Chapter 3
The World Trade Organization
and Sustainability Standards

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1 Introduction

With the increase in spending power and public awareness about health and environmental concerns on the one hand, and the progressive elimination of quotas and reduction of tariff barriers on the other, the use of standards and technical regulations in international trade has increased exponentially.\(^1\) Goods and services traded across borders need to meet multiple requirements—mandatory or voluntary, international or domestic, public or private, sustainability-targeted or otherwise—before being able to access international markets.

Not all standards are designed with the objective of sustainability in mind; sustainability standards are a type of standards that are increasingly used and accepted, based on the recognition that they serve important social objectives (eg. protection of health and environment) that are otherwise ignored by the private market. Product standards for weights, measures, voltage, quality, etc., have a history dating back to the Industrial Revolution, with initial concerns focused on the objectives of safety and interoperability. Sykes points at the irony of the fact that product standards and regulations, originally created for promoting trade, should be viewed as trade barriers (Sykes, 1995, p. 1). In the 1970s, as social and environmental causes gained in strength, standards were appropriated as instruments to promote sustainability by qualifying the impact of market forces (Sykes, 1995, p. 1; Gale, Ascui, & Lovell, 2017, p. 70). At the same time, scepticism over the role of sustainability standards as protectionist measures led to their being described as “wolves (of protectionism)

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\(^1\)Robert Baldwin’s description of non-tariff barriers has been quoted often, “[t]he lowering of tariffs has, in effect, been like draining a swamp. The lower water level has revealed all the snags and stumps of non-tariff barriers that still have to be cleared away.” (cited in Baldwin, 2000, p. 237).
disguised under sheepskin” (Thorstensen & Vieira, 2016, p. 9). Potential benefits and risks thus accompany the use of sustainability standards in equal measure.

The use of sustainability standards is further complicated by the proliferation of “private standards”, i.e. standards initiated and driven by private and non-state actors. Marx, Maertens, Swinnen and Wouters (2012, p. 16) point out that “…while earlier stages in history saw a move from private to public regulation …what we now see is an opposite movement, back again from public to private”. Principal reasons for the turn to private standards include (i) the fact that private standards are an effective means of managing global supply chains, (ii) the fact that standards are viewed by consumers as effective means to attain sustainability objectives (Mavroidis & Robert, 2016, p. 4) and (iii) the fact that private standards can stay safe of legal controls that exist for public standards.

The general legal disciplines that apply to standards apply to sustainability standards as well. Because standards have market access implications, a role for the World Trade Organization (WTO) in regulating and managing their proliferation and application is indisputable. The WTO rules include specific provisions and dedicated legal instruments that address standards. Additionally, the scope and application of these legal provisions have been interpreted by its dispute settlement system (DSS), ordinarily clarifying the rules through judicial elaboration but sometimes resulting in further obfuscation of the existing provisions. The context of voluntary sustainability standards (VSS)—and private standards in particular—is new to the WTO; currently the organization, based on its purist understanding of itself as an inter-governmental entity, does not formally regulate private standards. However, the question of whether it should do so has been under discussion for some years, even though no consensus exists around this issue yet. Ambiguity remains over the WTO’s role in the context of “private standards”, even as they increasingly occupy larger swathes of the landscape of sustainability standards.

The use of sustainability standards has worrisome implications for the “developing countries” in particular, which have, in general, remained wary of the idea of using trade as an instrument to achieve sustainability goals. The developing countries expect the WTO rules to facilitate market access for them and the use of standards—in the setting of which they have very little participation—is perceived as an obstruction to the achievement of this objective. For the “emerging economies”, however, there is pressure to undertake measures to ensure that their exports are environment-friendly. The development-related concerns over the use of sustainability and private standards have thus been a core area of debate.

Even while the potentially trade-restrictive impact of standards and technical regulations has been a cause of concern, the WTO has displayed a willingness to recognize that the use of sustainability standards can be complementary to the cause of international trade. The 2005 World Trade Report of the WTO, titled Exploring the Links Between Trade, Standards and the WTO, recognized that standard regimes and international trade rules needed to be mutually supportive for an effective trading system (WTO, 2005). A 2017 joint publication of the UN’s Food and Agriculture Organization (FAO) and the WTO, titled Trade and Food Standards, argued that countries—and developing countries in particular—need to proactively participate
in the development of food standards if they wish to be gainers from the benefits of the burgeoning global trade. Roberto Azevedo, the current WTO Director-General, has argued that the alignment of food standards and international trade will not only help ensure food safety but also deliver on the Sustainable Development Goals (SDGs) (FAO & WTO, 2017). In April 2019, the WTO—along with the World Health Organization (WHO) and the Food and Agriculture Organization (FAO)—organized the International Forum on Food Safety and Trade at the WTO Headquarters in Geneva, where the role of food standards in ensuring food safety was discussed. This focus on issues of safety and sustainability seems indicative of the in-principle acceptance by the WTO of the fact that international trade is to be conducted within the SDG framework.

This chapter is an overview of the WTO’s interface with sustainability standards and is arranged as follows. Section 2 discusses the rules of the WTO that relate to standards in general, points at select judicial interpretations relating to the use of standards and highlights the relevant committees in which discussions on standards take place. Section 3 discusses private standards in particular and analyses the arguments in relation to the nature of the possible engagement of the WTO with them. Section 4 describes the special status of the developing countries in the context of sustainability standards and discusses where the “emerging economies” stand in this regard. Section 5 attempts tentative conclusions.

2 WTO Disciplines on Sustainability Standards

The interface of the WTO with the issue of sustainability standards is viewed below in three contexts: (1) legal provisions; (2) judicial interpretations; and (3) committee structures.

1. Legal Provisions and Sustainability Standards

Regulation of standards arose as a concern for the multilateral trading system (MTS) at the Tokyo Round of the General Agreement on Tariffs and Trade (GATT), which ran through 1973–1979. The Tokyo Round Standards Code recognized the positive contribution that standards could make to international trade and provided for sustainability standards by “recognizing that no country should be prevented from taking measures necessary … for the protection of human, animal or plant life or health, of the environment …” (GATT, 1979, Preamble). Since it was the sole legal document at the time, its coverage was broad and included both regulations and

2 Food safety is closely linked with sustainability as its impacts both the social as well as environmental realms.

3 The Future of Food Safety—Transforming Knowledge into Action for People, Economies and the Environment, https://www.wto.org/english/tratop_e/sps_e/faowhowtoapril19_e.htm.

4 For a history of the development of the Standards Code, see (Thorstensen & Vieira, 2016, pp. 12–13. For a detailed, article-by-article commentary on the Standards Code, see (Middleton, 1980).
standards (mandatory and voluntary specifications) applicable to industrial and agricultural goods. The Standards Code was hailed as an “innovative document” as it brought within the normative purview of the MTS an area that till then had not been subjected to multilateral supervision (Middleton, 1980, p. 201).

The Standards Code, however, failed to prevent trade disruptions caused by technical regulations and standards (Marceau & Trachtman, 2002, p. 814). Sykes, in his more cautious assessment of the Code, argues that the Code was effective only in instances where member states were “…determined to pursue formal dispute resolution…the day-to-day process of adopting new standards and regulations…may not have been affected much” (Sykes, 1995. p. 77). There was a felt need to replace the plurilateral Standards Code with a multilateral agreement binding on all parties. Also, with agricultural liberalization brought under the GATT in the Uruguay Round, a need was felt to separately address sanitary and phytosanitary measures (SPMs) relating to agricultural goods (Debroy, 2005, p. 3).

In the 1990s, the use of TBT and SPS measures grew sharply as tariff barriers declined (Thorstensen & Vieira, 2016, p. 13, Figs. 1 and 2). The 1990s also saw the active engagement of civil society organizations in partnering with businesses to “green” global supply chains through sustainability standard-setting in sectors such as organic food and sustainable forestry and fisheries (Gale et al., 2017, p. 65). Two separate agreements were negotiated during the Uruguay Round (1986–1994) to replace the Tokyo Round Standards Code, which formed the basis for the negotiation and adoption of these agreements (WTO & OECD, 2019, p. 20). In distinguishing between the scope of the two WTO agreements, the “type of measure” (all technical regulations, except when they are SPMs) acts as a determinant for the TBT Agreement whereas the “purpose of measure” (any measure—not necessary technical—to protect human, animal or plant life or health) determines the application of the SPS Agreement.5

The two agreements of the WTO that deal with the use of environmental and social standards are the Agreement on Technical Barriers to Trade (TBT Agreement) and the Agreement on Sanitary and Phytosanitary Standards (SPS Agreement). Both agreements regulate the use of certain types of restrictive measures in international trade, allowing their use under permitted circumstances, yet qualifying their use so that international trade is not (or only minimally) adversely impacted. As has been pointed out (Marceau & Trachtman, 2002, p. 815; Thorstensen & Vieira, 2016, p. 15), these agreements represent “…‘interpretation notes’ of the rules enshrined in the exceptions of Article XX of GATT”.6

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5 See WTO website, Understanding the WTO Agreement on Sanitary and Phytosanitary Measures, https://www.wto.org/english/tratop_e/sps_e/spsund_e.htm.

6 Article XX of the GATT, which sets out the “General Exceptions” to core WTO obligations reads: “Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: … (b) necessary to protect human, animal or plant life or health; … (g) relating to the conservation of exhaustible
The preamble to the TBT Agreement recognizes that international standards contribute to improved efficiency in international trade and talks of the positive need to encourage the development of international standards. What must be ensured, however, is that technical regulations and standards do not create unnecessary obstacles to international trade (WTO, 1994a, Preamble, emphasis added). These agreements thus constitute a “balancing act”—on the one hand, allowing their use for legitimate policy needs of member states, while on the other hand, requiring that their use does not unnecessarily restrict trade (Sampson, 2005, p. 115; Wolfrum, Stoll, & Anja, 2007). The TBT Agreement recognizes and defines three forms of regulatory barriers to trade—technical regulations, standards, and conformity assessment procedures.\(^7\) A core provision of the TBT Agreement mandates member states to ensure that technical regulations do not constitute “unnecessary obstacles to international trade”, i.e. are not “more trade-restrictive than necessary to fulfil a legitimate objective…” (WTO, 1994a, Article 2.2). The TBT Agreement also has annexed to it a “Code of Good Practice”, which lays out the disciplines for the “preparation, adoption and application of standards” by all standardizing bodies—governmental or non-governmental (WTO, 1994a, Annex 3).

The SPS Agreement, similarly, recognizes the right of members to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health (WTO, 1994b, Article 2.1) provided they ensure that “…any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health … and is not maintained without sufficient scientific evidence…” (WTO, 1994b, Article 2.2). Members are to ensure that their SPMs do not arbitrarily or unjustifiably discriminate between members and SPMs are not applied so as to constitute a disguised restriction on international trade (WTO, 1994b, Article 2.3, emphasis added).

The SPS Agreement promotes the use of international standards developed by international standard-setting bodies and recognizes some—the Codex Alimentarius (for food safety), the World Organisation for Animal Health (OIE) (for animal health) and the International Plant Protection Convention (IPPC) (for plant safety)—whose standards are deemed to be consistent with the requirements of the WTO disciplines [WTO, 1994b: Preamble, Article 3(4)]. “The international standards produced by the three sisters”, while voluntary, provide the basis for harmonization of the SPS measures adopted by WTO members, unless … there is a scientific justification

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\(^7\) As defined in 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” (WTO, 1994a, Annex 1:1, emphasis added). 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” (WTO, 1994a, Annex 1:2, emphasis added). A conformity assessment procedure is “any procedure used, directly or indirectly, to determine that relevant requirements in technical regulations or standards are fulfilled” (WTO, 1994a, Annex 1:3, emphasis added).
and based on a risk assessment, a member decides to introduce a measure that would result in a higher level of sanitary or phytosanitary protection” (WTO & OECD, 2019, p. 40). Thus, although member states are free to choose higher levels of protection than international standards, such measures have to be based on a risk assessment carried out by the member state that establishes “sufficient scientific evidence” for the existence of the risk (Sampson, 2005, p. 117). The TBT Agreement similarly requires member states to use “relevant international standards” as a basis for their national regulations and standards but it neither defines “international standards”, nor does it list out recognized international standardizing bodies.\footnote{In 2000, in order to elucidate what “relevant international standards” could mean, the TBT Committee adopted a decision laying down the principles based on which international standards should be developed by international standard-setting bodies so as to be considered as “relevant international standards”: (i) transparency; (ii) openness (iii) impartiality and consensus; (iv) effectiveness and relevance; (v) coherence; and (vi) the development dimension (WTO & OECD, 2019, pp. 41–42).}

Marceau and Trachtman (2002, p. 816), in an exhaustive article comparing the GATT, the TBT Agreement and the SPS Agreement,\footnote{For a tabulated comparison of the TBT and SPS Agreements, see (Thorstensen & Vieria, 2016, pp. 57–62).} identify the following disciplines that the TBT and SPS Agreements together encompass: non-discrimination (most favoured nation and national treatment); necessity and proportionality; scientific basis; harmonization (conformity with international standards); mutual recognition and equivalence; internal consistency; permission for precautionary action; and balancing and product/process issues. Besides the TBT and SPS disciplines, some provisions of the General Agreement on Tariffs and Trade (GATT) also apply, in particular, Articles I, III, XI and XX of GATT. In principle, then, the use of standards—for legitimate purposes—is not a problem in the WTO. Problems arise, however, with variant interpretations of what is “legitimate”. It is often difficult to distinguish between an intentionally protectionist measure and a non-protectionist measure, with a genuine objective, that incidentally restricts trade (Marceau & Trachtman, 2002, p. 811) and this becomes the key reason for disputes among member states.

2. **Judicial Interpretation and Sustainability Standards**

Judicial interpretations by the WTO panels and Appellate Body (AB) have elaborated upon the content of the legal provisions relating to standards. The WTO website lists 49 disputes that have cited (uptil September 2019) the provisions of the SPS Agreement (spanning measures relating to agricultural products; beef, meat, seafood and poultry products; fruits and vegetables; seeds and oil; bottled water, wood and textiles, biotech products and cigarettes, etc.) and 54 disputes that have cited the provisions of the TBT Agreement in the request for consultations (covering measures relating to gasoline and biodiesel; meat, fisheries and dairy, pharmaceuticals, textiles, tobacco and cigarettes, etc.).\footnote{For a complete listing of SPS-related and TBT-related disputes at the WTO, see https://www.wto.org/english/tratop_e/dispu_e/dispu_agreements_index_e.htm.} Given the close relationship and overlap between the
two agreements, very often, a dispute invokes measures of both the TBT and SPS Agreements. However, the panels and Appellate Body dealt substantively with these two agreements in only a few cases as most of the disputes were presumably resolved during the mandatory consultation phase (WTO & OECD, 2019, p. 26).

Emerging interpretations on issues relating to standards can be viewed through the work of the WTO Panels and AB. Several complex TBT- and SPS-related questions that have come up for consideration by the DSS deal with interpretations on “technical regulation”, “like product” analysis, objectives fulfilled by a domestic regulation, “least-trade-restrictive” regulations, “process and production methods” (PPMs) “relevant international standard”, “precautionary principle”, “risk assessment”, etc. More specifically, the WTO DSS increasingly engaged with aspects relating to standards that are sought to be implemented through labels. Whether a label is “mandatory” or “voluntary” in effect; what constitutes an “international standard”; whether labels are being used for genuine reasons with the interests of the consumer in mind; what kind of information labels should be expected to carry are all questions that have been addressed. While an exhaustive review of dispute-related interpretations is not possible within the scope of this chapter, some interesting and controversial interpretations are discussed below.

In the 2002 EC Sardines case, the importance of Codex Alimentarius harmonized standards was demonstrated. In this case, Peru successfully challenged an EC regulation under which only a species caught in European waters could be marketed as “sardines”. As per an international standard set by the Codex Alimentarius Commission, however, a sardine species of the Pacific Ocean could be sold worldwide as “sardines” along with a qualifying phrase such as “Pacific sardines” or “Peruvian sardines”. The WTO panel and AB struck down the EC regulation as it was neither based on the Codex standard nor did it demonstrate that the Codex standard was inadequate to fulfil the EC’s legitimate objectives relating to “market transparency, consumer protection, and fair competition” (Shaffer & Victor, 2002). The EC had contended in this case that only standards that had been adopted by consensus by international bodies could be considered to qualify as “relevant international standards”. The AB upheld the panel’s finding, stating, “…the definition of a “standard” in … the TBT Agreement … does not require approval by consensus for standards adopted by a “recognized body” of the international standardization community (WTO, 2002, p. 63).

Two interesting interpretations came out of the 2012 US-Tuna II dispute. The first related to the characteristic of a measure that helps classify it either as a “standard” or a “regulation”. A key characteristic that the WTO has traditionally used to distinguish standards from regulations is the voluntary or mandatory nature of the obligations they entail, respectively. However, this distinction was rendered fuzzy in the US-Tuna II case. In this case, Mexico challenged a US measure regarding a “dolphin-safe” label as violating the TBT Agreement and claimed that the USA had failed to comply with applicable international standards.¹¹ Interesting contestations of the voluntary

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¹¹The international standard at issue was the 1998 Agreement on the International Dolphin Conservation Program (AIDCP), negotiated among fourteen Eastern Tropical Pacific (ETP) countries, US
versus mandatory nature of technical regulations emerged in this dispute. Mexico argued that the US requirements were mandatory because the label could be used only when the requirements were met. USA contended that the labelling measure was voluntary as it did not require all products to use the label. The panel ruled in favour of Mexico on this point and found that the requirements to grant the label were mandatory (WTO, 2011). The AB upheld this view that the US measure was a mandatory technical regulation and not a voluntary standard, since it imposed legally enforceable conditions that must be met in order to have access to the “dolphin-safe” label, “…the U.S. law effectively prohibits any mention of dolphin safety on cans of tuna that do not meet U.S. regulatory requirements” (Shaffer, 2013, p. 195; WTO, 2012a). This interpretation throws a new light on the traditional distinction that the TBT Agreement has maintained between a voluntary “standard” and a mandatory “technical regulation” (Trujillo, 2012) and the AB ruling has opened a debate over this distinction.

A second interpretation related to the question of what constitutes an “international standard”. Article 2.4 of the TBT Agreement requires that, where international standards exist, WTO member states are to use them as a basis for their regulations. Mexico argued that the USA had failed to comply with international standards, in this case, the 1998 Agreement on the International Dolphin Conservation Program (AIDCP). While the panel agreed with Mexico’s contention that the AIDCP standard was an international standard and that the USA had failed to base its labelling provisions on it, the AB disagreed with the panel and noted instead that “…under … the TBT Agreement, an international standard must be adopted by “an international

12“…to the extent that they prescribe, in a binding and legally enforceable instrument, the manner in which a dolphin-safe label can be obtained in the United States, and disallow any other use of a dolphin-safe designation, the US tuna labelling measures “regulate” dolphin-safe labelling requirements “in a binding or compulsory fashion”. It is not compulsory to meet these requirements and to bear the label, in order to sell tuna on the US market… However, … no tuna product may be labelled dolphin-safe … if it does not meet the conditions set out in the measures, and thus impose a prohibition on the offering for sale in the United States of tuna products bearing a label referring to dolphins and not meeting the requirements that they set out. (WTO, 2011, p.150, para 7.131).

13“In this case, … the measure at issue sets out a single and legally mandated definition of a “dolphin-safe” tuna product and disallows the use of other labels on tuna products that do not satisfy this definition. In doing so, … the US measure covers the entire field of what “dolphin-safe” means in relation to tuna products. For these reasons, we find that the Panel did not err in characterizing the measure at issue as a “technical regulation” within the meaning of … the TBT Agreement”. (WTO, 2012, p. 80, para 199).
standardizing body” and that the AIDCP did not qualify, since not all WTO members could join it.” (Shaffer, 2013, p. 197). In other words, the AB averred that if a state relies on a standard, then the characteristics of the body are salient to an assessment of whether it is a “recognized international standard” (Wijkström & Devin, 2013, p. 1028). The interpretations forwarded in this dispute are especially seen as being problematic as they are likely to endanger market access for developing countries (Trujillo, 2012).

Other than these illustrative cases, there are several others that address various aspects relating to the issue of standards in general and sustainability standards in particular. The application of sustainability standards will remain subject to the interpretations of the WTO DSS, which constitutes a key component of the global governance landscape applicable to sustainability standards (provided, of course, that the WTO DSS itself survives the current crisis it finds itself in).

3. **Committees and Sustainability Standards**

Discussions relating to sustainability standards are also carried out within the relevant committee structures of the WTO. The WTO Committee on Trade and Environment (CTE) has been discussing voluntary sustainability standards (VSS) since many years. In 2001, the CTE received a formal mandate to address “labelling for environmental purposes” under the 2001 Doha Development Agenda (WTO, 2001: Paragraph 32(iii)). The CTE held discussions on the sustainability of palm oil production and trade (including the issue of standards) in May 2019, highlighting the need to ensure that the growth opportunities in this sector are pursued in a way that the environment is safeguarded (WTO, 2019). At the CTE, the developing countries have consistently emphasized their concerns over the rapid proliferation of private standards and the consequent market access difficulties but industrialized member states have maintained that discussion should be limited to public measures.

The TBT and SPS Agreements are supported by their two respective committees—the Technical Barriers to Trade Committee and the Sanitary and Phytosanitary Standards Committee. Additional to allowing for information exchange and discussion, the committees provide a forum for raising “specific trade concerns” (STCs) relating to draft measures of other members that may obstruct trade. When differences arise between member states over the conformity of national measures relating to SPS and TBT, STCs can be raised and addressed in the committees, preventing differences and frictions from blowing up into full-fledged disputes. It has been pointed out that the conflict resolution contribution of the WTO is grossly undervalued if only the settlement of formal disputes is considered (Horn, Mavroidis, & Wijkström, 2013); the STC mechanism can constitute a viable and effective alternative to the formal DSS (Holzer, 2018). Discussions within the committee structures, however, are outside of the formal negotiation track, even while the outcome of the discussions may feed into the negotiations.
3 WTO and Private Standards

No internationally recognized definition of “private standards” exists as of yet. In order to distinguish between public and private standards, earlier literature asked the question as to whose interests are taken into account in setting a standard, the assumption being that while the former consolidate the interests of all stakeholders (including externalities) in the economy, the latter narrowly pursue profits of private companies (WTO, 2005, pp. 32–33). Such a distinction is based on a narrow definition of “private standards” as it does not take into account the role of non-governmental organizations (NGOs) in setting and implementing standards, expectedly not with a “profit motive”. More expansive definitions of “private standards” refer to “…any requirements that are established by non-governmental entities, including wholesale or retail stores, national producer associations, civil society groups, or combinations of them” (Thorstensen, Weissinger, & Sun, 2015, p. 1; Meliado, 2017, p. viii).

In the realm of VSS, in particular, private actors not only act alone to set standards but also interact closely with governments and civil society actors [what Abbot and Snidal (2009) refer to as the “governance triangle”] to form partnerships in order to address sustainability impacts of global value chains (GVCs) (Lambin & Thorlakson, 2018). In fact, the harmonization of public and private standards is advocated as constituting an important strategy for achieving positive welfare gains such as sustainability. The nature of the interaction between public and private standards, it is asserted, will be determined by the legitimacy of the standard (ITC, 2011, p. 10). The subject matter of private standards, which most often relates to food safety, environmental protection, animal welfare, fair trade, labour, human rights, etc., points to a large overlap between sustainability standards and private standards.

Private standards are a concern because of several reasons. First, private standards add to the already massive proliferation of existing standards that complicate international trade. Starting with sectors such as agriculture, forestry, aquaculture and apparel, private standards are now found in almost all sectors. For suppliers, especially the smaller ones, the “proliferation and increased influence” of private standards is cumbersome (Thorestensen et al., 2015, p. 1). Private standards contribute to further fragmentation in the field of standardization, leading to the possible risk of “standards shopping”. Second, the content of private standards is perceived as being much more rigid than public-sector standards and without scientifically established justification. The process of their adoption is seen as lacking in democracy and transparency (Mbengue, 2011).

Third, as per common understanding, private standards are viewed as, by definition, voluntary while public standards can be either mandatory or voluntary (WTO, 2005, pp. 32–33).
But private standards may not be as “voluntary” as they are projected to be as they often act as necessary conditions for market access. This is especially the case when they are implicitly endorsed by governments, thereby transforming their voluntary nature to a de facto mandatory one. Marx (2017, pp. 3, 12) questions the relevance of the distinction between public and private standards based on two arguments—(i) private standards are often based on public norms and (ii) when governments back private standards, they become a part of “public” governance. Such “incorporation by reference” is problematic because when a private standard finds government backing, “…the rule becomes mandatory but the process of developing the standard remains private” (Mavroidis & Robert, 2016, p. 14).

Fourth, the legal implications of the use of private standards need to be recognized; since these standards do not fall within the normative purview of the WTO regime, a government could choose to support a private standard to avoid its WTO obligations instead of setting its own public standard which would need to be WTO compliant. This would undermine the structure of the WTO Agreements, which do not recognize private standards unless they are “backed by governments” (Thorstensen and Vieira, 2016, p. 49). Fifth, the developing countries face greater difficulties in dealing with such standards as small-scale producers will bear a greater risk of exclusion from the market if they do not comply with them (Thorestensen et al. 2015, p. 50; Mbengue, 2011).

While the WTO has long discussed the issue of private standards, it has stopped short of bringing private standards within its normative purview. Discussions on private standards have taken place in the committee structures of the WTO, with the SPS Committee discussing the issue since 2005–2006. The issue of private standards caught the limelight when in 2007, Saint Vincent and the Grenadines complained to the WTO about how the proliferation of private standards was posing a challenge for small vulnerable economies, particularly small farmers within them, and argued for application of WTO rules to private standards in order to address the “…confusion, inequity and lack of transparency” that often accompanies them (WTO, 2007a).

This complaint led to the debate gaining strength in the SPS Committee, with member states trying to define “private standard”. In 2008, an ad hoc Working Group on private standards was established under the SPS Committee, which came out with a report in 2010 on “Possible Actions for the SPS Committee Regarding SPS-related Private Standards”, highlighting the need to define “private standards”. In the face of an inability to produce an acceptable definition, an “electronic working group” (E-WG) was set up to continue attempts at definition.15 The developed countries are against the inclusion of private standards into the purview of the SPS Agreement.

Outside of the committees too, the WTO has discussed the issue of private standards. A joint UNCTAD/WTO informal information session on private standards

15The E-WG proposal for consideration by the Committee of an SPS-related private standard is: “A written requirement or condition, or a set of written requirements or conditions, related to food safety, or animal or plant life or health that may be used in commercial transactions and that is applied by a non-governmental entity that is not exercising governmental authority” (Mavroidis & Wolfe, 2016, p. 9).
was organized way back in 2007 and in 2008, the Standards and Trade Development Facility (STDF) also held an information session on private standards (WTO, 2007b). The WTO’s Public Forum too has, in recent years, discussed private standards multiple times. In September 2016, for instance, a WTO Public Forum session was held under the theme: Should the Development of Private Standards Be More Transparent? (WTO, 2016).

Based on their review of the TBT and SPS Committee discussions, Mavroidis and Robert (2016, p. 11) succinctly sum up the current state of play thus: “… both committees perceive the issue, and neither can get past the “public-private” divide, which is partly a north-south debate and partly a transatlantic chasm. … negotiation on the modalities of WTO action is stymied by the absence of agreement on the quintessential element … definition of the term ‘private standard’”. Clearly, a dominant sense of the inter-governmental nature of the WTO stands in the way of the WTO foraying into the field of private standards. However, analyses suggest that it may be a costly decision to leave out private standards from the purview of the WTO’s work. Thorstensen and Vieira (2016, p. 21) suggest that when private standards are backed by governments, they should fall within the scrutiny of the TBT and SPS Agreements. Meliado identifies three reasons for the lack of movement in the WTO over private standards: “(i) lack of clarity as to … the nature of the problem, (ii) fear of agreeing on language that might later be used in WTO disputes and (iii) excessive emphasis placed on the downside of private standards” and offers a “menu of policy options” (Meliado, 2017, p. ix, 32).¹⁶

Several writings look into the need or otherwise of bringing private standards within the normative purview of the WTO regime (Mavroidis & Robert, 2016; Meliado, 2017; Du, 2018). Mavroidis & Wolfe explicate “…the … line of distinction between what is public, hence subject to WTO rules, and what is private, thus none of its business, still preoccupies the imagination of delegates in Geneva … How reclusive should the WTO allow product standards to be? … even a recluse must abide by certain social norms” (Mavroidis & Robert, 2016, pp. 1, 2–3). Du shares the apprehension that the growth in private standards can have adverse impacts and explores a possible justification for an intergovernmental organization such as the WTO to regulate transnational private standards (Du, 2018, p. 1). Thorstensen and Vieira argue in favour of the negotiation of a “meta-regulation” and suggest that the United Nations Forum on Sustainability Standards (UNFSS) could be a good candidate to play the role. For the interim, they suggest that private standards be jointly scrutinized by the TBT and SPS Committees as they fall in the interface of the work areas of the two committees (Thorstensen and Vieira, 2016, p. 65, 102).

¹⁶Meliado’s options followed by a SWOT analysis of each (p. 38) are: “(1) Creating a joint SPS–TBT transparency mechanism for private standards; (2) Establishing a public–private crosspollination mechanism under the Agreement on Government Procurement; (3) Launching a work programme on sustainability-related PPPs within the framework of the Trade Facilitation Agreement; and (4) Expanding the work programme of the UNFSS so as to officially include international, regional, and national standards bodies; (5) Using the UN Global Compact to promote transparency and accountability principles” (Meliado, 2017, p. 32).
Mavroidis and Robert (2016, p. 1) do not argue for formally binding or justiciable rules but foresee at least two types of interventions that the WTO could make; (i) it could adopt a “Reference Paper” to encourage its members to apply the rules that apply to standards under the WTO to private standards as well and (ii) as a “meta-regulator”, it could effectively ensure transparency in the processes through which private standards are developed and implemented. Mbengue suggests that private standards could either be “imported” into the WTO (member states to develop national standards based on private standards) or WTO rules could be “exported” (WTO to monitor private standards to check their WTO-compliance). A “legalistic” approach would push it to only recognize international standards while a “pragmatic” approach would integrate, through recognition, private standards within the trading system (Mbengue, 2011).

Calls for inclusion aside, as of date, private standards find no mention in the WTO Agreements. However, Article 4.1 of the TBT Agreement is often cited as a relevant provision to address private standards. The text of this Article reads:

Members … shall take such reasonable measures as may be available to them to ensure that local government and non-governmental standardizing bodies within their territories…accept and comply with this Code of Good Practice. In addition, Members shall not take measures which have the effect of, directly or indirectly, requiring or encouraging such standardizing bodies to act in a manner inconsistent with the Code of Good Practice (WTO 1994a: Art. 4.1, emphasis added).

A similar provision exists in Article 13 of the SPS Agreement, which makes a mention of “non-governmental entities”. It has been often asked whether these provisions could be used to allow “private standards” to be treated as “government acts” (Mbengue, 2011). While a GATT panel has held that activities that can be “attributed” to a state should be seen as falling within the ambit of the GATT, the determination of such attribution would be unique to each case. In addition to the private–public relationship at the level of governments, the relationship of private standards and international standards in also not settled. Mbengue points out that international standardization organizations face competition from private standards and describes their confrontation as a hostile one, stating, “…the ‘empire’ of international standard-setting organisations is … determined to strike back if the development of private standards goes beyond any normative control” (Mbengue, 2011). Reciprocal information exchange among the two, transparency in their processes and attempts at harmonization could be starting points in promoting coherence between these two types of standards. Given the large overlap between private standards and sustainability standards, the fate of the former—in terms of legal recognition and coverage—will impact the future scope for use of the latter.
4 Sustainability Standards, Developing Countries and Emerging Economies

The history of the multilateral trading system bears out that unlike tariff barriers, non-tariff barriers (NTBs) to trade have proved far more difficult to address. Developing countries, with weaker bargaining power over their terms of trade, are particularly vulnerable to the potentially trade-restrictive implications of NTBs. NTBs are projected as protectionist measures that are likely to be highly disputed (Banerjee, 2006, p. 47; Thorstensen and Vieira, 2016, p. 7). While standards and regulations can perform several vital functions, they can also be used unfairly to become barriers to trade (Saqib, 2003, p. 270).

The politics of the use of standards begins with difficulties in agreeing to the appropriateness of standards. Different actors may hold differing views on the required level and nature of standards imposed. The 1992 Rio Declaration on Environment and Development recognized this when it stated, “Environmental standards…should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries”. (United Nations, 1992, Principle 11).

For the developing countries in general, market access is impacted by standards, and within the developing countries, especially vulnerable are the small and medium enterprises (SMEs), whose competitiveness in international markets may suffer due to the rise in costs associated with standards (WTO, 2016). Middleton explicates, “The Trade-hampering effects of standards and technical regulations may be … those arising from divergence in the technical specifications and those arising from certification and approval procedures” (Middleton, 1980, p. 203). With regard to voluntary standards, the developing countries face the double burden of acquiring information on standards in an environment of “information-asymmetry” and mobilizing resources to bring process and production methods in line with the requirements of these standards (Wilson, 2002, p. 428). Developing countries are particularly vulnerable to the impact of “conformity assessment procedures” (product testing or plant inspections to ensure compliance with regulations and standards), which are “…vulnerable to non-transparency, delays, arbitrary inspection, and redundant tests…protection by domestic firms” etc. (Saqib, 2003, p. 271). It is in this context that Baldwin warned of the creation of “…a two-tier system of market access with developing nations in the second tier” (Baldwin, 2000, p. 239).

Numerous studies have examined the impact of standards on developing countries in particular (Wilson, 2002, pp. 431–432). Both Saqib’s study and Debroy’s paper discuss examples of specific measures that are presented as quality or environmental measures but are perceived by Indian exporters to be NTBs (Saqib, 2003; Debroy, 2005; pp. 10–11). A study by Kang and Ramizo (2017, p. 22) shows that the positive

17Debroy (2005, pp. 8–9) lists out, for example, the list of complaints that India has with relation to standards. These can be seen to be generally reflective of developing country dissatisfaction with standards.
impacts of SPS and TBT measures are limited to the advanced economies while the countries of the South are excluded from the gains of SPS and TBT measures in international trade. A review of literature carried out at the Institute of Development Studies (IDS) in order to test whether standards act as “net barriers” or “net catalysts” to developing country exports showed mixed results: “…standards generally act as a barrier to developing country trade in agriculture, but have a catalytic effect in certain manufacturing sectors … the significance and magnitude of this effect varies across developing countries, sub-sectors and exporting firms … the impact of standards on developing country trade is highly context specific” (Timmis, 2017, p. 4). It must be recognized that accurate quantification of the impact of standards is rarely possible and that perceptions are also key variables to be factored in.

At the WTO, developing countries have remained opposed to the idea of using trade as an instrument to achieve environmental goals because of the potential adverse implications for market access. For the same reason, the developing countries have also harboured suspicions towards the use of standards, fearing their use for protectionist purposes (Banerjee, 2006). “Among the difficulties … identified by the developing countries are the high costs of adaptation, the irrelevance of foreign standards to local conditions, the lack of timely and adequate information and consequent transaction costs, the difficulties in understanding the requirements as well as testing and monitoring them, the perceived lack of scientific data for specific threshold or limiting values, and the uncertainty that arises from rapidly changing requirements in overseas market”. (Saqib, 2003, p. 270). Another concern of the developing countries is the use of market access barriers that may result from non-product related production processes and methods (Dutta, Sinha, & Gaur, 2006, p. 348). It has also been pointed out that the logic of using sustainability standards may, in fact, be counter-effective for the developing countries, as standards tend to restrict access to markets that generate additional resources for environmental protection (Dutta et al., 2006, p. 347). The existing provisions and emerging interpretations on standards, therefore, require a thorough analysis for the potential implications they hold for developing country interests.

Both the TBT and the SPS Agreements include special provisions for providing technical assistance to the developing countries but these are not bound to specific commitments by the industrial countries and are inadequate. It is in light of this fact that developing countries have often sought “… a targeted review of the TBT and SPS agreements in light of development needs” (Wilson, 2002, p. 437). The WTO CTE addresses, as part of its mandate, the issue of the impact of environmental standards on market access, in particular for developing countries. The developing countries themselves also need to monitor the emergence of new interpretations relating to the use of standards and strategize to assert their own interests at the WTO DSS (Wilson, 2002, p. 437).

As far as the international standard-setting bodies recognized by the WTO Agreements are concerned, the need for enhancing developing countries’ engagement in international standard-setting bodies has been consistently highlighted and developing countries have long argued for a harmonization of standards formulation procedures at the international level (Saqib, 2003, p. 295; Banerjee, 2006, p. 57;
Wilson (2002, pp. 437–438) points out that developing countries should ensure that they are able to influence the development of global standards in ways that accommodate their concerns and he suggests the creation of a “global standards forum”. In the context of private standards as well, the lack of factoring in of the special needs of the developing countries in their preparation and application cause them to act as barriers to trade for the developing countries in particular.

Developing countries … have repeatedly expressed their concern about the way in which international standards are developed and approved in such bodies…Developing countries do not have the institutional capacities to match the developed world in terms of research and technical capacities and as a result their participation is very limited from the point of view of both numbers and effectiveness. As a consequence of the inadequacy of the process, international standards are often inappropriate for use as a basis for domestic regulations in developing countries and these countries face problems when they have to meet regulations in the importing markets developed on the basis of international standards (Banerjee, 2006, p. 63).

Once standards are set and accepted, there emerges the challenge of enabling exporters in the developing countries to meet these standards. A fair participation, in real terms, in the standard-setting bodies coupled with a strengthening of the capabilities to meet standards would contribute to a more balanced impact of standards on the developing countries. Under the Doha Development Agenda, the WTO had instructed its CTE to attend to “(i) the effect of environmental measures on market access, especially in relation to developing countries…(iii) labelling requirements for environmental purposes” (WTO, 2001, Para 32).

The WTO, taking cognizance of the asymmetries that the developing countries face, has set up the Standards and Trade Development Facility (STDF)—which describes itself as “…a global partnership that supports developing countries in building their capacity to implement international sanitary and phytosanitary (SPS) standards, guidelines and recommendations as a means to improve their human, animal, and plant health status and ability to gain or maintain access to markets”. Its goal is to achieve “increased capacity of developing countries to implement international SPS standards, guidelines and recommendations and hence ability to gain market access”. The 2018 Annual Report of the STDF was prepared around the theme Investing in Safe Trade: Supporting Developing Countries to Meet International Standards. The actual impact of this well-intentioned innovation awaits assessment.

Most literature on standards in relation to developing countries tends to focus on the developing countries at the receiving end of standards driven by the governments/firms/NGOs located in the Global North. From the perspective of “emerging economies”, what needs recognition is also the emergence of standards within the South. It is no longer the case that markets of the South are totally bereft of the imposition of social and environmental accountability through standards (Schouten

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18The STDF is a joint initiative of the FAO, OIE, World Bank, WHO and WTO that was conceived at the Doha Ministerial Conference in November 2001 and formally established in September 2004. See http://www.standardssfacility.org/history.
19See STDF website, http://www.standardssfacility.org/vision-and-goal.
& Bitzer, 2015). For instance, based on the International Trade Centre standards map, which contains data on more than 160 standards, Marx’s listing of number of VSS per country, lists several emerging economies in the top ten rankings of “highly VSS active”—China (79); Brazil (77); India (72); and Mexico (71) (Marx, 2017, p. 8). The questions that call for attention then are the variations between standards of the Global North and those of the Global South and whether it is an accurate assumption that Southern market standards will necessarily be more inclusive and locally driven and therefore more acceptable (Langford, 2019).

As the WTO becomes more accepting of sustainability standards, the developing countries—and the emerging economies, in particular—will need to adjust to this reality and rethink their stances accordingly. It is often suggested that acceptance and implementation of certain standards may sometimes be in the best interests of the developing countries as “… [e]ffective regulation within their own markets is important for ensuring consumer safety and promoting technical change” (Wilson, 2002, p. 436). One point of view holds that “emerging economies”, with larger stakes and shares in global trade, need to undertake effort to make their exports environment-friendly. External pressure to bring about changes may not always be a bad thing. In the case of India, for example, Debroy points out analogies from intellectual property rights and services to state that while initial reaction tended to be negative, the external trigger brought about domestic reforms for the better; the same could be true of standards (Debroy, 2005, p. 14). It is in this context that Grimm, Thomas, Archna, Christoph, & Jorge Perez (2018, p. 46) highlight “the growing pro-active commitment of developing countries to sustainability standards…[and] their efforts in aligning VSS to national priorities…”, indicating that it may be time for them to move out of a defensive posturing vis-à-vis sustainability standards.

5 Conclusion

It is important to recognize that standards are not simply technical matters, “… although the considerations of the standard tend to be expressed in rather technical language, behind this façade of engineering jargon, what is actually happening is an economic fight, often of the most savage type imaginable because the stakes are so high” (Federal Trade Commission, quoted in Mattli and Büthe, 2003, p. 1). Taking the argument further, Mattli and Büthe contest the “technical” nature of standards and underscore their “political” nature:

The study of international standardization raises the kinds of questions familiar to students of international relations, including: Who sets international rules? Do international standards benefit all or are there winners and losers, either in relative or absolute terms? What is the role of power and institutions in international disputes or bargains over standards? What defines power and how does it operate? … First movers set the international standards agenda, and laggards, or second movers, pay the switching costs. (Mattli & Büthe, 2003, pp. 3–4)

The multilateral trading system (WTO, including its GATT years) has evolved over its long history of existence, gathering along newer issues into its fold as required by
the changing landscape of international trade. When the GATT became operational in 1948, it focused on free trade and did not take on board issues like standards and regulations. The proliferation of NTBs in international trade caused it to take cognizance of standards by developing rules to govern their use. The WTO stands at a similar crossroads, where it needs to resolve its relationship with private standards in order to clarify the several issues relating to sustainability standards discussed in this chapter. The question of whether or not WTO should regulate private standards will, however, open up larger debates around the appropriateness or otherwise of the WTO regulating “transnational private authority”, thereby raising fundamental concerns relating to the very structures of global governance (Du, 2018). With the acceptance of Agenda 2030 and the SDGs as the guiding framework for all international activity, including international trade, global governance frameworks, including the WTO, need to adjust their capabilities to ensure the optimal use of sustainability standards. The real challenge, however, will be to effectively achieve not just the sustainability outcomes of such use but an equitable implementation as well that addresses the challenges arising from differential capacities and power asymmetries.

References

Abbott, K. W., & Snidal, D. (2009). Strengthening international regulation through transnational new governance: Overcoming the orchestration deficit. Vanderbilt Journal of Transnational Law, 42(2), 501–578.

Baldwin, R. E. (2000). Regulatory protectionism, developing nations, and a two-tier world trade system. In Brookings trade forum (pp. 237–280).

Banerjee, P. (2006). SPS-TBT measures: harmonisation and diversification? In D. Sengupta et al. (Eds.), Beyond the transition phase of WTO: An Indian perspective on emerging issues (pp. 47–65). New Delhi: Academic Foundation.

Debroy, B. (2005). The SPS and TBT agreements—Implications for Indian Policy. Indian Council for Research on International Economic Relations, Working Paper No. 163.

Du, M. (2018). WTO regulation of transnational private authority in global governance. International and Comparative Law Quarterly, 67(4), 1–36.

Dutta, N., Sinha, M., & Gaur, U. (2006). Environmental standards as non-tariff barriers and the problem of market access. In D. Sengupta et al. (Eds.), Beyond the transition phase of WTO: An Indian perspective on emerging issues (pp. 347–367). New Delhi: Academic Foundation.

FAO and WTO. (2017). Trade and food standards. FAO and WTO. https://www.wto.org/english/news_e/spra_e/spra186_e.htm.

GATT. (1947). General agreement on tariffs and trade. https://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm.

GATT. (1979). Agreement on technical barriers to trade (Tokyo Round Standards Code).

Gale, F., Ascui, F., & Lovell, H. (2017). Sensing reality? New monitoring technologies for global sustainability standards. Global Environmental Politics, 17(2), 65–83.

Grimm, S., Thomas, F., Archna, N., Christoph, S., & Jorge Perez, P. (2018). Developing countries turn to sustainability standards. In United Nations forum on sustainability standards. Voluntary sustainability standards, trade and sustainable development (pp. 39–46) (3rd Flagship Report of the United Nations Forum on Sustainable Development). Geneva: UNFSS.
Holzer, K. (2018). *Addressing tensions and avoiding disputes: Specific trade concerns in the TBT Committee*. WTO Staff Working Papers ERSD-2018-11, WTO Economic Research and Statistics Division.

Horn, H., Mavroidis, P. C., & Wijkström, E. N. (2013). In the shadow of the DSU: Addressing specific trade concerns in the WTO SPS and TBT Committees. *Journal of World Trade, 47*(4), 729–759.

Jansen, M. (2010). Developing countries, standards and the WTO. *The Journal of International Trade & Economic Development, 19*(1), 163–185.

International Trade Centre. (2011). The interplay of public and private standards. *Literature review series on the impacts of private standards—Part III*. Doc. No. MAR-11-215.E.

Kang, J. W., & Ramizo, D. (2017). Impact of sanitary and phytosanitary measures and technical barriers on international trade. Munich Personal RePEc Archive (MPRA) Paper No. 82352, [https://mpra.ub.uni-muenchen.de/82352/](https://mpra.ub.uni-muenchen.de/82352/).

Lambin, E. F., & Thorlakson, T. (2018). Sustainability standards: Interactions between private actors, civil society, and governments. *Annual Review of Environment and Resources, 43*, 369–393.

Langford, N. (2019). Ethical standards in emerging markets: Just how different are they? Sheffield Political Economy Research Institute, [http://speri.dept.shef.ac.uk/2019/08/30/ethical-standards-in-emerging-markets-just-how-different-are-they/](http://speri.dept.shef.ac.uk/2019/08/30/ethical-standards-in-emerging-markets-just-how-different-are-they/).

Mareau, G., & Trachtman, J. P. (2002). The technical barriers to trade agreement, the sanitary and phytosanitary measures agreement, and the general agreement on tariffs and trade: A map of the world trade organization law of domestic regulation of goods. *Journal of World Trade, 36*(5), 811–881.

Marx, A., Maertens, M., Swinnen, J., & Wouters, J. (Eds.). (2012). *Private standards and global governance: Economic, legal and political perspectives*. Cheltenham, UK: Edward Elgar.

Marx, A. (2017). The public-private distinction in global governance: How relevant is it in the case of voluntary sustainability standards? *The Chinese Journal of Global Governance, 3*(1), 1–26.

Mattli, W., & Büthe, T. (2003). Setting international standards: Technological rationality or primacy of power? *World Politics, 56*(1), 1–42.

Mavroidis, P. C., & Robert, W. (2016). *Private standards and the WTO: Reclusive no more*. EUI Working Paper RSCAS 2016/17, Florence: European University Institute.

Mbengue, M. M. (2011). Private standards and WTO Law. *Biores, 5*(1). [https://www.ictsd.org/biores-news/biores/news/private-standards-and-wto-law](https://www.ictsd.org/biores-news/biores/news/private-standards-and-wto-law).

Meliado, F. (2017). *Private standards, trade and sustainable development: Policy options for collective action*. Geneva: ICTSD Issue Paper.

Middleton, R. W. (1980). The GATT standards code. *Journal of World Trade Law, 201*–219.

Sampson, G. P. (2005). *The WTO and sustainable development* (pp. 113–127). Tokyo: United Nations University Press.

Saqib, M. (2003). Technical barriers to trade and the role of Indian standards-setting institutions. In A. Mattoo & R. M. Stern (Eds.), *India and the WTO* (pp. 269–298). Washington D.C.: The World Bank.

Schouten, G., & Bitzer, V. (2015). The emergence of southern standards in agricultural value chains: A new trend in sustainability governance? *Ecological Economics, 120*, 175–184.

Shaffer, G. (2013). United States—Measures concerning the importation, marketing and sale of Tuna and Tuna Products. *The American Journal of International Law, 107*(1), 192–199.

Shaffer, G., & Victor, M. (2002). The EC-sardines case: How North-South NGO-government links benefited Peru. In *Bridges* (Vol. 6(7)), Geneva: ICTSD.

Sykes, A. O. (1995). *Product standards for internationally integrated goods markets*. Washington D.C.: The Brookings Institution.

Thorstensen, V., Weissinger, R., & Sun, X. (2015). *Private standards—Implications for trade, development, and governance, E15 task force on regulatory systems coherence*. Geneva: ICTSD and WEF.

Thorstensen, V., & Vieira, A. C. (2016). *Regulatory barriers to trade: TBT, SPS and sustainability standards*. Sao Paulo: VT Assessoria Consultoria e Treinamento Ltda.
Timmis, H. (2017). *The impact of standards on developing country exports* (K4D Helpdesk Report). Institute of Development Studies, November 23, 2017. https://www.ids.ac.uk/publications/the-impact-of-standards-on-developing-country-exports/.

Trujillo, E. (2012). The Tuna-Dolphin Encore—WTO rules on environmental labeling. *Insights*, 16(7).

United Nations. (1992). *Rio declaration on environment and development. A/CONF.151/26* (Vol. 1). http://www.jus.uio.no/lm/environmental.development.rio.declaration.1992/portrait.a4.pdf.

Wijkström, E., & Devin, M. (2013). *International standards and the WTO TBT agreement: Improving governance for regulatory alignment*. Staff Working Paper ERSD-2013-06, WTO Economic Research and Statistics Division.

Wilson, J. S. (2002). Standards, regulation, and trade: WTO rules and developing country concerns. In B. Haekman, A. Matoo, & P. English (Eds.), *Development, trade, and the WTO: A handbook* (pp. 428–438). Washington D.C.: The World Bank.

Wolfrum, R., Stoll, P.-T., & Anja, S.-F. (Eds.) (2007). *WTO—Technical barriers and SPS measures, Max Planck commentaries on World Trade Law* (Vol. 3). Leiden: Martinus Nijhoff Publishers.

World Trade Organization. (1994a). Agreement on technical barriers to trade. https://www.wto.org/english/docs_e/legal_e/17-tbt.pdf.

World Trade Organization. (1994b). Agreement on the application of sanitary and phytosanitary measures. https://www.wto.org/english/tratop_e/sps_e/spsagr_e.htm.

World Trade Organization. (2001). *Doha WTO ministerial: Ministerial declaration*. WT/MIN(01)/DEC/1, November 20, 2001.

World Trade Organization. (2002). *European communities—Trade description of sardines* (Report of the Appellate Body, WT/DS231/AB/R), September 26, 2002.

World Trade Organization. (2005). *Exploring the links between trade, standards and the WTO, 2005* (World Trade Report). file:///C:/Users/HOME/Downloads/world_trade_report05_e(1).pdf.

World Trade Organization. (2007a). *Private industry standards: Communication from Saint Vincent and the Grenadines, G/SPS/GEN/766*, Committee on Sanitary and Phytosanitary Measures, February 28, 2007.

World Trade Organization. (2007b). *Joint UNCTAD/WTO informal information session on private standards*, Sanitary and Phytosanitary Measures: Events, 25 June 2007, https://www.wto.org/english/tratop_e/psps_e/private_standards_june07_e/private_standards_june07_e.htm.

World Trade Organization. (2011). *US measures concerning the importation, marketing and sale of Tuna and Tuna products* (Report of the Panel, WT/DS381/R) September 15, 2011.

World Trade Organization. (2012a). *US measures concerning the importation, marketing and sale of Tuna and Tuna products* (Report of the Appellate Body, WT/DS381/AB/R) June 13, 2012.

World Trade Organization. (2012b). (World trade report) *Trade and public policies: A closer look at non-tariff measures in the 21st Century*. https://www.wto.org/english/res_e/publications_e/wtr12_e.htm.

World Trade Organization. (2016). *Sustainability standards: Effects for developing countries’ SME Trade*. WTO Public Forum, September 29, 2016, https://www.wto.org/english/forums_e/public_forum16_e/wrksessions_e/session100_e.htm.

World Trade Organization. (2019). *WTO Members consider sustainability of palm oil trade and production, news item*, May 15, 2019. https://www.wto.org/english/news_e/news19_e/envir_15may19_e.htm.

World Trade Organization and Organization for Economic Cooperation and Development. (2019). *Facilitating trade through regulatory cooperation: The case of the WTO’s TBT/SPS agreements and committees*. https://www.wto.org/english/res_e/publications_e/tbtsps19_e.htm.
