

# REGIONAL WORKSHOP ON LEAST DEVELOPED COUNTRIES AND LEVERAGING TRADE AS A MEANS OF IMPLEMENTATION FOR THE 2030 AGENDA

## Session 12

### Achieving trade-related SDGs: Issues with tariffs and other trade measures

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**Witada Anukoonwattaka**

Economic Affairs Officer

Trade, Investment and Innovation Division

UN ESCAP, Bangkok

Email: [anukoonwattaka@un.org](mailto:anukoonwattaka@un.org)

# Outline

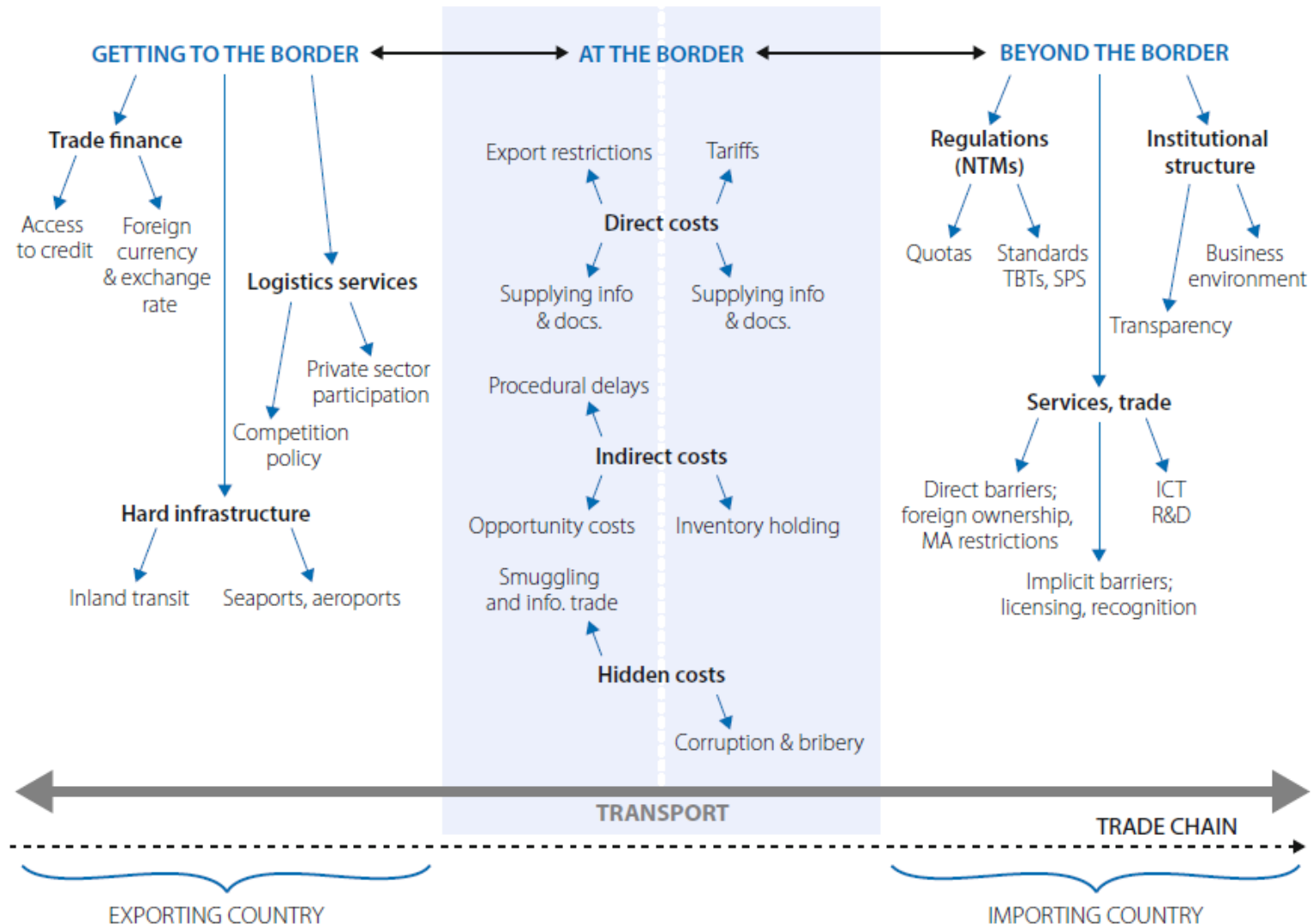
- Trade measures in Agenda 2030
- Measures affecting trade
- Data issues: tariff measures
- Data issues: non-tariff measures

# Trade measures in SDGs: comment

- Agenda 2030 focuses on increasing market access for LDCs, measured by increased global market share of LDCs
  - Removed domestic support and export subsidy in agricultures
  - Tariffs faced by LDCs
- Trade performance and costs of living in LDCs is affected by trade measures of others AND trade policies of their own.
  - Protectionist measures raise cost of imports AND exports
  - Competitiveness effects
  - Costs of living, availability and variety (quality) of goods and services
- Stakeholders
  - Domestic producers (exporting sectors, , indirect-exporting sectors and non-exporting sectors)
  - Consumers (working in exporting sectors, indirect-exporting sectors, and non-exporting sectors)
- Measures affecting trade costs are beyond tariffs
  - Goods: Tariffs and Non-tariff measures (NTMs)
  - Services: Policies and regulations outside the scope of trade ministry

# Example of measures affecting trade

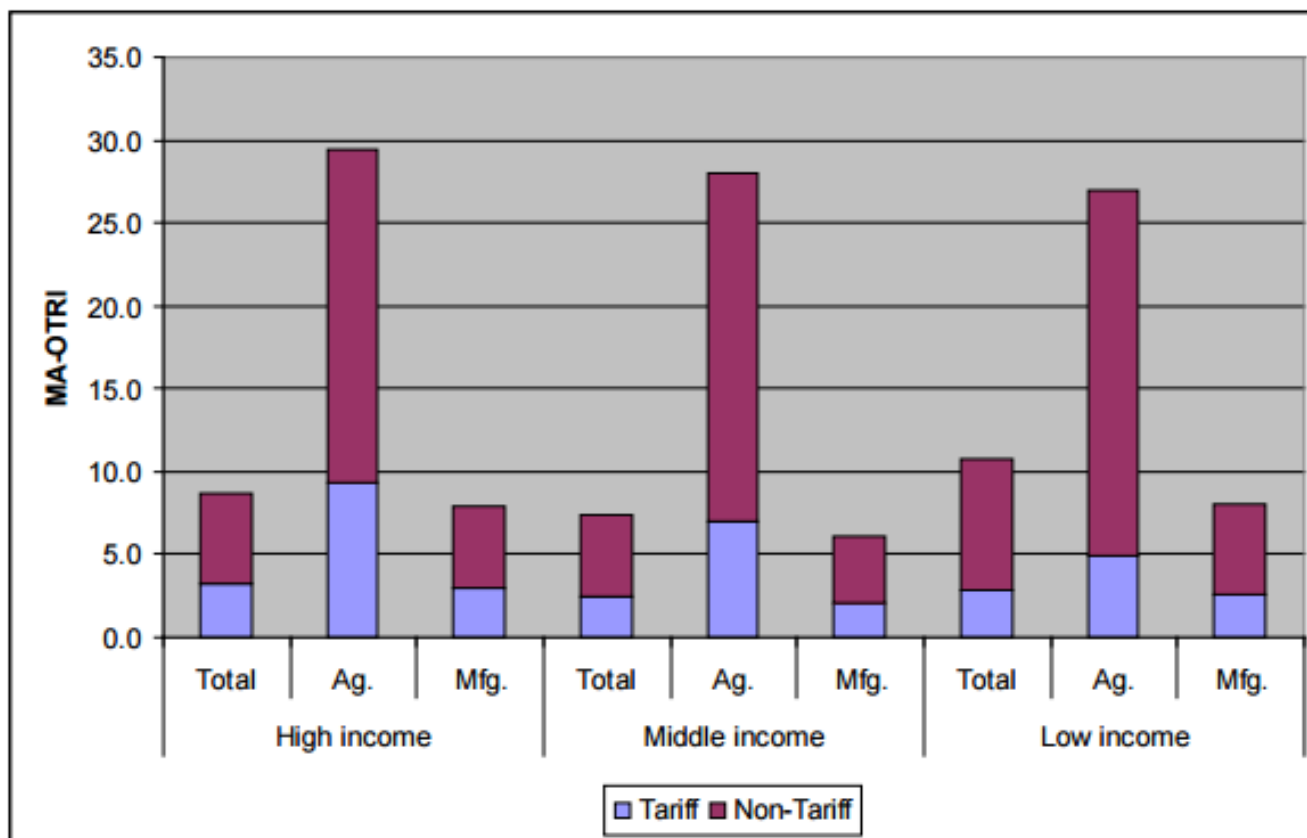
Figure 1.8 Policies affecting trade costs in goods markets at all points in the supply chain



# Tariffs vs Non-tariff measures (NTMs)

Two broad categories: tariffs and non-tariff measures (NTMs)

*Figure 1: Ad valorem equivalents of non-tariff measures compared to tariffs, by income group and sector (Ag: Agriculture; Mfg: Manufacturing)*



Source: United Nations Conference on Trade and Development (UNCTAD), (2012). Non-Tariff Measures to Trade: Economic and Policy Issues for Developing Countries. Developing Countries in International Trade Studies. UNCTAD/DITC/TAB/2012/1. Estimations are based on a methodology developed by Kee, Nicita and Olarreaga (2009).

**TARIFFS**

# Tariff indicators in SDGs

- GMI: average tariff faced by LDCS
  - Average by numbers of tariff lines or trade volume?
- Missing elements for analyzing market access
  - Tariff peak
  - Gap between MFN bound and applied rate
  - Preferential rates
  - Margin of preference

Note: Please see the slides presented in the 2016 workshop for concepts and measurement of these indicators.

# Impacts of own tariffs – static analysis

- For the typical “small” country that is a price-taker:
  - Tariff results in a loss in national welfare
  - Tariff results in a redistribution of income from consumers of the imported product to producers of import substitutes
- The degree of protection favoring a domestic industry is better described by the “effective rate of protection (ERP)”
  - The ERP depends positively on tariffs on outputs, and negatively on tariffs on inputs
- A “large” country can benefit by a tariff .
  - When foreign supply is price elastic
  - When retaliation is ruled out
- World welfare declines as a result of tariffs

Note: Please see ERP concepts and measurement from 2016 PPT.



# Accumulated trade costs

FIGURE 4.2 The global value chain zoo: spiders, snakes, and hybrid "snikers"

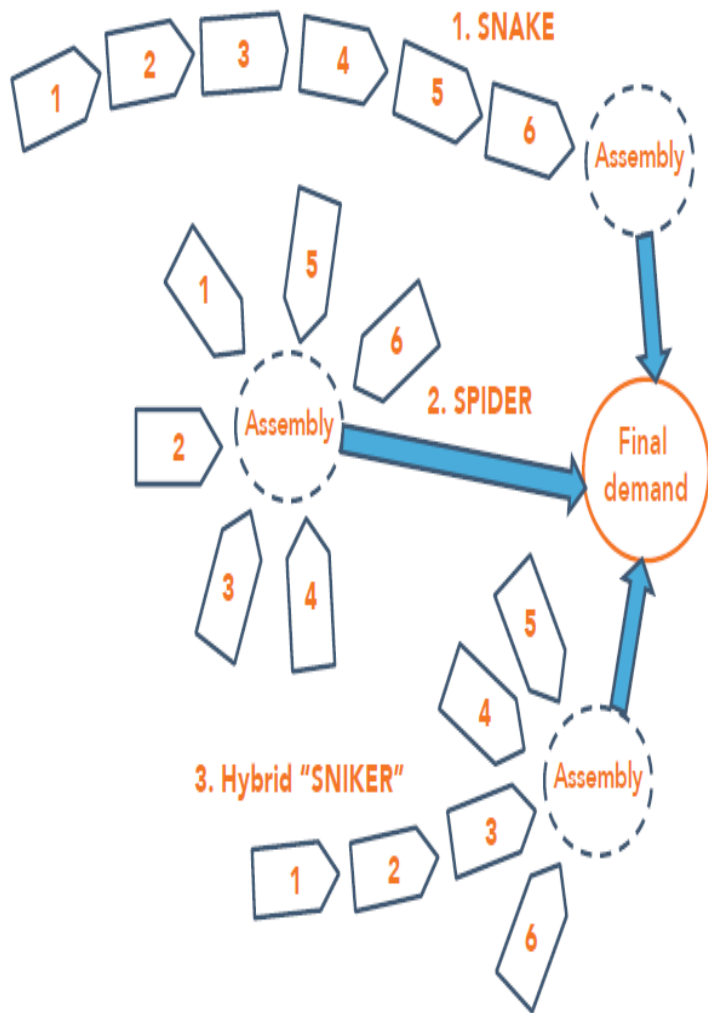
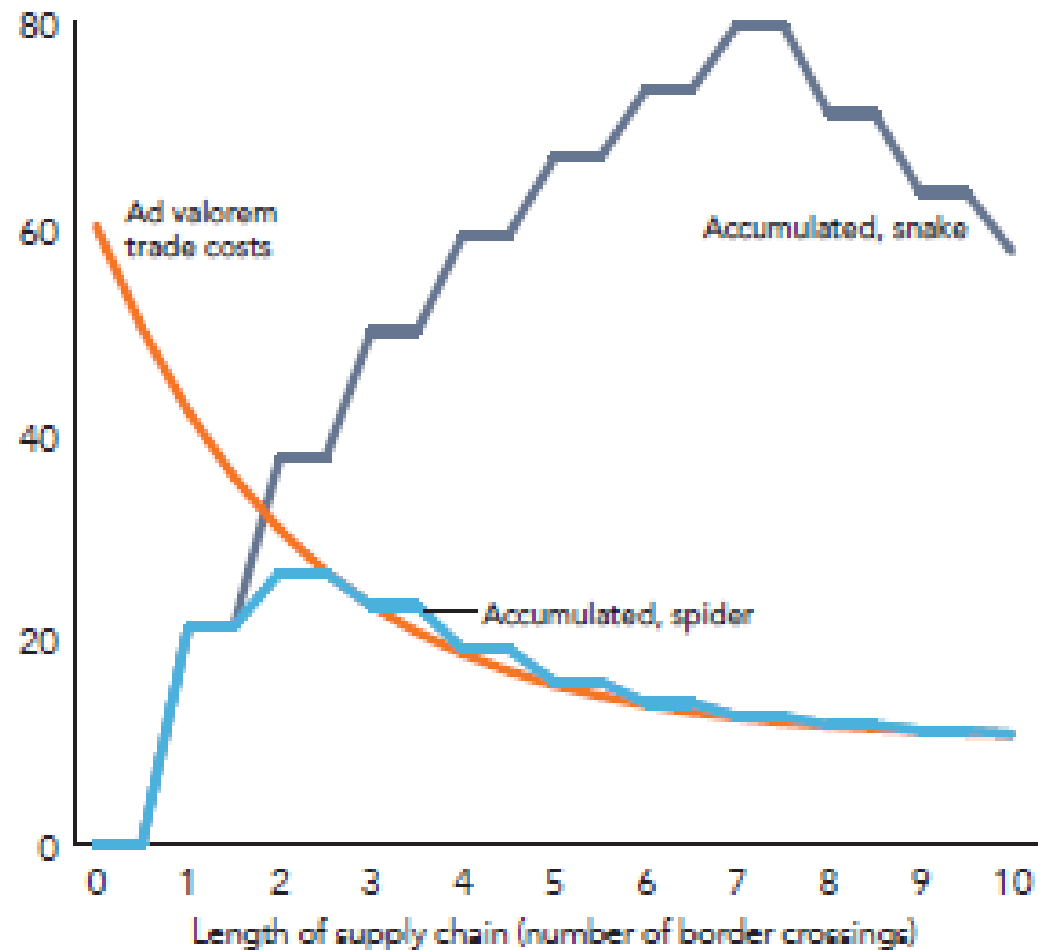


FIGURE 4.3 Ad valorem and accumulated trade costs in snakes and spiders

Ad valorem trade cost (%)



# Sources for tariff data and indicators.

- WTO integrated database (IDB) and Consolidated Tariff Schedules database (CTS): MFN applied tariffs and imports of WTO Members at the tariff-line level which often means 8 digits, sometimes even 10 digits, starting in 1996.
- WTO Tariff Analysis Online ([TAO](#)).
- WTO tariff profile
- CEPII and IFPRI's [MAcMap](#) database: a set of files at the tariff line level of the bilateral measurement of applied tariff duties, taking regional agreements and trade preferences exhaustively into account.
- [AMAD](#) (Agricultural Market Access Database)

**WITS** and **ITC** provides integrated platform to access to databases on trade and trade-policy measures

# **NON-TARIFF MEASURES**

# Definition

- “Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both”
- Source: UNCTAD / GNTB-MAST

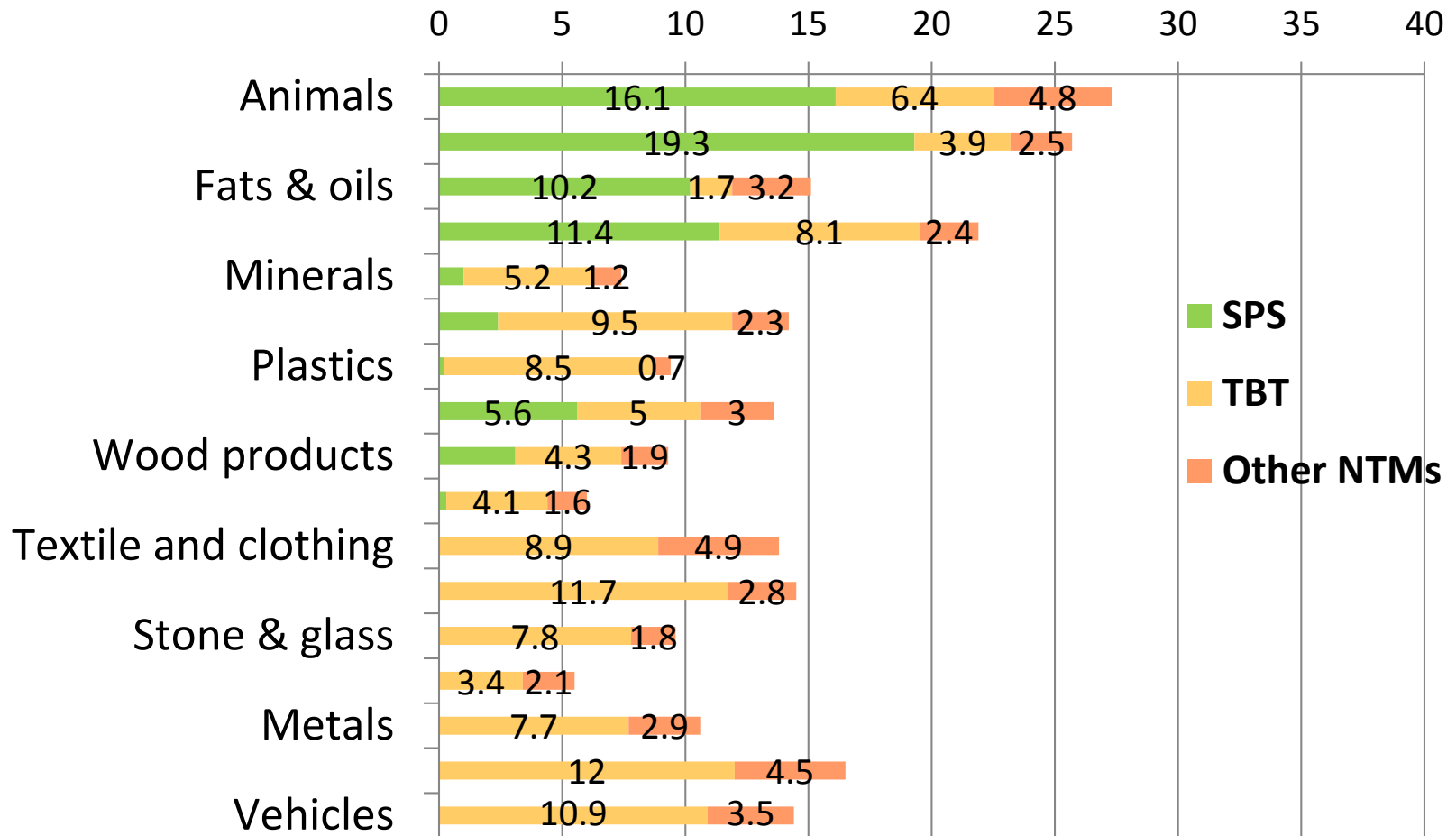
## Non-Tariff Measures (Examples)

Quotas	Technical requirements	Export subsidies
Import bans	Export restrictions	Minimum import price
Sanitary and phyto-sanitary conditions	Import licenses	Voluntary Export Restraints
Determination of eligibility (geographical)	Quality conditions, and proofs	Certificate of Origin

# Definition

- All policy-related trade costs incurred from production to the final consumer, with the exclusion of tariffs
- Countries are allowed by the WTO to regulate their imports and exports in order to achieve legitimate non-trade objectives.
- They can be used for :
  - Correcting various market failures such as informational asymmetries, externalities and monopoly power (price ceiling)
  - Protect consumer health (standards, certification, labelling)
  - Safeguard the environment (import ban)
  - Protection of national industries or infant industries (bailouts, subsidy)

# World average ad-valorem equivalent of NTMs



Source : Cadot and Gourdon (2015)

# Major issues

- **Barriers vs Measures:**
  - NTM is a neutral concept – the whole “universe”
  - NTBs = subset of NTMs (no agreed definition/criteria)
  - Negative effect (research, survey, complaints...), protectionist intent or legality (WTO, FTA, ...)
- **Procedural obstacles:**
  - Hardly any (NTM) policy comes without procedure... e.g. customs procedures, paperwork, delays in inspections
  - Sometimes considered part of NTBs



- **Trade Facilitation:**

- Mostly related to procedures (which come with every NTM)
- Low hanging fruit, as it is somehow independent of the policy dimension and only relates to pure "costs"

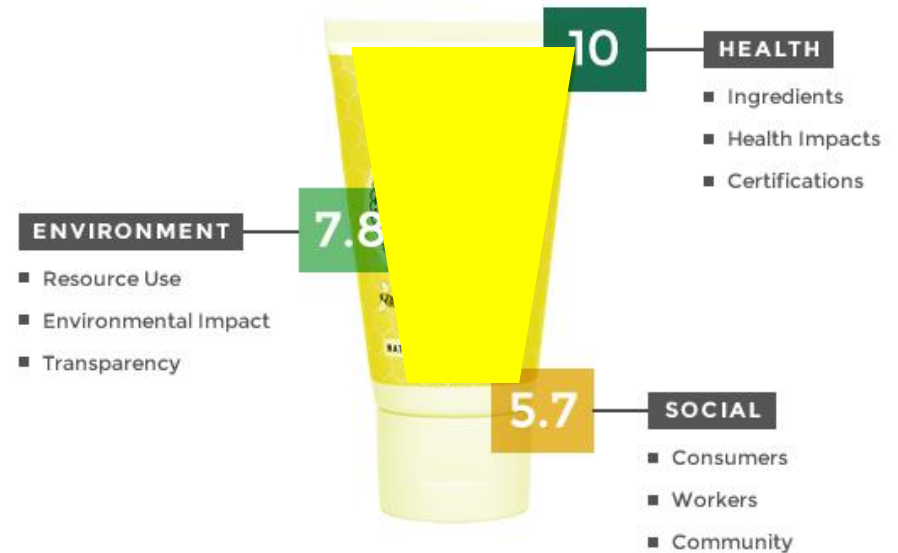
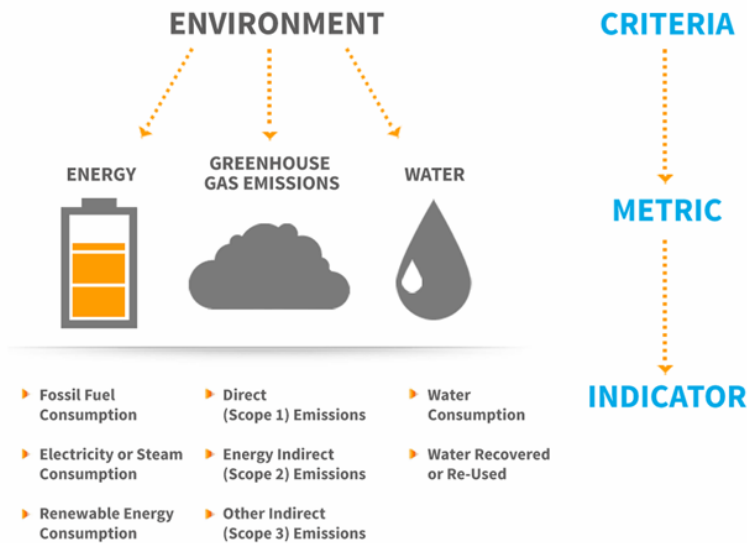
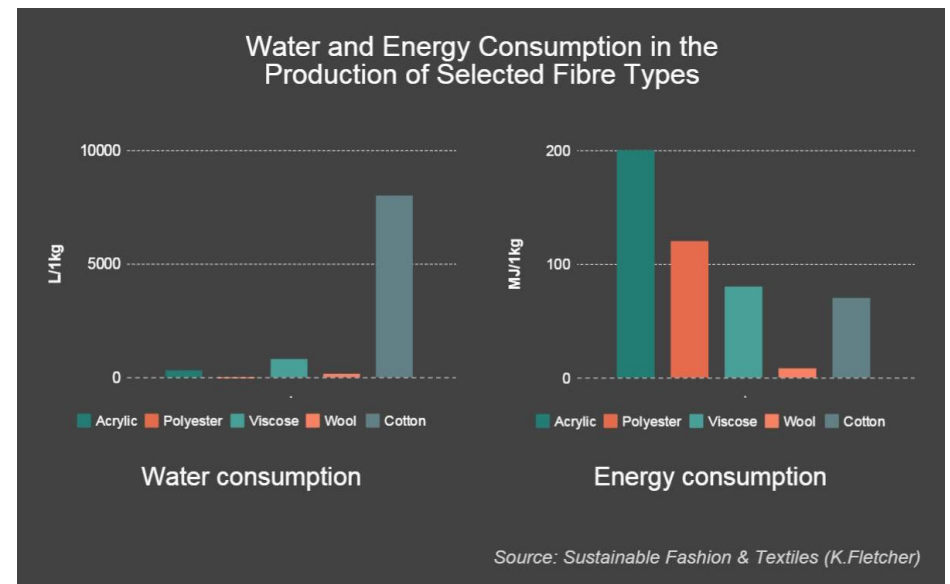
- **Private standards:**

- "Standards" are voluntary, a priori
- driven by consumer preferences (FairTrade, etc.) but can become de facto mandatory and highly restrictive
- Governments can make them de jure mandatory (=NTM)



# EVERY PURCHASE MATTERS

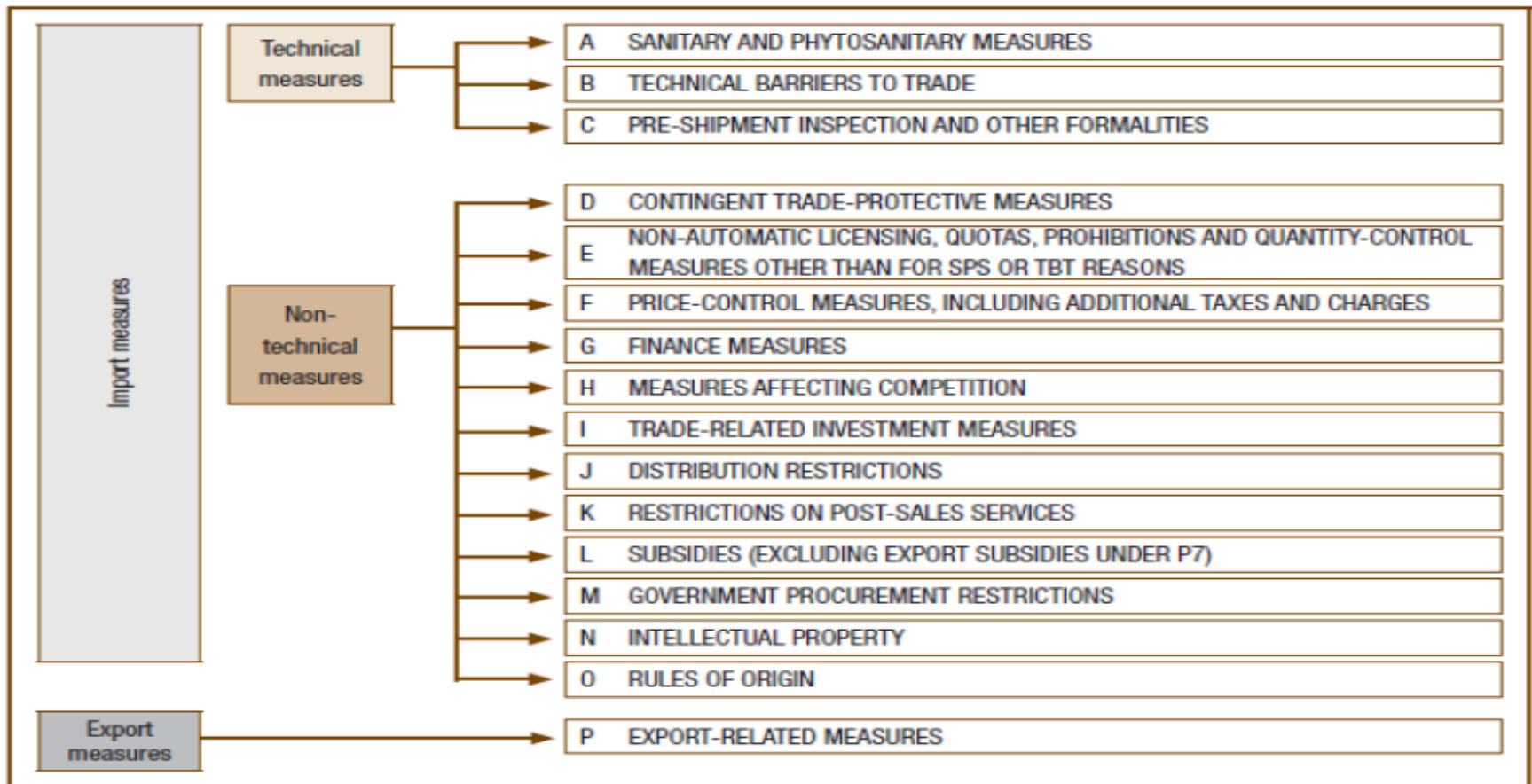
Quality Products. Improving Lives. Protecting the Environment.



- **NTM Classification**

# Multi-Agency Support Team (MAST)

## 2012 classification of NTMs



# NTM classification

- Tree branch structure
- NTMs are classified into 16 chapters depending on their scope and/or design (from A to P).
- Each chapter is further divided into sub-groups (up to three digits) to allow a finer classification of the regulations affecting trade
- All chapters (except chapter P, which deals with exports) reflect the requirements of the importing country with regard to its imports

# Let us look at a chapter : NTM classification

## **A2 Tolerance limits for residues and restricted use of substances**

### **A21 Tolerance limits for residues of or contamination by certain (non-microbiological) substances**

A measure that establishes a maximum residue limit (MRL) or tolerance limit of substances such as fertilisers, pesticides, and certain chemicals and metals in food and feed, which are used during their production process but are not their intended ingredients: It includes a permissible maximum level (ML) for non-microbiological contaminants. Measures related to microbiological contaminants are classified under A4 below.

*Examples: (a) MRL is established for insecticides, pesticides, heavy metals and veterinary drug residues; (b) POPs and chemicals generated during processing; (c) residues of dithianon in apples and hop.*

### **A22 Restricted use of certain substances in foods and feeds and their contact materials**

Restriction or prohibition on the use of certain substances contained in food and feed. It includes the restrictions on substances contained in the food containers that might migrate to food.

*Examples: (a) Certain restrictions exist for food and feed additives used for colouring, preservation or sweeteners; (b) For food containers made of polyvinyl chloride plastic, vinyl chloride monomer must not exceed 1 mg per kg.*

# Analyzing NTMS

- **Incidence**
  - Looking at individual measures
  - Incidence statistics (descriptive statistics) like coverage/frequency ratio
- **Impact**
  - Direct economic (on trade, prices)
  - Indirect economic (employment, poverty, ...)
  - Non-economic! Environment, health...

- **Incidence statistics**

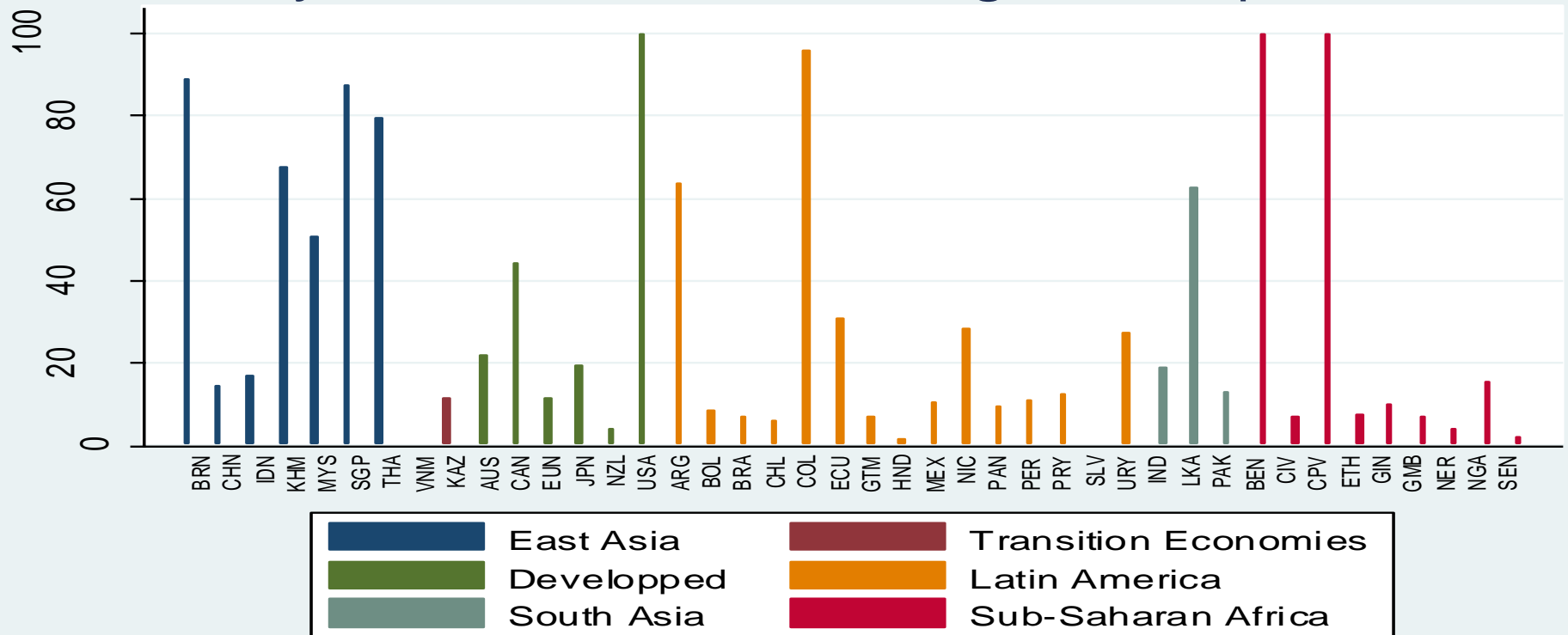


# Incidence statistics

- ***Frequency ratio***
- Share of HS6 lines (within a group) that are affected by at least one measure
- ***Coverage ratio***
  - Frequency ratio weighted by import value
  - Share of import value of HS6 lines (within a group) that are affected by at least one measure
  - Endogeneity issue

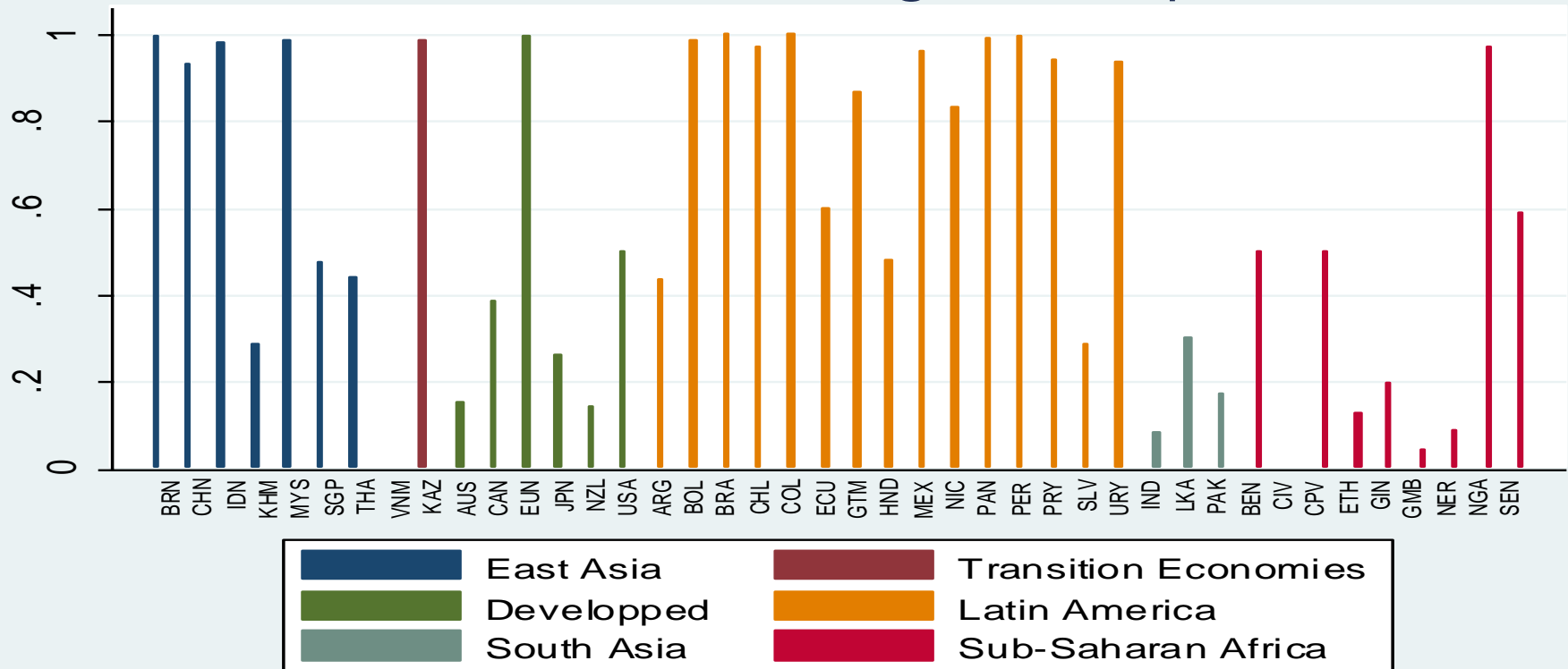
# Frequency Ratio : Example

Percentage of imported hs6 digit lines covered by a non-technical NTM in agricultural products



# Coverage Ratio : Example

Percentage of imported value covered by a non-technical NTM in agricultural products



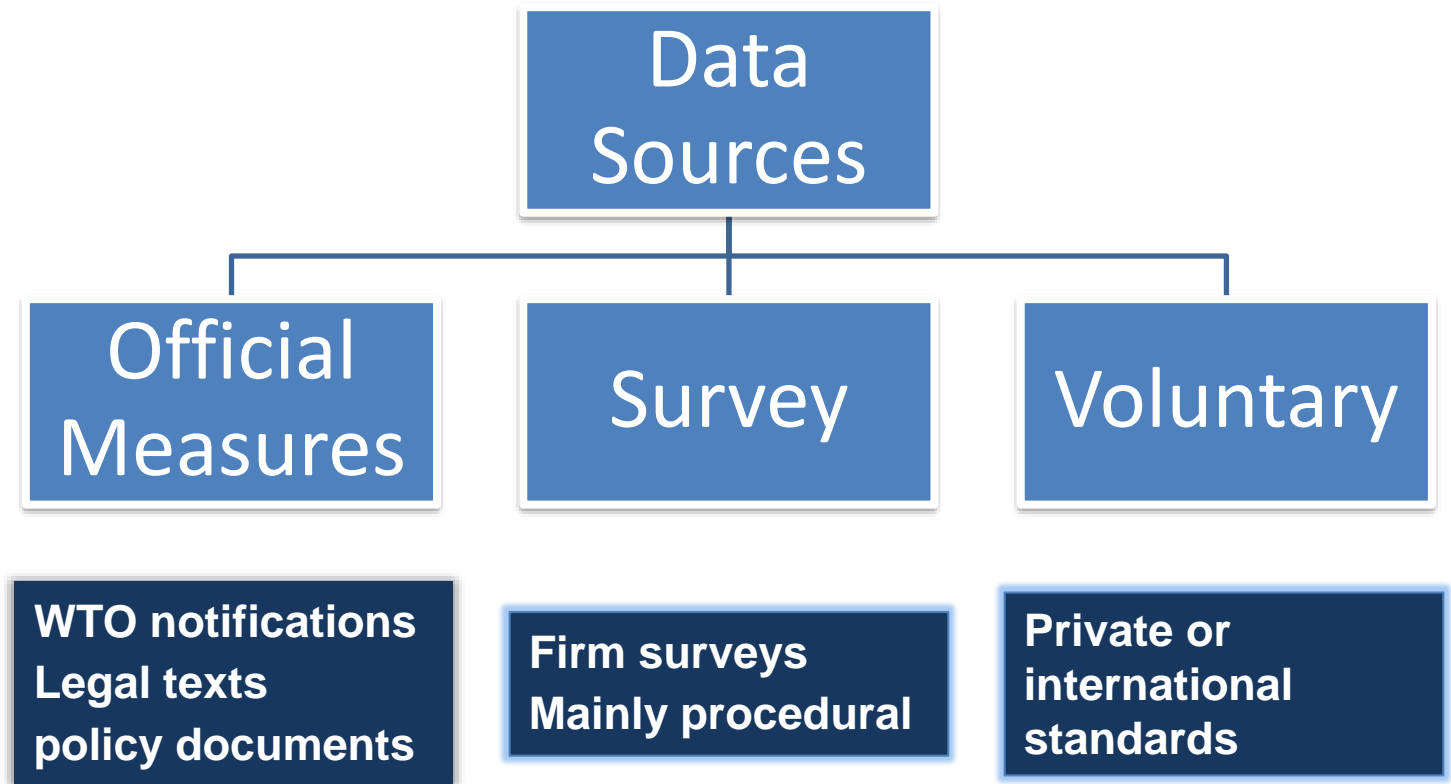
# Potential drawbacks

- The stiffness of the NTM is not taken into account
- Potential bias in the coverage ratio: a prohibitive NTM reducing imports of a certain category of goods to a very low level mechanically reduces the category's share in total imports, resulting in a low coverage ratio
- Frequency indexes give the same weight to products that are not imported and to products that are imported in large amounts
- NTM inventories may be incomplete and their coverage of measures may differ across measures and countries

## Other Incidence statistics

- Number of distinct measures per product
- Focus on specific measure types

# Data Sources



# Data Source I : [i-tip.unctad.org](http://i-tip.unctad.org)



WORLD TRADE  
ORGANIZATION



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## UNCTAD i-TIP in cooperation with WTO

### I-TIP official NTMs: Integrated analysis and retrieval of collected official non-tariff measures

I-TIP official NTMs provides comprehensive information on non-tariff measures (NTMs) applied in merchandise trade as well as analytical tools. The information includes members' technical and non-technical measures as well as export measures (TRAINS NTM database). The information has been retrieved only official sources including mainly national laws and regulations. Measures are classified according to the International Classification of NTMs at the NTM level and the Harmonized System HS classification at the product level. It includes links to UNCTAD's TRAINS tariff database and to original documents.

The software i-TIP has been developed by the WTO for notifications and made available to UNCTAD to disseminate collected official NTM data. The United Nations gratefully acknowledge this. An objective of both organizations is to provide free access to the most comprehensive, up-to-date and highest quality non-tariff measure data.

Choose one of the following options:



#### GRAPHS over TIME

- You can see and select stocks or flows of Non-Tariff Measures (NTMs), by type of measure.
- See individual measures by simply clicking on any bar in the graphs!
- This option does not allow the selection of country or product affected.

#### TABLES by MEASURE

- Look at the incidence of NTMs by country imposing the measure.
- This option does not allow a selection of products.

#### 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 MEMBERS

- Look at the incidence of NTMs by WTO member and geographical regions.
- See individual measures by simply clicking on any number in the tables!

#### DETAILED QUERY

- Select any combination of the five criteria: type of NTM, dates, country imposing, country affected, and product. Get tabular listing of NTMs.
- Drill down for additional details.
- Export summary and detailed NTM information.

#### WHAT IS AVAILABLE NOW

- Interim NTM data for the United States of America (incomplete)

#### To be added in 2015

- Final NTM data for the United States of America
- NTM data for ASEAN
- NTM data for West Africa (ECOWAS)
- NTM data for Latin America (ALADI)
- NTM data for the European Union
- currently collecting: NTM data for several developed countries

Contact us: [tab@unctad.org](mailto:tab@unctad.org)

Version: 1.0

# Data Source 2: wits.worldbank.org

World Integrated Trade Solution

WITS World Integrated Trade Solution

Home About WITS Country Profile Reference Training GPTAD Support Links

Custom Query Share

INTRODUCTION

The World Integrated Trade Solution (WITS) software provides access to international merchandise trade, tariff and non-tariff measures (NTM) data. Browse the country profile and related pages to view trade (exports and imports with countries and by product groups), tariff (Effectively Applied and MFN) and relevant development data like Trade as percentage of GDP and others. Register and log in to WITS to perform custom analysis, using standard and derived product classifications. WITS also features built-in analytical tools that help assess the impact of tariff cuts. Use the Trade Outcomes module to assess trade competitiveness of countries by calculating and visualizing trade indicators. Read More.

MY COUNTRY: Switzerland 2012 VIEW DETAILED DATA FOR THIS COUNTRY

Trade Summary

Import (US\$ Mil)	197,787
Export (US\$ Mil)	225,949
Weighted Average Tariff (%)	...
Trade (% of GDP)	94.16
GDP (current US\$ Mil)	631,000

View All >

Export Partners

Exports by Product Groups

WITS CUSTOM QUERY

To execute custom queries registration is necessary.

Register Now >

Already a Member?

Login >

Facebook Twitter LinkedIn Google+ YouTube SoundCloud RSS

SUPPORT LINKS

- Glossary
- Metadata
- Concordances
- Did you know
- FAQ

WORLD AT A GLANCE

Top Importers 2012

	Trade (US\$ Mil)	Share %
United States	2,028,202	11.83
China	1,391,848	8.12
Germany	1,061,773	6.19
Japan	664,999	3.88
United Kingdom	644,221	3.76

View All >

Top Exporters 2012

	Trade (US\$ Mil)	Share %
China	2,260,298	12.90
United States	1,438,335	8.21
Germany	1,298,071	7.41
Japan	867,318	4.95
France	550,992	3.15

View All >

Exports by Product Groups 2012

TOOLS

Simulation Tool

Offline Tool

FEATURED

RELATED LINKS

- Transparency in Trade
- United Nations - Conference on Trade and Development - TRAINS
- World Bank - Temporary Trade Barriers Database
- World Bank Trade Post (Trade Blogs)
- United Nations - Statistics Division - Comtrade



# Data exercise - I

## Calculating descriptive statistics

- **Three Steps**

- **1. Get UNCTAD NTM data from WITS**
- Watch out for proper data availability (only if the field 'NTM Measures' shows all types of measures (A to P))
- **2. Get trade data from WITS**
- **3. Get full HS product code list at 6 digits**

The screenshot shows the 'NTM - View and Export Raw Data' page on the WITS website. The URL is `wits.worldbank.org/WITS/WITS/QuickQuery/NTMs/NTMsQuickQuery.aspx?Page=NTMs`. The page title is 'NTM - View and Export Raw Data'. Below the title, there is a description: 'This option provides you with primary information on non-tariff measures (NTMs), collected and classified by UNCTAD and stored in the WITS database. You can download the entire raw data on NTMs for that country/year, or filter the data by affected products, type of NTMs (according to the NTM Classification), source of information, date of enforcement, etc. A detailed inventory by country of available non-tariff measures can be [downloaded here](#).' The page contains several input fields and buttons. The 'Reporter' field is set to 'Japan' and the 'Year' field is set to '2015'. The 'NTM Measures' section has a list of measures with 'ALL - All NTM Measure Codes' selected. The 'Selected NTM Measures' section shows 'ALL - All NTM Measure Codes' and a button to 'Remove All'. The 'Search based on level of aggregation' section has a 'Tier' dropdown set to '[Select Tier]' and a 'Products' dropdown set to 'All Products'. The 'Selected Products' section shows 'All Products' and a button to 'Remove All'. The 'Products' list includes '01 -- LIVE ANIMALS', '02 -- MEAT AND EDIBLE MEAT OFFAL', '03 -- FISH AND CRUSTACEANS, MOLLUSCS AND', '04 -- DAIRY PRODUCE; BIRDS' EGGS; NATURAL', '05 -- PRODUCTS OF ANIMAL ORIGIN, NOT ELSE', '06 -- LIVE TREES AND OTHER PLANTS; BULBS, I', and '07 -- FOODS OF VEGETABLES AND CERTAIN ROOTS'.

**NTM - View and Export Raw Data**

This option provides you with primary information on non-tariff measures (NTMs), collected and classified by UNCTAD and stored in the WITS database. You can download the entire raw data on NTMs for that country/year, or filter the data by affected products, type of NTMs (according to the NTM Classification), source of information, date of enforcement, etc. A detailed inventory by country of available non-tariff measures can be [downloaded here](#).

**Reporter :** Japan  
**Year :** 2015

**NTM Measures :**

- ALL - All NTM Measure Codes
- A - Sanitary and phytosanitary measures
- B - Technical barriers to trade
- C - Pre-shipment inspection and other formalities
- E - Non-automatic licensing, quotas, prohibitions and quantity control measures other than for SPS or TBT reasons
- F - Price control measures including additional taxes and charges
- G - Finance measures

**Selected NTM Measures :**

ALL - All NTM Measure Codes

Added 1 NTM Measure(s)

Remove Remove All

**Search based on level of aggregation**

**Tier :** [Select Tier]  
Enter a Product

**OR**

**Products :**

- All Products
- 01 -- LIVE ANIMALS
- 02 -- MEAT AND EDIBLE MEAT OFFAL
- 03 -- FISH AND CRUSTACEANS, MOLLUSCS AND
- 04 -- DAIRY PRODUCE; BIRDS' EGGS; NATURAL
- 05 -- PRODUCTS OF ANIMAL ORIGIN, NOT ELSE
- 06 -- LIVE TREES AND OTHER PLANTS; BULBS, I
- 07 -- FOODS OF VEGETABLES AND CERTAIN ROOTS

**Selected Products :**

All Products

Added 1 Product(s)

Remove Remove All

- **Impact of NTMs**

# Impact of NTMs

- The **ad valorem equivalent (AVE)** corresponds to the tariff equivalent that has the same impact on trade. The AVE measures the gap in the product's price with and without the NTM.
- **Calculating ad valorem equivalent (AVE)**
- **I. Direct method (using prices)**

$$AVE_{NTM} = \left( \frac{p_d}{p_w} \right) - (1 + \tau + c),$$

where  $p_d$  is the domestic price (net of retailers' margins),  $p_w$  is the world price (net of producers' and exporters' margins),  $\tau$  is the ad valorem tariff, and  $c$  represents all other costs such as transport or insurance costs

- **Calculating ad valorem equivalent : Direct Method**

1. the "handicraft" approach – consists of collection of precise and detailed data on all factors other than the NTM influencing the domestic price of a product
2. The domestic price of a good is regressed on the world price, on some importing country's characteristics, and on tariffs and NTMs. A simple dummy or a frequency index is usually used for the measure of the NTMs. The estimated coefficient on this NTM variable represents the AVE.

## ii. Calculating AVE: Indirect Method (Quantities)

- $\ln M_{i,j,h,t}$   
$$= \beta_{0,n} + \beta_{1,n} \ln(1 + t_{i,j,n,t}) + \beta_2 NTM_{i,j,n,t} + \beta_3 C_{i,j,n,t} + \varepsilon_{i,j,n,t}$$

- The impact of an NTM is

$$\widehat{\beta_2} = \frac{\partial \ln M}{\partial NTM} = \frac{\partial \ln M}{\partial P^d} \frac{\partial P^d}{\partial NTM} = \frac{\partial \ln M}{\partial P^d} AVE$$

- The import demand elasticity is defined as  $\epsilon \equiv \frac{\partial \ln M}{\partial P^d}$

# NTM and SDGs

- **Indirect effect**
- NTMs seen as trade costs
- Trade costs reduce trade opportunities
- **Direct effect**
- NTMs are policies to protect human, animal and plant health, or to protect the environment
- Example : food security (SDG 2), ensure sustainable production, consumption (SDG 12)

# NTMs and SDG17

- **Coherence**
  - SDGs may lead to increased regulatory activity to "directly" influence sustainability...but "indirect" linkages must not be ignored
  - Need to assess costs and benefits of NTMs for coherence
- **Convergence**
  - Harmonization : both trading partners adopt a common NTM
  - Mutual recognition : the reciprocal acceptance of NTMs
  - Both can help reduce trade costs and (potentially) boost trade
- **Transparency is paramount**

# Key takeaway

- Trade (and non-trade) measures determine trade performance and SDG achievement
- Market access is good, but domestic reforms are even better.
- Dealing with current global trade challenges require holistic approach.
- Strengthen the means of implementation and global partnership should pay attention on NTM issues.



Thank you!

[anukoonwattaka@un.org](mailto:anukoonwattaka@un.org)