texts may vary, as some offer more details than others, especially for those countries collected at HS6 level of disaggregation, because of the use of partial coverage.
- Data are freely accessible, i.e. all data are

published (see below) and additional detailed information about the specific agency, document, regulation, paragraph etc. can be accessed.

- For some countries, the UNCTAD NTM database is the only existing systematic and unified source of information, on NTMs. Without it, the user would need to go through thousands of pages of regulations, or multiple websites to find the required information. Also, in some countries there is no electronic version of the regulations at all, or regulations are only available in the local language. The compiled database offers thus offers the additional value of a one-stop shop to see all applying regulations to trade, and in English.

#### **4.5.2 LIMITATIONS**

- Translation/interpretation bias: Although the guidelines (UNCTAD, 2016), standardized training courses and strict quality controls already present during the collection process aim to standardize the collection approach, there is some room for interpretation in the case of complex measures. It is a challenge to work through local consultants whenever the national legislation is not in one of the United Nations official languages. Furthermore, assigning the affected product codes is difficult in some cases, in particular when it is based on translated free text descriptions of the affected products or very technical and detailed products such as complex chemicals.
  - No information about stringency: The data are qualitative in nature and it is often impossible to ascertain the stringency of the regulation. The data are often used by researchers as binary variables on the presence (or absence) of a specific NTM. These data are useful in computing statistics, such as how many and which types of NTMs are imposed by each country, and/or in each sector. However, this does not allow any conclusion about the impact on trade costs. Differences in the number of NTMs applied across sectors or countries should not be interpreted as regulatory stringency as one particular form of NTMs
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could be much more stringent than five different NTMs combined. Moreover, equivalence in regulations does not necessarily imply equivalence in de facto stringency. It is possible that the implementation and enforcement of identical NTMs are different across countries, and therefore so are the effects.

- Lack of time series: Although data include the implementation date of the measures, this information cannot be used to construct complete time series', as there is no information about past measures that were abolished before data collection. The data are a snapshot of the existing regulations at the time the data were collected. Where data were updated, a time series can be constructed using both waves of collected data, though for the moment, the continuity of each specific measure will not be associated in both datasets explicitly with a unique identification code.

#### 4.5.3 DIFFERENCE TO WTO NOTIFICATIONS

Notifications of NTMs to the WTO and the UNCTAD NTMs database are two distinct types of data. They are different, in the first place because WTO compiles "passively" all notifications received by countries, while UNCTAD approach is based on an "active" collection of data based on independent revision of the legislation. However there are other differences as well.

The following are the obligations of countries regarding transparency of policies in WTO:

- Regarding SPS measures and TBT, WTO members are required to notify proposed measures that:
  - may have a significant effect on other members' trade and
  - that are not based on relevant international standards<sup>10</sup>

<sup>10</sup> "Whenever an international standard, guideline or recommendation does not exist or the content of a proposed sanitary or phytosanitary regulation is not substantially the same as the content of an international standard, guideline or recommendation, and if the regulation may have a

- Regarding anti-dumping, WTO members are required to submit a report of all anti-dumping actions they have taken, as well as a list of all anti-dumping measures in force, twice a year<sup>11</sup>
- Regarding countervailing and safeguard measures, WTO members are also required to notify investigations and applications of measures to relevant committees.<sup>12</sup>

The WTO database on SPS and TBT notifications is not a comprehensive stock of all measures applied at a certain time, for various reasons, including because older measures never had to be notified. There is no obligation to notify those measures that are based on international standards, or those for which member states think that there is no significant impact on trade. The Notifications are usually prospective regulations, not actual enforceable requirements at the time of the notification. It is difficult to establish the precise date of implementation. Also, not all WTO members fully comply with their notification requirements.

On the other hand, WTO also offers data on Specific Trade Concerns raised at the WTO on Non-tariff Trade Measures (NTMs). This is a different set of information.<sup>13</sup>

Anti-dumping data from the WTO, however, have become comprehensive and are used as the main source for TRAINS.

significant effect on trade of other Members, Members shall: (a) publish a notice ..." (Annex B, WTO SPS Agreement). "Whenever a relevant international standard does not exist or the technical content of a proposed technical regulation is not in accordance with the technical content of relevant international standards, and if the technical regulation may have a significant effect on trade of other Members, Members shall: 2.9.1 publish a notice ..." (Article 2.9 of WTO TBT Agreement).

<sup>11</sup> Article 16.4 of Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994, WTO.

<sup>12</sup> GATT Article XIX, Agreement on Subsidies and Countervailing Measures and Agreement on Agriculture.

<sup>13</sup> The STC dataset contains information on 318 STCs raised from 1995 to 2011 at the Harmonized System (HS), Revision 2, four-digit level. Each STC corresponds to a concern about a TBT measure maintained by one or more WTO members on one or more products

# 5. NON-TARIFF MEASURES DATA DISSEMINATION

The collected official NTMs are stored in the UNCTAD NTMs TRAINS database. The data are disseminated through different systems, in particular, UNCTAD web portal TRAINS and the World Integrated Trade Solution (WITS). The web portal TRAINS is tailor-made for policy makers, negotiators, and exporters and importers. WITS gives access to several databases and is designed for analysts and researchers. Whereas the web portal TRAINS is useful for browsing, and filtering to find precise information, data in WITS is presented to be used for statistical analysis, and allows for download in bulk. In addition, descriptive statistics and a formatted researcher STATA file is also available in the web portal TRAINS for download.

## 5.1 NTM DATA IN THE WEB APPLICATION TRAINS

The web portal TRAINS is an application for retrieval of UNCTAD NTMs TRAINS data, and a data analysis tool for integrated analysis. It provides access to descriptive statistics and allows the user to generate charts, summaries and detailed reports. The application is publically available at <http://trains.unctad.org/>.

The TRAINS application allows users to display data by measures, affected products, countries applying the measures and trading partners affected. A detailed query can be performed based on a user's defined criteria. The quick search feature allows getting data easily and quickly for one destination market, the exporting economy and one product or product group. This enables exporters interested in their product and exports to a particular market to get the data very easily.<sup>14</sup> Please see Annex 5 for snapshots of the screens for each view and detailed results. The landing welcome page is shown in Figure 3.

- The first view is “**Tables by Product**” which shows the NTMs by product and by type (SPS, TBT, pre-shipment inspection, contingent trade-protective measures, non-automatic licenses, quotas, price measures, export measures and other measures (G, H and I)).<sup>15</sup>

<sup>14</sup> The application is the same system as the WTO Integrated Trade Intelligence Portal (I-TIP), I-TIP Goods (i-tip.wto.org). Users who can navigate in one of the two tools can easily navigate in the other tool. The WTO I-TIP Goods provides a user friendly access to notifications of WTO members. It is important to note that, though the appearance and navigation is similar, the WTO portal contain only the self-notifications from countries, whereas UNCTAD NTM data contain the NTM actively collected following the procedure described above.

<sup>15</sup> NTM types are:

- SPS: Sanitary and Phytosanitary,
- TBT: Technical measures, non-SPS,
- INSP: Pre-shipment inspection and other formalities,
- CTPM: Contingent trade-protective measures ,
- QC: Non-automatic licenses, quotas and other quantity measures (chapter E of classification),
- PC: Price control measures (chapter F),
- EXP: Export measures (chapter P),
- OTH: Other measures (chapters G, H and I)



Figure 3. Snapshot of Web Application TRAINS landing page

**TRAINS**  
The global database on Non-Tariff Measures

Through  
Developed by WTO  
Adapted for TRAINS data by  
UNCTAD

UNITED NATIONS UNCTAD | ALADI | ERIA | International Trade Centre | GRIPS | The World Bank | WTO OMC

Home | TABLES by PRODUCTS | TABLES by MEASURE | TABLES by COUNTRIES | DETAILED QUERY | ANALYSIS | About

**TRAINS: Non-Tariff Measures (NTMs) based on official regulations**

TRAINS NTMs, the global non-tariff measures database, provides comprehensive and systematic information on a broad range of policy instruments that can have an effect on international trade in goods. The information includes traditional trade policy instruments, such as quotas or price controls, as well as regulatory and technical measures that stem from important non-trade objectives related to health and environmental protection (Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT)). The objective of the database is to increase transparency and understanding about trade regulations and trade control measures.

The measures have been retrieved from official sources, mainly national trade laws and regulations. Measures are classified according to the [International Classification of NTMs](#) and affected products are classified at the most detailed level of the [Harmonized Commodity Description and Coding System \(HS\)](#). The global data collection, a joint effort by UNCTAD, AfDB, ALADI, ERIA, ITC, the World Bank, WTO and financial support from the Ministry of Finance of the Russian Federation, follows the [UNCTAD's Guidelines for NTMs data collection](#).

**QUICK SEARCH**

Country imposing:

Partner affected:

Product affected:

Choose one of the following options:

**TABLES by PRODUCTS**

- Look at the incidence of NTMs by HS sections and chapters, and by country imposing the measure.
- See individual measures by simply clicking on any number in the tables!
- This option does not allow a selection of products.

**TABLES by MEASURE**

**ABOUT**

- [How To](#)
- [Available Countries](#)
- [Map of the Application](#)
- [Classification used in the application](#)
- [Partners and Donors](#)
- [Disclaimer](#)

**WHAT'S NEW**

- Each product section can be further disaggregated up to the HS 6-digit level by clicking the arrow in front of the section name.
- The numbers show the total number of regulations in force in all countries. Clicking on the numbers disaggregates the data by imposing and affected country. Data can be viewed in detail, i.e. individual measures and more variables (tick box and click Show detail) and exported to Excel.
- The second view is “**Tables by Measure**”, which shows the NTMs by broad NTM measure type and geographical region (Africa, Asia, Europe, Latin America (LAC), Middle East, North America and Oceania).
  - Each broad NTM code can be further disaggregated up to the most disaggregated NTMs classification by clicking on the arrow in front of the NTM code name.
  - The numbers show the total number of regulations in force in the respective region. Clicking on the numbers disaggregates the data by imposing and affected country. Data can be viewed in detail, i.e. individual measures and more variables (tick box and click Show detail) and exported to Excel.

- The third view is “**Tables by Country**”, which shows the NTMs by country, sorted by geographical regions, and by NTM type.
  - Each country can be further disaggregated up to the most disaggregated NTM classification by clicking on the arrow in front of the country name.
  - The numbers show the total number of regulations in force in each country or region. Clicking on the numbers disaggregates into measures applied on all countries and those applied on a bilateral basis. Data can be viewed in detail, i.e. individual measures and more variables (tick box and click Show detail) and exported to Excel.

The fourth view is “**Detailed Query**” allows selecting each of the five criteria

- Products affected by the measure (it is required to click “Apply Filter” in this stage)
- Countries imposing the measure
- Partner affected by the measure
- Measures, i.e. NTM chapter and measure code (for codes, see UNCTAD, 2013), (it is required to click “Apply Filter” in this stage also)
- Dates (the default is measures in force at the latest date collection wave)

The filters applied should be reflected in the “Selected search criteria” box.

The list of variables available in the web application TRAINS and their content description is Annex 2.

Through the web application TRAINS, the user can also download a researcher file in STATA format. See below for details.

## 5.2 NTM DATA IN WITS

UNCTAD NTM data are also available in the World Integrated Trade Solution (WITS), a portal developed and maintained jointly by the World Bank

and UNCTAD. To access NTMs data through WITS, a registration with WITS is necessary at <http://wits.worldbank.org/register.html> in order to receive a password by email. Access is free of charge.

After logging into WITS, the user can access NTM data by choosing ‘NTM-View and export raw data’ sub-menu under the Quick Search main menu. The data can then be downloaded in Microsoft Excel, CSV or text (Tab delimited) formats.

The existing NTM module in WITS allows the user to download the raw data by specifying four elements as follows:

- Reporter: the country applying the NTM
- Year: The year when the non-tariff measure was collected
- NTM Measures: the user can select all existing measures or one measure at a time
- Products: the user can select one or several products at tariff line level

The list of variables presented in WITS and their content description can be found in Annex 3.

## 5.3 THE UNCTAD NTM DATABASE FOR RESEARCHERS

In addition to the summary tables, and the output from detailed queries, the web application TRAINS also provides the NTM data as a pre-formatted STATA file containing the basic information on the various types of NTMs for each country and for each HS-6 product.

### 5.3.1 THE STATA AT HS6 FILE AVAILABLE FOR DOWNLOAD

The STATA datafile provides information for every combination of reporter, partner, HS6 code, and NTM code. The affected partner country may be the “World”, for those measures applying to all countries, or else a listing of each individual country to which a particular measure applies. The user can find the list of variables in Annex 4.

After aggregation from tariff line to 6 digit level, the information on which and how many



distinct measures (independent measures ID) was preserved. Some new variables were created to account for this (see Annex A.4). These are roughly the following:

- For each combination of Reporter - Partner - HS6 - NTM Code, there is information on:
  - The number of duplicates of the same combination (the number of independent measure identifications (see below). These are the variables starting with 'nbr'
  - The number of 'generic' measures affecting all products across the board (normally not more than 1 or 2 per country). These are the variables starting with 'all'
  - The share of the total number of tariff within those HS6 lines that were affected by any measure (called 'Coverage'). These are the variables starting with 'cover'

There are some considerations for the use of the 'Research File', described below:

#### a. Product classification (HS version)

Original data are collected at tariff line level, using the latest HS version used in the country to report their tariff information and trade statistics, for example HS 2012 in some countries. In the researchers' database, all products were converted to HS 2012 (H4).<sup>16</sup>

#### b. Duplication of measures

This researchers' database in STATA file format presents the data already aggregated into HS6 level. The following principles were considered:

Each measure has an identification code in the original data, at tariff line level. When aggregating from tariff line to HS6, each identification code was counted only once per HS6 (even if it applies to several tariff lines within the same HS6 code).

- Example. Each HS6 contains a number of products at more disaggregated tariff line level. If all those are affected by the same NTM, the aggregated data will show only one measure for that product, no matter how many different entries there are within that grouping, because the grouping is now considered as one product.

It is often the case that two or more legal texts impose requirements that fall under the same classification code for NTM, for the same product, but are not duplications. These data are preserved. In principle, these are apparent duplications that reflect distinct requirements (with two or more different measure identification codes in the original data). If care is not taken to account for this, some valuable observations may be lost with a simple deletion.

- Example. It could be the case that, together with the requirement on the SPS processing of seafood, A63, there is a separate certification for quality in processing for "Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved", under code HS4 1605. At HS4 level, there will be two different certifications for these products: one applying to all seafood and another for crustaceans. These two should not be merged into one code for crustaceans, as they represent distinct and separate requirements with which exporters need to comply, even if in the database they correspond to the same NTM code. Product HS4 1605 will have two measures, but both with the same certification code, A63 in this case
- Still, due to reasons explained below, some countries may not be fully comparable in this precise aspect at HS6 level. Some researchers then choose to keep only one entry per NTM code, and delete the rest (one entry for each reporter, partner, NTM code, and HS6) and take the risk of losing some information. More specifically, dropping all these multiple entries implies showing only the presence/absence of a certain type of NTM in a given product, regardless of the number of regulations that may also have the same NTM code. By doing so, the database is strictly consistent across countries. On the other hand, by keeping duplicates, the data will tell

<sup>16</sup> The HS system was revised several times through the years, from 1988 to 2012. WITS names the different revisions from H0 to H4 in the following way: H0 is HS 1988/1992, H1 is HS1996, H2 is HS 2002, H3 is HS2007, and H4 is HS 2012

the number of regulations in a given product imposing a specific NTM code, but a few countries may show outliers due to different legislative styles.

### c. Use of Partial coverage 'type I' and 'type II'

#### Partial coverage type I. Tariff line partial coverage

For a general definition, please refer to section 4.3.1 "Partial product coverage".

Since the 'partial coverage' is defined at the tariff line level, there are no trade statistics on the amount that is covered by the measure, e.g. there is no information in COMTRADE for trade in folk clothing. The user of the data will decide, in their analysis, to include, or not, products labelled under "partial coverage". Clearly, if a large number of products are covered, their exclusion can impact the analysis, and some robustness check may be in order.

The database for researchers, in STATA format, provides ready aggregation to HS6 level. In this data file, the variable 'nbr' shows the number of measures applied to each HS6-reporter-partner-NTM Code, counting both those with full and partial coverage. The variable 'nbr\_fc' refers to those measures that affect each tariff line fully and excludes those which cover the product partially.

#### Partial coverage type II. Aggregation partial coverage

Data are collected at tariff line level and it is possible that a measure only applies to some of those lines within a HS6 code. Computing the percentage of total lines covered by any measures is 'partial coverage type II'.

Coverage of 100% means that every single tariff line within the HS6 is affected by one or more measures (paired with reporter-partner-NTM Code). If the coverage indicates, for example, 50%, it means only half of the tariff line products are affected by some NTM. If there are several, they may be overlapping, or not, but none of them affect the other half of the tariff line codes. This information is provided by the variable 'cover'.

*Example:* Table 2 shows the 6 digit level product 210500 contains 6 tariff line products in a given country. There are three measures affecting this HS6 product, and the Coverage percentage variable ('cover\_pct') shows value of 0.5. Table 2 shows the coverage of each individual measure at the tariff line level in the original data collected. One of those measures covers three of the six products, and the others only one or two. Together, they affect only products with codes ending in 10, 20 and 30. None of the measures covers those ending in 40, 50 or 60. Since 50% of the tariff lines are affected by any measure, the variable 'cover\_pct' shows value of 0.5 for the HS6 product 210500. Also note that the variable 'nbr' will show value equal to 3, considering there are no other measures affecting this product in this simplified example.

**Table 2. Example of multiple measures covering partially a 6 digit level product code**

Tariff line	Measure ID 1	Measure ID 2	Measure ID 3
2105.00.10	x	x	x
2105.00.20	x		x
2105.00.30	x		
2105.00.40			
2105.00.50			
2105.00.60			

### d. Data are bilateral

Most measures are applied as requirements for the importation of products, no matter the origin. Still, some measures are only applied to selected countries, and not to all. As a principle, this is valuable information and should not be discarded.

The variables "partner" and "Partner\_ISO\_N" indicate the countries to which the measure applies. The majority of the lines are mentioned with partner=WLD; those are the measures that apply to all countries in the world. In the database presented, WLD as partner coexists with individual trade partners when a measure is applied only to some, e.g. code B830 applied to WLD together with another B830 applied to any particular country or group of country.

If the lines with WLD as partner were to be expanded into the nearly 200 countries existing in the world, the size of the data file increases considerably. This is not done here but can be easily done by researchers.

Consequently, each combination of (NTM code - HS6 - reporter - partner) appears only once. The variable 'nbr' shows how many times this combination appeared in the original data.

Note related to the potential problem described above for the duplication of measures with the same NTM code in some countries. If it is considered preferable to eliminate those measures with the same NTM code, the elimination needs to be for each combination of (NTM code - HS6 - reporter - partner), i.e. including partner as well. The result would be that there could be a repetition of the same NTM code for the same reporter and same product, but for two different partners. The reason is that measures applied at bilateral level are essentially different.

#### **e. Data were collected at HS6 in few cases**

In a few countries, as an exception, data collection occurred at the HS6 level rather than at the national tariff line level. But also some other data, such as Chapter D measures, are defined at HS6 in the original data set. As a consequence, the variable 'cover' contains missing values, as there is no information whether all or some of the tariff line products are affected by the measure.

In these cases, Partial Coverage type I was used in the original data to account for the two types of Partial Coverage indicated above, and so the created variables that record the number of measures with Partial Coverage may be in fact hiding the fact that some measures might have been Full Coverage, but on a tariff line only. For simplicity, measures with Partial Coverage or Full Coverage could be taken as similar, and use the variables that account for both jointly. This problem will be tried to be addressed in the future at the stage of data collection.

#### **f. 'All', a variable for Generic measures**

Some measures applied by countries are generic, in the sense that they apply equally to

all products across the board. However, if the researcher is interested in reviewing the ratio of affected products to the non-affected (for Frequency Index, or any other objective that needs differentiation of the affected as opposed to the non-affected), then these measures may be relevant to the result. A 'generic' measure in a country would mark all products as regulated, while it could be the case that the sector specific measures affect only a small share of products. The 'generic' measures are not eliminated as they are enforceable regulations, but only tagged.

The variable 'all' indicates the number of generic measures that apply to each combination of HS6-Reporter-Partner-NTMCode. The researcher may then deduct the variables to know the number of measures that are not generic ( $\text{nbr} - \text{all} = \text{net number of non-generic measures}$ ).

#### **g. 'Cover', and the issue of Generic measures**

By definition, generic measures are those that apply to all products across the board. As a result, the percentage value of covered tariff lines within any HS6 will be affected by this. Again, as a tool offered to researchers, there is a variable that computes the percentage coverage without considering these generic measures. It is called 'cover\_pctNG'. It is measured in percentage value, from 0 to 1 (same as 'cover\_pct' and 'cover\_FC\_pct'), and shows to what extent a (non-generic) measure on that particular HS6 affects all its tariff line products.

### **5.3.2 FURTHER AGGREGATION**

If the researcher wants to further aggregate the data to 4 digit level, or other, it is recommended to use average levels per aggregated grouping for variables such as 'nbr' or 'cover', i.e. the counting the number of measures and the 'Coverage', instead adding up these values within each. For computing average number of measures for a country (or by sector and/or chapter), the zero values for those products with no NTM are usually included in the calculation.

### Box 3. Differences between STATA researcher file and Web application TRAINS

The NTM information in all dissemination tools is the same, but each highlight a different aspect of the database.

The STATA researchers file shows the data using the product as pivot. The number of measures is the counting of distinct requirements for each product. The basis of analysis is the combination of reporter, partner, NTM code and HS6 product.

The Web application TRAINS pivots the information on the regulation, at the NTM code level. As a consequence, the counting of NTMs may aggregate all products affected for a given NTM code.

For this reason, the number of measures may appear to be higher in the STATA researchers file, as each individual product affected is counted. The Web application TRAINS only counts once the regulation that originates a given requirement (pivot on the regulation), while the STATA researchers file will show all products associated with that single measure.

*Example.* One country may show 1 405 000 entries for TBT chapter in the STATA researchers file (all affected products by all TBT measures), while the same country will show only 2 611 TBT measures in Web application TRAINS. Both of them are accurate, only that each show the data organized in a different way.

Within this example, one of the lines in Web Application TRAINS mentions a certain regulation that applies a B7 code on products 8402, 8404, i.e. at HS4 level of aggregation. This is counted as one measure only. The application further signals the Measures Description that reads:

“(b) Controls and safety devices for automatic auxiliary boilers must meet the applicable requirements of ASME CSD-1 (incorporated by reference, see 46 CFR 63.05-1. (c) All devices and components of an automatic auxiliary boiler must satisfactorily operate within the marine environment (...).”

The STATA Researchers file will show a line for each product affected by this measure, at the HS6 level of disaggregation. i.e. 840211, 840212, 840219, 840220, 840410, 840420, 840290, seven lines in all.

The STATA researchers file is built in such a way that facilitated the merging with trade data. The Web application TRAINS allows signal those regulations that may individually affect a large number of products, and is more useful for an overview of policies applied.

# 6. DESCRIPTIVE STATISTICS

This section reviews procedures employed in data exploration, such as the incidence of measures. It describes the structure of data, as this affects the way in which data will be processed. Moreover, this section shares the conceptual and practical knowledge to support meaningful computations. The suggested computations construct indices that can be used as variables to be incorporated in econometric models to measure the significance of NTMs, or to describe the NTM profile of any country.

## 6.1. NTM INCIDENCE VARIABLES CALCULATIONS

The incidence of measures is the basic statistical analysis based on NTM data. In particular, incidence analysis counts the number of measures to study their proliferation. The measuring of trade “covered” by NTMs goes back to the mid-twentieth century (see Nogues, Olechowski and Winters (1986) or UNCTAD (1988)). Bora, Kuwahara and Laird (2002) is also referenced from this early time noting some previous work.

Both Frequency and Coverage Ratios are the two main indices used as an “inventory approach”. These are standard measurements of NTM incidence used as preliminary exploration of data (UNCTAD, 2013; WTO 2012). The first, **Frequency Index**, accounts only for the presence or absence of NTMs. **This is essentially the percentage of products affected by one or more NTMs.** More formally,

$$F_i = \frac{\sum D_s M_s}{\sum M_s} \cdot 100$$

The Frequency Index ( $F_i$ ) captures the share of products of country  $i$  covered by NTMs. It is a ratio calculated using two dummy variables in the numerator:  $D_s$ , the presence (or absence) of an NTM on the tariff line item. There are two possibilities for  $M_s$ : a) it indicates whether there are imports to country  $i$  of good  $s$ ; b) it counts one for every product in the nomenclature. Thus, for the denominator  $M_s$  is either: a) the count of items  $s$  that are actually imported, or b) by the total existing number of products. If calculated at HS6, there would be a maximum of around 5200 products to count.

Alternative a) has the advantage to concentrate on actual traded products, but it could also be endogenous if certain NTMs would raise costs in such a way that imports are precluded. Alternative b) is neutral in this sense.

The second measure, the trade **Coverage Ratio**, is the share of trade subject to NTMs for a country  $i$  (or for a region), or a group of products. It is similar to the Frequency Index, but instead of the dummy for each product imported, the trade value ( $V_s$ ) for each product is used (more commonly, imports). The numerator captures the sum of the (import) value of those traded products that are affected by a NTM. It is then divided by the total value of imports, in the case the import measures are studied (export NTM measures can be compared to export values

$$C_i = \frac{\sum D_s V_s}{\sum V_s} .100$$

**Intensity or Prevalence** is a third way to describe NTMs used by countries, and it is now possible to compute it using the UNCTAD NTM database. **Prevalence counts how many measures apply to a given product.** It can be used, for example, to tell what product is affected by the largest number of NTMs or how many NTMs on average apply to a group of products. For instance, it can be computed to see if agricultural products are affected by more measures, compared to industrial products, or to compare the average number of measures for different countries. Of course, other statistics can be calculated as well, for example variance, skewness, etc.

**Prevalence** for any country is the average number of NTMs that are applied to a group of products, or all products. It normally includes zero values (for those products not affected by NTMs). The formula is similar to the previous cases;  $D_s$  is defined above,  $N_s$  is the number of NTMs on product  $s$ , and  $H$  is the total number of products (those with and without NTMs).

$$P_i = \frac{\sum D_s N_s}{H} .100$$

A practical simplified example on the computation of these incidence measures is presented in the next section.

## 6.2. PRACTICAL SIMPLIFIED EXAMPLE ON COMPUTATION OF INCIDENCE

The data collection starts from reading legal texts and registering every requirement in the database, and annexing to each requirement the list of products affected in each case, as explained above. The statistical analysis starts in reverse order and considers the products first.

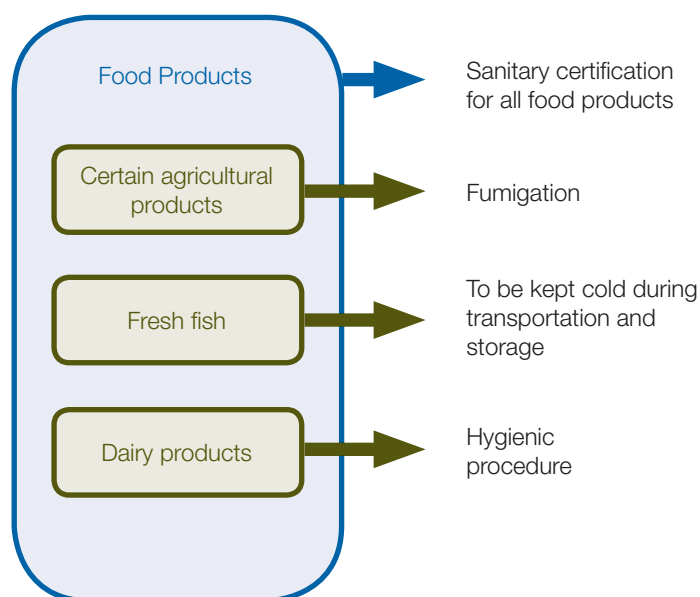
Consider the case of any food safety law in a given country. This regulation may bear several measures. Each of the measures or requirements enacted in that law/decree may affect multiple products.

Example, there is a requirement for a sanitary certification for all food products from the exporting country prior to shipment. It may also be the case that within the text there is a section applying to a subgroup of products, e.g. fumigation for certain agricultural products or requirement that fresh fish are kept cold during transportation and storage, or that dairy products need some hygienic procedure. The database would register an import permit for all food, but dairy and fresh fruit would also bear another requirement, which is distinct and independent from the first. Figure 4 outlines this idea.

As a result, the list of products will show that dairy products have an NTM related to hygienic procedure, plus the generic sanitary authorization applying to all food products; also that fresh fish have one related to transport, plus the same generic sanitary authorization for all food; and that the rest of the food products will only show the generic sanitary authorization required for all food.



Figure 4. Example of measures applying to product sub-groups



### Example

Tables 3.a and 3.b below contain an extract of the data to illustrate the above. The data shown are for Brazil, as illustration, i.e. measures Brazil imposes on imports. In one case the product HS code is 280110 and in the second, it is 291422. Only some exporting partners are shown in each

case. In the first case, two regulations affect the product 280110: “Reg 1” and “Reg 2”. The first regulation imposes 3 different measures: A14, A49 and A84. The second imposes two measures: B4 and B9. These measures are not only applied to imports from the exporting countries shown in the table, but to all countries in the world as well (not shown in the table).

Table 3.a. Example of variables at HS6 digit level, NTM data combined with imports value

	Exporter	HS6	Trade Value ('000)	NTM code	Legal Regulation Code	Region affected by Measure
1	PAN	280110		A14	Reg 1	World
2	PAN	280110		A49	Reg 1	World
3	PAN	280110		A84	Reg 1	World
4	PAN	280110		B4	Reg 2	World
5	PAN	280110		B9	Reg 2	World
1	PER	280110	179.6	A14	Reg 1	World
2	PER	280110	179.6	A49	Reg 1	World
3	PER	280110	179.6	A84	Reg 1	World
4	PER	280110	179.6	B4	Reg 2	World
5	PER	280110	179.6	B9	Reg 2	World
1	PRY	280110	128.3	A14	Reg 1	World
2	PRY	280110	128.3	A49	Reg 1	World
3	PRY	280110	128.3	A84	Reg 1	World
4	PRY	280110	128.3	B4	Reg 2	World
5	PRY	280110	128.3	B9	Reg 2	World

Table 3.b. Example of variables at HS6 digit level, NTM data combined with imports value

	HS6	Trade Value ('000)	NTM code	Legal Regulation Code	Region affected by Measure
1	291422	362.4	E111	Reg 1	World
2	291422	362.4	A11	Reg 2	World
3	291422	362.4	B15	Reg 3	World
4	291422	362.4	B31	Reg 3	World
5	291422	362.4	B81	Reg 3	World
6	291422	362.4	A81	Reg 4	World
7	291422	362.4	B31	Reg 4	World
8	291422	362.4	B81	Reg 5	World
9	291422	362.4	A84	Reg 6	World
10	291422	362.4	B14	Reg 6	World
11	291422	362.4	B31	Reg 6	World
12	291422	362.4	B84	Reg 6	World
13	291422	362.4	B4	Reg 7	World
14	291422	362.4	B9	Reg 7	World
15	291422	362.4	A15	Reg 8	World
16	291422	362.4	E111	Reg 8	World
17	291423	120.0	none		

According to the data shown in this extract, this product (280110) faces 5 different measures identified by 5 different NTM codes (A14, A49, A84, B4 and B9) in Brazil. These apply to the three exporting countries mentioned: PAN, PER and PRY (lines 1 to 5 show measures imposed to Panama, which are the same as the ones applying to the other two countries, Peru and Paraguay).

In the computation of the Frequency Index, this product (280110) counts as an affected product, so it will contribute to increase the index, no matter how many measures it faces. The value

of trade from imports will be accounted to increase the Coverage Ratio. In this case, US\$ 179.6 from Peru, and US\$ 128.3, from Paraguay.

To illustrate let us assume that the imports basket of Brazil consists of only two products, 280110 plus another one 280200. The former is imported from Peru and Paraguay, and has 5 different NTMs. The latter, is exported by Chile with a trade value of US\$ 100, but does not face any NTM in this fictional case. The Frequency Index would be:

$$F = \frac{1_{\text{Existence of NTM prod1}} * 1_{\text{Prod1 is imported}} + 0_{\text{Existence of NTM prod2}} * 1_{\text{Prod2 imported}}}{1_{\text{Prod1 is imported into Brazil}} + 1_{\text{Prod2 is imported into Brazil}}}$$

In the same way, the Coverage Ratio would be:

$$C_{BRA} = \frac{1_{\text{Existence of NTM on prod1}} (USD 179.6 + 128.3) + 0 * (USD 100)}{USD 179.6 + 128.3 + 100} = \frac{307.9}{407.9} = 0.75$$

Frequency Index is 0.5 as half of the imported products are affected by an NTM (one out of two). The Coverage Ratio is 0.75 as two thirds of the trade is “covered” by an NTM.

Table 3.b shows another case where there are only two products. There are 8 different regulations (legal texts) and 16 different measures imposed on imports of the product. It is worth noting that some of the NTM codes are repeated. There is B31

three times, B81 twice, and E111 twice as well. The variable Measure\_ID accounts for the uniqueness of each requirement or measure within a legal text, following the concept of Figure 2.

In this case, the Prevalence Score for Brazil is 8, as it is the average number of measures applying on their products, as shown through the formula below.

$$P_{BRA} = \frac{1_{Number\ of\ NTM\ on\ prod1} * Prod\ 1 + 1_{Number\ of\ NTM\ on\ prod2} * Prod\ 2}{2} = \frac{16 + 0}{2} = 8$$



## 7. USING DATA FOR ANALYSIS

The NTM incidence measures mentioned above can be used as descriptive statistics for a country, group of countries, or a product sector. They can also be used as variables to perform inference. Econometric analysis includes, for example, gravity estimations or computations of Ad-valorem Equivalent (AVE)<sup>17</sup> that can be used for General Equilibrium analysis.

All these tools have the purpose to study the impact of NTMs in the economy. One of the most prominent areas of interest is the impact on trade flows, to see if NTMs preclude, divert or create international trade. More recently, it has been acknowledged that NTMs may also have a direct impact on welfare. The area of economic analysis of NTMs is still developing.

As a part of trade analysis, NTM analysis can also be performed using ex-post or ex-ante tools. Ex-post tools include econometric estimation that use past trade data and some statistical measure of NTMs. In the past, NTMs could be estimated as the residual of a gravity regression, since there was no way to measure this phenomenon in a direct way. The database constructed in UNCTAD now allows this to be carried out using official measures.

For example, prevalence can be used in gravity regressions to approximate the seriousness of the impact on trade. In this case, the underlying concept is that the value of trade could be affected more for those products that have more NTMs. The impact assessed in this way does not measure the impact of any particular NTM, but assesses the average value of any NTM and tests if higher intensity of NTMs is relevant. Full discussion and empirical use is found in another note (UNCTAD 2014).

Some questions, among others, that have been addressed in analysis of NTMs are:

- Are NTMs used as complements or substitutes of traditional trade policy (tariffs)?
- How do NTMs affect traded quantities & prices?
- Does harmonization and mutual recognition of NTMs have the same impact on trade?

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<sup>17</sup> AVE is a synthetic measure, in the form of a percentage (equivalent to a tariff), which represents the empirical effect on trade that all NTMs have on each product evaluated. In other words, it is the tariff equivalent which has the same impact on trade, i.e. the gap between the product's price with and without the NTM. If the price without the NTM is US\$100, and the price with NTM is US\$105, then AVE is 5%.

- What effect do preferential trade agreements have if they reduce NTMs? Or North-South Agreements?

Several authors have used NTM data to compute a variable to be used in gravity estimation, along with the other gravity variables. This NTM variable can be constructed in different ways:

- dummy, indicating presence/absence of NTM on each product
- frequency ratio, or coverage ratio,
- prevalence or intensity
- AVE

One reference paper with estimated results on AVE is Kee, Nicita & Olarreaga (2009). Using the recently collected NTM data, UNCTAD is currently working to update the estimates of AVEs. In the past, analysis considered that NTMs raised costs and so their estimations were always expected to deliver values of positive cost, increasing price and/or reducing quantity. More recently, authors are considering that NTMs could also have a trade-enhancing effect in some cases, and so allow for negative cost values, i.e. price-reducing instead of price-raising. Still, NTMs increase costs in most cases.

In General Equilibrium, for example using GTAP, NTMs can be modelled in different ways, depending if the analyst considers that the extra costs related to the NTM are born by the exporter, by the importer, that part of the value of the product is just lost in transit (Fugazza M, Maur JC, 2008), or a combination of these (UNCTAD, 2016). The three alternatives use the values of AVE, computed previously, and are incorporated in the model through one or more of the following alternative parameters:

- **txs**. When increased compliance costs rest on the exporter then it is modelled as AVE of a surcharge to an export tax

- **tms**. When increased compliance costs rest on the importer then it is modelled as an AVE added to the import tariff

- **ams**. Iceberg costs for trade inefficiencies, account for the “effective” decrease in quantity exported due to NTM. There is a precise parameter in GTAP to account for trade efficiency that can be used to model this effect, and so the shock is straightforward, without recalibration.

In all approaches and tools, being ex-post or ex-ante, there are limitations, and research is still progressing.

Other limitations come from the data:

- **Endogeneity**: It is not always clear if NTMs affect trade flows, or if causality is reversed. As in the case of tariffs, there is a potential endogeneity bias in estimating the effect of trade policies on trade volumes. In addition, political economy arguments suggest that reverse causality is also of major concern. For example, governments may be prone to overregulate sectors of importance for domestic producers and consumers, thus imposing NTMs where trade flows are larger. If endogeneity is not taken care of with instrumental variables, it generally results in downwardly biased estimates.
- **Collinearity in different NTM codes**: Some types of NTM may typically go together, for example conformity assessment and its underlying requirements. Collinearity makes it very difficult to isolate the effect of one specific measure from that of another. Collinearity and measurement error are the reasons why most econometric assessments aggregate various types of NTMs to very broad categories.

## APPENDIX

### **A. 1. NON-TARIFF MEASURES DATA COLLECTION TEMPLATE**

Non-tariff measures data collection template: Variables and required information

(Mandatory entries indicated in bold)

#### **1. Sources table: Identifies sources of information**

A source of information specifies how access to information collected has been achieved. Each entry for a source of information has the following fields:

- (a) **Source ID** (mandatory, integer value automatically generated, not to be entered manually)

Unique ID of a source of information.

- (b) **Source Name** (mandatory, text value, maximum length 255 characters)

Short source name. This field is referred to in other worksheets.

- (c) **Source Description** (mandatory, text value, no maximum length)

Indications on the type of information available from the source, on who's maintaining it and the frequency of updates.

- (d) Source Website (optional, text value, no maximum length)

Website address where regulations or other documents from the source are available.

- (e) Is Source Authoritative (optional, Boolean (yes/no) value)

Indicates whether the source arises from an official authority.

- (f) Source Contact Person (optional, text value, no maximum length)

Contact person at the source.

- (g) Notes (optional, text value, no maximum length)

Optional additional notes.

#### **2. Documents table: Identifies documents from each source**

Listed here will be the available background materials that have been found in the sources and used for data collection. A document must be linked to one source in the sources table through the column "Source name". Each entry in the documents table has the following fields:

- (a) **Document ID** (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique identification code of a document.

- (b) **Source Name** (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Source name as indicated in the sources table.

- (c) **Document Title** (mandatory, maximum length 255 characters)

Short title of the document.

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(d) Document Title Full (optional, text value, no maximum length)

When the official title of the document is long, it can be entered here.

(e) Document Symbol (optional, text value, no maximum length)

Official symbol of the document when it exists.

(f) Document Description (optional, text value, no maximum length)

Overview of the document content.

(g) Document Language (optional, value to be picked up in the dropdown list, not to be entered manually)

Language in which the document is available. If the document is available in multiple languages, this can be specified in the "Notes" field.

(h) Document Publication Date (optional, date value)

Publication date of the document.

(i) Document URL (optional, text value, no maximum length)

When a direct link to the document itself is available its website address can be entered here.

### 3. Regulations table: Identifies regulations within each document, or directly available in the source

Each document may contain several regulations. Each regulation needs to be identified with the following elements:

(a) **Regulation ID** (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique identification code of a regulation.

(b) **Source Name** (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Source name as indicated in the sources table.

(c) **Document Title** (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Document Title as indicated in the documents table.

(d) **Regulation Short title** (mandatory, text value, 255 characters)

Short title of the regulation.

(e) Regulatory Agency (optional, text value, no maximum length)

Name of the responsible public authority.

(f) Regulation Symbol (optional, text value, no maximum length)

Symbol attached to the regulation which serves as a unique identifier.

(g) **Regulation Implementation date** (mandatory, date value)

Date when the regulation came into force.

(h) Regulation Repeal Date (optional, date value, greater than Regulation Implementation Date)

If the regulation is no longer in force, date when it has been repealed.

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(i) Regulation Official Title (optional, text value, no maximum length)

Title of the regulation as it appears in the document.

(j) Regulation Description (optional, text value, no maximum length)

Short description of the regulation.

(k) Regulation Full Text (optional, text value, no maximum length)

When the regulation is available in electronic format, its full text can be copied/pasted into this field.

(l) Regulation URL (optional, text value, no maximum length)

When a direct link to the regulation itself is available its website address can be entered here.

(m) Notes (optional, text value, no maximum length)

Optional additional notes.

#### **4. Measures table: Identifies measures within each regulation**

List of NTMs. These must be linked to either a regulation (“Regulation short title”), a document (“Document title”) or both. Each measure must be identified with the following elements:

(a) Measure ID (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique identification code of a measure.

(b) Document Title (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Document name as indicated in the documents table.

(c) Regulation Short Title (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Regulation short title as indicated in the regulations table.

(d) NTM Code (mandatory, value to be picked up in the drop-down list, not to be entered manually)

NTM Code as indicated in the NTM classification table.

(e) Measure Implementation Date (mandatory, date value)

Usually the same as the regulation implementation date.

(f) Measure Repeal Date (optional, date value, greater than regulation implementation date)

If the measure is no longer in force, date when it has been repealed.

(g) Measure Description (mandatory, text value, no maximum length)

Description of the measure in the regulation.

(h) Measure Reference (mandatory, text value, no maximum length)

Reference to specific place within the regulation that refers to the respective measure (for example, articles, paragraphs or pages in regulation).

(i) Affected Products Description (mandatory, text value, no maximum length)

Description of affected products as stated in the regulation.

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(j) Affected Regions Description (mandatory, text value, no maximum length)

Description of affected countries/regions as stated in the regulation.

(k) Measure objectives (optional, text value, no maximum length)

Rational of the measure, only when specifically stated in the text of the regulation.

(l) Notes (optional, text value, no maximum length)

Optional additional notes.

(m) Measure\_also\_domestic (mandatory, (yes/no/not specified) value)

Indicates if the respective measure is also applied to products that are produced and sold domestically.

### **5. Measure-affected products table: Identifies which products are affected by the measures**

(a) Measure Affected Product ID (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique identification code of an affected product.

(b) Measure ID (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Measure ID from the measures table.

(c) Product Code Type (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Select "HS code" if it is wished to enter a Harmonized System code or "Product group" to enter a predefined product group.

(d) Product Code (mandatory, value to be picked up in the dropdown list, not to be entered manually)

HS two, four or six digit. For predefined groups, the provided group code.

(e) Partial Coverage (mandatory, Boolean (yes/no) value)

Specifies that only some products of the indicated product code may be affected.

(f) Partial coverage indication (optional, text value, no maximum length)

If "yes" is selected in partial coverage, more indications may be given here.

(g) Date in (mandatory, date value)

Usually the same as the regulation implementation date. Different for a new product.

(h) Date out (optional, date value)

If a product is no longer affected, indicate since when.

### **6. Measure Affected Countries table: Identifies which countries are affected by the measures (not necessary if all countries are affected)**

(a) Measure Affected Country ID (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique ID of an affected country.

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(b) Measure ID (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Measure ID from the measures table.

(c) Inclusion/exclusion (mandatory, Boolean (inclusion/exclusion) value)

Inclusion: the country is specifically affected by the measure. Exclusion: the country is specifically not affected by the measure.

(d) Country (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Name of the country.

(e) Date in (mandatory, date value)

Usually the same as the regulation implementation date. Different for a new country.

(f) Date out (optional, date value)

If a country is no longer affected, indicate since when.

#### **7. Measures Objectives table: Identifies the objectives of the measures (if explicitly stated)**

(a) Measure Objective ID (mandatory, integer value automatically generated, not to be entered manually)

This field is the unique identification code of an objective.

(b) Measure ID (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Measure ID from the measures table.

(c) Objective (mandatory, value to be picked up in the dropdown list, not to be entered manually)

Objective code, as indicated in the objective codes table.

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## A.2. NTM VARIABLES IN THE WEB APPLICATION TRAINS

The results table contains the following column headings.

Column Heading	Description
<b>Country imposing</b>	Name of the country imposing the non-tariff measure in English
<b>Partner affected</b>	List of countries affected by the imposed measure/NTM
<b>Agency</b>	The name of the government agency (if any) responsible for the regulation
<b>Regulation</b>	The name of the legal act where the measure is found.
<b>Regulation URL</b>	The URL where the regulation is located online
<b>Category</b>	NTM Chapter (Refer to Box 1)
<b>NTM Code</b>	Measure's code using UNCTAD/TRAINS classification
<b>In force</b>	The date when the measure entered into force
<b>Withdrawn</b>	The date when the measure was repealed
<b>Measure description</b>	Short description of the measure.
<b>Also domestic</b>	Does the measure also applies to the country imposing
<b>Product description</b>	A short description of the affected group of products
<b>HS</b>	List of HS codes
<b>Source</b>	Source name + Document name
<b>National legal basis</b>	Regulation name

## A.3. NTM VARIABLES IN WITS

The results table contains the following column headings.

Column Heading	Description
<b>NTM Nomenclature</b>	This is the number of the version of the NTMs classification (M3 is the latest updated version of the NTMs taxonomy as of now)
<b>Reporter_ISO_N</b>	Reporter Code 3-digit numeric code for the reporting country/country imposing NTMs
<b>Reporter Name</b>	Name of the country imposing the non-tariff measure in English
<b>Year</b>	The year for which NTMs were collected
<b>MeasureID</b>	Identification of each NTM in a precise legal text. Unique Identifier
<b>NTM code</b>	Measure's code using UNCTAD/TRAINS classification
<b>Agency</b>	The name of the government agency (if any) responsible for the regulation
<b>NomenCode</b>	Code for the HS nomenclature version on which the national tariff structure is based (H0: HS 1988/1992, H1: HS1996, H2: HS 2002, H3: HS2007, H4: HS 2012)
<b>YearProductClassification</b>	National product classifications (tariff schedules) are revised annually by the countries. This column indicates the specific year of national product classification (or tariff schedule year) that was used to collect the data.
<b>ProductCode</b>	National tariff line code to which the measure applies.
<b>PartialCoverage</b>	Indicates whether all items under the product code are affected by the measure or not. 0 means all items of the tariff line code are affected by the measure. 1 means only some items of the tariff line code are affected by the measure. More information about the partial coverage may be found in the metadata column
<b>Partner</b>	A country affected by the imposed measure/NTM.
<b>Start Date</b>	The date when the measure entered into force
<b>End Date</b>	The date when the measure was repealed

#### **A.4. NTM VARIABLES IN THE UNCTAD DATABASE FOR RESEARCHERS, DOWNLOADABLE FROM THE SITE OF THE WEB APPLICATION TRAINS**

The variables in this database are the following:

<b>Reporter_ISO_N</b>	Reporter Code 3-digit numeric code for the reporting country, i.e. country imposing NTMs.
<b>reporter</b>	Reporter Code 3-digit numeric code for the reporting country, i.e. country imposing NTMs
<b>Year</b>	The year for which NTMs were collected
<b>NTMNomenclature</b>	Code for the NTM nomenclature version on which the NTMCode is based (M3 is the 2012 version)
<b>ntmcode</b>	Measure's code using UNCTAD/TRAINS classification
<b>ntm_1_digit</b>	Measure's chapter code using UNCTAD/TRAINS classification
<b>Partner_ISO_N</b>	Reporter Code 3-digit numeric code for the partner country, e.g. for import measures, it is the country that needs to comply with the NTM when exporting into the reporting country. When the NTM applies to all countries alike, partner is 000.
<b>partner</b>	A country affected by the imposed measure/NTM. It is a 3-digit alphabetic code. When the NTM applies to all countries alike, partner is WLD.
<b>NomenCode</b>	Code for the HS nomenclature version on which the national tariff structure is based (H4: HS 2012)
<b>hs6</b>	HS6 digit code to which the measure/s apply.
<b>partial_hs8</b>	Signals "missing" when data collection was done at the HS6 level, and not using a more disaggregated level at Tariff Line. The variables 'cover' are also missing in this case
<b>nbr</b>	Number of measures (number of distinct Measure_id) on any single product. Full and partial Coverage combined.
<b>nbr_fc</b>	Number of measures (number of distinct Measure_id) on any single product that affect the product fully at the tariff line level (excluding those with partial Coverage) For every reporter-product (HS6)- NTM code
<b>nbr_pc</b>	Number of measures (number of distinct Measure_id) on any single product that affect the product partially at the tariff line level (excluding those with Full Coverage) For every reporter-product (HS6)- NTM code
<b>all</b>	Number of Generic measures, i.e. (number of distinct Measure_id) on any single product that also affects all products across the board. (Full and partial coverage combined) It could be useful to leave aside those generic measures, such as formal registration or permit for all products alike, when studying incidence of measures, or otherwise results will show 100% Frequency Index, for instance. Still, these are mandatory measures and need not to be simply deleted. Researcher may deduct the number from nbr, i.e. (number of non-generic measures = nbr - all) For every reporter-product (HS6)- NTM code
<b>total_TL</b>	Number of tariff lines in the national product classification under any H6 product code For every reporter-product (HS6)
<b>cover_pct</b>	This is Partial Coverage type II. It is the ratio of covered (or affected) products, at HS8 or HS10, to the total number of products within that HS6, expressed in percentage (both full and partial coverage combined) Those countries or measures that were collected at HS6, and not at Tariff Line, will have a missing value Values from 0 to 1
<b>cover_FC_pct</b>	Percentage of products at tariff line level within any HS6 that are affected fully by any NTM. The ratio or percentage is Partial Coverage type II. All products at HS8 or HS10 in this case are affected or regulated fully. Researcher may want to (arbitrarily) consider as affected products at HS6 only those that have more than 50% coverage of their tariff lines. If this is not relevant, the combined cover_pct may be used. Note that cover_FC_pct take values from 0 to 1, (independently if there were multiple measures at the same time, with and without Partial Coverage) Values from 0 to 1
<b>cover_PC_pct</b>	Percentage of products at tariff line level within any HS6 that are affected partially by any NTM. For every reporter-product (HS6)- NTM code Values from 0 to 1
<b>cover_pctNG</b>	Same as cover_pct, but only computed using the measures that are non-generic (or otherwise coverage of the TariffLine would be 100%, by definition). (Both full and partial coverage combined)
<b>Year_DataCollection</b>	The year that data was collected
<b>StartDate</b>	The earliest year for which there is a measure on the product.
<b>EndDate</b>	The latest for which a measure may be signaled to not be enforced, if any.

### A.5. WEB APPLICATION TRAINS. SNAPSHOTS OF PREDETERMINED VIEWS

Tables by products:

General View

# TRAINS

The global database on Non-Tariff Measures

Through  
Developed by WTO  
Adapted for TRAINS data by  
UNCTAD

Home
TABLES by PRODUCTS
TABLES by MEASURE
TABLES by COUNTRIES
DETAILED QUERY
ANALYSIS
About

Available search criteria

**Selected search criteria**

Measures: Sanitary and Phytosanitary [SPS] [A], Technical Barriers to Trade [TBT] [B], Pre-shipment inspection [INSP] [C], Contingent trade protective measures [CTPM] [D], Quantity control measures [QC] [E], Price control measures [PC] [F], Other measures [OTH] [G,H,I,J,K,L,M,N,O], Export-related measures [EXP] [P] Reset to defaults

Country(ies) imposing: Any

Partner(s) affected: Any [Include the category "All partners"]

Date(s): 13/03/2018 [in force]

Product(s): Any Modify

**Search result**


Numbers cannot be compared









HS Code	Product description	TBT	SPS	INSP	CTPM	QC	PC	EXP	OTH
	<b>Total</b>	<b>17307</b>	<b>21137</b>	<b>976</b>	<b>478</b>	<b>1126</b>	<b>969</b>	<b>4253</b>	<b>208</b>
▶ Sec. I	Live animals and products	1811	6763	298	15	214	265	1374	59
▶ Sec. II	Vegetable products	2193	12448	305	16	228	305	1272	73
▶ Sec. III	Animal and vegetable fats, oils and waxes	939	1631	121	8	93	169	627	30
▶ Sec. IV	Prepared foodstuff; beverages, spirits, vinegar; tobacco	3318	4470	220	8	195	367	1150	77
▶ Sec. IX	Wood, cork and articles; basketware	476	612	96	6	60	133	461	42
▶ Sec. V	Mineral products	2050	679	133	4	161	240	561	75
▶ Sec. VI	Products of the chemical and allied industries	6562	1879	252	90	357	382	1653	105
▶ Sec. VII	Resins, plastics and articles; rubber and articles	1961	346	115	74	121	157	404	55
▶ Sec. VIII	Hides, skins and articles; saddlery and travel goods	441	367	71	2	57	134	381	38
▶ Sec. X	Paper, paperboard and articles	587	186	69	10	127	123	238	45
▶ Sec. XI	Textiles and articles	947	537	131	38	177	149	491	48
▶ Sec. XII	Footwear, headgear; feathers, artif. flowers, fans	411	111	58	9	62	115	283	40
▶ Sec. XIII	Articles of stone, plaster; ceramic prod.; glass	872	134	78	36	65	120	262	45

## Example of detailed view

# TRAINS

The global database on Non-Tariff Measures

Through   
 Developed by WTO  
 Adapted for TRAINS data by  
 UNCTAD

Home
TABLES by PRODUCTS
TABLES by MEASURE
TABLES by COUNTRIES
DETAILED QUERY
ANALYSIS
About

Available search criteria

**Selected search criteria**

Measures: Sanitary and Phytosanitary [SPS] [A] Reset to defaults

Country(ies) imposing: Afghanistan OR American Samoa OR Australia OR Australian Territories, n.e.s. OR Bangladesh OR Bhutan OR Brunei Darussalam OR Cambodia OR Ceylon OR China OR Christmas Island OR Cocos (Keeling) Islands OR Cook Islands OR Fiji OR French Oceania OR French Polynesia OR Guam OR Hong Kong, China OR India O...



Partner(s) affected: Any [Include the category "All partners"]

Date(s): 13/03/2018 [in force]

Product(s): Any Modify

**Search result**

Your query covers 4792 measures and  
 Your selection resulted in 4792 measures

 Export to excel
 Return to summary

**Measures:**

Country imposing	Partner affected	Category	Measure description	Also domestic	Product description	HS	Source	National legal basis	In force <span style="color: red;">Withdrawn</span>
Afghanistan	All Members	SPS A61	Only products which have been registered with MAIL prior to importing can be imported.		Pesticides	3808	General Directorate for Plant Protection and Quarantine (Ministry of Agriculture, Irrigation and Livestock), Government of Afghanistan -	Regulation on pesticides import, - distribution and -use	07/01/2001
Afghanistan	All Members	SPS A31	Label must be in Dari or Pashto		Pesticides	3808	General Directorate for Plant Protection and Quarantine (Ministry of Agriculture, Irrigation and Livestock), Government of Afghanistan -	Regulation on pesticides import, - distribution and -use	07/01/2001
Afghanistan	All Members	SPS A15	to import pesticides to Afghanistan one needs a license from MAIL		Pesticides	3808	General Directorate for Plant Protection and Quarantine (Ministry of Agriculture, Irrigation and Livestock), Government of Afghanistan -	Regulation on pesticides import, - distribution and -use	07/01/2001











Tables by measures:

General view

# TRAINS

The global database on Non-Tariff Measures

Through   
 Developed by WTO  
 Adapted for TRAINS data by UNCTAD

Home | TABLES by PRODUCTS | **TABLES by MEASURE** | TABLES by COUNTRIES | DETAILED QUERY | ANALYSIS | About

Available search criteria

**Selected search criteria**

Measures: Sanitary and Phytosanitary [SPS] [A], Technical Barriers to Trade [TBT] [B], Pre-shipment inspection [INSP] [C], Contingent trade protective measures [CTPM] [D], Quantity control measures [QC] [E], Price control measures [PC] [F], Other measures [OTH] [G,H,I,J,K,L,M,N,O], Export-related measures [EXP] [P] Reset to defaults

Country(ies) imposing: Any

Partner(s) affected: Any [Include the category "All partners"]

Date(s): 13/03/2018 [in force]

Product(s): Any Modify

**Search result**

*Numbers cannot be compared*

NTM Code	Description	AFRICA	ASIA	EUROPE	LAC	MIDDLE EAST	NORTHERN AMERICA	OCEANIA
A	Sanitary and Phytosanitary	1161	4792	443	10511	1241	2956	2011
B	Technical Barriers to Trade	1261	6549	942	4385	1076	3066	2715
C	Pre-shipment inspection	102	247	222	163	155	86	34
D	Contingent trade-protective measures	6	82	2	381		1	2
E	Quantity control measures	70	327	91	389	151	78	19
F	Price-control measures	153	397	35	201	125	57	87
G,H,I,J,K,L,M,N,O	Others	49	64	8	50	33	4	4
P	Export-related measures	752	1824	179	734	427	304	600

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