

**IV. Special topic:  
Non-tariff measures:  
Estimating analytical  
indicators using  
UNCTAD's Trade  
Analysis Information  
System (TRAINS)**

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# Introduction

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Data on non-tariff measures (NTMs) are a vital complement to tariff data as NTMs can be as important as tariffs in determining market access. Internationally, information is made available

- 1 Counting the European Union as one.
- 2 WTO agreements stipulate, for each policy area, specific notification requirements. For example, if a sanitary or phytosanitary (SPS) measure follows an international standard, it does not need to be notified.



UNCTAD's NTM data. The WTO contributes its notifications to the GTH and both datasets are interlinked.

The GTH provides a snapshot of all the requirements for import and export that are enforced at a certain point in time. For several countries, there are multiple years of data collection, while for others the data are more limited. The process of data collection, data description,

and available information, as well as strengths and limitations of the data, can be found in UNCTAD 2017.

The NTM data also is published in different formats<sup>3</sup> through:

- the World Integrated Trade Solution (WITS)
- the Web Application Trade Analysis Information System

<sup>3</sup> See UNCTAD (2017), Section 5, for more details.

<sup>4</sup> Counting the European Union as one.





The NTM data are made available through the following three portals:

i. Trade Analysis Information System (TRAINS) at [trainsonline.unctad.org](http://trainsonline.unctad.org): TRAINS provides data on NTMs at the HS 6-digit product classification. Users can search the database by country, type of NTM, affected product and partner country. It also contains information on the regulatory source and descriptions of the measures.

Moreover, researchers can bulk-download a STATA dataset with additional variables that is available upon request.

ii. World Integrated Trade Solution (WITS) at [wits.worldbank.org](http://wits.worldbank.org): WITS integrates TRAINS with other trade-related databases, such as United Nations COMTRADE, the WTO's Integrated Data Base (IDB) and the WTO's Consolidated Tariff Schedules (CTS). As a result, WITS offers an interface that provides access to databases covering imports, exports and protection data – tariff and non-tariff measures.

iii. Global Trade Helpdesk

The data made available for statistical

use are in STATA format.

5 The frequency index is computed using the products that are effectively traded within the country, i.e., FI is the share of those imported products that have to face at least one NTM.

6 Usually, the Coverage Ratio is computed using the average trade value for the last three years (bilateral and by HS6), so that there would be less zero values. This is relevant because this indicator uses traded products only.



# Results and policy conclusions

Figure 2 presents the average results for all the countries in the data set for 2019, or the latest year available in Table 1<sup>7</sup>, for import NTMs and export NTMs. Import NTMs are conditions or requirements for import into the country whereas export NTMs are regulations affecting the country's own exports, e.g. obtaining a permit before exporting a chemical product.

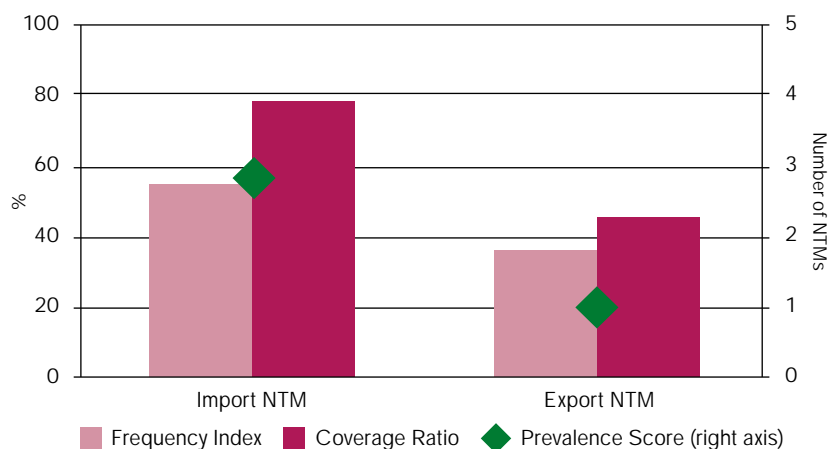
Almost 60 per cent of the imported products in the world need to comply with at least one NTM (first light red bar). This represents almost 80 per cent of the value of these imported goods (first red bar). Every imported product needs to comply with more than three NTMs, on average (first green diamond). Almost half of exported products need to comply with 1.3 NTMs, on average.

Figure 3 shows that developed countries have on average over four NTMs on each traded product. This affects around 80 per cent of trade. Developing countries and least developed countries (LDCs) have between two and three NTMs. Half of the regulations that affect exports are more prevalent in developing countries and LDCs than in developed countries, both in terms of trade coverage and in the number of NTMs in place.

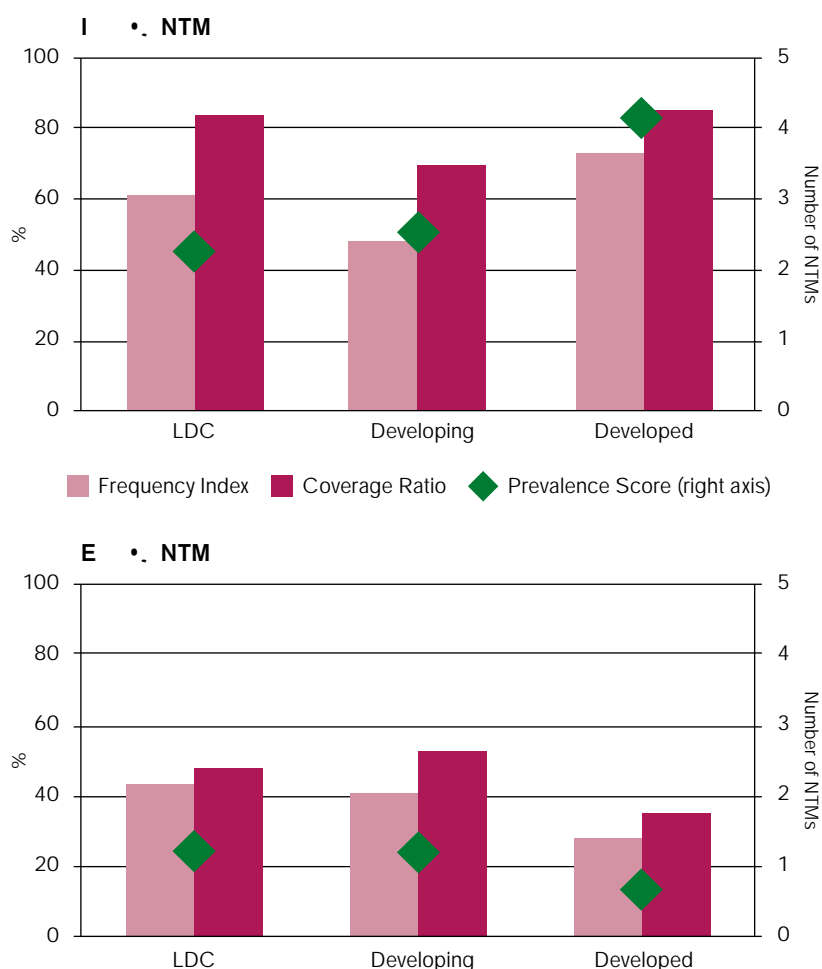
Figure 4 shows NTMs by sector. In general, animal, vegetable and food products are highly regulated, with most of these products traded with at least one specific regulation. The intensity of regulations is also high for these products. They have on average 12 NTMs each.

Chemicals, textiles, vehicles, machinery and leather are also highly regulated sectors. A total of around 60 per cent of these products, representing 80 per cent of the imports in these sectors, need to comply with two to three NTMs. The indicators are lower for exports. Each animal, vegetable or food product that is exported has to comply with about two to three NTMs as a requirement from the exporter's own government.

**Figure 2: Global results**



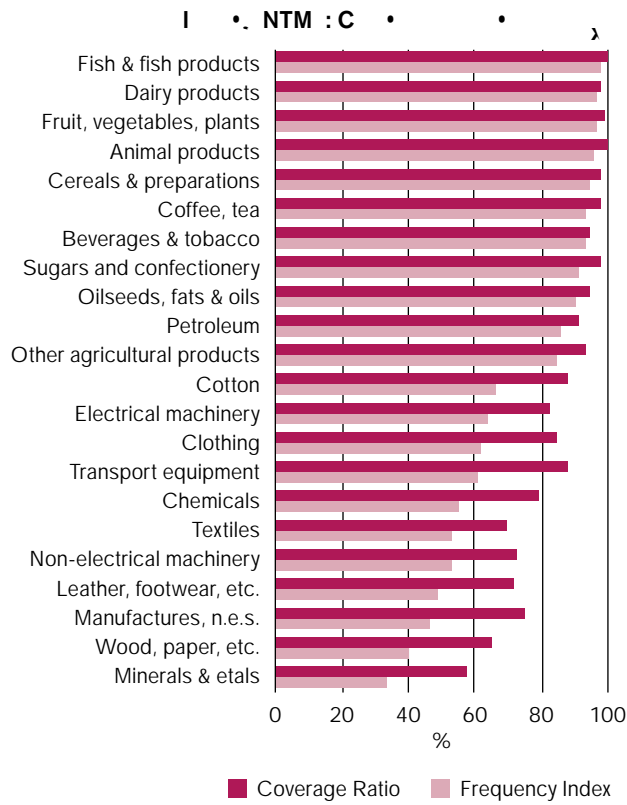
**Figure 3: NTM indicators, by development status**



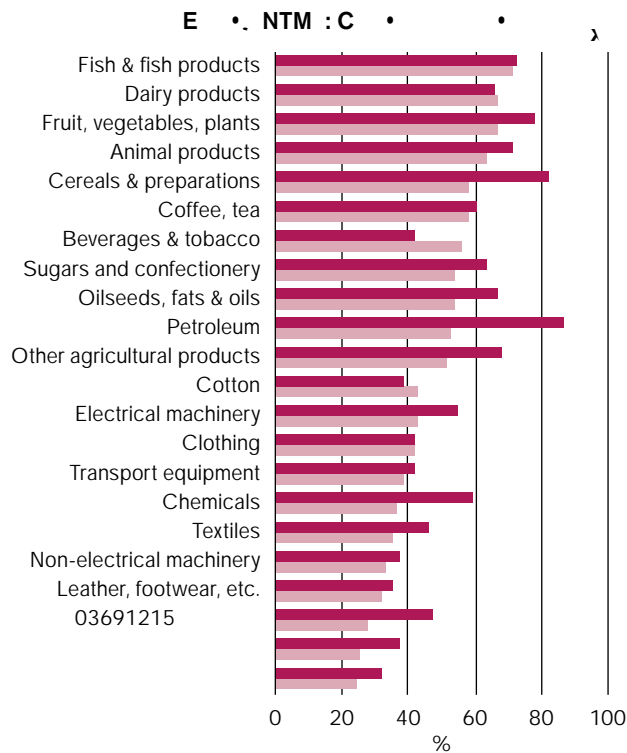
7 Indicators for Grenada, Liberia and Tajikistan were not estimated as the corresponding trade information was not available.



Figure 4: NTM indicators, by sector



Number of NTMs



Number of NTMs



Figure 5 provides information by region and sector group. Developed countries regulate more intensively the agri-food sector and manufactured products compared with developing countries and LDCs. While LDCs have, on average, seven NTMs for each imported agri-food product, developed countries have 13.

Figure 6 displays NTM indicators by country or territory. The indicators are calculated as a share of imported products. The frequency index and coverage ratio can be easily compared because both use the same set of products for each country.

Some developing countries have a very large share of their imported products affected by NTMs. Apart from the cost for traders to comply with regulations, there is also the added cost of bureaucracy. UNCTAD provides a toolkit to analyse the cost and effectiveness of the NTMs in place. The cost effectiveness toolkit implements surveys and in-depth interviews.

Recommendations are then provided in the toolkit.



## Figure 7: NTM indicators, by type of measure

## Figure 8: NTM indicators, by sector groups and type of NTM

## Figure 9: NTM indicators, by development status and type of NTM

Figure 7 shows use of NTMs by type of measure. More than 40 per cent of the imported products in the world have to comply with at least one TBT measure, which represents more than 70 per cent of imports in 2019. A quarter of the imports in the world have to comply with requirements for licences, quotas or other quantity control measures. This represents half of the value of total imports. The share of SPS NTMs, which mostly concern food and agriculture products, is lower, at around 20 per cent of the global

8 The Kingdom of Bahrain, the State of Kuwait, the Kingdom of Saudi Arabia, China, the Republic of Korea, Guatemala, India, Mauritius, Brazil and



# Annex

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## Frequency Index

The **F** **e** **e** **c** **I** **d**e (**FI**) **i** **e** **e** **i** **a** **l** **l** **h**e **e** **c**e **a** **g**e **f** **i** **d** **c** **a** **f** **f** **e** **c** **t** **e** **d** by one or more NTMs. More formally,

$$F_i = \frac{\sum M_{ij}}{M_{ij}} \cdot 100$$

- 9 This simplified formula does not show that it also has a bilateral dimension, but the same principle applies. The products-partners affected in the numerator will equal 1, and all products-partners will count in the denominator.
- 10 This simplified formula does not show that it also has a bilateral dimension, but the same principle applies. In practical terms, it is double sum. If data are set for the triple "reporter-hs6-partner", the Prevalence Score is the simple mean of the variable that presents the number of distinct codes for each row, considering the traded lines (rows with positive import values only).