



# **Expert meeting on "Indicators to monitor the impact of NTMs on SDG progress"**

**Review of theoretical and empirical work  
on the measurement of NTMs  
Or: “juggling crucial specifics and generalization”**

Bangkok, Thailand

31 May 2017

**Christian Knebel**  
**Trade Analysis Branch, DITC**  
**UNCTAD**



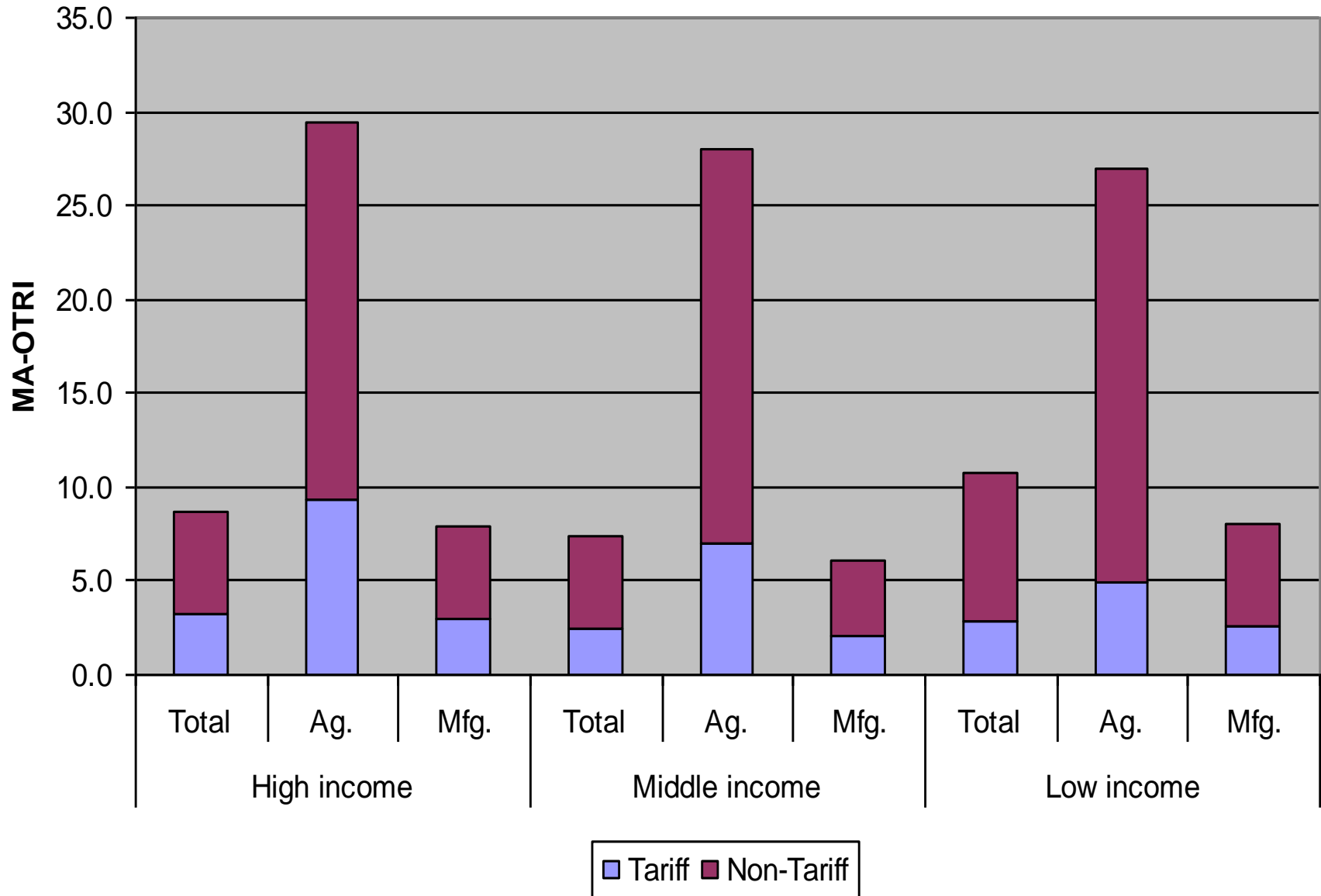
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# A primer on NTMs





# NTMs vs tariffs – by sector and income





# UNCTAD-MAST Classification:

## The common language

Multi Agency Support Team  
(FAO, IMF, ITC, OECD,  
UNCTAD, UNIDO,  
World Bank, WTO)  
initiated by UNCTAD  
updated NTM classification



CLASSIFICATION  
OF NON-TARIFF MEASURES  
FEBRUARY 2012 VERSION



Imports	Technical measures	<p><b>A</b> SANITARY AND PHYTOSANITARY MEASURES</p> <p><b>B</b> TECHNICAL BARRIERS TO TRADE</p> <p><b>C</b> PRE-SHIPMENT INSPECTION AND OTHER FORMALITIES</p>
	Non technical measures	<p><b>D</b> CONTINGENT TRADE-PROTECTIVE MEASURES</p> <p><b>E</b> NON-AUTOMATIC LICENSING, QUOTAS, PROHIBITIONS AND QUANTITY-CONTROL MEASURES OTHER THAN FOR SPS OR TBT REASONS</p> <p><b>F</b> PRICE-CONTROL MEASURES, INCLUDING ADDITIONAL TAXES AND CHARGES</p> <p><b>G</b> FINANCE MEASURES</p> <p><b>H</b> MEASURES AFFECTING COMPETITION</p> <p><b>I</b> TRADE-RELATED INVESTMENT MEASURES</p> <p><b>J</b> DISTRIBUTION RESTRICTIONS</p> <p><b>K</b> RESTRICTIONS ON POST-SALES SERVICES</p> <p><b>L</b> SUBSIDIES (EXCLUDING EXPORT SUBSIDIES UNDER P7)</p> <p><b>M</b> GOVERNMENT PROCUREMENT RESTRICTIONS</p> <p><b>N</b> INTELLECTUAL PROPERTY</p> <p><b>O</b> RULES OF ORIGIN</p>
	Exports	<p><b>P</b> EXPORT-RELATED MEASURES</p>



# Official NTM data collection → qualitative data

- From here
- to here...

## The Gazette of the Democratic Socialist Republic of Sri Lanka EXTRAORDINARY

අංක 1376/9 - 2005 ජනවාරි 19 වැනි බදාදා - 2005.01.19  
No. 1376/9 - WEDNESDAY, JANUARY 19, 2005

(Published by Authority)

### PART I : SECTION (I) — GENERAL Government Notifications

#### FOOD ACT, No. 26 OF 1980

REGULATIONS made by the Minister of Health in consultation with the Food Advisory Committee under No. 26 of 1980.

NIMAL SIR  
Minister of Health  
Uva Wellas

Colombo.  
17th January, 2005.

#### Regulations

01. These Regulations may be cited as "Food (Labelling and Advertising) Regulations 2005."

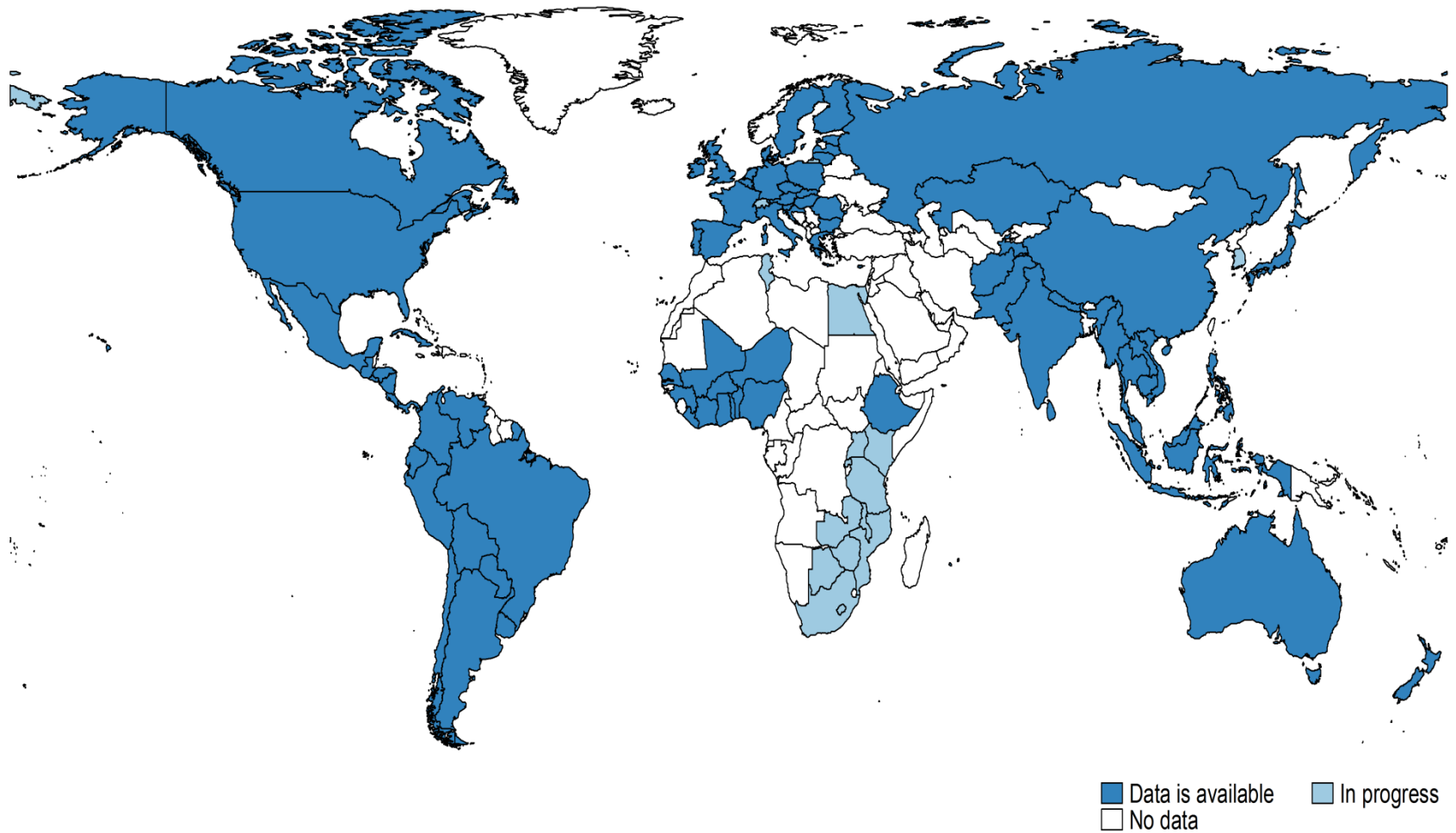
02. No person shall sell, offer for sale, expose or keep for sale, transport or advertise for sale, any food container unless such package or container is labelled in accordance with these regulations.

Provided however that, these regulations shall not apply to any package of food if the food is of the national brand requested by the purchaser and is weighed, counted or measured in the presence of the purchaser.

Measures						
Enter the list of non-tariff measures you found in the official trade regulations you collected. These must be linked to						
Document Title	Regulation Title Short	NTM Code	Measure Implementation Date	Measure Repealed Date	Measure Description	Affected Products Description
Food Act	Food (Control of import, labelling, and sale of genetically modified foods) Regulation 2006	B14	01/01/2007		Needs to get approval of the Chief Food Authority in order to import	Food products
Food Act	Food (Control of import, labelling, and sale of genetically modified foods) Regulation 2006	B31	01/01/2007		Labelling Requirements	Food products
Food Act	Food (Irradiation) Regulations 2005	A31	01/05/2006		Labelling Requirements	Food products that had been treated with irradiation
Food Act	Food (Irradiation) Regulations 2005	A83	01/05/2006		Certification by the competent authorities of the country of origin that the food has been inspected	Food products that had been treated with irradiation
Food Act	Food (Irradiation) Regulations 2005	A89	01/05/2006		Documentation that the Food Irradiation Facility concerned is approved, licensed, authorised by the competent national authority of food irradiation	Food products that had been treated with irradiation
Food Act	Food (Irradiation) Regulations 2005	P62	01/05/2006		Certification by the competent authorities of the country of origin that the food has been inspected	Food products that had been treated with irradiation
Food Act	Food (Melamine in Milk and Milk Products) Regulations 2010	A22	01/01/2011		Specifying permitted ppm levels of melamine in milk and milk products	Milk and Milk Products
Food Act	Food (Melamine in Milk and Milk Products) Regulations 2010	A83	01/01/2011		A health certificate required from the National Food Safety Authority of the country of origin that the products conform to the levels of melamine specified	Milk and Milk Products
Food Act	Food (Packaging materials and articles) Regulation 2010	A32	01/06/2011		Marking requirements - need to print the words "FOR FOOD USE" or any other relevant words or symbols as indicated in the regulation	Food packaging material
Food Act	Food (Packaging materials and articles) Regulation 2010	A83	01/06/2011		Certification by the manufacturer that the material meets required quality standards	Food packaging material
Food Act	Food (Packaging materials and articles) Regulation 2010	A22	01/06/2011		Restricted use of certain substances in food packaging material	Food packaging material
Food Act	Food (Preservatives) Regulations	A19	01/01/1991		Prohibited to import, manufacture, sell or distribute food preservatives other than those specified in the regulation & food which has in or upon it any preservative that is permitted by the regulation	Food preservatives



# Data Availability





# UNCTAD i-TIP in cooperation with WTO

For policy makers, private sector and research:

i-TIP portal (in cooperation with WTO)

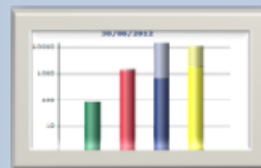
[i-tip.unctad.org](http://i-tip.unctad.org)

## 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.

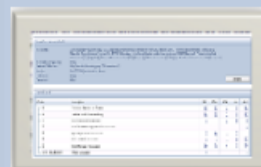
The software i-TIP has been developed by the WTO for notifications and made available to UNCTAD to disseminate collected official NTM data. The United Nations gratefully acknowledge this. An objective of both organizations is to provide free access to the most comprehensive, up-to-date and highest quality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

Choose one of the following options:



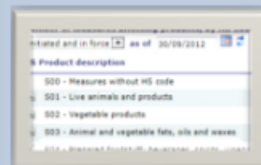
### GRAPHS over TIME

- 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.



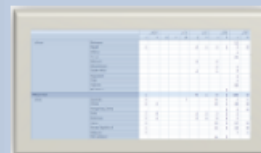
### TABLES by MEASURE

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



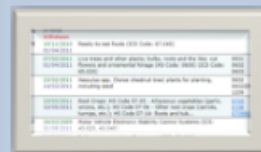
### TABLES by PRODUCTS

- 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)

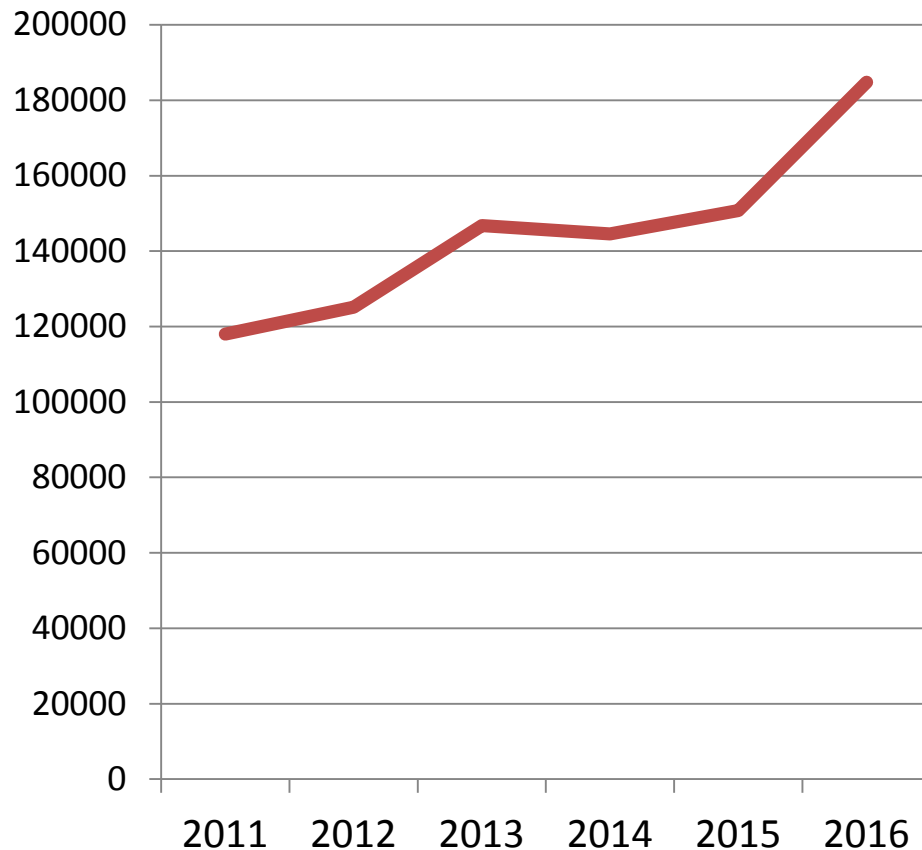
Version: 1.0



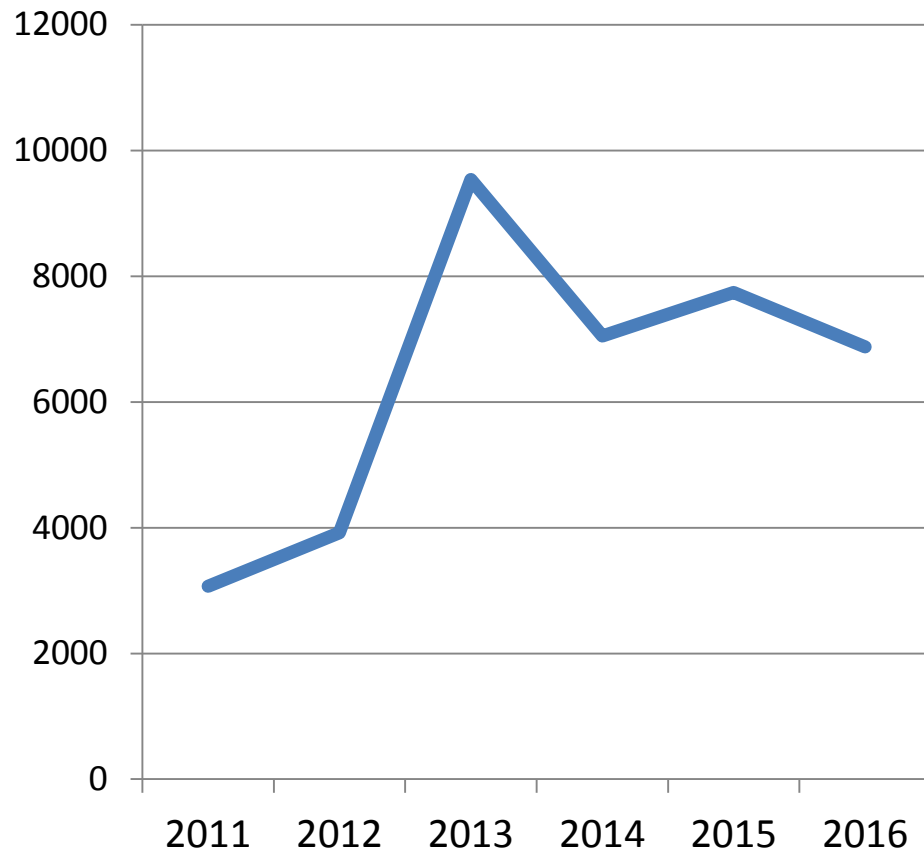
# Example: using i-TIP ... or “specifics matter”

## What happened in Singapore in 2013?

Thailand's exports of cigarettes  
to the **World** (HS 240220)

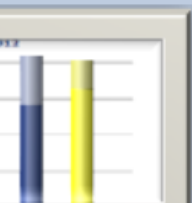
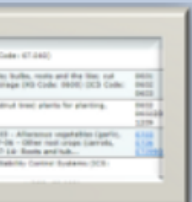
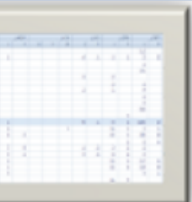
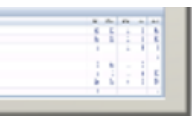


Thailand's exports of cigarettes  
to **Singapore** (HS 240220)





# Simple quick search in UNCTAD i-TIP...



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.

## ANALYSIS

- 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.

the five options above you obtain a summary table with measures by country, product and type of  
ng-down you will find a table with detailed information of individual measures, where, through links,  
document relevant to each measure. You can export data at the summary or at the detailed level.

- Cambodia
- Indonesia
- Laos
- Malaysia
- Myanmar
- Philippines
- Singapore
- Thailand
- Vietnam

### QUICK SEARCH

Member imposing  
Singapore

Partner affected

Product affected  
240220 - Cigarettes containing tobacco

Search

Contact us:  
[ntm.asean@unctad.org](mailto:ntm.asean@unctad.org)  
[contactus@eria.org](mailto:contactus@eria.org)



# ...select measure type and show details...

Home

TABLES by PRODUCTS

TABLES by MEASURE

TABLES by MEMBERS

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]

Member(s) imposing:

Singapore

Partner(s) affected:

Any [Include the category "All members"]

Date(s):

26/05/2017 [in force]

Product(s):

HS codes: 240220

Modify

Search result

Your query covers 12 measures

Export to excel

Show details

☒ Show affected countries grouped (bilateral, All Members)

Measures:

Member imposing	Partner affected	Requirements	Phase	Measures	
Singapore	All Members	Export-related measures	In force	1	<input checked="" type="checkbox"/>
Singapore	All Members	Price control measures	In force	2	<input checked="" type="checkbox"/>
Singapore	All Members	Technical Barriers to Trade	In force	8	<input checked="" type="checkbox"/>
Singapore	Bilateral	Export-related measures	In force	1	<input checked="" type="checkbox"/>



# ...measures introduced in 2013...

## Strict labelling requirements and health warnings

Search result

Your query covers 8 measures and

Your selection resulted in 8 measures



Export to excel



Return to summary

Measures:

Member imposing	Partner affected	Category	Measure description	Also domestic	Product description	HS	Source	National legal basis	In force Withdrawn
Singapore	All Members	TBT B31	<u>distribute, sell...</u> <b>Health information on cigarette retail packages 7.—(1) In addition to the warning referred to in regulation 4(1) or 5(1), there shall be clearly and conspicuous...</b>	Yes	<u>substitute, rolled up in...</u> cigarette	240220 24029020	Attorney General's Chamber	<b>other link</b>	01/03/2013
Singapore	All Members	TBT B31	<u>Warnings on smoked tobacco products 4.—(1) Except as provided in regulation 5, there shall be clearly and conspicuously printed on every retail package of any s...</u>	Yes	"smoked tobacco product" means any product that contains tobacco other than a smokeless tobacco product	2402 240311 240319 ...	Attorney General's Chamber -	other link	01/03/2013
Singapore	All Members	TBT B33	<u>Warnings on smoked tobacco products 4.—(1) Except as provided in regulation 5, there shall be clearly and conspicuously printed on every retail package of any s...</u>	Yes	"smoked tobacco product" means any product that contains tobacco other than a smokeless tobacco product	2402 240311 240319 ...	Attorney General's Chamber -	other link	01/03/2013
Singapore	All	TBT	<u>Prescribed goods 2.—(1) Section</u>	Yes	<u>1. Beedies. 2. Cigarettes. 3. Cigars and</u>	2203	Attorney General's Chamber -		31/10/2014



# ...directly go to full regulation text (careful: no causality proven here...)

[Home](#) | [About Us](#) | [Browse](#) | [Advanced Search](#) | [Results](#) | [My Preferences](#) | [FAQ](#) | [Help](#) | [SSO Enhancements](#)

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**Whole Document**

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**Tobacco (Control of Advertisements and Sale) Act**  
**CHAPTER 309**



**Long Title**

**Part I PRELIMINARY**

- ☐ 1 Short title
- ☐ 2 Interpretation

**Part II CONTROL OF ADVERTISEMENTS RELATING TO  
TOBACCO PRODUCTS AND IMITATION TOBACCO  
PRODUCTS**

- ☐ 3 Prohibition on advertisements relating to tobacco products and imitation tobacco products
- ☐ 4 Defences
- ☐ 5 Offences by owner and occupier
- ☐ 6 Presumption relating to printed documents
- ☐ 7 Advertisements in newspapers published outside Singapore
- ☐ 8 Advertisements not exempted

**Part III CONTROL OF SALE OF TOBACCO PRODUCTS**

- ☐ 9 Prohibition on sales promotion of tobacco products

On 26/05/2017, you requested the version in force on 26/05/2017 incorporating all amendments published on or before 26/05/2017. The closest version currently available is that of 01/08/2016.

**TOBACCO (CONTROL OF  
ADVERTISEMENTS AND SALE) ACT**  
**(CHAPTER 309)**

(Original Enactment: Act 10 of 1993)

REVISED EDITION 2011

(15th July 2011)

An Act to prohibit advertisements relating to any tobacco product or its use, to control the use of tobacco products by young persons, to control the sale, packaging and trade description of tobacco products and for matters connected therewith.

[31st May 1993]

PART I



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# Priorities?





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## Two different challenges

a) Traditional non-tariff *barriers*

b) *Technical measures* to trade: SPS and TBT





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## Two different challenges

### a) **Traditional non-tariff *barriers***

...Quotas, price mechanisms, contingent protection, etc.

...(and procedural barriers)

- *Usually imposed by ministries responsible for trade/economy/industry*
  - Elimination possible
  - Simple indicators of prevalence?!

### b) ***Technical measures to trade: SPS and TBT***





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## Two different challenges

### a) Traditional non-tariff *barriers*

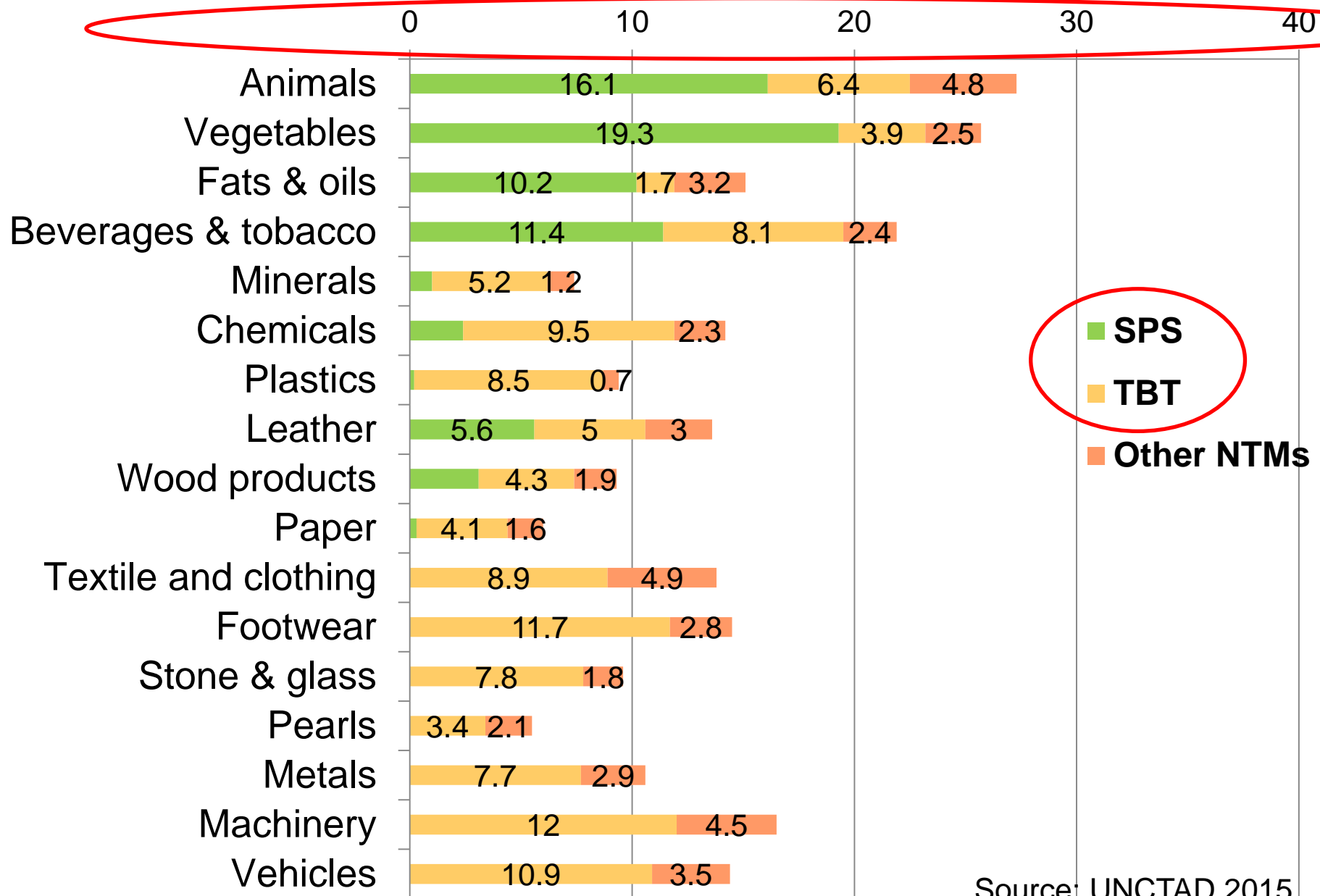
### b) *Technical measures to trade: SPS and TBT*

- partially addressed by WTO
- *Direct* impact on sustainable development: to protect human, animal and plant health, or the environment
  - elimination *not* an option
- *Usually regulated as (domestic) market policy by ministries for agriculture/health/...and Bureaus of Standards*
  - Transparency and good regulatory practices
  - Regulatory coherence and convergence
  - International standards





# Global average cost NTMs – by type!



Source: UNCTAD 2015



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## The deeper policy challenges: links between NTMs and sustainable development

- Sustainable development = *economic, environmental, social* dimensions
- NTMs a trade costs → **indirect** burden on economic development (“trade – growth nexus” or “export led growth”)
- ➔ **AVEs and NTM restrictiveness**
- SPS measures and TBT protect human, animal and plant health, or the environment
  - ➔ **direct** impact on sustainability
    - ➔ food security (SDG 2), nutrition and health (SDG 3), protect endangered species and the environment (SDGs 14&15), ensure sustainable production, consumption (SDG 12) and energy (SDG 7), combat climate change (SDG 13).
    - ➔ *So, we need SPS/TBT. But how "bad" are they for trade / economic development?*

➔ **More focus on measuring the (cost-)benefits?**





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# How to use measures of NTM incidence

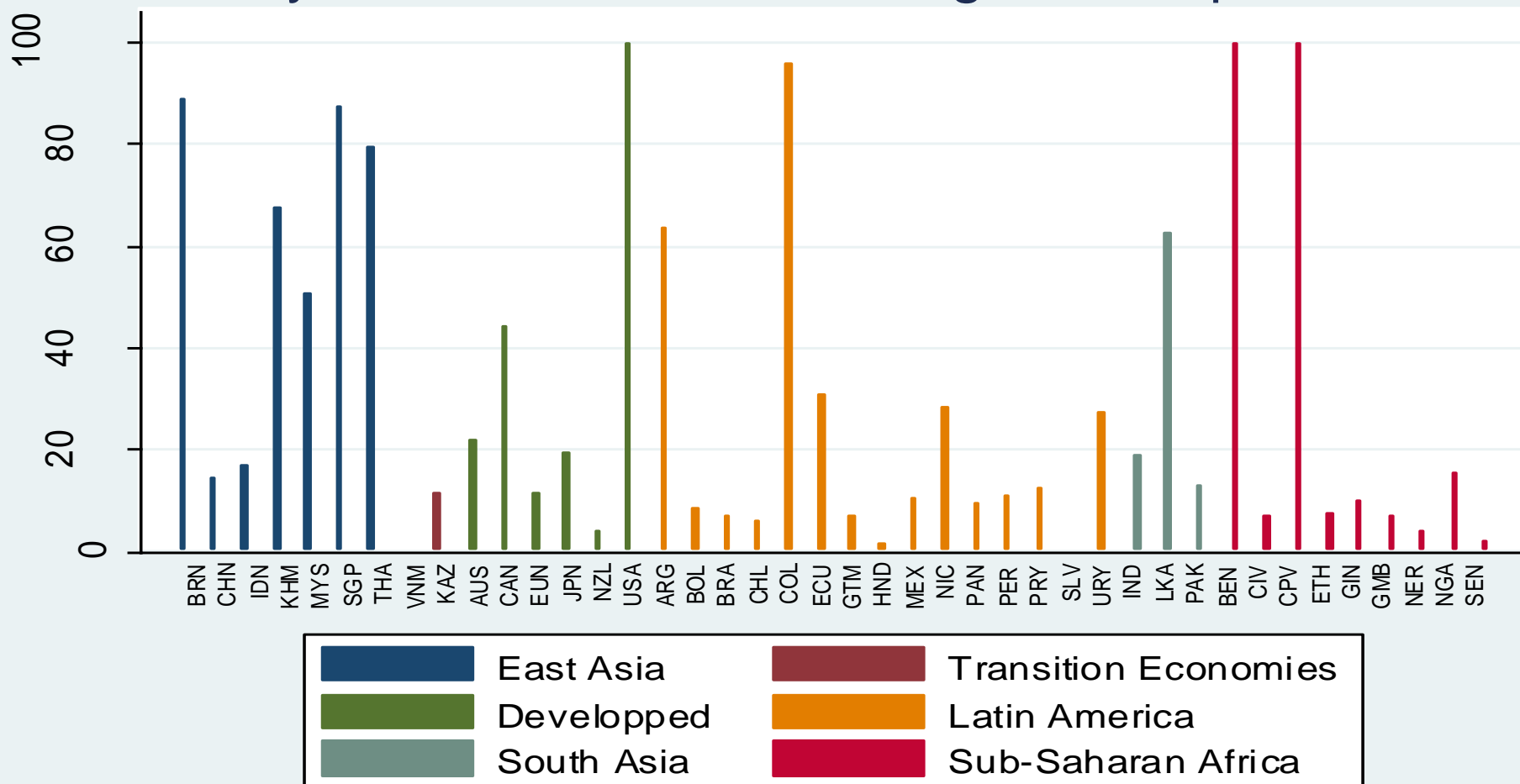
## Using UNCTAD TRAINS / i-TIP data in aggregation





## «Barriers» in agriculture trade: Frequency Ratio

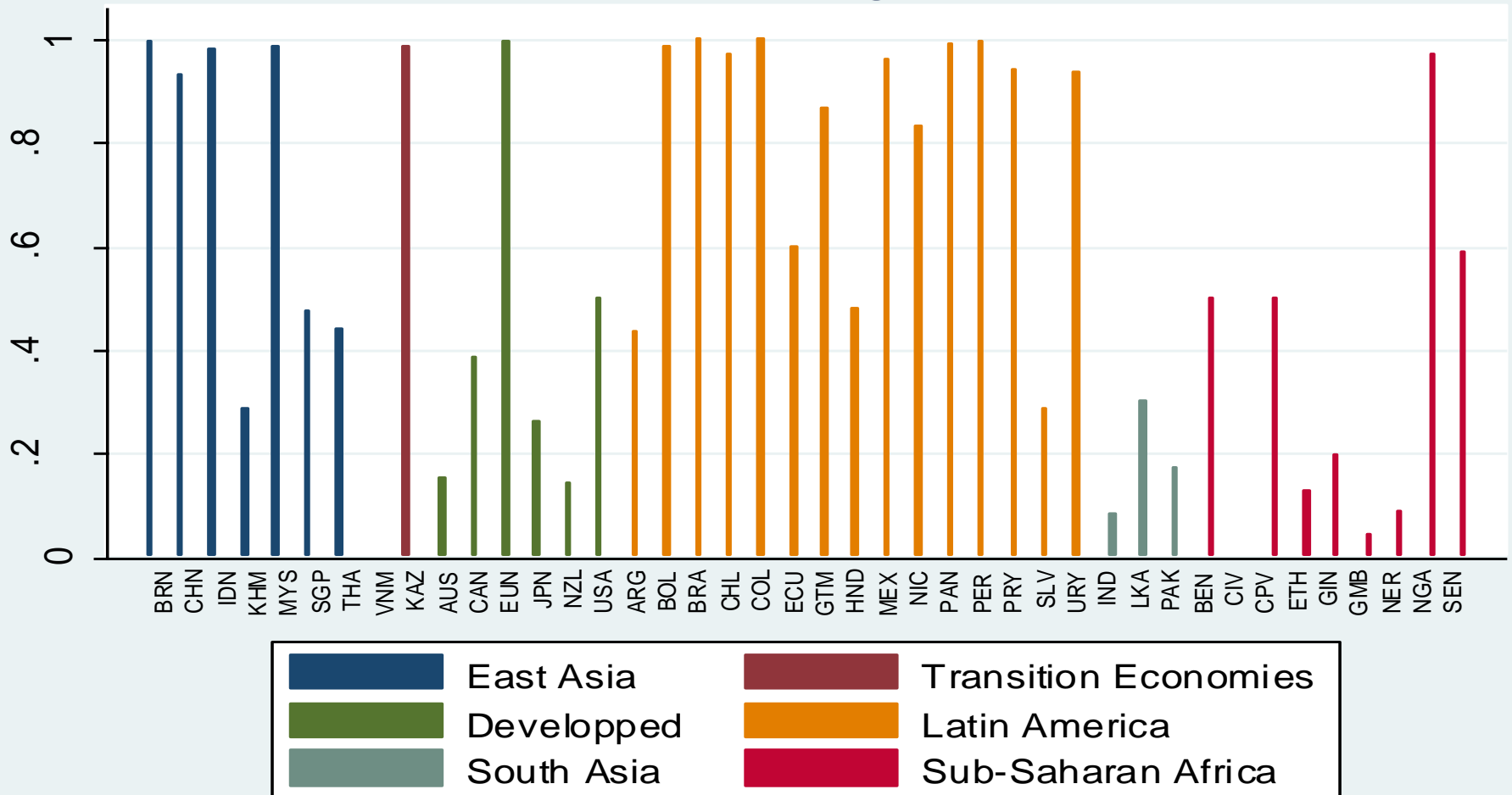
Percentage of imported hs6 digit lines covered by a non-technical NTM in agricultural products





## «Barriers» in agriculture trade: Coverage Ratio

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

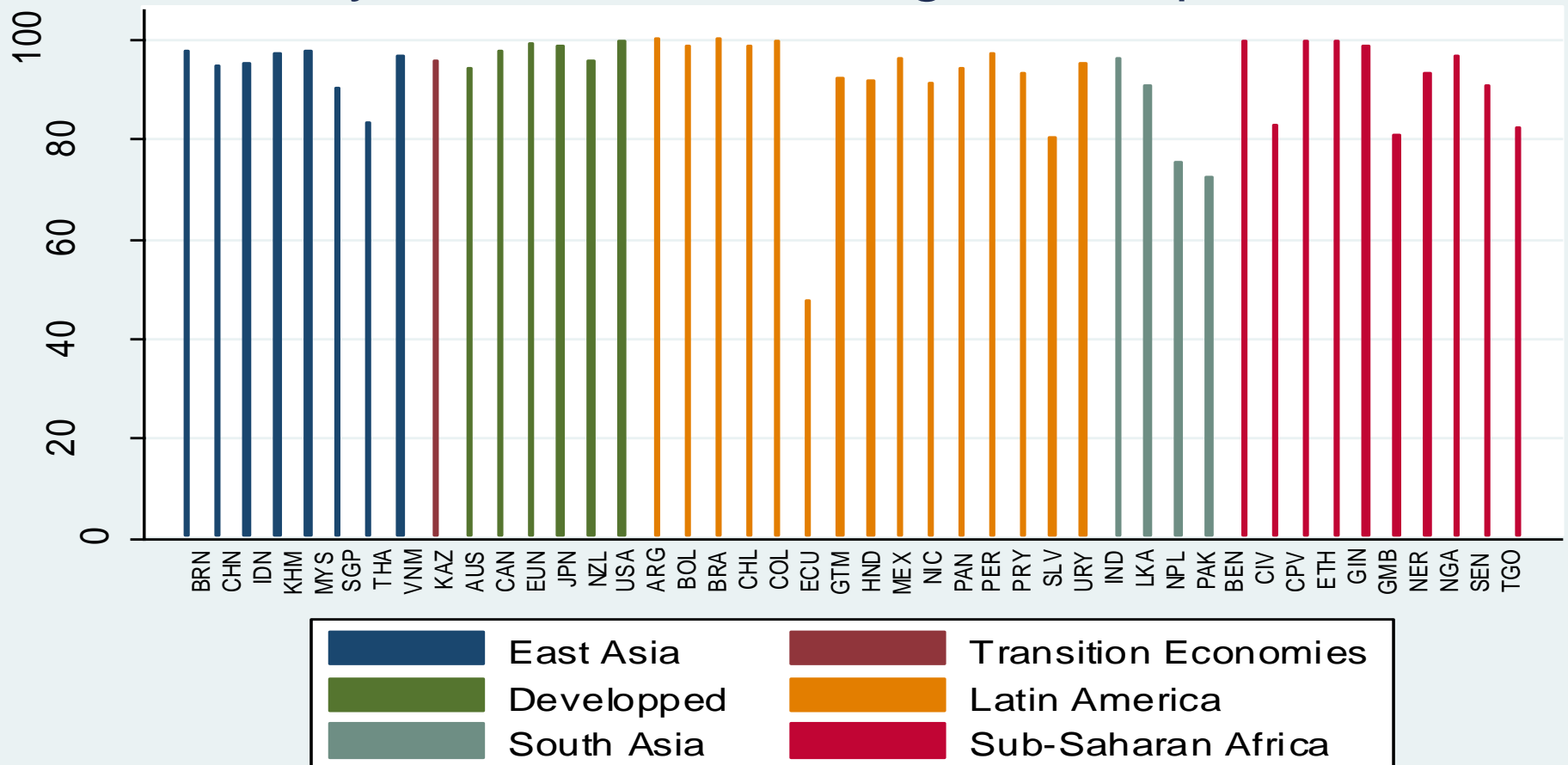




# Technical measures in agriculture: Frequency Ratio

## Not very useful....

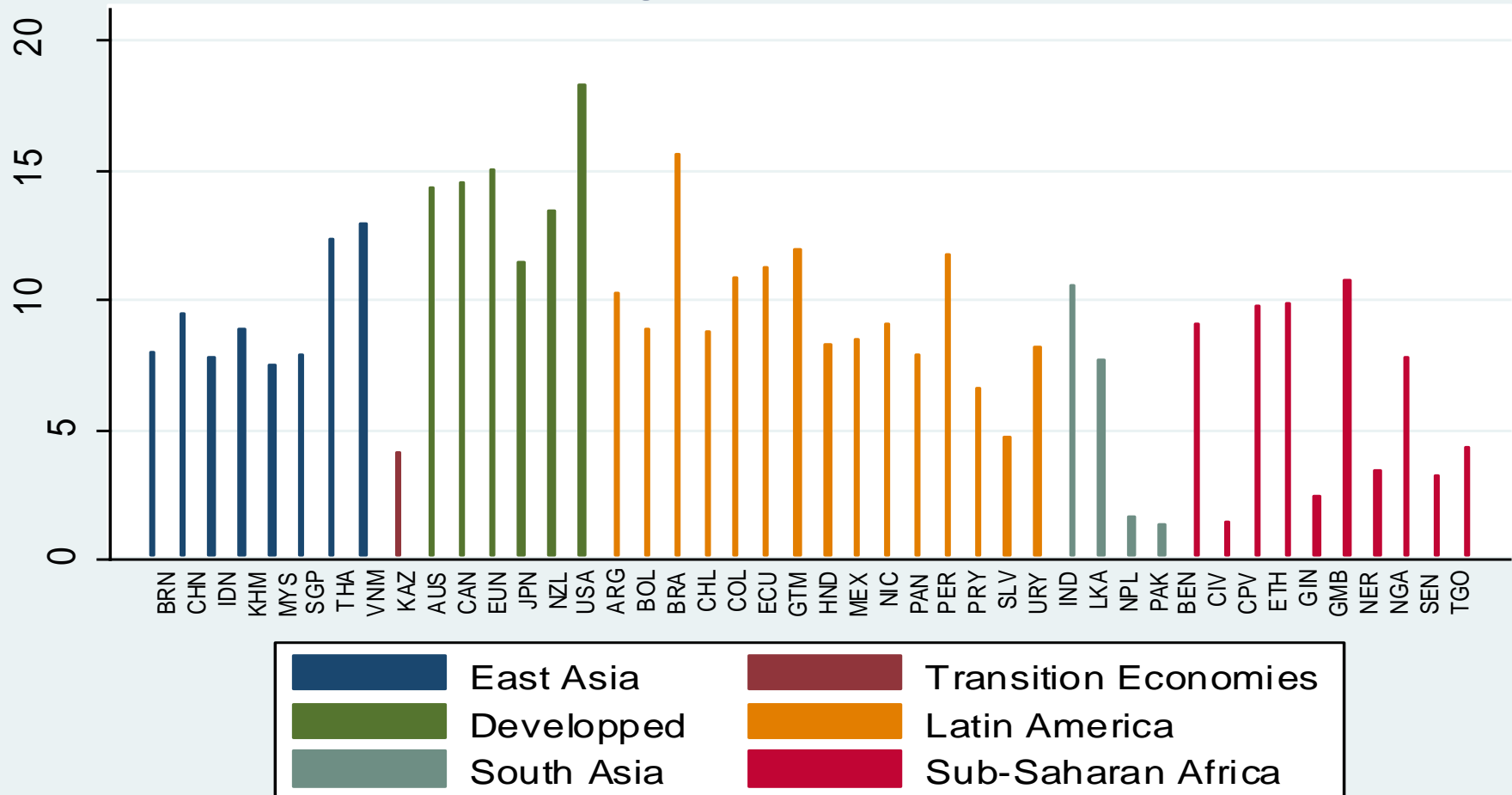
Percentage of imported hs6 digit lines covered by a technical NTM in agricultural products





## Alternative 1: Number of distinct NTMs per product

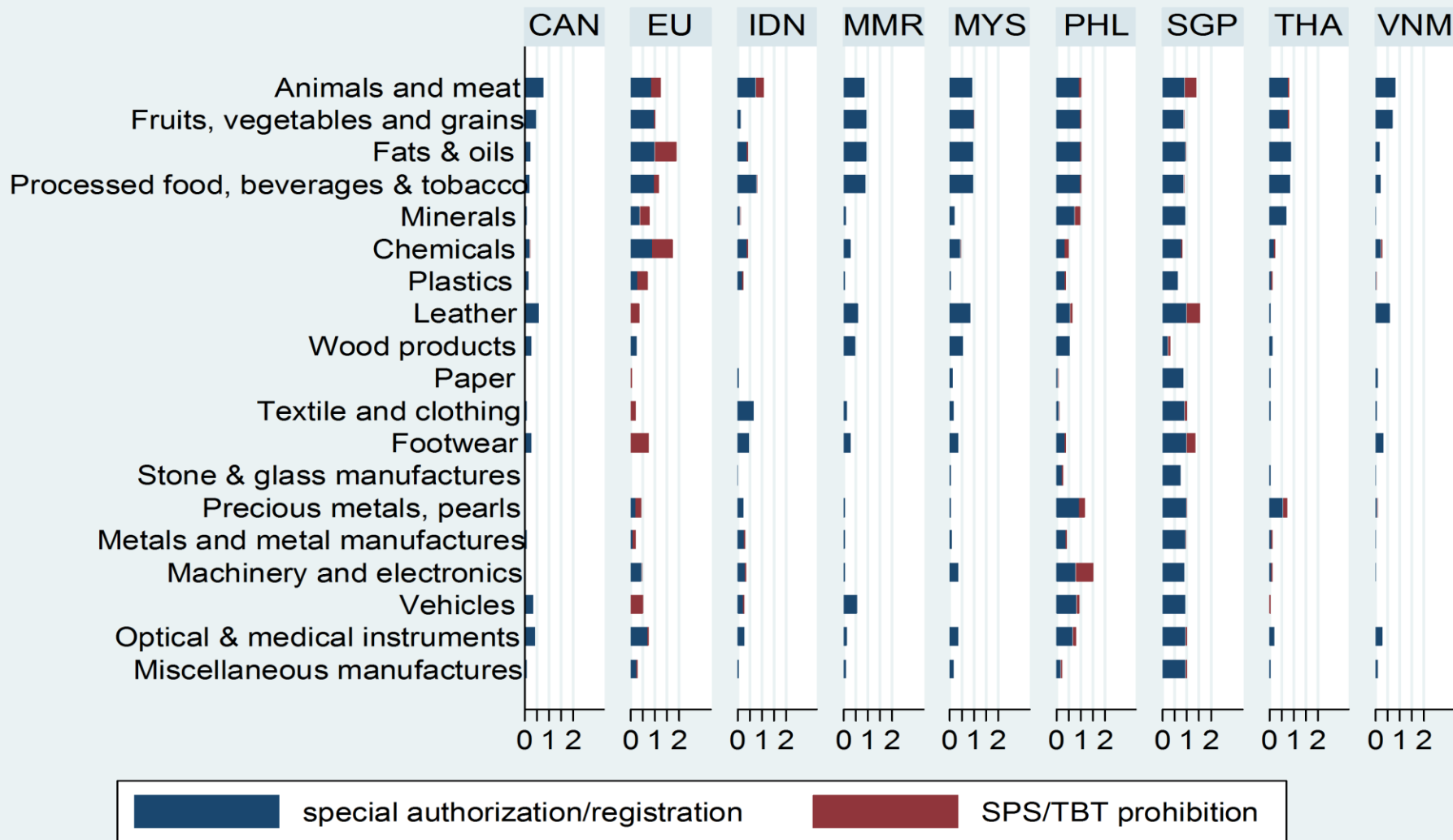
Average number of technical NTMs  
on agricultural products





## Alternative 2: Focus on «discretionary» NTMs

Product coverage affected by prohibitive/discretionary technical measures  
(simple average within product group; excluding partially affected products)





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## Preliminary conclusions

- Under the premise that non-technical NTMs are restrictive and trade-distorting, we can use coverage/frequency ratios to assess policy patterns
  - Export perspective (NTMs faced)
  - Import perspective (NTMs applied)
  - Still, restrictiveness of *specific* measures varies a lot...
- Technical measures much more complicated.
  - Costs (trade restrictiveness) not proportional to incidence and intensity
  - Benefits not reflected through incidence measures





# How to use quantitative research on NTMs



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## Key challenge with NTM analysis: Qualitative data + “devil in the detail”

- How to compare NTMs *across* types?
  - a 1,000 ton quota,
  - a labelling standard,
  - fumigation requirement,
  - Maximum residue limit (MRL) of pesticides
  - ...
- How to compare NTMs *within* types?
  - MRL vs MRL (A/B21)
  - Quota vs quota (E211)
  - ...
  - *Aspect of harmonization of standards, or mutual recognition of conformity assessment*
- Procedural dimension...





# Entry points for evaluation of NTMs

## → Method

- *Qualitative*
- *Quantitative*

## → Focus

- *Specific* (country + product focus)
- *Broad* (Cross country + cross industries)

*Equivalence* measures:

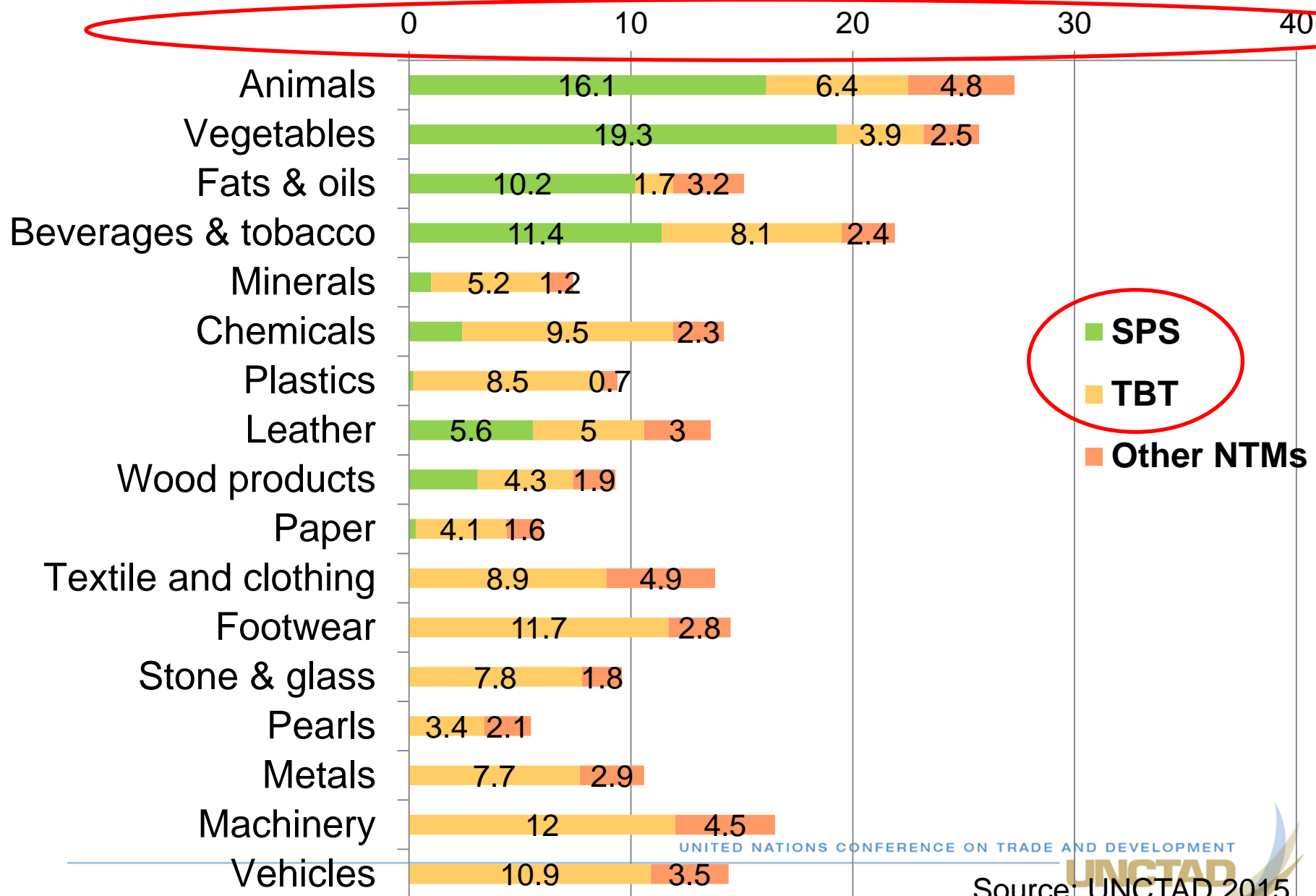
Most research on:

- Trade (=Gravity)
- Prices (=AVE)

• ...benefits?!!!



# Global average cost NTMs – by type!





# Specific, but quantitative analysis:

## Also questions about political economy

- Otsuki, Wilson, Sewadeh (2001): Saving two in a billion: A case study to quantify the trade effect of European food safety standards on African exports, *Food Policy* 26 (2001) 495–514.
- Abstract: [...]This paper quantifies the impact of a new harmonized aflatoxin standard set by the EU on food exports from Africa. We employ a gravity model to estimate the impact of changes in differing levels of protection based on the EU standard, in contrast to those suggested by international standards. The analysis is based on trade and regulatory survey data for 15 European countries and nine African countries between 1989 and 1998. Our results suggest that the implementation of the new aflatoxin standard in the EU will have a negative impact on African exports of cereals, dried fruits and nuts to Europe. The new EU standard, which would reduce health risk by approximately 1.4 deaths per billion a year, will decrease these African exports by 64% or US\$ 670 million, in contrast to regulation set through an international standard.





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## Are quantitative estimations the right approach for an indicator/index?

- Can quantitative research directly measure the impact of NTMs in particular countries?
  - No. Estimations only reflect trends/patterns, but say little about specific policies
  - In particular with NTMs, the “error term” tends to be large → potentially wrong conclusions about specific regulations and their impact
- Can results from quantitative research help to find a normative and best practices?
  - Yes.
  - E.g. international standards as the basis of regulation
    - Promote imports and exports ( $S \rightarrow N$  and  $S \rightarrow S$ )
    - Extensive health and environmental benefits



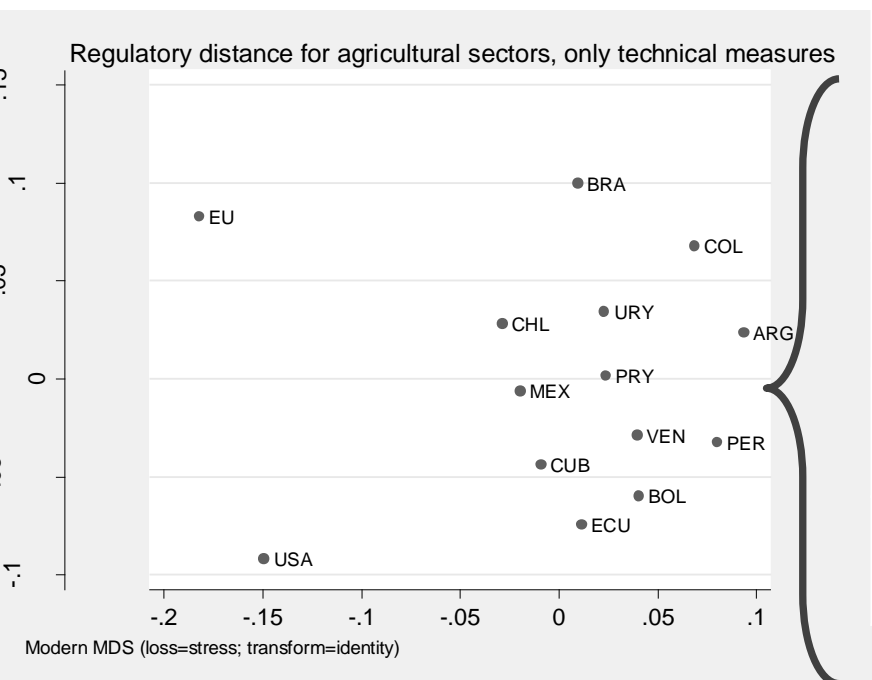


# From “deeper” descriptive statistics to assessing regulatory distance convergence

Where are countries regulations already "close", where "distant"?

Distance in regulatory structure - data based analysis

- Benchmark and identify potential and priorities of harmonization
- Identify "shortest harmonization distances", by country, by sector, by sub-sector... then..



NTMs at HS6, e.g. oranges	Country A	Country B	Country C
A21: MRL	1 ↔ 1	1	0
A81: SPS registration	1 ↔ 1	1	0
A83: SPS certificate	0 ↔ 1	1	0
A84: SPS inspection	1 ↔ 0	0	1



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## Using regulatory convergence indicators in regression analysis

- Ongoing research: Interim results
  - Regulatory convergence matters!
  - Globally, trade costs associated with SPS/TBT can be reduced by 20-30% through regulatory convergence where no country would have to reduce or increase
  - But convergence towards where? International standards as benchmark and common denominator again





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## Conclusions and outlook

- Descriptive incidence measures can be used for non-technical NTMs and, to some extent, for prohibitive/discretionary technical NTMs
- It remains very difficult to assess other technical measures by incidence or estimation
  - Maybe for aggregate AVEs of NTMs *faced* (export perspective) – (→SDG 17.11)
- International standards are a crucial benchmark that combines cost and benefit dimensions and that is backed up by quantitative research (many SDGs)
  - Can we objectively collect data about the share of regulations that are based on international standards?  
Can we rate the level of regulatory transparency or even good regulatory practices?





## Quo vadis?

Benefits	Environmental/social impact assessments	
Costs	Handicraft methods	AVE estimates
	Specific	General/aggregate





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