

Development level and WTO member participation in Specific Trade Concerns (STCs) and Disputes on SPS/TBT¹

Dr. Sofía Boza & M.Sc. Felipe Fernández

**Department of Agricultural Economics,
Faculty of Agricultural Sciences and
Institute of International Studies
Universidad de Chile**

sofiaboza@u.uchile.cl

felferna@ug.uchile.cl

ABSTRACT

The objective of this paper is to describe the divergences in the participation of different WTO Members in SPS/TBT Specific Trade Concerns and Disputes in relation to their income level. For this, data was compiled and synthesized from the WTO bases I-TIP and Dispute Settlement Gateway for the period 1995-2012. This data was then grouped according to the development level of the member(s) involved, using the World Bank annual classification (high income country, upper-middle income country, lower-middle income country and low income country). The results obtained evidence that the participation of WTO members in the mechanisms considered has been very diverse according to their economic level; with high income countries much more active than developing and least developed countries. These results raise some additional questions, as to whether these asymmetries act as a barrier to trade, and if so, how to mitigate them.

¹ The authors would like to express their gratitude to SECO-WTI Academic Cooperation Project for supporting the visiting fellowship during which this paper was written. Special thanks to Dr. Christian Häberli from World Trade Institute for his very valuable suggestions and comments and also to Professor Pierre Sauvé and Mr. Barry Peterson (WTI) and Professors Dorotea López and Felipe Muñoz from the Institute of International Studies (Universidad de Chile) for all their efforts and support.

Introduction

A non tariff measure (NTM) is any measure, other than a customs tariff, which may affect trade (World Bank, 2008; UNCTAD, 2010). These measures have progressively increased their visibility in international trade regulations, especially in the case of agricultural products (Hoekman & Nicita, 2008; Nicita & Gourdon, 2013; Santana & Jackson, 2012).

Within non tariff measures, sanitary, phytosanitary and technical requirements stand out. They are meant to address perceived market failures such as information asymmetries, negative externalities, and the lack of provision of public goods (Hobbs, 2010; Van Tongeren, Beghin & Marette, 2009). In the case of information asymmetries, these are caused by goods that present what was identified by Darby & Karni (1973) as “credence qualities”, in an attempt to differentiate them from “search” and “experience” qualities mentioned by Nelson (1970). These credence qualities are unobservable product characteristics, which are able to affect the purchase intention (e.g. health properties).

Considering the increasing sanitary, phytosanitary and technical requirements, recently there has been an important development in literature related to their impact on international trade. At least for the agri-food trade, this research confirms the presence of a “dual” effect in that sense. On the one hand, the implementation of technical non tariff measures may increase consumer trust and, consequently, trade. However, some specific requirements can also act as a barrier for exporters (which in addition might be incompatible with the importing country’s WTO obligations). The overall result of this trade-off would rely on the producers’ profile, which in turn is related to the country’s economic status, but it would also depend on the measures’ inner characteristics, such as their stringency and harmonization/heterogeneity levels (Boza, 2013).

During the Uruguay Round countries adopted the two international agreements on Sanitary and Phytosanitary Measures (SPS) and Technical Barriers to Trade (TBT) existing since 1995. The main objective of the Agreement on the Application of Sanitary and Phytosanitary Measures is to ensure that countries can adopt and enforce the appropriate

measures to protect human, animal and plant health, without this being used for protectionist purposes. In order to achieve this goal, the SPS Agreement urges that the requirements imposed by signatory countries are based on scientific evidence which sufficiently justifies its adoption and implementation. Meanwhile, the Agreement on Technical Barriers to Trade addresses not only the objective of safeguarding health, but also quality assurance, protection of the environment and national security, as well as the prevention of deceptive practices. In this context, the measures subjected to the Agreement are: mandatory product regulations, voluntary product standards² and conformity assessment procedures. As it is in the SPS Agreement, the prohibition of obstacles to international trade which are more trade-restrictive than necessary is also one of the main purposes of the WTO Agreement on Technical Barriers to Trade.

Both the SPS and TBT Agreements contain the principle of transparency, according to which members shall notify the initiation (or the changes) of sanitary, phytosanitary and technical measures. One of the objectives of this obligation is that other countries can present comments and amendments to measures before (and after) they enter into force³. In this same sense, trying to promote transparency and consensus building, both Agreements establish SPS and TBT Committees, which organize regular meetings where Members can, *inter alia*, raise concerns about the SPS/TBT requirements enforced by other members. These are known as Specific Trade Concerns (STCs). However, as indicated by Horn, Mavroidis and Wijkström (2013) SPS and TBT Committees are not authorized to formally settle the matter causing an STC, since these often do not refer to incompatibilities. In addition, as these authors mention, many STCs are “trivial”, for example in the case of a request for clarification about a measure. As a consequence, when a member strongly believes that another country is not respecting the clauses in the SPS/TBT Agreements it can also bring the case to the WTO Dispute Settlement.

² In this context, in spite of their increasing importance the treatment that the WTO will give to voluntary standard schemes when they are private is still very imprecise (Wouters & Geraets, 2012).

³ However, for SPS this “consultation process” can be restricted or even eliminated when the measure proposed is trying to respond to an emergency (WTO, 2011).

In this context, recent research on SPS/TBTs (already mentioned) has very often used notified measures as an explanatory variable of the effects of standards on international trade. Nevertheless, in some investigations authors have considered SPS-STC instead of SPS notifications as an explanatory variable, because they believe that STCs reflect those measures which have actually been seen by governments and their exporters as an effective or potential barrier to their trade (Crivelli & Gröschl, 2012; Fontagné, Orefice, Piermartini & Rocha, 2013).

The investigations mentioned provided some descriptive data on SPS-STC, however they did not clarify what the determinants are that explain why a country makes more frequent use of this mechanism. In this sense, there is conversely extensive literature on factors that would affect the participation in the GATT/WTO Dispute Settlement Mechanism. Some of these factors are: (i) economic power (Sattler & Bernauer, 2011), (ii) legal capacity (Busch, Reinhardt & Shaffer, 2008; Conti, 2010), (iii) diversity and value of exports (Horn, Mavroidis & Wijkström, 1999; Holmes, Rollo & Young, 2003), (iv) retaliation fear (Bown, 2004), (v) past experience in WTO litigation (Davis & Blodget, 2009), (vi) political status (Fadiga & Fadiga-Stewart, 2005), (vii) size of exports involved in the dispute (Bown, 2005), (viii) financial, human and institutional resources (Bohl, 2009; Guzmán & Simmons, 2005) and (ix) bilateral assistance dependency (Besson & Mehdi, 2004). None of the previous research was focused specifically on an economic sector. However, in a novel investigation Götz, Heckeley & Rudloff (2010) aimed at defining which factors affected WTO dispute initiation related to food products, the estimations conducted showed that a country's market restrictiveness – faced or self imposed – as well as the years participating in the WTO were evidenced as significantly related to dispute initiation.

Other investigations have been interested in whether developing and especially least developed countries (DCs & LDCs) have had a lower participation in disputes than developed countries. In fact, after analyzing the principal trends in WTO disputes from 1995 to 2012, Leitner & Leister (2013) evidenced that the United States and the European Union have been by far the most frequent complaining and responding parties. However,

some Latin American middle income countries, such as Brazil, Chile and Mexico, have had significant participation in the disputes considered. In this sense, Elsig & Stucki (2011) advocated that often neither special legal and financial support would ensure the participation of DCs/LDCs in disputes, given the presence of factors such as the narrow range of cases which represent a very important barrier. Furthermore, some authors such as Kim (2008) insisted that the addition of more legal requirements in the WTO Dispute Settlement compared with the GATT system, has been detrimental to DCs and LDCs. This situation would have been particularly marked in African countries, as some procedures (e.g. retaliation) present implementation difficulties for them and have not been designed considering their particularities (Alavi, 2007; Mosoti, 2006). In contrast, Allee (2008) highlighted that the entry into force of the WTO Dispute Settlement had a more positive effect on participation in developing than in developed countries. According to this author, DCs would also give greater importance to the balance between their possibilities of winning and the expected benefits, when deciding to initiate a dispute. With regard to the latter, at least as a third party, this would be significantly related to the number of countries that are already participant (Johns & Pelc, 2012). In fact, after applying a quantitative analysis, Bown (2009) showed that the participation as third part of DCs in disputes where the complainant received a market access increase to the respondent had a very similar effect on the developing third part country. Likewise, Smith (2004) argued that some reforms to the WTO Dispute Settlement would have made the participation of DCs easier, principally in what regards the contribution of third parties (NGOs, private practitioners...) in the Appellate Body. Therefore, there is an evident large variation of the conclusions suggested by the authors mentioned. However, it is important to consider that even though the direct participation of DCs and LDCs in disputes might be relatively low, it is expected that they also benefit from their results by meeting the most favored nation clause.

Considering all the above mentioned, the **general objective** of this research is to examine to what extent the level of development of WTO members is a significant determinant of a country's participation in the SPS/TBT mechanisms. In order to do so, data was compiled

and synthesized from the WTO bases I-TIP and Dispute Settlement Gateway. All the SPS/TBT Specific Trade Concerns and disputes for the period 1995-2012 were considered. All this data was then grouped according to the development level of the member(s) involved, using the World Bank annual classification (high income country, upper-middle income country, lower-middle income country and low income country).

The SPS and TBT Agreements: origins, scope and principles

Although the present WTO SPS and TBT Agreements were an important milestone, the treatment of technical non tariff measures was not a new subject in terms of multilateral regulation. The General Agreement on Tariffs and Trade (GATT) recognized in its article XX the members' authority to take the necessary measures regarding imports for the protection of human and animal life and health and/or for plant preservation. In the same way, the Agreement on Technical Barriers to Trade that emerged after the Tokyo Round in 1979 (also known as "Standards Code"), referred different aspects of the adoption of standards and technical regulations in sanitary and phytosanitary matters, among others. However, the application of this Agreement was limited by its low adhesion. In fact, it was signed by only thirty-two countries (GATT contracting parties) of the ninety that were in the Round (however they covered a high percent of international trade at that time).

As a consequence, in order to make further progress in this area, the Punta del Este Declaration (1986), which initiated the Uruguay Round, established as one of the subjects of negotiation in terms of the agricultural sector reducing the negative impact of technical NTMs on international trade. For this, a Working Group on Sanitary and Phytosanitary Regulations was formed in 1988, which two years later had generated a first draft of an agreement proposal. Since several important points were left out of this initial draft, in 1991 Arthur Dunkel, Director-General of the GATT, presented the so-called "Dunkel Draft" (FAO, 2000). This text served as the basis of the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), adopted during the closure of the Uruguay Round in the city of Marrakech, Morocco in 1994. On the same occasion, the new

Agreement on Technical Barriers to Trade was signed. In this sense, as the WTO used a “single undertaken approach” to the Uruguay Round outcomes, the 123 countries participating joined all its results, within the SPS and TBT Agreements were included.

The scope and principles of current SPS and TBT Agreements are detailed below:

a) SPS Agreement

As expressed in its preamble, the main objective of the SPS Agreement is that “no member should be prevented from adopting or enforcing measures necessary to protect human, animal or plant life and health”; however, this is “subject to the requirement that these measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between Members where the same conditions prevail or a disguised restriction on international trade”.

In order to accomplish the above, the SPS Agreement is based on the application of the following principles: non-discrimination, harmonization, equivalence, scientific evidence, regionalization, transparency and technical assistance and special treatment to developing members. Each of these principles is explained in the following paragraphs.

i) Non-discrimination

The non-discrimination principle in the SPS Agreement responds to the Most Favoured Nation and National Treatment Clauses at the 1947 GATT (articles 1 and 3).

In a more specific way, the SPS Agreement provides that in terms of sanitary and phytosanitary measures on imported products, equal treatment will be given to national and other importer products (article 2.3). Therefore, the aim of this principle is to avoid the application of unjustifiable asymmetrical requirements between domestic production and imports, which as a result may have protectionist effects.

ii) Risk assessment and scientific evidence

The SPS Agreement establishes that sanitary and phytosanitary measures shall be justified by a risk assessment properly adapted for each case (article 2.2). One of the main elements to take into account in this risk assessment is the existent scientific evidence. However, in the case of measures directed at protecting animal or plant health, economic effects relating to potential damage to production and sales should be considered, in addition to the costs and expected outcomes of the alternative actions taken to mitigate the risk (article 5.3).

iii) Harmonization

The principle of harmonization in the SPS Agreement is very similar in spirit to that of the 1979 TBT Agreement. In this sense, it is established that countries should give priority to the use (full or partial) of international standards, guidelines or recommendations where they exist, as a basis for their own national sanitary and phytosanitary measures (Art. 3.1). However, the Agreement itself enables the establishment of more stringent national measures as long as scientific evidence or risk assessment properly justifies it (Art. 3.3).

In order to enhance viability of and compliance with the above it is stated in the Agreement that countries shall participate, in accordance with their resources, in the operations of the international standards-setting organizations (Art. 3.4). In this context, unlike what happens in the current TBT Agreement, the SPS Agreement explicitly references the international institutions that are considered. In particular: the Codex Alimentarius Commission, the International Office of Epizootics and the International Plant Protection Convention. These are known as the “three sisters” in the context of SPS regulation.

iv) Equivalence

Complementary to the principle of harmonization, the Agreement encourages members to recognize the sanitary and phytosanitary measures of other members as equivalent to their own, despite any possible existing differences, provided an appropriate level of protection is obtained (article 4.1.).

In the same way, requested members shall initiate the negotiation of a bilateral or multilateral agreement on SPS measures equivalence recognition (article 4.2).

v) Regionalization

Sanitary and phytosanitary issues need not be bound to a country's borders; they can also affect just a part of a country or several countries (entirely or partially). In the same respect, the SPS Agreement establishes that measures shall be designed to consider the characteristics of the area of origin and destination of the product (article 6.1).

The Agreement also states that members shall consider pest/disease free or low prevalence areas when appropriate based on, for instance, physical factors (geography and ecosystems) as well as any control and surveillance measures taken (Art. 6.2). However, if it is an exporting country, which claims the abovementioned consideration, the Agreement establishes that it shall have to provide supporting evidence, and even allow personnel from the importing country access for the purpose of conducting inspections (Art. 6.3).

vi) Transparency

On transparency, under the SPS Agreement, countries undertake to: i) announce publicly their intention to introduce a measure, ii) notify through the WTO Secretariat the contents of the measure, iii) upon request of another member, provide further details about the measure, iv) allow time for comments from other members, discuss them if required and consider this process in the final proposal (Annex 2, Par. 5). The Agreement itself establishes exceptions to this in cases where the aforementioned process can be counterproductive, since urgent problems related to sanitary and phytosanitary issues can arise. However, in these cases the imposing country should notify through the Secretariat of the WTO what the urgent problems are as justification. Likewise, the full text of the measure should also be provided upon request and the rest of the members should be allowed to make comments and discuss it, taking into account the results of both processes (Annex 2, Par. 6).

vii) Technical assistance and Special and Differential Treatment

The Special and Differential Treatment principle is contained in various WTO agreements such as the "special concessions" for members from developing countries. In the specific case of the SPS Agreement it is reflected, on the one hand, in the obligation of providing technical assistance to developing members that so request it for issues relating to: a) compliance with requirements, b) generating national institutions in SPS and c) participation in international institutions (article 9). Similarly, the Agreement states that the particularities of developing member countries should be taken into account for the construction of the explanations contained therein (article 10.1). In this sense, even the SPS Committee may grant, in cases where it was found appropriate, exceptions from obligations for developing members, although always for a limited period of time and upon request of the country concerned (article 10.3).

b) TBT Agreement

The TBT Agreement focuses, as stipulated in its preamble, on protecting the countries' authority to take necessary measures in order to ensure, quality of exports, environmental protection and prevention of deceptive practices, in addition to the points raised in the SPS Agreement; adding to these goals Article 2.2 of the Agreement the protection of national security. However, these measures should not constitute a means of arbitrary or unjustifiable discrimination between countries with the same conditions, or a disguised restriction on international trade.

The measures which the TBT Agreement refers are classified in three groups: technical regulations, standards and conformity assessment procedures. The main difference between the first two is their obligation: while technical regulations are mandatory⁴, compliance

⁴ In accordance with the TBT Agreement a technical regulation is a "document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory" (TBT Agreement, Paragraph 1, Annex 1).

standards are voluntary⁵. However, both establish characteristics of the products, processes or methods of production and requirements relating to terminology, symbols, packaging, marking or labeling. Meanwhile, conformity assessment procedures refer to methods that are, directly or indirectly, used to verify the compliance of technical regulations and/or standards. In this sense, they “include, *inter alia*, procedures for sampling, testing and inspection; evaluation, verification and assurance of conformity; registration, accreditation and approval as well as their combinations” (TBT Agreement, Paragraph 3, Annex 1).

The principles in the TBT Agreement are very similar to those explained for the SPS Agreement. However, there are some differences. For example in the TBT Agreement the principle of regionalization is not presented explicitly. Besides, the TBT Agreement accounts for the principle of “prevention of unnecessary obstacles” instead of the principle of “scientific evidence” as in the SPS Agreement. In this sense, the concept of “need” would be measured considering the risks, which does not lead to the pursuing of the legitimate aims defined by the Agreement itself (as already mentioned: imperatives of national security, the prevention of deceptive practices, protection of human health or safety, protection of life or animal and plant health and environmental protection). In accordance with the Agreement, this risk assessment takes into account available scientific and technical information, related processing technology and final purposes to which the products are destined.

Another significant difference between the two Agreements is related to the application of the harmonization principle. While the SPS Agreement specifically identifies three institutions as the reference for national regulations, the TBT Agreement is not so explicit and only mentions that they should be “appropriate international standardizing bodies”, open to the participation of all WTO members. Considering this lack of precision, the TBT Committee has established in its meetings that, the operations of the previously mentioned

⁵ In accordance with the TBT Agreement a standard is a “document approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory” (TBT Agreement, Paragraph 2, Annex 1).

institutions should not only open, but also comply with the following principles: transparency, impartiality, consensus, effectiveness, relevance, consistency and consideration of development⁶.

Despite the differences pointed out, the SPS and TBT framework under the multilateral system, have in common the use of three mechanisms which pursue transparency and consensus building. These are: notifications, Specific Trade Concerns and disputes. In the next sections, the operation and country participation in the last two mechanisms mentioned will be explained in a more exhaustive way.

In addition to the requirements based on the above principles, both the SPS and TBT Agreements establish the conformation and general functions of their respective Committees. In this sense, both Agreements provide that their Committee functions are primarily related to compliance with the principle of harmonization. Meanwhile, in terms of their composition, they will be comprised of representatives from each of the member countries. Both are also required to meet at least once a year, thereby providing an opportunity for members of (*inter alia*) to raise their concerns about the requirements imposed by other member(s). As previously mentioned, these are known as Specific Trade Concerns. In fact, the SPS and TBT Committees are conceived of as a consultation (and negotiation) forum.

Despite the consensus building spirit of the SPS/TBT Agreements, they also assure the ability of countries to resort to consultations and disputes when they consider that provisions under the Agreements are not being met by another member. In this sense, both Agreements state their compliance with Articles XXII and XXIII of GATT 1994. However, given the nature of SPS/TBTs, both Agreements also mention that these dispute panels can resort to the assistance of technical experts *ad hoc*, at the request of a party in the dispute or through their own decision. In Annex 2, the TBT Agreement provides greater depth about

⁶ At a practical level, some examples of “appropriate international standardizing bodies” under the frame of the TBT Agreement are: the International Organization for Standardization (ISO), the International Telecommunication Union (ITU) and the Codex Alimentarius.

the composition and process through which these technical expert groups shall operate. They shall be, in all cases, under the panel's authority, responsible for the supervision of their work. Also members in the expert group shall have a professional background that justifies their participation, which must be on an individual basis, and not as a representative of a Government. However, the technical expert group shall consider countries in the dispute comments for the preparation of their final report, as it will be crucial to the descriptive part of the panel's report, and of course as input for its conclusions.

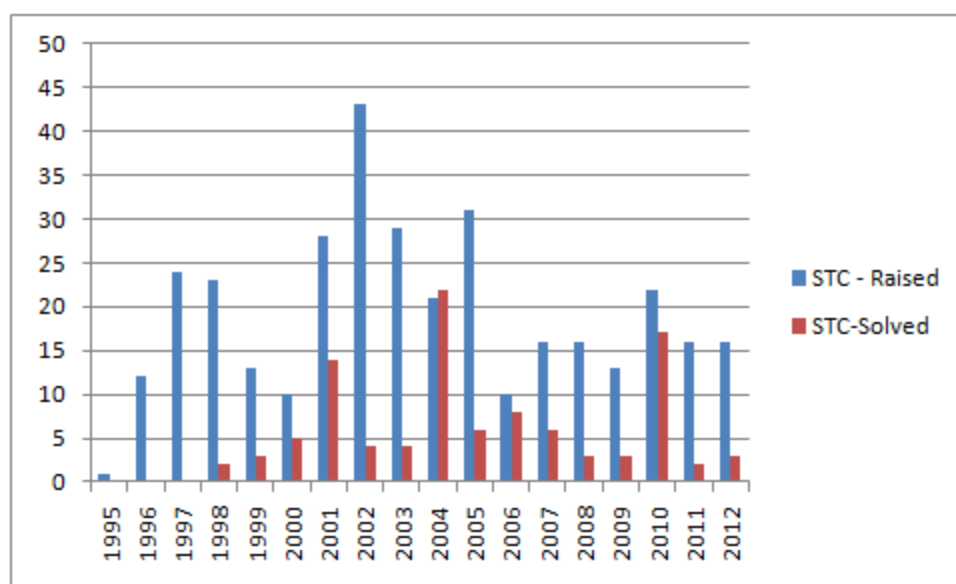
In the section below, member participation in SPS/TBT Specific Trade Concerns and disputes will be analyzed according to their level of economic development.

WTO member participation in SPS/TBT STCs

Sanitary and Phytosanitary Specific Trade Concerns

During the considered period (1995-2012) a total of 344 STCs were raised, from which 102 were solved. In this sense, the period 2001-2005 was the most prolific in presenting Specific Trade Concerns before the SPS Committee.

Number of SPS-STCs raised and solved per year



Source: Compilation based on WTO I-TIP database

The participation of the different members in said concerns has been analyzed considering the following three categories: concerned, maintaining and supporting countries, in accordance with their role in the presentation of the STC. In this sense, as regards concerned countries the two most important are the European Union, with 80 STCs, and the United States, with 71 STCs. They are followed by some middle income countries such as Argentina (39), China (28), Brazil (25) and India (13). On the other hand, as regards maintaining countries for SPS related STCs the European Union and United States are once

again the most important, with 67 and 40 STCs, followed by Japan (27), China (20), Australia (16) and Brazil (14). As supporting countries of the SPS STCs the European Union and the United States are also the most active, with 39 and 36 participations. Some Latin American countries such as Argentina, Chile, Brazil and Mexico are also in prominent positions.

Participation in SPS-STCs as concerned country (1995-2012)

United States	80	Ecuador	8	Peru	3
European Union	71	Mexico	8	Senegal	3
Argentina	39	Colombia	7	Hong Kong	2
China	28	Hungary	5	Israel	2
Brazil	25	New Zealand	5	Nicaragua	2
Canada	24	Philippines	5	Norway	2
India	13	Switzerland	5	Poland	2
Australia	9	Costa Rica	4	Slovenia	2
Thailand	9	Uruguay	4	South Africa	2
Chile	8	Indonesia	3	Others	24

Source: Compilation based on WTO I-TIP database

Participation in SPS-STCs as maintaining country (1995-2012)

European Union	67	Panama	7	Bolivia	3
United States	40	Chinese Taipei	7	Colombia	3
Japan	27	B. R. of Venezuela	6	Philippines	3
China	20	Chile	6	South Africa	3
Australia	16	Turkey	5	Thailand	3
Brazil	14	Czech Republic	5	Croatia	3
Indonesia	13	Israel	4	Honduras	3
Rep. of Korea	12	Malaysia	4	Romania	3
Mexico	11	El Salvador	4	France	3
Canada	11	Poland	4	New Zealand	3
India	8	Slovak Republic	4	Other	47
Argentina	7	Spain	4		

Source: Compilation based on WTO I-TIP database

Participation in SPS-STCs as supporting country (1995-2012)

European Union	39	Colombia	8	Indonesia	6
United States	36	Costa Rica	8	Jamaica	6
Canada	34	Rep. of Korea	8	Japan	6
Australia	26	Switzerland	8	South Africa	6
Argentina	25	Bolivia	7	Malaysia	5
Chile	23	Cuba	7	Pakistan	4
New Zealand	23	Ecuador	7	El Salvador	3
Brazil	21	India	7	Guatemala	3
Mexico	17	Paraguay	7	Kenya	3
Philippines	14	Peru	7	Nicaragua	3
Uruguay	13	Thailand	7	Viet Nam	3
China	12	Dominican Rep.	6	Other	32

Source: Compilation based on WTO I-TIP database

The same inventory approach can be used in order to check member participation in SPS STCs in accordance with their income level. As shown in the table below, high income countries are the most active as maintaining, concerned and supporting countries, with 56.66%, 50.25% and 42.19% participation from 1995 to 2012 respectively. These are followed by upper-middle income countries with 23.24, 27.72 and 30.36 per cent. Lower-middle income members had a participation of 16.71, 19.06 and 24.11 per cent as maintaining, concerned and supporting countries. Finally, low income countries had a very marginal contribution, representing 3.39, 2.97 and 3.35 per cent of the total participation.

Annual percentage of participation in SPS-STCs according to the members' income level

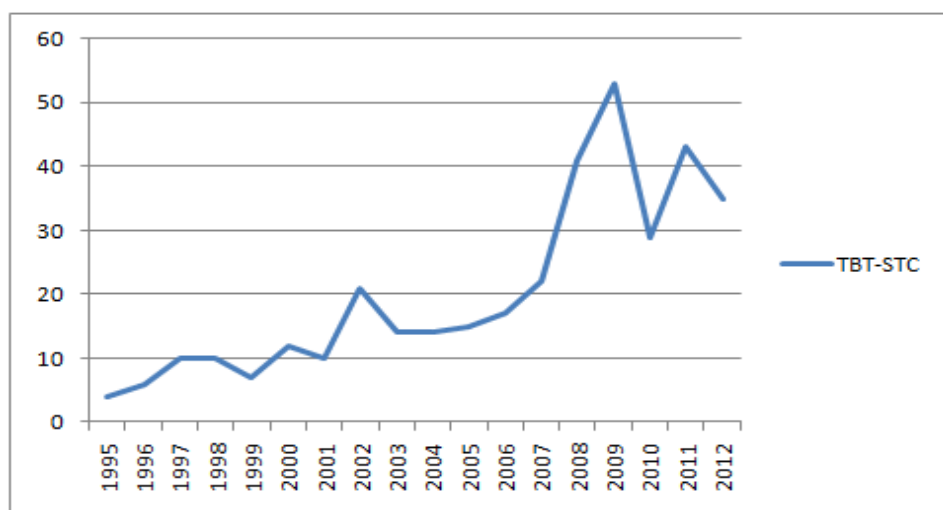
	High Income			Upper-Middle Income			Lower-Middle Income			Low Income		
	Mant.	Con.	Sup.	Mant.	Con.	Sup.	Mant.	Con.	Sup.	Mant.	Con.	Sup.
1995	100	100	50	0	0	50	0	0	0	0	0	0
1996	58.33	84.62	25	30.56	15.38	50	8.33	0	25	2.78	0	0
1997	62.5	60.71	23.33	25	28.57	70	8.33	10.71	6.67	4.17	0	0
1998	62.5	48.65	41.67	33.33	18.92	37.5	4.17	18.92	16.67	0	13.51	4.17
1999	42.86	64.29	80	35.71	28.57	20	7.14	7.14	0	14.29	0	0
2000	50	40	33.33	20	30	40	20	30	20	10	0	6.67
2001	76.47	34.88	51.22	14.71	37.21	17.07	5.88	20.93	24.39	2.94	6.98	7.32
2002	33.33	59.18	64.29	21.43	22.45	16.67	40.48	14.29	19.05	4.76	4.08	0
2003	78.79	59.38	28.57	15.15	21.88	23.21	6.06	15.63	41.07	0	3.13	7.14
2004	57.89	60	37.14	10.53	20	22.86	10.53	20	37.14	21.05	0	2.86
2005	68.75	53.13	41.67	12.5	18.75	22.22	18.75	25	30.56	0	3.13	5.56
2006	30	58.33	16.67	30	8.33	41.67	30	33.33	33.33	10	0	8.33
2007	35.71	62.5	50	7.14	25	0	57.14	12.5	50	0	0	0
2008	66.67	37.5	50	27.78	25	31.25	5.56	37.5	18.75	0	0	0
2009	31.58	15.38	73.33	31.58	61.54	13.33	36.84	23.08	13.33	0	0	0
2010	52.17	21.74	33.33	39.13	52.17	45.83	8.70	26.09	20.83	0	0	0
2011	46.67	42.11	44.12	40	42.11	35.29	13.33	15.79	20.59	0	0	0
2012	66.67	42.11	63.16	20	31.58	21.05	13.33	26.32	15.79	0	0	0
Total	56.66	50.25	42.19	23.24	27.72	30.36	16.71	19.06	24.11	3.39	2.97	3.35

Source: Compilation based on WTO I-TIP database

Technical Barriers to Trade Specific Trade Concerns

A total of 363 Specific Trade Concerns were presented to the TBT Committee between 1995 and 2012. Unlike SPS STCs, in this case the number of concerns raised has tended to increase annually, with 2008-2012 being the most prolific period.

Number of TBT-STCs initiated per year



Source: Compilation based on WTO I-TIP database

As seen before for the SPS STCs, the most active concerned countries are the European Union and the United States, with 177 and 149 presentations respectively. These are followed by Japan (54), Canada (51), China (50) and Mexico (47). On the other hand, as maintaining countries (of the TBT measures requested) the European Union is the member with the highest participation, with a total of 80 STCs. The EU is followed by far by China, the United States and the Republic of Korea, with 42, 41 and 28 concerns respectively.

Participation in TBT-STCs as concerned country (1995-2012)

European Union	177	Israel	9
United States	149	Norway	9
Japan	54	Dominican Rep.	8
Canada	51	Philippines	7
China	50	Jordan	6
Mexico	47	B. R. of Venezuela	5
Rep.of Korea	39	Peru	5
Australia	35	Russian Fed.	5
Argentina	29	Turkey	5
Brazil	25	Uruguay	5
New Zealand	22	Zimbabwe	5
Chile	21	Chinese Taipei	4
Switzerland	21	Hong Kong	4
Colombia	11	Zambia	4
Cuba	11	El Salvador	3
Egypt	11	Guatemala	3
Indonesia	11	Honduras	3
Malaysia	11	Nicaragua	3
South Africa	11	Paraguay	3
Ecuador	10	Saudi Arabia	3
India	10	Other	38
Thailand	10		

Source: Compilation based on WTO I-TIP database

Participation in TBT-STCs as maintaining country (1995-2012)

European Union	80	Peru	4
China	42	South Africa	4
United States	41	Turkey	4
Rep. of Korea	28	Viet Nam	4
Brazil	18	Ecuador	3
India	18	Malaysia	3
Indonesia	13	New Zealand	3
Japan	11	Saudi Arabia	3
Mexico	11	Australia	2
Canada	9	Bahrain	2
Colombia	9	Chile	2
Argentina	8	Hong Kong	2
Thailand	6	Kuwait	2
Chinese Taipei	5	Rep. of Moldova	2
Egypt	5	Norway	2
Israel	5	Other	14

Source: Compilation based on WTO I-TIP database

In accordance with the members' income level, as for SPS STCs the most active participation, as maintaining and concerned countries corresponds to high income countries, with 53.97% and 61.28% per cent respectively. Upper-middle income countries' participation has totaled at 20.82% and 22.35%, lower-middle at 22.47% and 13.85%, and finally low income countries at 2.74% and 2.52%. In spite of these differences, middle income members have demonstrated in some periods an especially active participation as maintaining and concerned countries, mainly since 2002/2003.

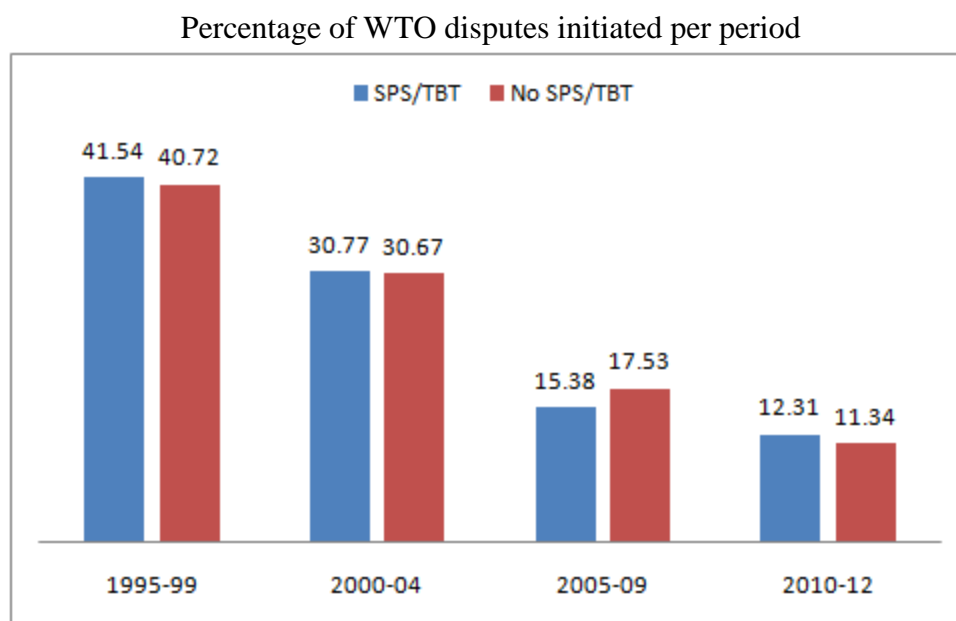
Annual percentage of participation in TBT-STCs according to the members' income level

	High Income		Upper Middle		Lower Middle		Low Income	
	Mant.	Con.	Mant.	Con.	Mant.	Con.	Mant.	Con.
1995	75	100	25	0	0	0	0	0
1996	100	100	0	0	0	0	0	0
1997	44.44	81.25	22.22	12.5	33.33	6.25	0	0
1998	30	76.47	50	23.53	20	0	0	0
1999	100	45	0	25	0	27.5	0	2.5
2000	75	51.52	8.33	21.21	8.33	21.21	8.33	6.06
2001	50	68.18	20	22.73	10	9.09	20	0
2002	57.14	69.23	4.76	13.46	28.57	13.46	9.52	3.85
2003	50	61.11	7.14	22.22	35.71	13.89	7.14	2.78
2004	42.86	76.92	42.86	11.54	7.14	11.54	7.14	0
2005	40	46.27	20	19.4	40	31.34	0	2.99
2006	58.82	63.33	0	10	29.41	26.67	11.76	0
2007	45.45	84.21	13.64	2.63	40.91	13.16	0	0
2008	56.1	69.79	17.07	17.71	26.83	12.5	0	0
2009	58.18	56.32	12.73	24.14	29.09	14.37	0	5.17
2010	48.28	73.85	41.38	23.08	10.34	3.08	0	0
2011	32.56	53.38	46.51	30.41	18.6	12.16	2.33	4.05
2012	71.43	53.16	14.29	39.24	14.29	6.33	0	1.27
Total	53.97	61.28	20.82	22.35	22.47	13.85	2.74	2.52

Source: Compilation based on WTO I-TIP database

WTO member participation in SPS/TBT disputes

From 1995 to 2012, 65 disputes were presented to the WTO Dispute Settlement in which the SPS and/or TBT Agreements were cited by the complainant country among those violated by the respondent⁷. In the same period, 389 disputes were presented invoking other Agreements. In both cases, the time distribution of dispute initiation is very similar, with the periods 1995-1999 and 2000-2004 as the most prolific.



Source: Compilation based on WTO Dispute Settlement Gateway

The charts below present figures related to the members' participation in SPS/TBT disputes. In this sense, the United States and Canada are the countries which have presented the most disputes, with 13 and 12 respectively, followed by the European Union with 7. On the other hand, as respondent to disputes, the most frequent respondents have been the

⁷ In this analysis, it was considered information concerning the category "agreements cited" in the WTO Disputes Settlement Gateway database. From there, the 65 disputes mentioned are those where: both the SPS/TBT and other WTO Agreement(s) were cited, the SPS and other WTO Agreement(s) were cited, the TBT and other WTO Agreement(s) were cited, both the SPS/TBT Agreement(s) were cited or just the SPS and/or the TBT Agreement was cited. Information was not disaggregated given the low number of records.

European Union and the United States, with 19 and 14 cases. Finally, participation as a third party is more disperse, with the United States, China and the European Union leading.

Participation as complainant in SPS/TBT disputes per country (1995-2012)

United States	13	India	2	Ecuador	1
Canada	12	New Zealand	2	Honduras	1
European Union	7	Peru	2	Indonesia	1
Argentina	4	Australia	1	Nicaragua	1
Mexico	3	B. R. Venezuela	1	Norway	1
Philippines	3	Brazil	1	Switzerland	1
Chile	2	China	1	Thailand	1
Hungary	2	Dominican Rep.	1	Ukraine	1

Source: Compilation based on WTO Disputes Settlement Gateway

Participation as respondent in SPS/TBT disputes per country (1995-2012)

European Union	19
United States	14
Australia	9
Rep. of Korea	5
Argentina	4
India	3
Mexico	3
Japan	2
Turkey	2
Belgium	1
Croatia	1
Egypt	1
Slovak Rep.	1

Source: Compilation based on WTO Dispute Settlement Gateway

Participation as third party in SPS/TBT disputes per country (1995-2012)

United States	21	New Zealand	12	El Salvador	3
China	18	Mexico	10	Paraguay	3
European Union	18	Chile	9	B. R. Venezuela	2
Australia	16	Guatemala	9	Hungary	2
Brazil	16	Ecuador	8	Philippines	2
Canada	14	Peru	7	Russia	2
Japan	14	Rep. of Korea	7	Zimbabwe	2
Chinese Taipei	13	Thailand	7	Dominican Rep.	1
Colombia	13	Iceland	6	Hong Kong	1
Norway	13	Turkey	5	Namibia	1
Argentina	12	Honduras	4	Pakistan	1
India	12	Uruguay	4	Viet Nam	1

Source: Compilation based on WTO Dispute Settlement Gateway

Comparatively more dramatic than STC and non SPS/TBT dispute cases, there are important differences between the high income countries and the other three groups in terms of participation in SPS/TBT disputes as a complainant, and more so as a respondent. In this sense, as presented in the table below, high income countries have been the complainant in 56.92% of the SPS/TBT disputes presented from 1995 to 2012, and the respondent in 76.92% of the cases. In the meantime, upper-middle income members have participated in 20% and 13.85% of the disputes, lower middle in 18.46% and 6.15% and low income countries in 4.62% and 3.08%, as the complainant and respondent respectively.

Annual percentage of participation in WTO disputes according to the members' income level

	High Income				Upper Middle				Lower Middle				Low Income			
	SPS/TBT		No SPS/TBT		SPS/TBT		No SPS/TBT		SPS/TBT		No SPS/TBT		SPS/TBT		No SPS/TBT	
	Com.	Res.	Com.	Res.	Com.	Res.	Com.	Res.	Com.	Res.	Com.	Res.	Com.	Res.	Com.	Res.
1995	60	100	50	73.33	20	0	16.67	20	20	0	22.22	6.67	0	0	11.11	0
1996	80	80	63.64	50	0	20	9.09	17.65	20	0	11.36	26.47	0	0	15.91	5.88
1997	100	66.67	82.22	63.64	0	16.67	13.33	13.64	0	0	4.44	6.82	0	16.67	0	15.91
1998	83.33	83.33	80	62.86	0	16.67	11.43	22.86	0	0	0	2.86	16.67	0	8.57	11.43
1999	0	0	67.65	53.33	0	0	17.65	33.33	0	0	11.76	10	0	0	2.94	3.33
2000	66.67	33.33	43.59	41.94	0	33.33	38.46	35.48	33.33	33.33	7.69	16.13	0	0	10.26	6.45
2001	0	25	25	47.37	25	50	50	42.11	50	25	20	10.53	25	0	5	0
2002	33.33	66.67	58.06	83.87	33.33	0	16.13	9.68	33.33	16.67	19.35	6.45	0	16.67	6.45	0
2003	57.14	71.43	36.84	52.63	28.57	28.57	31.58	15.79	0	0	31.58	26.32	14.29	0	0	5.26
2004	0	0	78.95	73.68	0	0	0	10.53	0	0	10.53	5.26	0	0	10.53	10.53
2005	0	0	36.36	36.36	0	0	36.36	36.36	0	0	18.18	27.27	0	0	9.09	0
2006	0	0	57.14	57.14	0	0	33.33	19.05	0	0	4.76	19.05	0	0	4.76	4.76
2007	100	100	45.45	45.45	0	0	36.36	0	0	0	18.18	54.55	0	0	0	0
2008	33.33	100	56.25	43.75	66.67	0	12.5	6.25	0	0	31.25	50	0	0	0	0
2009	80	100	44.44	33.33	0	0	22.22	11.11	20	0	33.33	55.56	0	0	0	0
2010	0	100	37.5	31.25	0	0	18.75	56.25	100	0	43.75	12.50	0	0	0	0
2011	0	0	62.5	50	0	0	12.5	25	0	0	25	25	0	0	0	0
2012	14.29	71.43	45	35	57.14	14.29	35	65	28.57	14.29	20	0	0	0	0	0
Total	56.92	76.92	57.93	54.76	20	13.85	21.39	24.16	18.46	6.15	14.9	15.94	4.62	3.08	5.77	5.14

Source: Compilation based on WTO Dispute Settlement Gateway

Concluding remarks

The general objective of this research was to constitute a first approach to examine to what extent the level of development of WTO members is a significant determinant of a country's participation in the SPS/TBT mechanisms. In this sense, the results obtained evidence that the participation patterns of WTO members in SPS/TBT Specific Trade Concerns and disputes have been strongly diverse according to their economic level; with high income countries much more active than DCs and LDCs. However, as this analysis has considered groups of countries, expectedly within them there are various exceptions. For instance, high income countries as Japan, Switzerland, New Zealand or Norway, have a lower participation in SPS/TBT disputes and STCs than others as Brazil, India or China.

This suggests that, the inventory methodology (used in this paper) is not sufficient in order to explain the specific reasons why some countries have been more participative than others in the mechanisms considered. For this reason, it might be optimal to estimate an econometric model where the dependent variable would be the level of participation of each country in the SPS/TBT WTO mechanisms. Meanwhile, following the specialized literature mentioned in the introduction, the explanatory variables might come under, among others, the following categories: i) economic power, ii) importance of international trade, iii) legal capacities, iv) past experience in the WTO, v) openness/protectionist patterns, vi) dependence on other countries and vii) political status and scientific capacities.

On the other hand, as also previously mentioned, for Specific Trade Concerns some authors suggest that it is important to differentiate between "serious" and "trivial" concerns, in accordance with (for instance) the number of meetings in which the subject is raised. This diversity has not been considered in the present paper, accounting equally for all the STCs.

Finally, it is relevant to remark that the understanding of member participation in the SPS/TBT "comitology" would eventually support the design of public policy corrective actions. In this case, given the importance of technical skills to raise a STC or dispute in SPS/TBT, extend assistance intensity seems the most appropriate measure. However, it is

also necessary to take into account that the lack of participation of some countries doesn't always necessarily come from a lack of the necessary capabilities, but from a low interest in accordance with their economic and commercial strategy.

References

Alavi, A. 2007. African Countries and the WTO's Dispute Settlement Mechanism. *Development Policy Review*, 25(1):25-42.

Allee, 2008. Developing Countries and the Initiation of GATT/WTO Disputes. Paper Presented at the 1st Conference on "The Political Economy of International Organizations", Monte Verità, Switzerland, February 3-8.

Besson, F. & Mehdi, R. 2004. Is WTO Dispute Settlement System Biased Against Developing Countries? An Empirical Analysis. Paper Presented at the Second International Conference on "European and International Political and Economic Affairs", Athens, Greece, May 27-29.

Bohl, K. 2009. Problems of developing country access to WTO dispute settlement. *Chicago-Kent Journal of International & Comparative Law*. 130-200.

Bown, C. 2004. Trade disputes and the implementation of protection under the GATT: an empirical assessment. *Journal of International Economics*, Vol. 62:263-294.

--- 2005. Participation in WTO dispute settlement: complainants, interested parties and free riders. World Bank - Development Research Group Working Paper Series.

--- 2009. MFN and the Third-Party Economic Interests of Developing Countries in GATT/WTO Dispute Settlement. In J. P. Trachtman & C. Thomas (Eds.), *Developing Countries in the WTO Legal System*, Oxford.

Busch, M., Reinhardt, E. & Shaffer, G. 2008. Does legal capacity matter? Explaining dispute initiation and antidumping actions in the WTO. Issue paper No. 4, International Centre for Trade and Sustainable Development.

Boza, S. 2013. Assessing the impact of sanitary, phytosanitary and technical requirements on food and agricultural trade: what does current research tell us? SECO/World Trade Institute (Univ. of Bern) Project Working Papers, 3/2013.

Conti, J. A. 2010. Learning to dispute: repeat participation, expertise, and reputation at the World Trade Organization. *Law & Social Inquiry*, Vol. 35(3):625–662.

Crivelli, P. & Gröschl, J. 2012. SPS Measures and Trade: Implementation Matters. World Trade Organization Staff Working Paper ERSD-2012-05.

Darby, M. R. & Karni, E. 1973. Free Competition and the Optimal Amount of Fraud. *Journal of Law and Economics*, 16(1):67-88.

Davis, C. & Blodget. S. 2009. Who Files? Developing Country Participation in GATT/WTO Adjudication. *The Journal of Politics*, Vol. 71(3):1033-1049.

Elsig, M. & Stucki, P. 2011. Low-income developing countries and WTO litigation: Why wake up the sleeping dog?, *Review of International Political Economy*, 19(2):292-316

Fadiga, M. & Fadiga-Stewart, L. 2005. The Political and Economic Determinants of Trade Disputes under the WTO. Paper Presented at the “American Agricultural Economics Association Annual Meeting Province”, Rhode Island, July 24-27.

FAO (2000). Las negociaciones comerciales multilaterales sobre la agricultura III: Acuerdo sobre la Aplicación de Medidas Sanitarias y Fitosanitarias y Acuerdo sobre Obstáculos Técnicos al Comercio. Rome: FAO.

Fontagné, L., Orefice, G., Piermartini, R., & Rocha, N. 2013. Product Standards and Margins of Trade: Firm Level Evidence. CESIFO Working Paper No. 4169.

Götz, C., Heckelei, T. & Rudloff, B. 2010. What makes countries initiate WTO disputes on food-related issues?, *Food Policy*, 35:154–162

Guzmán, A. & Simmons, B. 2005. Power plays & capacity constraints: the selection of defendants in WTO disputes. UC Berkeley Public Law Research Paper No. 660501.

Hobbs, J. E. 2010. Public and Private Standards for Food Safety and Quality: International Trade Implications. *Estey Centre Journal of International Law and Trade Policy*, 11(1):136-152.

Holmes, P., Rollo J., & Young, A. 2003. Emerging trends in WTO dispute settlement. Back to the GATT? World Bank Policy Research Working Paper 3133.

Horn, H., Mavroidis, P., & Wijkström, H. 1999. Is the use of the WTO dispute settlement system biased? CEPR Discussion Paper No. 2340.

--- 2013. In the Shadow of the DSU: Addressing Specific Trade Concerns in the WTO SPS and TBT Committees. IFN Working Paper No. 960.

Johns, L. & Pelc, K. J. 2012. Overcrowding in WTO Dispute Settlement: Why Don't More Countries Join as Third Parties? [Work in Progress].

Kim, M. 2008. Costly Procedures: Divergent Effects of Legalization in the GATT/WTO Dispute Settlement Procedures. *International Studies Quarterly*, 52:657–686.

Leitner, K. & Lester, S. 2013. WTO Dispute Settlement 1995–2012: a statistical analysis. *Journal of International Economic Law*, 16(1): 257–267.

Mosoti, V. 2006. Africa in the first decade of WTO Dispute Settlement. *Journal of International Economic Law*, 9(2): 427–453.

Nelson, P. 1970, Information and Consumer Behavior. *Journal of Political Economy*, 78(March-April):311-329.

Sattler, T. & Bernauer, T. 2011. Gravitation or discrimination? Determinants of litigation in the World Trade Organization. *European Journal of Political Research*, Vol. 50:143–167.

Smith, J. 2004. Inequality in international trade? Developing countries and institutional change in WTO Dispute Settlement. *Review of International Political Economy*, 11(3):542-573.

Van Tongeren, F., Beghin, J. & Marette, S. 2009. A cost-benefit framework for the assessment of non-tariff measures in agro-food trade. OECD Food Agriculture and Fisheries Working Papers No. 21.

World Bank. 2008. A Survey of Non-Tariff Measures in the East Asia and Pacific Region. The World Bank Policy Research Report No. 42853.

World Trade Organization. 2007. The Results of the Uruguay Round of Multilateral Trade Negotiations. WTO/Cambridge University Press.

Wouters, J. & Garaets, D. (2012). Private food standards and the World Trade Organization. *World Trade Review*, 11(3), 479-489.

UNCTAD. 2010. Non-tariff measures: Evidence from Selected Developing Countries and Future Research Agenda. Geneva, Switzerland: United Nations Publications.