



Session A

NTMs: definition, patterns and key issues

Marco Fugazza

Division on International Trade, UNCTAD

Training Workshop

Economic Implications of Non-Tariff Measures

Geneva, April 10-11

Introduction

Outline

A.1 What are NTMs?

A.2 NTMs and the WTO

A.3 Data on NTMs

A.4 When do NTMs act as Trade Barriers?

Learning Objectives

- Describe NTM characteristics and types
- Appraise NTM prevalence

A.1. What are NTMs?

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**
- Deardorff & Stern 1998: NTMs “defined by what they are not”
- Extremely diverse in terms of:
 - Policy intention (to lower trade, or to achieve other public policy goals)
 - Policy type (price, quantity, or regulatory measures)
- NTMs can be applied at the border, and/or behind the border

Definition

- 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)
- Like tariffs they should respect
 - Non-discrimination principle
 - (National treatment whenever applicable to the type of measure)

Definition

- They can affect prices and quantities or both
- Even though applied indiscriminately, they can be discriminatory
- Among the different types of NTMs, sanitary and phytosanitary (SPS) and Technical Barriers to Trade (TBTs) are most predominant
- On the whole, TBTs are more prevalent than SPS measures, but SPS more prevalent on agri-food products than TBTs
- The exact extent of burden imposed by NTMs differ among export markets

Private versus Public

- Who can introduce NTMs?
 - Governments and public sector entities
 - Private sector
 - Both
 - Unless otherwise specified, NTMs introduced by governments and public sector entities are compulsory
 - NTMs introduced by the private sector are voluntary
- ⇒ **Political economy of NTMs**: Governments can make private standards *de jure* mandatory

Private versus Public

- Rapid rise of private NTMs in the last decade
- Adopted by individual firms or by national organizations of producers and retailers or by international NGOs/organizations
- Main reasons for expansion :
 - Spread of global value chains and supply chains
 - Increase in consumer concerns
 - Slow public standard-setting processes

Private versus Public

- Private NTMs:
 - Better coordination of food systems between countries and firms
 - Protection against reputational and/or commercial risks

	Public entities	Private entities
Mandatory	Regulations	Legally-mandated private NTMs
Voluntary	Public voluntary NTMs	Private voluntary NTMs

(Henson, 2006; Henson and Humphrey, 2008)

Private versus Public

- Impact of private NTMs:

Similarities with public NTMs	Differences with public NTMs
Positive if quality improvement and access to new markets	Quicker process of harmonization, mutual recognition and development of collective schemes
Negative if high adaptation and transaction costs and market's exclusion	May reduce costs of upgrading

- Difficult to disentangle effects of private NTMs
- Standardized data unavailability is a huge issue in assessing impact of private NTMs

NTMs information

- **Transparency is important as with any legislation but still lacking**
 - NTMs are complex and this is a general issue
 - WTO notifications are not enough
 - Work on transparency enhances understanding to use NTMs for health, safety in a smart way possibly
 - Supports inter-ministerial policy coherence at home
 - Enables public-private dialogue
 - Facilitates cooperation between countries' policy makers **and legislators**
 - Fundamental driver for harmonization of NTMs and elimination of NTBs

NTMs information

Transparency in Trade (TNT) initiative (Launched in 2011 amongst ADB, ITC, UNCTAD, WB) + **MAST** (Multi-Agency Support Team) in charge of technical work (created in 2008 amongst FAO, IMF, ITC, OECD, UNIDO, UNCTAD, WB and WTO)

- Aims

- Accelerate, unify and harmonize data collection
- Create a free, user friendly and authoritative global information resource

- Updates

- New classification of NTMs
- Introduction of “procedural obstacles” categorization (issues related to the process of application of NTMs)

NTMs 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

NTMs classification

Imports	Technical measures	A SANITARY AND PHYTOSANITARY MEASURES B TECHNICAL BARRIERS TO TRADE C PRE-SHIPMENT INSPECTION AND OTHER FORMALITIES
	Non technical measures	D CONTINGENT TRADE-PROTECTIVE MEASURES 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 H MEASURES AFFECTING COMPETITION I TRADE-RELATED INVESTMENT MEASURES J DISTRIBUTION RESTRICTIONS K RESTRICTIONS ON POST-SALES SERVICES L SUBSIDIES (EXCLUDING EXPORT SUBSIDIES UNDER P7) M GOVERNMENT PROCUREMENT RESTRICTIONS N INTELLECTUAL PROPERTY O RULES OF ORIGIN
	Exports	P EXPORT-RELATED MEASURES

NTMs classification

Ministries and agencies that may be responsible for regulating trade (non-exhaustive list)

NTM Chapter		Potential responsible Government Bodies
A	Sanitary and Phytosanitary Measures (SPS)	Ministry of Agriculture; Standardization Agency, Ministry of Health
B	Technical Barriers to Trade (TBT)	Standardization Agency; Ministry of Health; Ministry of Ecology; Ministry of Industry
C	Pre-shipment Inspection and other formalities	Customs Agency, Standardization Agency
D	Contingent Trade Protective Measures	Ministry of Finance; Ministry of Economy, Industry or Trade; Customs Agency
E	Non-Automatic Licensing, Quotas, Prohibitions and Other Quantity Control Measures	Ministry of Economy, Industry or Trade; Customs Agency
F	Price Control Measures Including Additional Taxes and Charges	Ministry of Economy, Industry or Trade; Customs Agency
G	Finance measures	Ministry of Finance; National Bank
H	Measures Affecting Competition	Ministry of Economy, Industry or Trade
I	Trade-related investment measures	Ministry of Economy, Industry or Trade
P	Export-related measures	Ministry of Economy, Industry or Trade; Standardization Agency; Ministry of Agriculture; Customs Agency

Source UNCTAD/TRAINS database

Procedural obstacles

A	Administrative burdens related to regulations	A1. Large number of different documents A2. Documentation is difficult to fill out A3. Difficulties with translation of documents from or into other languages A4. Numerous administrative windows/organizations involved, redundant documents
B	Information/ transparency issues	B1. Information on selected regulation is not adequately published and disseminated B2. No due notice for changes in selected regulation and related procedures B3. Selected regulation changes frequently B4. Requirements and processes differ from information published
C	Discriminating behaviour of officials	C1. Arbitrary behaviour of officials regarding classification and valuation of the reported product C2. Arbitrary behaviour of officials with regards to the reported regulation
D	Time constraints	D1. Delay related to reported regulation D2. Deadlines set for completion of requirements are too short
E	Informal or unusually high payment	E1. Unusually high fees and charges for reported certificate/regulation E2. Informal payment, e.g. bribes for reported certificate/regulation
F	Lack of sector-specific facilities	F1. Limited/inappropriate facilities for testing F2. Limited/inappropriate facilities for sector-specific transport and storage, e.g. cold storage, refrigerated trucks F3. Other limited/inappropriate facilities, related to reported certificate/regulation
G	Lack of recognition/ accreditation	G1. Facilities lacking international accreditation/recognition G2. Other problems with international recognition, e.g. lack of recognition of national certificates
H	Other	H1. Other procedural obstacles, please specify

<http://ntmsurvey.intracen.org/home>

A.2. NTMs and the WTO

NTMs and the WTO: SPS Agreement (1995)


- Entered into force in 1995
- Scientifically based measures to protect human, animal and plant life or health
- Objectives: Appropriate health protection, not protectionism
- Rules:
 - Use of international standards (i.e. Codex Alimentarius)
 - Higher standards: “Appropriate” risk assessment
 - Precautionary principle
 - No discrimination
 - SPS must be notified, published

NTMs and the WTO: TBT Agreement (1980, 1995)

- Signed in 1980 superseded by the 1995 WTO Agreement
- Deals with technical requirements not covered by the SPS Agreement
- Objectives: in line with SPS agreement
- Rules:
 - Use of international standards
 - Mutual recognition of requirements and conformity assessment procedures
 - No discrimination
 - TBTs must be notified, published

SPS versus TBT Agreement

Which agreement does a measure come under?

IS ITS OBJECTIVE TO PROTECT ONE OF THESE?			
Human life risks from:	<ul style="list-style-type: none"> • additives • contaminants • toxins • plant-, product- or animal-carried disease • disease-causing organisms • pests entering, establishing or spreading 		YES → SPS
Animal life risks from:	<ul style="list-style-type: none"> • additives • contaminants • toxins • diseases • plant-, product- or animal-carried disease • disease-causing organisms • pests entering, establishing or spreading 		
Plant life risks from:	<ul style="list-style-type: none"> • pests entering, establishing or spreading • diseases • disease-causing organisms 		
A country risks from:	<ul style="list-style-type: none"> • pests entering, establishing or spreading 		
↓			
No			
↓			
Is it a technical regulation, a standard or a procedure for assessing whether a product conforms to a technical requirement?		→ YES → TBT	
↓			
No			
↓			
Other			

SPS versus TBTs: Examples

- Food labelling
 - Health warnings on allergies, use, dosage for permitted food > **SPS**
 - Regulation on label's position, lettering, nutrient content, quality > **TBT**
- Fruit
 - Treatment to prevent spread of pests → SPS
 - Quality, grading and labeling → TBT
- Bottled water
 - Safe materials → SPS
 - Size → TBT
- Fertilizer
 - Fertilizer residue in food and animal feed > **SPS**
 - Specifications to ensure fertilizer works effectively > **TBT**
 - Safe handling instructions to protect farmers from possible harm from handling fertilizer > **TBT**

SPS and TBTs: Developing countries

- Support for developing and least developed countries:
 - SPS implementation delays
 - Technical assistance, special treatment
- Issues:
 - Despite support, difficulties in implementation
 - NTMs based on interests of developed countries

A.3. Data on NTMs

NTMs data sources

- World Trade Organization notifications
 - Imports related technical measures (TBT and SPS)
- UNCTAD data
 - Import-related measures (technical and non-technical) and export-related measures

Nota Bene: Information in UNCTAD and WTO database is essentially quantitative and not qualitative => analytical scope is limited

WTO notifications

- Integrated Trade Intelligence Portal (I-TIP)

Data from member States notifications of SPS and TBTs to the WTO secretariat

Content

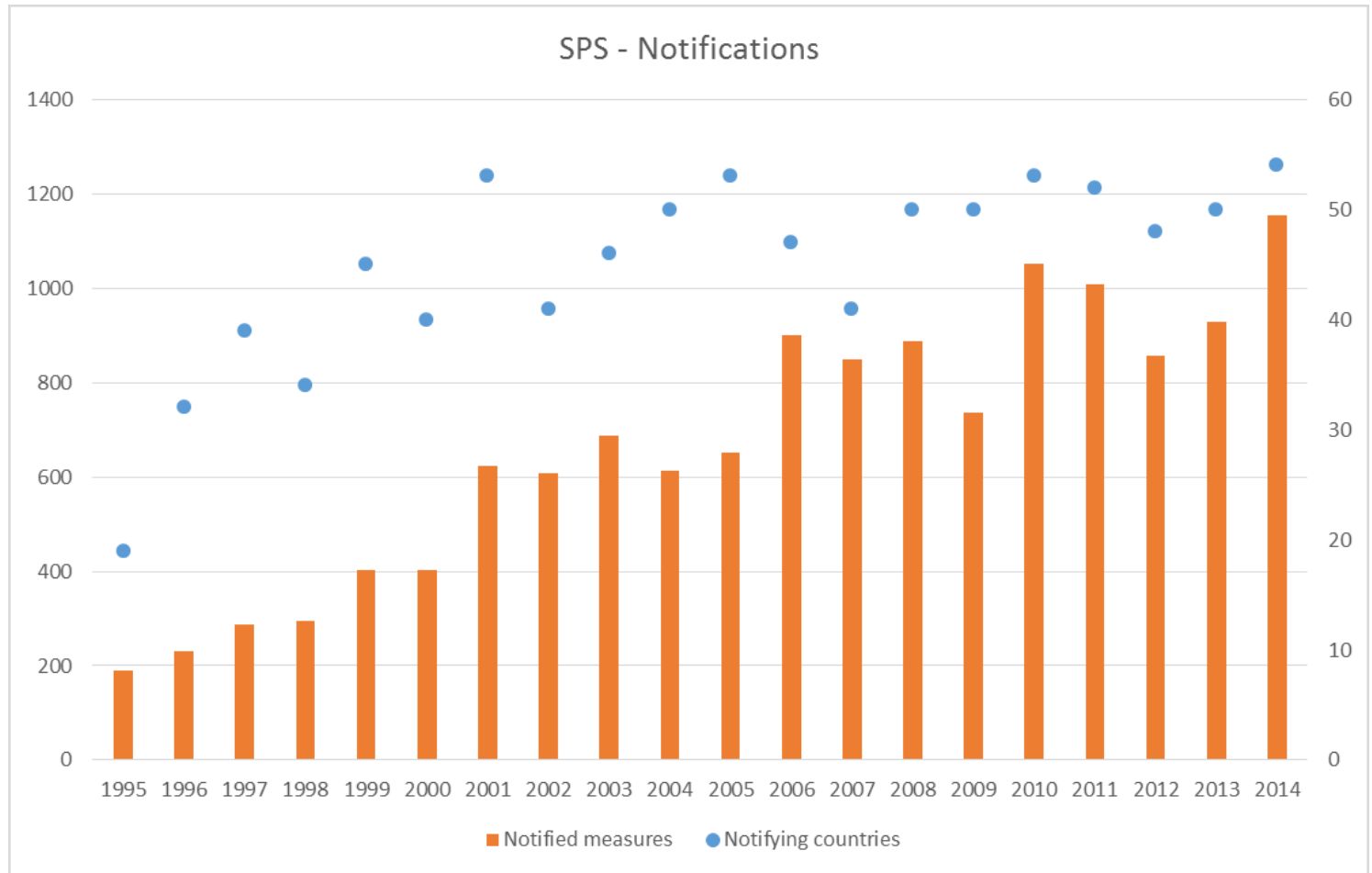
- New or changed measures since 1995
- Measures which “differ from international standards, guidelines or recommendations, or situations where no standards exist, and, in addition, may have a significant impact on trade”
- Draft regulations

Limits

- Missing measures
- Poor quality of some notifications (product classification could be misleading)

WTO SPS notifications (1995-2014)

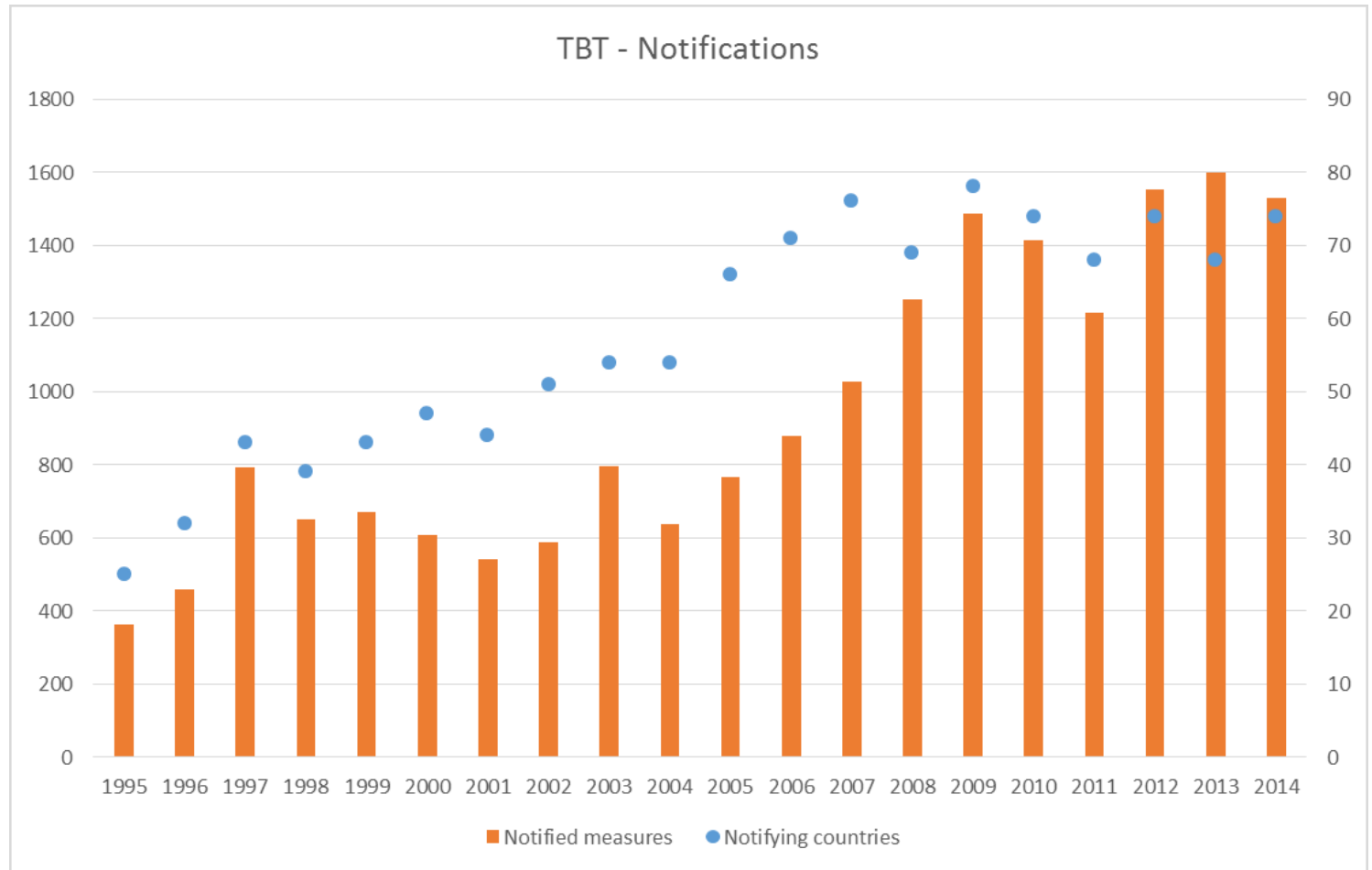
Number of
measures
and
number of
notifying
countries



Based on WTO notifications (WTO I-TIP database)

WTO TBT notifications (1995-2014)

Number of
measures
and
number of
notifying
countries



Based on WTO notifications (WTO I-TIP database)

UNCTAD data: TRAINS

- Trade Analysis and Information System (TRAINS)

Data from WTO notifications and other (national) sources

Content

- Notifying country (importer), affected product (HS6) and NTM classification code (16 core categories)
- 1-15 years for 64 countries covering 2002-2016
- Data collected for only a sub-set of NTM categories

Limits

- Limited/patchy coverage
- Information on RoO/Subsidies has never been collected
- Export related measures classification is not detailed enough

NTMs: Descriptive statistics

Inventory approach

- Frequency index (percentage of products)
- Coverage ratio (percentage of imports)
- Prevalence ratio (average number of NTMs applied)

Inventory approach: Frequency index

Share of products affected by one or more NTM

Frequency index of NTMs imposed by country j :

$$F_j = \left[\frac{\sum D_i M_i}{\sum M_i} \right] * 100$$

D_i : Dummy variable (presence of one or more NTM on product i)

M_i : Dummy variable (whether there are imports of product i)

Index value: 0 - 100

Drawbacks

- Accounts only for the presence of NTMs
- No information on the value of trade affected by NTMs

Inventory approach: Coverage ratio

Share of imports affected by one or more NTM in total imports

Coverage ratio of NTMs applied in country j :

$$C_j = \left[\frac{\sum D_i V_i}{\sum V_i} \right] * 100$$

D_i : Dummy variable (presence of one or more NTM on product i)

V_i : Value of imports of product i

Ratio value: 0 - 100

Drawbacks

- Endogeneity: If NTMs reduce imports, coverage ratio downward-biased
- No indication on the effects of NTMs on prices, production of exporters and on international trade

Inventory approach: Prevalence ratio

Average number of NTMs affecting an imported product M

Prevalence ratio for NTMs applied in country j :

$$P_j = \left[\frac{\sum N_i M_i}{\sum M_i} \right]$$

N_i : Number of NTMs on product i

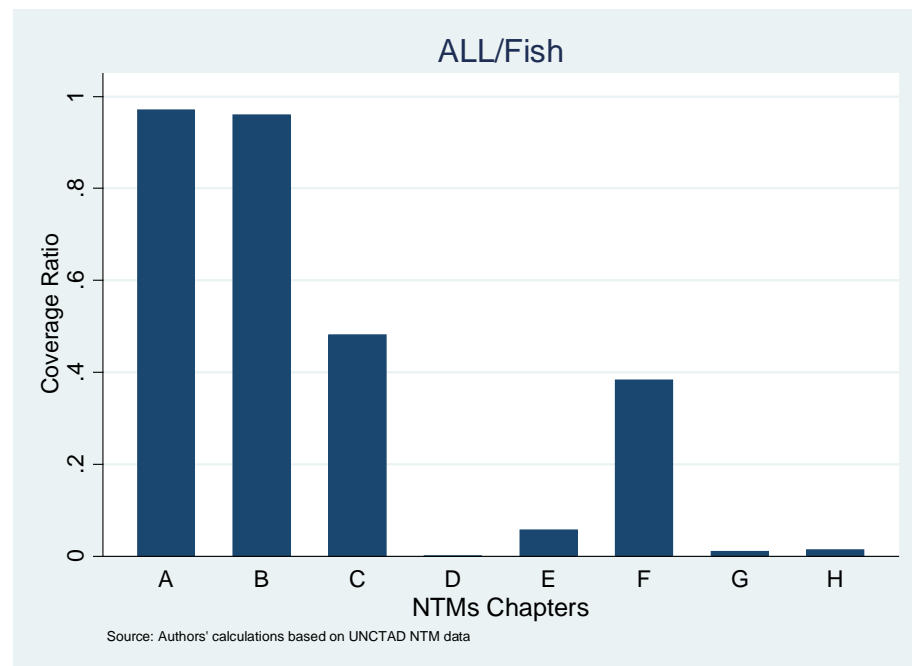
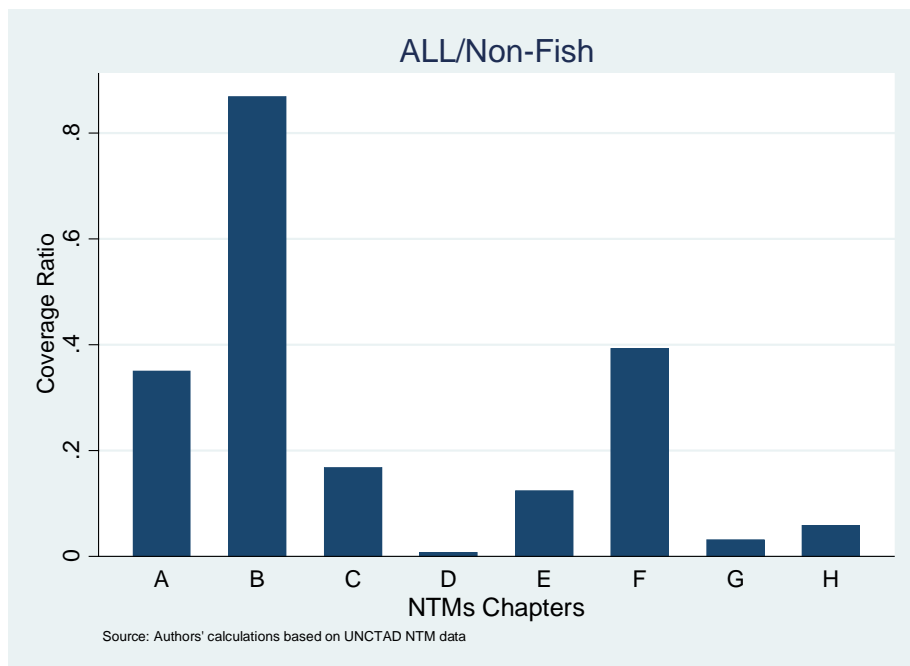
M_i : Dummy variable (whether there are imports of product i)

Drawback

- Cumbersome data manipulations

Inventory approach: Evidence (1)

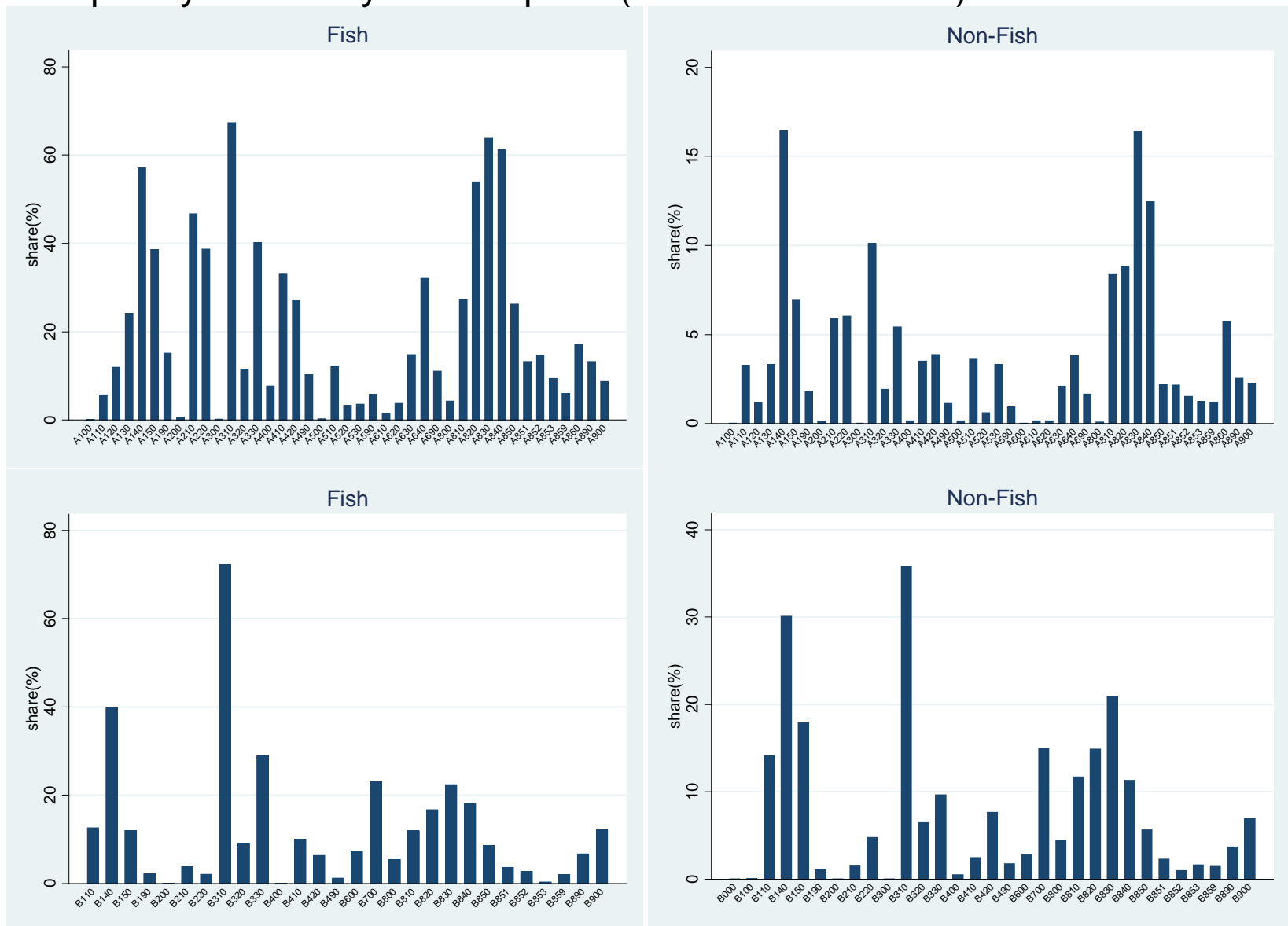
Coverage ratio (fish versus non-fish), by NTM category (2016)



NTMs Chapters: A=SPS; B=TBT; C=Pre-Shipment; D=Contingent;
E=Quantity control; F= Price Control; G= Finance Measures; H=Competition

Inventory approach: Evidence (2)

Frequency Indices by sub-chapters (fish versus non-fish)



Based on UNCTAD/TRAINS data Source: Fugazza (2017)

Inventory approach: Evidence (3)

Number of Reporter-product (only non-fish products) pairs affected by an NTM, by NTMs type (at least one measure by type)

NTMs Chapter	Number of Import Relationships	Share in Total	Share in Affected
SPS	53621	24.63	33.06
TBT	112559	51.70	69.39
Pre-Shipment	51751	23.77	31.90
Contingent	2395	1.10	1.48
Quantity Control	37137	17.06	22.89
Price Control	92069	42.29	56.76
Finance	28668	13.17	17.67
Competition	5995	2.75	3.70
No NTM	55519	25.50	

Based on UNCTAD/TRAINS data
Source: Fugazza (2017)

Inventory approach: Evidence (3-bis)

Number of Reporter-product (only fish products) pairs affected by an NTM, by NTMs type (at least one measure by type)

NTMs Chapter	Number of Import Relationships	Share in Total	Share in Affected
SPS	5826	92.92	95.56
TBT	5112	81.53	83.84
Pre-Shipment	2558	40.80	41.96
Contingent	21	0.33	0.34
Quantity Control	835	13.32	13.70
Price Control	3129	49.90	51.32
Finance	746	11.90	12.24
Competition	122	1.95	2.00
No NTM	173	2.76	

Based on UNCTAD/TRAINS data
Source: Fugazza (2017)

Inventory approach: Evidence (4)

Number of Reporter-product (fish products) affected by different types of NTMs (at least one measure by type)

Number of NTMs types	Number of Import Relationships	Share in Total	Share in Affected
0	173	2.76	
1	364	5.81	5.97
2	2040	32.54	33.46
3	1540	24.56	25.26
4	1629	25.98	26.72
5	375	5.98	6.15
6	149	2.38	2.44

Based on UNCTAD/TRAINS data
Source: Fugazza (2017)

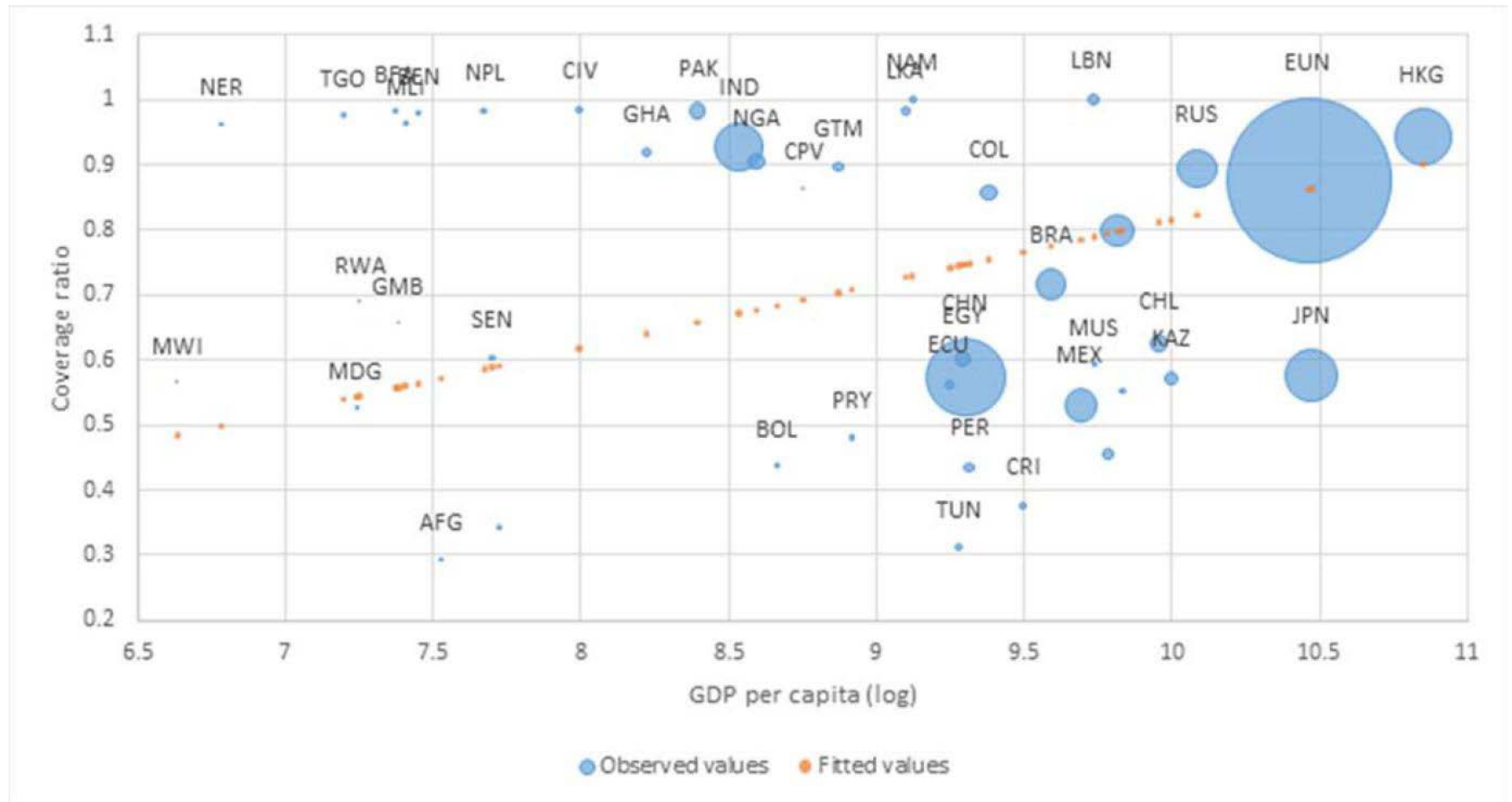
Inventory approach: Evidence (4)

Number of Reporter-product (non-fish products) affected by different types of NTMs (at least one measure by type)

Number of NTMs types	Number of Import Relationships	Share in Total	Share in Affected
0	55519	25.50	
1	46889	21.54	28.91
2	49270	22.63	30.37
3	34774	15.97	21.44
4	23065	10.59	14.22
5	6910	3.17	4.26
6	1300	0.60	0.8

Based on UNCTAD/TRAINS data
Source: Fugazza (2017)

Inventory approach: Evidence (4)



Source: Ederington and Ruta (2016)

Related data: Sources and descriptive statistics

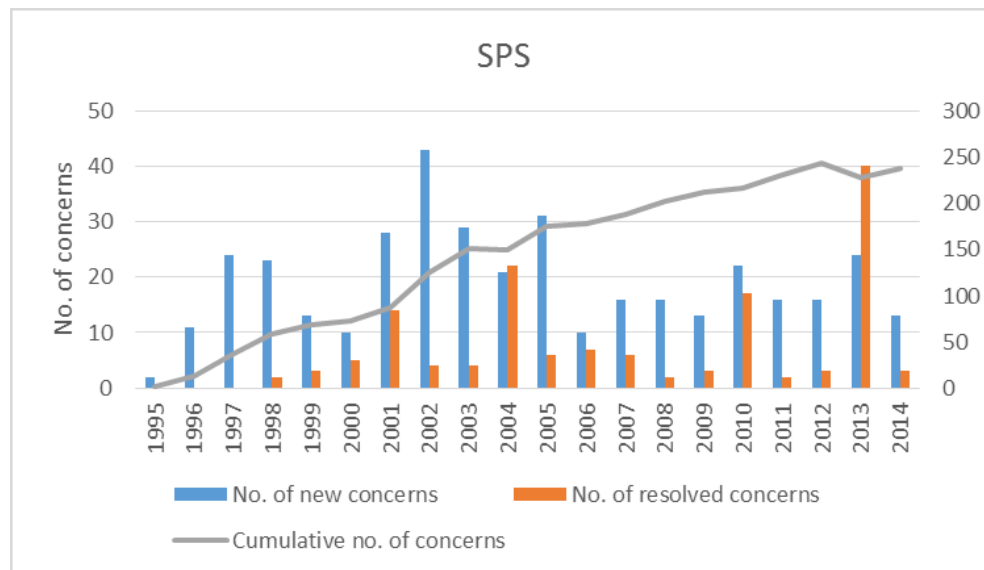
- There are two additional major sources of NTM data
 - The WTO Specific Trade Concerns (STCs) databases
 - [SPS Information Management System](#) - SPS STCs
 - [TBT Information Management System](#) - TBT STCs
 - Inspections and food/feed alerts databases (EU and US)

Specific trade concerns (STCs)

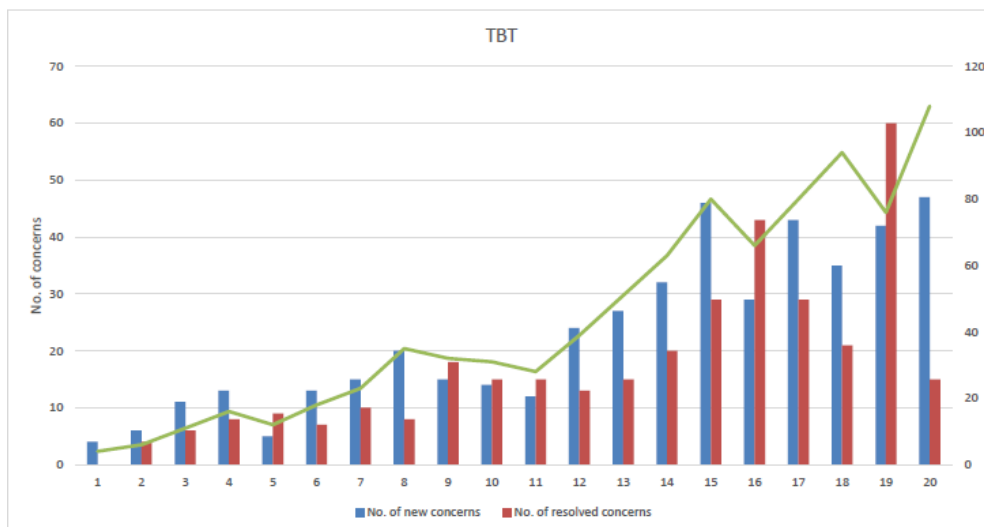
- STCs - Obstacles faced by exporters, channeled through governments
- 1995-2014:
 - 382 SPS STCs (9% share of WTO disputes)
 - 445 TBT STCs (10% share of WTO disputes)
- Drawbacks
 - Exporters' complaints may not be raised at WTO
 - Some concerns may not be representative
 - Overall picture of SPS/TBT- related trade distortions based on STCs may be biased

SPS and TBT STC trends

SPS concerns



TBT concerns

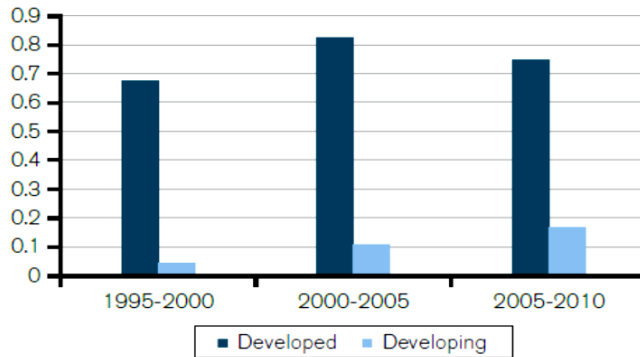


Based on WTO STC database

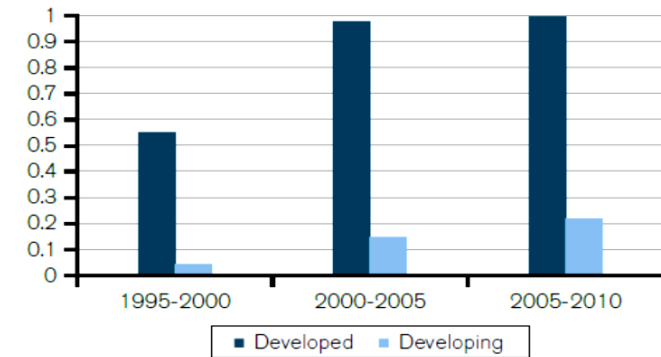
STCs: Countries by development level

Number of countries as a share of the total number of countries by level of development

(a) SPS (maintaining)



(b) SPS (raising)



(c) TBT (maintaining)



(d) TBT (raising)



Based on WTO STC database
Source: WTO (2012)

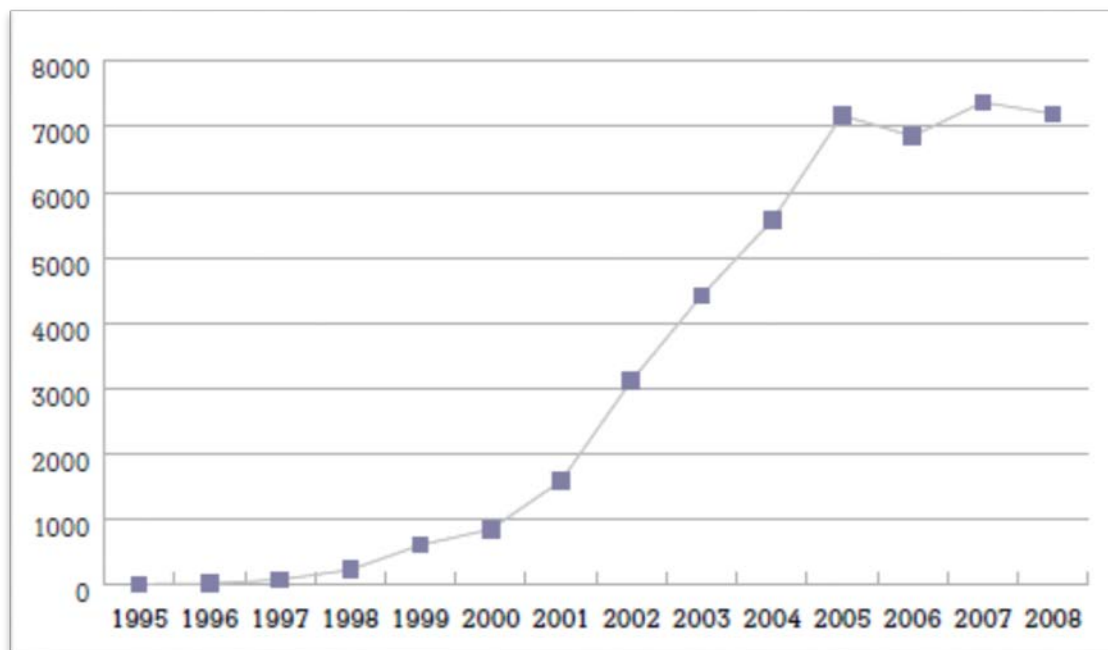
Inspections and food/feed alerts

Compliance of products with official standards

- Inspections
 - May be performed on national territory and/or at borders
 - Not random but related to past inspections
- Data available for the US and EU
- EU Rapid Alert System for Food and Feed (RASFF)
 - Large set of European countries (EU members but also Switzerland, Iceland, and others)
 - Started in 1979
 - Annual alerts available online

EU food and feed alerts over time

Number of notifications (1995-2008)

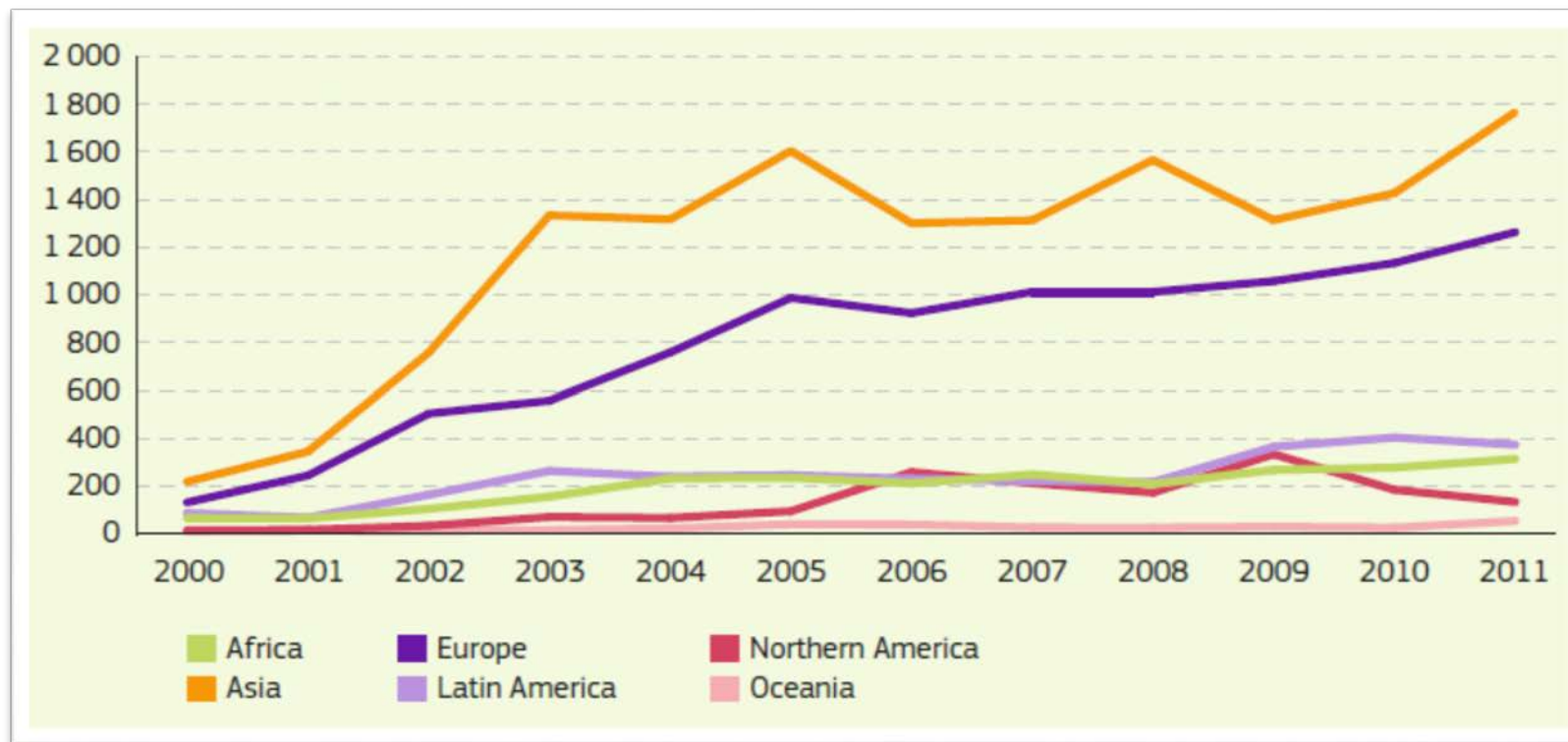


Note: Includes originals and follow-up notifications

Source: European Commission (2009)

EU food and feed alerts by region of origin

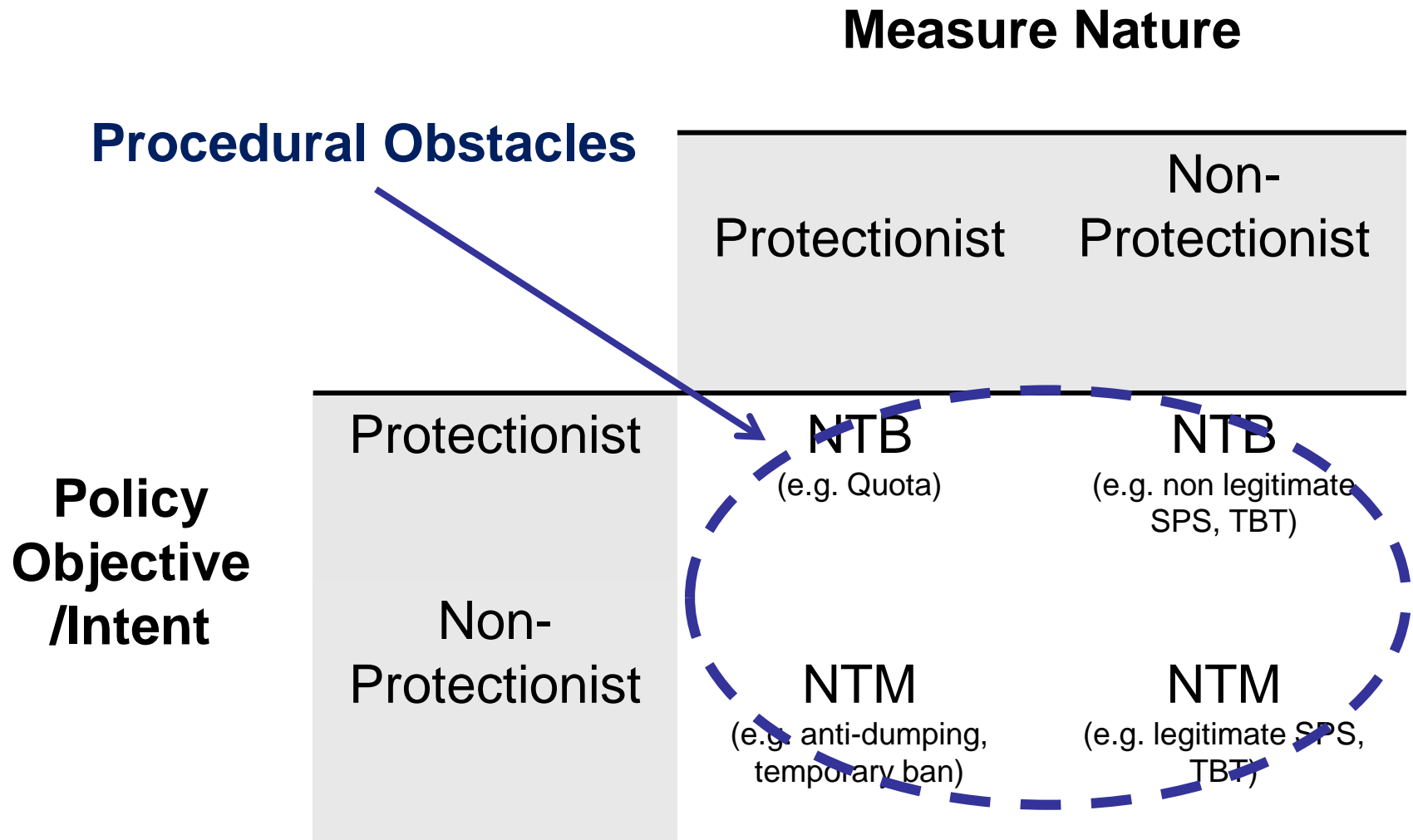
2000-2011 notifications by world region



Note: Includes only original notifications
Source: European Commission (2011)

A.4. When do NTMs act as Trade Barriers?

A Typology of Non Tariff Measures



NTMs versus NTBs

- If policy intent driving the implementation of an NTMs can be identified then it should be possible to distinguish between NTMs and NTBs: true in theory but almost impossible in practice except for those measures with a protectionist nature
- Empirical analysis can help identifying value, volume and price effects but not the very objective of the measure implemented
- An increase in prices or a fall in volumes due to an NTM is not necessarily evidence of a protectionist measure

NTMs versus NTBs

- Expected (primary) effects of an NTM:

Supply Effects

- increase production costs if implementation affects products characteristics (e.g. TBT, SPS) and/or packaging/labelling requirements
- Increase “shipping” costs (national or international) if implementation requires some certification requirements (amplified by procedural obstacles)

Demand Effects

- Demand may be constrained if the measure implemented is an NTB in nature (e.g. quota)
- Demand may react to the implementation of the measure if the latter is associated with some evolution in the characteristics (e.g. quality, safety) of the product

Dynamics

- Effects may evolve across time as they may affect market forces (e.g. different firms may be affected differently)

NTMs versus NTBs

- In most cases prices are expected to increase due to the NTM implementation
- The impact on quantities produced/imported/exported is undetermined
- The same is true for the value of production/imports/exports
- A crucial additional dimension has been omitted so far: welfare
- Welfare can be defined in several ways
- In the context of NTMs a relevant definition of welfare could be related to consumers (and in some cases employees) security and eventually safety
- If NTMs affect positively consumers security and safety this should be taken into consideration when estimating their impact