
The Purpose of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS)

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Abstract

Among the WTO Agreements, the SPS Agreement provides for the strictest rules on domestic regulatory measures. Governments adopting measures to protect human, animal, and plant life and health have to comply with a plethora of obligations, exceeding the disciplines contained in the GATT and the TBT. Except for cases where scientific evidence is not available, they have to base regulatory measures on a scientific risk assessment, be it their own or one conducted by a third party. Given, on the one hand, the sensitivity of health and environmental concerns and, on the other, the constraints the treaty imposes on governments' ability to address them, the SPS Agreement has been widely criticized for undermining democratic self-government and also for introducing elements of 'post-discrimination' into the world trade order. This article delves into the question whether the criticism is justified. To that end, it examines the purpose of the SPS Agreement on the basis of economic theory and the negotiating history. It shows that much of the criticism is exaggerated and that the SPS Agreement serves, as does every other WTO Agreement (except for the TRIPs), a single purpose: the preservation of market access commitments. This insight has wider implications, as it suggests that the 'correct' application of the SPS should in fact lead neither to an (improper) impediment to democracy nor to a 'post-discriminatory' trade regime.

1 Introduction

What is the problem the SPS Agreements exists to solve? In view of the fact that potentially all domestic regulations fall under the purview of Article III GATT 1994 or the TBT Agreement, the questions arise why there was the need to establish additional

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disciplines on sanitary and phytosanitary measures in a discrete treaty and what explains the treaty's particular design.

As the SPS's preamble indicates, the agreement is aimed at striking a balance between, on the one hand, Member States' right to adopt measures protecting human, animal, and plant life and health and, on the other, the negative trade effects such measures may cause.¹ Whether the agreement is indeed apt to attain this objective is contentious. The SPS Agreement and the bodies applying it are often criticized for over-emphasizing the latter at the expense of the former. The core of this criticism is that the agreement brings about a shift of the locus of decision-making power² from national democratic processes towards less accountable experts and international bureaucrats.³

In this vein, Dunoff⁴ claims that the SPS is compatible neither with standard economic theory nor an understanding of the international trade order based on 'embedded liberalism' as developed by Ruggie,⁵ i.e., a commitment to a liberal world trade order, subject to every nation's sovereign right to regulate its domestic affairs autonomously. Dunoff in particular questions the effectiveness of the SPS to remove trade barriers, and at the same time criticizes the agreement's aggressive intrusion into national sovereignty, disrespecting cultural and political sensitivities and differences.

Hudec⁶ takes issue with the SPS Agreement's science-based obligations because they would result in the second-guessing of national regulatory choices by international adjudicators, whose legitimacy to do so is at least questionable. With the SPS Agreement the WTO has in fact reached a stage of 'post-discrimination', given that even non-discriminatory trade barriers could be challenged when they are not backed by scientific evidence. Similarly Neven and Weiler⁷ suggest that the SPS Agreement has altered the WTO legal order from a regime inhibiting non-discrimination to one interdicting unnecessary obstacles to trade, even if those were enacted for non-protectionist purposes.

¹ Cf. in particular the 1st and 3rd recitals of the SPS Agreement's preamble.

² See in general on this question Shaffer and Trachtman, 'Interpretation and Institutional Choice at the WTO', 52 *Virginia J Int'l L* (2011) 103 and Shaffer, 'A Structural Theory of WTO Dispute Settlement: Why Institutional Choice lies at the Heart of the GMO Case', 41 *NYU J Int'l L and Politics* (2008) 1.

³ In principle, the often-raised critique that the SPS' reliance on 'science' as a 'yardstick' excludes competing but not less legitimate claims of truth also falls under this category. At its core, this strand of critique questions the delegation of decision-making power to experts at the expense of other groups of society.

⁴ Dunoff, 'Lotus Eaters: Reflections on the Varietals Dispute, the SPS Agreement and WTO Dispute Resolution', in G. Bermann and P.C. Mavroidis (eds), *Trade and Human Health and Safety* (2006), at 153, 163–172.

⁵ Ruggie, 'International Regimes, Transactions and Change: Embedded Liberalism in the Postwar Economic Order', 36 *Int'l Org* (1982) 379.

⁶ Hudec, 'Science and Post-Discriminatory WTO Law', 26 *Boston College Int'l & Comp L Rev* (2003) 185, at 187–188.

⁷ Neven and Weiler, 'Japan – Measures Affecting the Importation of Apples: One Bad Apple', in H. Horn and P.C. Mavroidis (eds), *The WTO Case Law of 2003* (2006), at 280.

Howse⁸ highlights that the SPS Agreement's emphasis on scientific backing may be useful for rationalizing domestic regulatory processes and deliberations and thereby enhances trust in regulatory outcomes. At the same time, such scientific requirements risk undermining democratic self-government when paternalistic technocratic regulation is in contradiction to and trumps citizens' expressed choices 'provided these ... are themselves made explicitly, transparently, and in a manner consistent with the conception of democratic rationality'.⁹ Howse's main point is that the additional economic gains from 'freer trade' may not outweigh the losses in democratic welfare.¹⁰ Moreover, risk regulation is a highly sensitive subject, towards which people's attitudes are not always rational, in particular as they tend to discount the costs and benefits involved. But even if this is the case, the ungrounded perception of being exposed to risk can also in itself be a reason to enact regulation, given that the feeling of safety is a value of and in itself.¹¹

The purpose of this article is to inquire into the question whether the criticism is justified. To answer the question it will proceed in two steps. First the relevant negotiation history will be traced. Subsequently, the findings retrieved will be juxtaposed with the economic rationale for the SPS Agreement. It will be demonstrated that the genesis of the SPS Agreement endorses the findings of economic theory. After all, the WTO Agreements are treaties on economic cooperation and the problem the SPS Agreement aims to solve is essentially an economic one. As will be shown, the SPS Agreement is not aimed at establishing a 'post non-discrimination/non-protectionism' trade regime, but the various explanatory facets can be broken down to a single underlying economic rationale: the preservation of market access commitments.

2 The Genesis of the SPS Agreement

The reason for delving into the negotiating history of the SPS Agreement is that the genesis of the agreement provides evidence for its general purpose, as its framers had it in mind.¹² It provides a response to the question why there is an SPS Agreement at all by reconstructing the specific political environment during the period of negotiations and, in addition, may confirm the explanations provided by economic theory. In this context, the Agreement's most salient feature, the science-based obligations, is of particular importance because it is these requirements that distinguish the SPS from other WTO agreements dealing with domestic regulation.

⁸ Howse, 'Democracy, Science and Free Trade: Risk Regulation on Trial at the World Trade Organization', 98 *Michigan L Rev* (2000) 2329.

⁹ *Ibid.*, at 2337.

¹⁰ *Ibid.*, at 2333.

¹¹ *Ibid.*, at 2350.

¹² For a full account of the negotiating history see D. Prévost, *Balancing Trade and Health in the SPS Agreement: The Development Dimension* (2009), at 451–514.

A The Initiation of the Negotiations

The SPS Agreement is a child of the Uruguay Round.¹³ By contrast to its sister agreement, the TBT Agreement, it did not have a predecessor in GATT law or practice,¹⁴ but evolved as an entirely new agreement. Initial negotiations on the regulation of SPS matters primarily focused on amendments to and clarifications of Article XX(b) GATT.¹⁵ Only later during the negotiations was the idea of a ‘stand-alone code’ on SPS measures introduced.¹⁶ The proposal for a separate agreement eventually gained acceptance, in particular because of the sheer number of issues on the agenda (harmonization on the basis of international standards, transparency, notification requirements, and so forth) and the interest apparently shared by the major players in creating a new body of rules, which eventually became the SPS Agreement.

SPS matters were initially discussed in the broader framework of the Negotiating Group on Agriculture. Yet, in 1989, upon the initiative of the United States, negotiations were outsourced to a special working group.¹⁷ Given the overarching importance of and the high stakes in the negotiations on farm subsidies, as well as the rather technical nature of SPS matters, talks were deemed to be more suitable for another forum, not least because SPS was perceived as much less controversial than the ‘high politics’ negotiations on agricultural support measures. The effect of the forum shift was that participants in the working group were mainly ‘technicians’: trade experts, national regulators, and national delegates to the relevant international standard-setting organizations.¹⁸ Representatives of *Codex Alimentarius*, the International Office of Epizootics (OIE) and the International Plant Protection Convention (IPPC) were, on an *ad hoc* basis, invited as observers as well.

¹³ Sanitary and phytosanitary measures were first discussed in 1970 in preparation for and during the Tokyo Round. However, discussions focused on the applicability of the ‘Standards Code’: see Background Note by the Secretariat, ‘Sanitary and Phytosanitary Regulation Affecting Trade in Agriculture’, GATT Doc. MTN.GNG/NG5/W/41 (2 Feb. 1988), at 2–4. On the preparations for the Uruguay Round negotiations see J. Croome, *Reshaping the World Trading System: A History of the Uruguay Round* (1999), at 92–99.

¹⁴ The TBT Agreement is the ‘successor to the 1979 Tokyo Round’s ‘Standards Code’, which in principle also covered sanitary and phytosanitary measures. However, the ‘Standard’s Code’ was considered to be ineffective in addressing the trade effects of SPS measures and initial plans to amend the ‘Code’ were eventually abandoned during the negotiations: see Summary of the Main Points raised at the second Meeting of the Working Group on Sanitary and Phytosanitary Regulation and Barriers, GATT Doc. No. MTN.GNG/NG5/WGSP/W/2 (14 Nov. 1988), at para. 12.

¹⁵ Cf. the ‘Summaries of the Main Points Raised during the Meetings of the Working Group on Sanitary and Phytosanitary Regulations and Barriers’, e.g., GATT Doc. No. MTN.GNG/NG5/WGSP/W/1 (28 Oct. 1988) and GATT Doc. No. MTN.GNG/NG5/WGSP/W/2 (14 Nov. 1988).

¹⁶ It is not entirely clear from whom the initiative to elaborate a stand-alone code for SPS came. On the basis of the official documents it appears that the Nordic countries were the first to put forward such a proposal: see GATT Doc. No. MTN.GNG/NG5/W/143. See also the first proposed draft in Form and Disposition of the Agreement on SPS Measures, GATT Doc. No. MTN.GNG/NG5/WGSP/W/10 (12 Feb. 1990).

¹⁷ Communication from the US on a Health and Sanitary Working Group, GATT Doc. No. MTN.GNG/NG5/77 (13 Sept. 1988).

¹⁸ Croome, *supra* note 13, at 202.

The reason for dealing with SPS measures was their recognized potential to act as non-tariff barriers to agricultural imports. This was brought home in the 1986 Ministerial Declaration containing the negotiating mandate according to which:

Negotiations shall aim to achieve greater liberalization of trade in agriculture and bring all measures affecting import access and export competition under strengthened and more operationally effective GATT rules and disciplines, ..., by:

...

(iii) minimizing the adverse effects that sanitary and phytosanitary regulations and barriers can have on trade in agriculture, taking into account the relevant international agreements.¹⁹

The reasoning behind this is that even when tariffs were low and farm subsidies abolished, regulatory barriers could still impede market access. In order to secure the gains from tariff cuts and the tariffication²⁰ process launched during the round, it was considered necessary to ensure that previous concessions were not eroded by means of domestic instruments. In particular for developing country producers, the habitually very elaborated regimes of developed nations frequently resulted in *de facto* exclusion from those states' markets. Sanitary and phytosanitary measures could in fact be used as alternative means of protectionism. Although the object of protecting humans, animals, and plants was never questioned as such, there was broad agreement on the need to reduce the 'protectionist' effects of sanitary and phytosanitary regulations, particularly because the number of non-tariff barriers has substantially proliferated over the years. For example, in 1966 about 50 per cent of US food imports were subject to non-tariff barriers; in 1986 this number had already increased to nearly 90 per cent.²¹

At the outset, the regulation of risk assessment obligations and precautionary measures was not discussed at all. Based on the first formal proposal on SPS negotiations from the United States in 1987,²² early talks had revolved round the 'harmonization' of national SPS measures on the basis of international standards and the need for more and better transparency mechanisms. Formal risk assessment procedures and the use of scientific evidence were not an issue at that stage. Requirements to justify domestic SPS regulation on scientific grounds were not considered to be necessary either.²³

The role of the relevant international standard-setting bodies, to provide the base line of legitimate regulation through their rules, was stressed from the beginning. The delegation of authority to international standard setters was facilitated by the fact that negotiators were 'technocrats', and thus considered international standard setting to

¹⁹ Ministerial Declaration on the Uruguay Round, GATT Doc. No. MIN.DEC (20 Sept. 1986), at 6.

²⁰ 'Tariffication' denotes the transformation of quotas and import-licensing programmes into tariffs.

²¹ Dunoff, *supra* note 4, at 156 with further references.

²² US Proposals for Negotiations on Agriculture, GATT Doc. No. MIN.GNG/NG5/W/14 (7 July 1987). Interestingly, the US in its proposal considered the notions of 'based on' and 'in conformity with' international standards as interchangeable, a view not shared by the Appellate Body in later disputes.

²³ GATT Doc. No. MTN.GNG/NG5/W/2 (12 Nov. 1988), at para. 11.

be the most cost effective way of preventing protectionist interventions.²⁴ However, as resources matter a lot in standard setting organizations,²⁵ the big players such as the EU and the US were probably confident that they would dominate the relevant fora and could press through their respective preferences. In other words, they would not lose much influence by delegating that decision-making competence to a third party.

However, in the course of negotiations, delegates had to recognize that ‘full harmonization’ and complete recourse to international standards was unfeasible, especially when Member States sought higher levels of protection than those enshrined in the international standard or when standards did not exist for specific products. On the basis of this understanding, discussions moved towards science-based obligations and their relevance for risk regulation. The debates also led to the emergence of related issues such as Member States’ right to determine an ‘appropriate level of risk’, precaution, and the burden of proof. The whole subject area was quite contentious because it was at the point where the interests of importing and exporting states collided most obviously. Whereas the former insisted on their right to regulate agricultural imports on any grounds they deemed pertinent, the latter pressed for the adoption of strict rules with few exceptions in order to combat what to them was all too often just another form of disguised protectionism.

B The Major Players’ Positions

The different positions were reflected in the key players’ proposals concerning risk regulation under the new SPS Agreement. While there was broad agreement on the proposal that SPS regulation, deviating from international standards, should be based on scientific principles, negotiators disagreed on the relevant factors to be taken into account for the conduct of risk assessment procedures. The question of precaution in cases of insufficient scientific data played a role, too. But it was much less contentious than the question of risk assessment.

The reason for including scientific disciplines in the agreement, and in particular for requiring a risk assessment as the basis for SPS measures deviating from international standards was most likely that it reflected the major players’ domestic regulatory practices. It did not entail much of a change to them also to commit internationally to scientifically based risk management in the field of food, veterinary, and environmental regulation, given their long-standing tradition in this regard.

The United States’ powerful regulatory agencies such as the Food and Drug Administration, the Environment Protection Agency, and the US Department of Agriculture have ever since the 1970s based their action on a scientific approach, which considered a risk assessment a factually grounded and value-free analytical exercise that identified possible harms to health and the environment.²⁶

²⁴ For a full account and different explanations see Bütte, ‘The Globalization of Health and Safety Standards: Delegation of Regulatory Authority in the SPS Agreement of 1994 Agreement Establishing the World Trade Organization’, 71 *L and Contemporary Probs* (2008) 219.

²⁵ T. Bütte and W. Mattli, *The New Global Rules: The Privatization of Regulation in the World Economy* (2011).

²⁶ Footer, ‘Post-Normal Science in the Multilateral Trading System’, 6 *World Trade Rev* (2007) 281, at 287–288.

By the time of the negotiation of the SPS, the United States' domestic approach favoured a clear distinction between 'scientific' risk assessment and risk management, a process of weighing policy alternatives, taking into account social, economic, and political concerns.²⁷ This distinction was geared towards ensuring 'that risk assessments are protected from inappropriate policy influences'.²⁸ The same approach was followed in relation to third countries, as showcased in the 1994 North American Free Trade Agreement (NAFTA) between the US, Canada, and Mexico. NAFTA Articles 709 to 724 are largely similar to the SPS Agreement. However, it is unclear whether NAFTA acted as a model for the SPS. On the one hand, NAFTA entered into force before the WTO Agreements and could thus have had an impact on the latter. On the other, multilateral negotiations on SPS matters began earlier in time than any talks about NAFTA, but dragged on when NAFTA was already in the final stage. Therefore, it seems likely that the two processes mutually influenced each other.²⁹

At the time of the drafting of the SPS, the European Union did not have any competences concerning food safety. Risk regulation in the areas covered by the prospective agreement fell entirely into the competences retained by EU Member States. Yet, in Europe too there was a clear consensus that matters of food safety should be governed on the basis of sound science.³⁰ After lengthy deliberations, stretching over the whole of the 1990s, this led to the establishment of the European Food Safety Authority (EFSA). That agency, by contrast to its model, the FDA, was from its inception charged only with the task of providing scientific advice, but not to assume any risk management or enforcement responsibilities.³¹

The major player advocating for strict rules on domestic SPS measures was a coalition of the world's biggest agricultural exporters: the so-called Cairns Group.³² This Group promoted particularly narrow possibilities for deviating from international standards. SPS measures should be allowed only to the extent necessary to protect human, animal, or plant health and life. Food grading, consumer preferences, consumer information, animal welfare, and religious and moral issues should be excluded as valid grounds for SPS regulation. The onus of justifying the adoption of restrictive measures would always rest with the importing state, regardless of whether scientific evidence was available or not. The emphasis on scientific justification led the Cairns Group to go so far as to query the right to adopt 'zero-risk' policies where scientific

²⁷ National Research Council, *Risk Assessment in the Federal Government: Managing the Process* (1983), at 3 and 18.

²⁸ *Ibid.*, at 14.

²⁹ Wirth, 'The Roles of Science in the Uruguay Round and NAFTA Trade Disciplines', 27 *Cornell Int'l LJ* (1994) 817, at 830.

³⁰ See on the evolution of France's, Germany's and the UK's food safety schemes chs 6, 7, and 8 of C. Ansell and D. Vogel (eds), *What's the Beef? The Contested Governance of European Food Safety* (2006).

³¹ For a full account of EFSA's origins, tasks, and powers and a comparison to the FDA see A. Alemanno, *Trade in Food: Regulatory and Judicial Approaches in the EC and the WTO* (2007), at 161–223.

³² The group comprised Argentina, Australia, Brazil, Canada, Chile, Colombia, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand, and Uruguay.

evidence did not require them. However, the right to regulate on precautionary grounds in cases of insufficient information was explicitly acknowledged.³³

The US, one of the largest farm producers but also a strict regulator of food and foodstuffs, took a middle position. With regard to risk assessment, it particularly stressed the importance of basing decisions on sound scientific evidence and having recourse to the relevant work of international standard-setting organizations.³⁴ The definition of a country's individual level of risk, however, should remain a sovereign decision.³⁵

The EC was particularly keen to oppose strict rules on SPS matters. In its proposal concerning risk regulation, the EC suggested that contracting parties departing from international standards and 'which have achieved a high health status shall, nonetheless, be allowed to apply standards more stringent than international ones where appropriate'.³⁶ For the determination of the appropriate level of risk not just scientifically proven risks should be taken into account but also general consumer concerns and preferences. In the EC's view, the parties should remain as free as possible to respond to domestic concerns in defining acceptable risk levels. The EC's 1988 ban on hormone treated beef – which would later under the aegis of the WTO become the infamous 'Hormones' dispute – was a case in point. In this instance, due to pressure from consumer groups, the EC had prohibited sales of cattle products that had been treated with growth hormones. Although scientific evidence had been inconclusive or even attested to the fact that there was no health risk for humans.³⁷

The Nordic countries were one of the most active groups during the SPS negotiations and were responsible for many concrete proposals as well as for the first submission of a draft SPS Agreement. Concerning risk assessments, they initially underscored the need to go beyond mere scientific evidence. In this vein, the Nordic Communication of 21 November 1988 stated that:

local and regional considerations, including consumption patterns, cannot be separated from the concept of sound and verifiable scientific evidence. It is a part of the scientific argumentation. This concern is to a certain extent covered by the fact that international organizations already in their recommendations observe regional differences and in some cases even formulate their recommendations only regionally.

In some cases, however, the scientific evidence is relative in nature: the greater the concentration of a certain substance, the higher the risk for health. In such cases governments must have the right to individually assess the acceptable risk level for their country.

³³ Supplementary Communication from the Cairns Group, GATT Doc. No. MTN.GNG/NG5/W164 (18 Apr. 1990).

³⁴ Submission of the US on Long-Term Agricultural Reform, GATT Doc. No. MTN.GNG/NG5/W/118 (25 Oct. 1989).

³⁵ Informal Discussion Paper on Risk Assessment Submitted by the US to the Working Group on 2 Apr. 1990.

³⁶ Submission of the European Communities on Sanitary and Phytosanitary Regulations and Measures, GATT Doc. No. MTN.GNG/NG5/W/146 (20 Dec. 1989).

³⁷ On the background to the 'Hormones' dispute see Meng, 'The Hormones Conflict between the EEC and the US within the Context of the GATT', 11 *Michigan J Int'l L* (1989–1990) 819.

That regulations shall be based on scientific evidence does, however, not exclude that in specific cases it is unavoidable also to take other aspects into consideration. The ban to import pork, for example, into certain countries is not based on scientific evidence, but on ethical values.³⁸

This position was later revised, however. In a 1990 submission the Nordic countries made clear that in their view moral or ethical considerations could not be regarded as valid grounds for SPS regulations, and that any such regulations should be based on sound scientific evidence. Where this was not the case, it should, however, be for the exporting country to prove the measure's inconsistency with GATT rules.³⁹

On the burden of proof, Japan took the same view: exporters should, in any event, be vested with the duty to verify their products' safety.⁴⁰ Moreover, Japan underscored the need for regulatory leeway. In Japan's opinion, 'allowance should be made for differences in sanitary conditions, geographical conditions, and dietary customs, according to which measures may vary from country to country'.⁴¹ Yet, Japan also explicitly endorsed the need to harmonize SPS measures on as wide a basis as possible and to develop risk assessment techniques based on the work of the relevant international organizations in the field.

Developing countries were mainly concerned with the rules on special and differential treatment.⁴² On risk assessment and precaution, there seems to have been no relevant contribution from a developing country.

Eventually, the contracting parties agreed on a range of issues, such as harmonization of SPS measures on the basis of international standards,⁴³ a 'legality' presumption for measures based on such standards, and the need to conduct risk assessments on the basis of scientific evidence before adopting SPS regulations. Moreover, contracting parties should select the least trade-restrictive possibility, but if measures were in conformity with the SPS Agreement they should automatically be presumed to be in compliance with Article XX(b) GATT as well. Most importantly, there was almost no discussion on precautionary measures, apart from some references to the fact that the provision was meant to deal with emergency situations, like the outbreak of disease.⁴⁴ Eventually, the initial proposal was transformed without substantive amendments into law.

C The Final Stage

From 1991 onwards, the parties were already working on a legal text, having the key issues resolved. Yet, on the questions of which factors should be taken into account in

³⁸ GATT Doc. No. MTN.GNG/NG5/W/88.

³⁹ Form and Disposition of the Agreement on Sanitary and Phytosanitary Regulations and Barriers, GATT Doc. No. MTN.GNG/NG5/WGSP/W/10 (12 Feb. 1990), at 3 and 22.

⁴⁰ Supplementary Submission of Japan on Sanitary and Phytosanitary Regulations and Measures, GATT Doc. No. MTN.GNG/NG5/W/156 (7 Mar. 1990), at 2.

⁴¹ Submission by Japan, GATT Doc. No. MTN.GNG/NG5/W/131 (6 Dec. 1989), at 7.

⁴² Proposal on Special and Differential Treatment for Developing Countries, GATT Doc. No. MTN.GNG/NG5/W/132 (27 Nov. 1989).

⁴³ For the relevant negotiating history on harmonization and international standards see Büthe, *supra* note 24, at 239–250.

⁴⁴ GATT Docs MTN.GNG/NG5/WGSP/7 (20 Nov. 1990) and MTN.GNG/NG5/WGSP/17 (30 Apr. 1990).

the course of risk assessment and whether scientific evidence should be the only justification for SPS measures the historical evidence is inconclusive. In the third meeting of the Working Group participants discussed, *inter alia*, whether

in addition to sound scientific evidence, other elements had to be taken into account. Risk assessment was based in part on ethical and political factors. Another representative indicated that Article XX covered the protection of human, animal and plant health in a broad sense and included the quality of life and protection of the environment. One delegate stated that although it was the importing country that would determine the acceptable level of risk, this would be subject to international scrutiny and had to have some rational basis with regard to the effects of the introduction of the pest or disease in the country. Another representative suggested that if, for political or ethical reasons, a country wished to oppose stricter requirements than those based on sound scientific evidence, it should be prepared to compensate affected exporters.⁴⁵

In particular, the problem of how to deal with consumer preferences or other ‘non-hard science’ concerns remained unresolved. The last available document giving an overview of the different negotiating positions seems to suggest that factors other than the protection of human, animal, or plant life and health should not be dealt with under the SPS Agreement. This was particularly the position of the Cairns Group and the Nordic countries. In a ‘Synoptic Table of Proposals Relating to Key Concepts’ the GATT Secretariat summarized the different proposals from the Cairns Group, the Nordic countries, and the EC relating to the scope of the agreement as follows:

Measures relating, *inter alia*, to quality assurance, composition and grading, consumer preferences, consumer information, [animal welfare] and ethical and moral considerations shall not be dealt with in [the context of the SPS Agreement].⁴⁶

However, the EC’s text the Secretariat was drawing from dealt with an entirely different issue (recognition of international standards) and was not in any way related to the question of whether the aspects mentioned in the Secretariat’s note should play a role in the SPS Agreement; rather it dealt with the question of how to identify the SPS aspects of international standards that covered matters beyond the SPS.⁴⁷

Likewise the discussions during the meetings of the Working Group provide evidence that the issue was still contentious after the ‘Synopsis’ was issued. For instance, in the ‘Summary of the Main Points raised at the 8th Meeting of the Working Group’ it is reported that one participant and his colleagues

could not at this stage agree with the exclusion of consumer preferences, environment, animal welfare and ethical and world considerations and considered it a probable mistake to exclude them from a reinforced discipline. ... Other participants agreed that there was a need to deal

⁴⁵ Summary of the Main Points Raised at the Third Meeting of the Working Group on Sanitary and Phytosanitary Regulations and Barriers, GATT Doc. No. MTN.GNG/NG5/WGSP/W/6 (17 Oct. 1989), at 3.

⁴⁶ GATT Doc. No. MTN.GNG/NG5/WGSP/W/17/Rev. 1 (29 May 1990).

⁴⁷ Submission of the European Communities on Sanitary and Phytosanitary Regulations and Measures, GATT Doc. No. MTN.GNG/NG5/W/146 (20 Dec. 1989), at 2.

with other issues such as consumer preferences, environment, etc., which were already used for trade protection, but objected that they should not be covered by an SPS discipline'.⁴⁸

The 'Draft Final Act' contained a reference to (genuine) consumer preferences in the context of determining the appropriate level of risk.⁴⁹ The passage was, however, bracketed and eventually erased.

D *Interim Conclusion*

As the genesis of the SPS brings home, negotiators were primarily concerned with questions of how to secure market access commitments and how to balance them with the health and safety concerns of the importing states. In spite of these circumstances, it is not entirely clear what to make of the evidence provided by the negotiating documents. The continued discussions on the subject matter, in conjunction with the fact that the notions of 'consumer preferences', 'protection of the environment', and 'ethical and moral considerations' were erased from the final draft, leaves ample space for interpretation. At least three different explanations seem possible. First, the contracting parties agreed that these 'soft factors' should not be considered under the SPS Agreement and therefore did not include them in the final version. Secondly, the parties may have agreed that they could potentially play a role but that they should not be inserted explicitly into the agreement in order to prevent its abusive use and to reserve it for situations of true concern. When such a situation arose would be determined by third party adjudication. Thirdly, the parties could not agree on the question but valued the conclusion of the agreement more highly than a solution to the particular question. This was accordingly deliberately left open and the duty to complete the incomplete contract was assigned to the dispute settlement organs. Although not all of these possibilities are equally probable, none of them can a priori be ruled out. Viewed in conjunction with the lack of deliberations on precautionary measures, it seems probable that the negotiators were not fully aware of the agreement's potential repercussions.

Given the Appellate Body's tendency to have recourse to the *travaux préparatoires* mostly only to confirm a certain reading of a provision,⁵⁰ this ambiguity does not necessarily have direct implications for dispute settlement proceedings. In fact, the question came up in *EC – Approval and Marketing of Biotech Products*, where the panel held that 'in view of the fact that neither of the bracketed texts was included in the final text of the SPS Agreement', the document in question could not assist in interpreting the Agreement.⁵¹ Nevertheless, it is worthwhile underscoring that the negotiating history provides ample evidence for the importance the contracting parties ascribed to the relationship between securing market access commitments and 'non-scientific'

⁴⁸ GATT Doc. No. MTN.GNG/NG5/WGSP/W/24 (2 July 1990), at 2.

⁴⁹ Draft Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations – Revision, GATT Doc. No. MTN.TNC/W/35/Rev. 1, at 168.

⁵⁰ Mavroidis, 'No Outsourcing of Law? WTO Law as Practiced by WTO Courts', 102 *AJIL* (2008) 421, at 455–456.

⁵¹ WTO Panel Report, *European Communities – Measures Affecting the Approval and Marketing of Biotech Products*, WT/DS291,292,293/R, 29 Sept. 2006, at para. 7.211.

concerns such as public risk perception and consumer preferences. As will be shown below, this ties in with the economic rationale for the SPS.

3 The Economics of the SPS

From a theoretical perspective, the global welfare effects of SPS measures are ambiguous and case-dependent.⁵² The immediate effect of a higher quality standard is to raise production costs which, in equilibrium, will reduce the quantity demanded of the now regulated product and thus reduce both consumer and producer surpluses relative to the *status quo ante*. As a result, the volume of trade will be either reduced if the regulation means higher costs for foreign producers, or increased if the domestic industry is more heavily burdened. Contingent on the specific circumstances, these costs may be outweighed by the gains from additional risk avoidance, however. For instance, a food safety standard may lower the number of fatal incidents because it improves food hygiene. Thus, a global welfare enhancing SPS measure would equalize marginal welfare gains and marginal welfare losses.

Apart from protecting humans, animals, and plants from risks, many SPS measures fulfil the important function of addressing information asymmetries between consumers and producers. Commodities that fall under the purview of SPS regulations are mainly agricultural products and foodstuffs, such as human and animal food, seeds, plants, and the like. All of these products display the feature that their health and safety implications are not always ascertainable prior to consumption. In economic terms, they are 'experience goods'.⁵³ Experience goods' quality is revealed only once the transaction is completed and the goods consumed. Even though producers may have the necessary information to assess the product's quality, they do not necessarily share it with consumers, who in many cases are therefore unable to distinguish between safe and unsafe products.

This information asymmetry may lead to market failures because low-quality products may crowd their high-quality counterparts out of the marketplace. Depending on the associated risk and the individual level of risk aversion, even if consumers would prefer safe products but are at the same time price sensitive, they would be willing to pay higher prices for safer products only if they were able to distinguish them from less safe and cheaper ones. When safe and unsafe products are indistinguishable, however, consumers buy the cheaper goods, which makes it unprofitable for producers to fabricate and sell the safer goods and will eventually force them to leave the market. In other words, due to the information asymmetry that prevents consumers from ascertaining the products' quality, markets will – in equilibrium – tend to undersupply

⁵² Beghin *et al.*, 'Welfare Costs and Benefits of Non-Tariff Measures in Trade: A Conceptual Framework and Application', 11 *World Trade Rev* (2012) 356.

⁵³ Economists classify products in three categories: (i) search goods, i.e., services or products with features and characteristics easily evaluated before purchase; (ii) experience goods, i.e., services and products with features difficult to evaluate in advance and the quality of which consumers may ascertain only upon consumption; (iii) credence goods, i.e., services and products with characteristics that are hard to evaluate even upon consumption. Agricultural products are in their majority 'experience goods'.

high-quality versions of the product, even when there is a demand for it.⁵⁴ One way of addressing the problem is to enact regulations tackling the information asymmetry.⁵⁵ This, for instance, can take the form of compulsory labelling, but also of governmental regulation combined with consumer information. Hence, by enacting SPS measures that ensure product characteristics and quality, 'experience goods' may be transformed into 'search goods' so as to restore market conditions to the state they would be in absent the information asymmetry. Such restoration of information symmetries can be conducive to trade as consumers are incentivized to buy. Whether SPS measures indeed have this effect is doubtful, as some empirical research comes to the conclusion that the overall impact on trade in agricultural products is rather negative.⁵⁶ However, other studies offer a rather mixed picture, identifying both positive and negative effects.⁵⁷

Be that as it may, even an 'optimal' standard that pursues legitimate objectives may give rise to trade conflicts, given that it can lead to reduced imports. Disagreement may arise as to the regulations' appropriateness, especially because countries differ in their factor endowment with the effect that the additional costs of stricter regulation may be not borne symmetrically by foreign and domestic producers. In this vein a WTO report on international standards in world trade states that:

In particular, the level of development of countries is likely to play an important role, as it affects the level of available production technologies and consumer preferences. Producing higher quality goods may be relatively more expensive in developing countries than in developed countries. More importantly, the demand for quality, for instance in terms of product safety, is likely to increase with income. Theoretical considerations would therefore suggest that optimal safety standards may differ significantly between developing and developed countries and that the potential for conflicts of interest is relatively high.⁵⁸

A The Economic Rationale for Trade Agreements

SPS measures form part of the broader category of 'domestic instruments'. In principle, any policy instrument, except for border measures such as tariffs and quotas, falls under this category. To understand the reasons for subjecting domestic instruments to international rules, it is useful to take a step back and, first, explain what the underlying rationale for concluding trade agreements is. This is instrumental in explaining why trade agreements cover domestic instruments too, and not just border measures. Economists have provided divergent explanations of the presence of trade agreements

⁵⁴ Akerloff, 'The Market for "Lemons": Quality, Uncertainty and the Market Mechanism', 84 *Q J Econ* (1970) 488.

⁵⁵ Of course, producers could also attempt to differentiate their products in order to 'signal' the higher quality of their goods to consumers. Branding would be just one possible way of doing so. See *ibid.*, at 499–500.

⁵⁶ Disdier, Fontagné, and Mimouni, 'The Impact of Regulations on Agricultural Trade: Evidence from the SPS and TBT Agreement', 90 *Am J Agric Econ* (2008) 336; Li and Beghin, 'A Meta-Analysis of Estimates of the Impact of Technical Barriers to Trade', 34 *J Policy Modeling* (2012) 497.

⁵⁷ Anders and Caswell, 'Standards as Barriers versus Standards as Catalysts: Assessing the Impact of HACCP Implementation on U.S. Seafood Imports', 91 *Am J Agric Econ* (2009) 310.

⁵⁸ WTO, World Trade Report 2005, 'Exploring the Links between Trade, Standards and the WTO', at 48.

the substance of which has a direct impact on the understanding of domestic instruments. Accordingly it seems appropriate to proceed in three steps and first delve into the reasons for the existence of trade agreements; then on the basis of this into the economics of domestic instruments in order, finally, to explain the existence of the SPS Agreement and its particular features.

Ever since the seminal works of Adam Smith and David Ricardo, economists have agreed almost unanimously that international trade is globally welfare enhancing. Against the background of Ricardo's seminal model of comparative advantage,⁵⁹ the existence of trade agreements is therefore a puzzle. In the framework of the theory there is no room for trade agreements because unilateral liberalization is always the first-best, at least if governments preside over small countries and seek to maximize national income. Ricardo's insights were later endorsed and extended to non-small countries by the new trade theory. Krugman shifted the focus from whole countries to industrial sectors and showed that homogeneous countries also gain through international trade by benefiting from sector-specific specialization (in the case of increasing returns to scale or scale economics) and greater varieties offered to consumers.⁶⁰ The new-new trade theory further sharpened the focus by looking at firm-level differences. As Melitz⁶¹ has shown, international trade reallocates market shares towards more efficient firms with an aggregate productivity gain, given that less productive firms exit the market. In addition, the number of available varieties increases because of imports, even though the number of domestic firms decreases. Finally, firms which are productive enough to export lose domestic market shares but are more than compensated by export sales. Melitz's results are broadly confirmed by empirical studies.⁶²

When international trade is always beneficial, then the only logical choice should be to abolish any import barriers, independently of third-country policies. In this vein, Nobel laureate Paul Krugman famously stated:

If economists ruled the world, there would be no need for a World Trade Organization. The economist's case for free trade is essentially a unilateral case: a country serves its own interests by pursuing free trade regardless of what other countries may do. Or, as Frederic Bastiat put it, it makes no more sense to be protectionist because other countries have tariffs than it would to block up our harbours because other countries have rocky coasts.⁶³

Free trade, however, is not what one observes in the real world. Some countries do unilaterally liberalize international trade, but others do not. Moreover, the majority

⁵⁹ D. Ricardo, *On Principles of Political Economy and Taxation* (1821), at 140–143.

⁶⁰ Krugman, 'Increasing Returns, Monopolistic Competition and International Trade', 9 *J Int'l Econ* (1979) 469. See also B. Balassa, *Trade Liberalization among Industrial Countries* (1967).

⁶¹ Melitz, 'The Impact of Trade on Intra-Industry Reallocation and Aggregate Industry Productivity', 71 *Economica* (2003) 1691.

⁶² E.g., Bernard, Jensen, and Schott, 'Trade Costs, Firms and Productivity', 53 *J Monetary Econ* (2006) 917; Bustos, 'Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms', 101 *Am Econ Rev* (2011) 301; Alvarez and Lopez, 'Exporting and Performance: Evidence from Chilean Plants', 38 *Canadian J Econ* (2005) 1384.

⁶³ Krugman, 'What should Trade Negotiators Negotiate About?', 35 *J Econ Lit* (1997) 113.

of states are signatories to at least one trade agreement. So why do governments conclude trade accords in the real world when the theory predicts otherwise?

There are two complementary approaches justifying the existence of trade agreements. The first detects the problem a trade agreement aims to solve in the domestic realm (commitment theory); the second considers trade agreements to be a means of tackling an international externality, i.e., a cost or a benefit not reflected in the final price (terms-of-trade theory).

1 *Commitment Theory*

The commitment theory perceives the problem trade agreements exist to solve in the relationship between governments and their various domestic constituencies.⁶⁴ According to this theory, trade agreements serve primarily as a device to lock in governmental trade policies that are unfavourable to certain segments of society. By choosing its trade policy and committing it in an international trade agreement, a government may escape the pressure from domestic lobbying groups that seek the advancement of their own special interests. Given that, at least in the long run, factors are mobile, these groups' incentives to exert pressure against the agreement *ex ante* are low. This is the case because the lobby will rightly anticipate new entry into the protected sector, which will eventually reduce the rents from protectionism. In other words, the prospective gains do not justify the initial investment in lobbying. In this vein, governments can accelerate adjustment processes in uncompetitive sectors and avoid the social cost of protectionism. A trade agreement is thus a means to 'tie the government's hands' in the presence of political pressure. Changes in a country's trade policy that disfavour one segment of society come at less 'political' cost because the government can refer to the trade agreement as an excuse. Hence, in view of this theory, the purpose of a trade agreement is to resolve a domestic conflict between rent-seeking interest groups and social-welfare maximizing governments.

However, the explanatory strength of the commitment theory faces three strong objections.⁶⁵ First, it cannot explain the value of commitments achieved in international negotiations. Since the liberalization commitments a government has agreed to in negotiations reflect the outcome of a bargain between the government and its domestic lobbies but not the preservation of a transaction between governments, the extent of those commitments could easily vary. Eventually, it will be the influence of the domestic lobby which determines the extent of a commitment, and not negotiations with other governments. It is thus unpredictable whether the volume of trade would increase or decrease in the presence of a trade agreement. Secondly, if a trade agreement's purpose is to solve a domestic problem, why should the government seek an international agreement?⁶⁶ The more natural solution for the commitment problem

⁶⁴ J. Tumlrir, *Protectionism: Trade Policy in Democratic Societies* (1985); Maggi and Rodriguez-Clare, 'The Value of Trade Agreements in the Presence of Political Pressure', 106 *J Political Econ* (1998) 574.

⁶⁵ P.C. Mavroidis, *Trade in Goods: The GATT and other WTO Agreements Regulating Trade in Goods* (2012), at 17.

⁶⁶ Srinivasan, 'Non-discrimination in GATT/WTO: Was There Anything to Begin with and Is There Anything Left?', 4 *World Trade Rev* (2006) 69.

would be an amendment to the constitution or an equivalent measure. Finally, the question of enforcement incentives remains problematic. When an agreement aims to prevent rent shifting between domestic groups, it is not apparent why a foreigner would bear the costs and enforce such an agreement. This would only be the case if the government's policy had detrimental implications on her welfare as well.

2 Terms of Trade Theory

Another strand of the economic literature suggests a theory which is capable of meeting these objections. For this theory the purpose of a trade agreement is to tackle international externalities or so-called beggar-my-neighbour policies.⁶⁷ According to this view, it is not true that unilateral liberalization is always the first-best choice. 'Large' countries⁶⁸ with market power that can manipulate their terms of trade⁶⁹ by influencing world prices may gain by the imposition of trade barriers because the costs will be borne in part by third parties.⁷⁰ For instance, if a 'large' country sets a tariff which raises the price of the product on the country's domestic market, foreign suppliers will absorb parts of this cost instead of adding it to the final price in order to remain competitive in the market. In such cases, the 'large' country gains without having to bear the whole burden of its policy decision because its consumers will still have access to the product without paying much more and the government will obtain the tariff revenue. Hence, 'large' countries that can influence their terms of trade have an incentive to pursue 'beggar-my-neighbour' policies, as long as their sole concern is the burden imposed on domestic consumers and producers.

What distinguishes this explanation from standard economic theory is that it is not restricted to 'welfare maximizing' governments, but is capable of taking into account real-world political constraints, as it allows for political economy considerations. In the model it is immaterial whether the objective governments pursue is national welfare maximization or any other political goal, because what ultimately matters is the policy's impact on prices. Distributional objectives are factored in through the price mechanism under the assumption that governments care about prices for the group they want to endow with an advantage. For instance, if a government considers it politically optimal to isolate a domestic industry from competition so as to afford protection to that industry, it pursues a distributive and not a welfare-maximizing goal. In order to attain this goal, the government may impose some kind of import restriction, say a tariff, which increases prices and thus yields added producer surplus and a

⁶⁷ Kyle Bagwell and Robert Staiger have developed and elaborated on this theory in a series of papers. See, in particular, 'An Economic Theory of GATT', 89 *Am Econ Rev* (1999) 215; *The Economics of the World Trading System* (2002), at ch. 2; and 'The WTO: Theory and Practice', 2 *Annual Rev Econ* (2010) 223. For a 'simplified' explanation of the theory and a discussion of some objections see Bagwell, Mavroidis, and Staiger, 'It's a Question of Market Access', 96 *AJIL* (2002) 56, at 56–58.

⁶⁸ A 'large' country can *per definitionem* influence world prices; a 'small' country is *per definitionem* not able to do so.

⁶⁹ 'Terms of trade' denotes the proportion of a country's imports to its exports. Put simply, it describes how many imports a country can buy for its exports.

⁷⁰ Johnson, 'Optimum Tariffs and Retaliation', 21 *The Rev Econ Studies* (1953–1954) 142 was not the first to discover this effect but the first to formalize it.

reduction in consumer welfare. Yet, since efficiency can only be measured relative to preferences,⁷¹ the relevant question is then whether the tariff is set so as to achieve the government's goal ('political optimal'). Efficiency is thus merely dependent on the government's pursued objective. Against this backdrop, a chosen policy is internationally efficient (relative to the government's preferences) if it is not motivated by terms-of-trade considerations.⁷² That is to say, if the level of the duty is so as to confer the desired level of protection without shifting parts of the cost onto foreigners, the government's policy is efficient. If, however, it is set so as to influence the country's terms of trade, it leads to an externality which is inefficient. This reasoning applies not only to tariffs but to any policy instrument that is capable of affecting prices.

Thus, unilateral policies by 'large' countries may lead to inefficient externalities if they are based on the proposition of manipulating a country's terms of trade. Given 'large' countries' ability to shift parts of the cost onto foreign producers through the price mechanism, they are incentivized to evaluate the costs of a measure solely on the basis of domestic welfare considerations instead of total costs. They will choose their politically optimal instrument on the basis of calculating the costs implied for domestic consumers and producers only. To give just one example, when choosing between an instrument which achieves the pursued objective but inflicts costs solely on the 'large' country and an instrument which inflicts part of the costs on third-country suppliers, governments may have an incentive to choose the latter when their share of the costs was relatively smaller, even when the overall costs in the latter case might be higher. Hence, 'large' countries' governments have the incentive to externalize the burden of their policy decisions as much as possible, which may lead to internationally inefficient results. This is the case because, if the level of protection is distorted upwards due to terms of trade manipulation, the volume of trade is, consequently, too low relative to its efficient level.

If there is, as in the real world, more than one 'large' country, the simultaneous enactment of unilateral policies aiming at the manipulation of terms of trade leads to a situation where all countries are worse off and end up in a Nash equilibrium, i.e., no country can through unilateral action achieve a better result. This is so because the mutual infliction of trade costs ('trade wars') decreases the volume of trade to an inefficient level and is thus welfare reducing. As can be proven, in this setting the Nash equilibrium is always less efficient than a coordinated solution.⁷³ This is the core insight of the theory. In order to escape the prisoner's dilemma, governments have an incentive to coordinate. Accordingly, the problem a trade agreement serves to solve is

⁷¹ At this juncture it is necessary to explain what is meant by efficiency. First, a measure is efficient if it makes the government enacting it better off and nobody else worse off (Pareto efficiency). This is not what we observe in international trade. Secondly, a measure is efficient if the gains from the measure are such as to allow the government enacting it to compensate all those who have incurred losses and still to be better off (Kaldor–Hicks efficiency). This is the real world experience we witness. While some parts of society (e.g., consumers, exporters) gain from international trade others (e.g., import-competing industries) may lose.

⁷² Bagwell and Staiger, *Economics*, *supra* note 67, at 19 ff.

⁷³ *Ibid.*, at 16.

to prevent countries from burdening each other with externalities emanating from their unilateral policy choices.

Against this background, governments are induced to coordinate their trade policies. Through international negotiations, governments will seek to internalize part of the externalities and reduce trade barriers to the now politically optimum level (that is the level of protection which would be chosen absent terms of trade considerations). The keys to success in negotiations are reciprocity of commitments and the possibility of enforcement. Reciprocity is vital because governments will perceive cuts in their level of protection as a deterioration in their terms of trade, which has to be balanced by mutual commitments.⁷⁴ Enforcement matters because, absent the possibility of enforcing the previously negotiated liberalization commitments, governments had an incentive to ‘cheat’, i.e., to raise their tariffs above the agreed level.⁷⁵

Finally, the three objections raised against the commitment theory become immaterial in the context of the terms of trade theory because: (i) the value of liberalization commitments is a function of negotiations between governments; (ii) trade agreements address an international problem which can be solved only through coordination between governments; (iii) foreigners have an incentive to enforce such agreements because they protect their interests. The commitment theory may serve as a complementary explanation, though. Yet, the terms of trade theory seems to explain better not only the existence of trade agreements but also some of their particular features, as will be seen below. For this reason, what follows will be based on this theory only.⁷⁶

In sum, trade agreements thus serve to avoid negative international externalities in the form of concession erosion.⁷⁷ Or, as Staiger has formulated it:

Negotiations over tariffs alone, coupled with an effective market access preservation rule that prevents governments from subsequently manipulating their domestic policy choices to undercut the market access implications of their tariff commitments, can bring governments to the efficiency frontier.⁷⁸

B The Economic Rationale for Regulating Domestic Instruments

From the ‘terms-of-trade’ perspective there are two interrelated reasons to constrain governments’ use of domestic instruments. First, the enactment of domestic regulations is capable of frustrating market access concessions (‘concession erosion’). Secondly, domestic measures may cause international externalities in pretty much the same way as tariffs do. This is the case because in principle any law, regulation,

⁷⁴ *Ibid.*, at 58.

⁷⁵ *Ibid.*, at 95–103.

⁷⁶ The terms of trade narrative is not shared by everyone. In particular Ethier (‘The Theory of Trade Policy and Trade Agreements: A Critique’, 23 *European J Political Econ* (2004) 605) and Regan (‘What are Trade Agreements for? Two Conflicting Stories told by Economists with a Lesson for Lawyers’, 9 *J Int’l Econ L* (2006) 951) reject it, mainly because they doubt its congruence with real world evidence.

⁷⁷ For an empirical study supporting this claim see Broda, Limao, and Weinstein, ‘Optimal Tariffs and Market Power: The Evidence’, 98 *Am Econ Rev* (2008) 2023.

⁷⁸ Staiger, ‘Non-Tariff Measures and the WTO’, (2011), Background Paper to the WTO World Trade Report 2012, at 25.

or administrative practice has an impact on international trade flows, even if only a marginal one.⁷⁹ As a result of contracting costs, the reasonable response to these problems differs from the regulation of tariffs. As will be explained below, the 'optimal' trade agreement will not deal with each and every domestic instrument but provide for a 'vague' rule, to be enforced through third-party adjudication.

1 *Concession Erosion*

Trade instruments are to a certain extent substitutable. For instance, tariffs can be decomposed into producer subsidies combined with domestic consumption taxes, the effects of which are the same as those of a tariff. This follows intuitively from the welfare effects of a tariff. A tariff increases domestic prices and thus generates producer surpluses and consumers losses. Transferring the revenue from a consumption tax directly to producers has the same distorting effect. In the same fashion, domestic instruments may be used in *mala fide* to annul previous concessions. This can be done by taxes and subsidies but also by stringent and especially by discriminatory regulation. If foreign products are charged with a higher sales tax or if they have to comply with safety regulations that are applicable only to them, it is very likely that the conditions of competition will be skewed and that the benefit resulting from tariff reductions will be outweighed by the regulatory measure. To secure the value of negotiated tariff ceilings it is thus necessary to rule out the use of circumvention measures. Moreover, if domestic instruments were left to the discretion of governments, trade negotiators could never be sure that the extent of market access they agreed on would not be compromised and whether the commitments they undertook reflected the value of the other parties' concessions. This had the consequence that, if concessions could easily be undone, there would be no incentive to negotiate at all. Due to these two considerations any agreement on tariffs must to a certain extent constrain governments' discretion in relation to domestic measures.⁸⁰

2 *Regulatory Cost Shifting*

If tariffs have been reduced and capped during previous negotiations, governments' incentive to seek protectionism via different means follows naturally. Behind a high tariff wall there are few economic incentives to promulgate protectionist or beggar-my-neighbour domestic regulations. However, once this safety valve is gone, it becomes attractive for governments to look for alternatives.⁸¹ While the primary focus of the terms of trade theory rests on tariffs, it is pretty much clear that 'large' countries can affect their terms of trade through domestic instruments as well. When a 'large' country adopts a domestic regulatory policy, it can externalize some of the compliance costs on foreign producers, while still enjoying the full benefits of the regulation. Staiger and

⁷⁹ This insight is reflected in Art. 1(1) of the SPS Agreement which states that the agreement applies to all SPS measures that affect trade *directly or indirectly*.

⁸⁰ Horn, 'National Treatment in the GATT', 96 *Am Econ Rev* (2006) 394, at 397.

⁸¹ For formal proof see Staiger and Sykes, 'International Trade, National Treatment and Domestic Regulation', 40 *J Legal Stud* (2011) 149, at 169–173.

Sykes have explained the effect of regulatory cost shifting on the basis of the ‘Hormones’ case, assuming a ‘large’ importing country. Put simply, in their example the importing state is imposing a sales and import ban on hormone-treated beef. The natural consequence of the ban is a decrease in demand for hormone-treated beef accompanied by a reduction in world prices. The price reduction in hormone-treated beef leads in equilibrium also to a cut in prices for hormone-free beef, notwithstanding the additional compliance costs. Accordingly, the export price for hormone-free beef will not rise by the full cost of compliance, but will in part be borne by the suppliers, due to the reduction in world prices. The regulating country will thus enjoy the benefits of its regulation without bearing its full expense.⁸² Moreover, the original market access concession will be eroded because the terms of trade are affected through a decrease in export prices. In view of this, it is efficient to constrain governments’ freedom to promulgate domestic regulations to the extent that it causes international externalities.

3 *The Endogenous Incompleteness of Trade Agreements*

Regulating domestic instruments in a trade agreement is more intricate than restraining tariffs or other border measures. A sensible trade agreement will provide for a ‘rigid’ rule on tariffs.⁸³ That is to say, once tariffs are ‘bound’, the chances of deviating from the agreed ceilings are very narrow.⁸⁴ By contrast, it is hardly feasible to bind all domestic instruments rigidly. Due to the vast number of potentially trade-influencing policy instruments, it would be very costly to list all conceivable domestic measures in a trade agreement. The returns from bargaining over ever more domestic measures diminish in the course of negotiations, and at a certain tipping point the costs of bargaining exceed the gains from writing down a rule. While it is reasonable and worthwhile to negotiate on general sales taxes, it may be less so if the issue is the regulation of the size of, for instance, tuna cans. And even if one were to decide to bargain on all imaginable domestic measures at the time of negotiation, one would still have to find a solution for instruments that are introduced in response to changes in the state of the world. The costs arising, however, are prohibitively high, the consequence of which is that, taking the costs of contracting into account, optimal trade agreements are necessarily endogenously incomplete contracts.⁸⁵ The underlying idea is reflected in a statement by the Chairman of the Technical Sub-Committee in charge of preparing the GATT 1947 draft provision on national treatment:

Whatever we do here, we shall never be able to cover every contingency and possibility in a draft. Economic life is too varied for that, and there are all kinds of questions which are bound to arise later on. The important thing is that once we have this agreement laid down we have to act in the spirit of it. There is no doubt there will be certain difficulties, but if we are able to cover 75 or 80 or 85 per cent of them I think it will be sufficient.⁸⁶

⁸² *Ibid.*, at 154–155.

⁸³ Horn, Maggi, and Staiger, ‘Trade Agreements as Endogenously Incomplete Contracts’, 100 *Am Econ Rev* (2010) 394.

⁸⁴ E.g., Art. XXVIII GATT.

⁸⁵ Horn, Maggi, and Staiger, *supra* note 83, at 394.

⁸⁶ Quoted from Grossmann, Horn, and Mavroidis, ‘National Treatment’, in H. Horn and P.C. Mavroidis (eds), *Legal and Economic Principles of World Trade Law* (2013) 216.

As Battigali and Maggi⁸⁷ have demonstrated, the efficient solution to the problem, in terms of contracting costs, is to include instruments in trade agreements which allow for contract 'completion' *ex post*. Battigali and Maggi show that the optimal response is the inclusion of (i) provisions that specify standards for existing products; (ii) a 'rigid' non-discrimination rule (i.e., governments are never allowed to discriminate between domestic and foreign products); and (iii) a formal dispute settlement mechanism. This appears to be a very plausible explanation for the existence and design of Article III GATT 1994 and the DSU.

4 The National Treatment Obligation

The combination of the two mechanisms is a sensible way of dealing with the issue of contracting costs because the national-treatment clause is, in principle, capable of capturing any measure, independently of changes in real-world conditions. At the same time it does not overly restrain governments in their regulatory freedom. Which policy to choose domestically is left entirely to the appreciation of governments. The only constraint is that any such policy must not unjustifiably distinguish between comparable situations.

However, as Horn⁸⁸ and also Gulati and Roy⁸⁹ have shown, national treatment can lead to globally inefficient outcomes and can even be welfare reducing. This may be the case because the rule is apt effectively to prevent tax and regulatory differentiations when they would actually be efficient. For instance, Member States respecting the national treatment obligation are prevented from levying different consumption taxes on products which are considered like under Article III GATT, in spite of the fact that these products may cause different externalities. Assume, for instance, that the detrimental environmental effect of an imported product is much higher than that of the like domestic one. To set a Pigouvian tax⁹⁰ (or a product standard with the like effect) so as to reach the optimal level of consumption of the imported product, the tax will necessarily be too high for the domestic product, which will thus be used less often than is desirable. In contrast, if the tax is set so as to achieve the optimal level of consumption for the domestic product, it will be too low for the imported product, of which there will be over-consumption. While from a national and a global efficiency point of view, idiosyncratic consumption taxes for the domestic and the imported product were desirable, a strict non-discrimination rule would not allow for this differentiation. However, this problem is to a certain extent mitigated by Article XX GATT, which under specific conditions permits regulations protecting certain societal values, albeit falling foul of other GATT prescriptions. If not interpreted in a manner that

⁸⁷ Battigali and Maggi, 'International Agreements on Product Standards: An Incomplete Contracting-Theory', NBER Working Paper No. 9533 (2003).

⁸⁸ Horn, *supra* note 80, at 400–402.

⁸⁹ Gulati and Roy, 'National Treatment and the Optimal Regulation of Environmental Externalities', 41 *Canadian J Econ* (2008) 1445.

⁹⁰ A Pigouvian tax is a tax levied on transactions causing negative externalities: see C. Pigou, *The Economics of Welfare* (1920).

prevents legitimate differentiation, the proviso allows WTO Members to reach the efficiency frontier.⁹¹

Let us move from these general welfare implications of the national treatment rule to more specific questions of its application and the economic problems associated with it. In principle, the national treatment discipline leaves governments with full discretion as to their domestic policies, subject to the condition that these do not distinguish between like foreign and domestic products. Due to this inherent ‘flexibility’ national treatment clauses are only a broad-meshed safety net. The discipline is very well capable of detecting overt protectionism in the form of discrimination, but has more difficulty in sorting out the subtler types of ‘regulatory protectionism’. While domestic regulation that openly discriminates against foreign goods suggests some sort of protectionist intent and is quite easily discernable as causing externalities, it is much harder to assess the effect of and regulatory motivation behind measures that are formally non-discriminatory. Is a general sales ban or environmental regulation to protect human health protectionist? What if the products are produced only abroad or the technique to comply with the regulation is used only by domestic producers? Is it enough that foreigners are burdened with expenses that domestic producers do not have to bear? The difficulty stems from the fact that discrimination is, above all, a pejorative value judgement. As Hudec noted:

the word ‘discrimination’ that we use in all these cases is a normative term expressing a judgment of disapproval. When we see a regulation that has the effect of putting foreign goods at a competitive disadvantage, the neutral descriptive term for that situation is that the regulation has a ‘differential impact.’ If we think there is nothing wrong with that differential impact, we continue to call it a differential impact. If we think there is something wrong about the differential impact, then we call it discrimination.⁹²

Hence, to find discrimination one needs some kind of yardstick. And this is precisely what the terms-of-trade theory provides. If it is established that differential impact is the consequence of a government’s intent to manipulate its terms of trade one will speak of discrimination. If, on the other hand, this impact is the result of the pursuance of ‘legitimate’ regulatory goals, there is differential impact but not necessarily origin-based discrimination.⁹³ Accordingly, it is regulatory intent or government preferences which are key for the solution of the problem the national treatment obligation aims to solve.⁹⁴

To drive this point home, in view of the fact that the WTO Agreement is a treaty between governments about the exchange of reciprocal market access commitments and their preservation, but not a compact to avoid inefficient policies as such, it is crucial that any interference in the domestic regulatory space is sensitive to the

⁹¹ Horn, *supra* note 80, at 402–403; for a non-formal discussion see Trachtman, ‘Trade and ... Problems, Cost-Benefit Analysis and Subsidiarity’, 9 *EJIL* (1998) 32, at 65–67.

⁹² Hudec, ‘Science and Post-Discriminatory WTO Law’, 26 *Boston College Int’l & Comp L Rev* (2003) 185, at 189.

⁹³ See in support of this suggestion WTO Appellate Body Report, *Dominican Republic – Measures Affecting the Importation and Internal Sale of Cigarettes*, WT/DS302/AB/R, 25 Apr. 2005, at para. 96.

⁹⁴ Horn, *supra* note 80, at 402.

underlying policy concerns. The main challenge for a national treatment clause is thus to distinguish between policies enacted for legitimate purposes and those that pursue 'protectionist' goals. This task is complicated by the fact that it is not enough to show that foreigners incur an extra cost but that the policy is (internationally) inefficient. Efficiency, however, depends on the regulating government's preferences, and those are not easily ascertainable.⁹⁵ In fact, dealing with the information asymmetry between the regulating government and other WTO Members is the main problem the national-treatment rule is confronted with, a task for which it is not fully equipped because the non-discrimination rule does not capture all forms of measures enacted 'so as to afford protection'. Against this backdrop, the presence of further agreements on domestic instruments must be evaluated, one of them being the SPS.

C The Economic Rationale for the SPS Agreement

There are four economic reasons explaining the SPS' presence and its overall design. In the first place, the SPS is, like the TBT, an elaboration of the GATT rules on domestic instruments that serves the same end while at the same time reducing transaction costs. Secondly, the SPS has the potential to address distortions of international trade which are not captured by the national-treatment rule. It may address *de jure* non-discriminatory terms of trade manipulations. Thirdly, the SPS allows for regulatory distinctions between products that are impermissible under Article III GATT. In this vein, it is a device to lower transaction costs associated with the application of Article XX of the GATT. Finally, to negotiate in the shadow of the SPS reduces uncertainty in tariff negotiations and thus potentially enhances liberalization.

1 Contract Completion

Against the backdrop of the 'endogenous incompleteness of trade agreements', the SPS Agreement can be understood as a partial 'completion' of the 'incomplete' GATT. Even if contracting is costly, it may be reasonable to negotiate on a subset of domestic instruments, if those are of particular interest for whatever reason. As agriculture was a key issue during the Uruguay Round it seems natural that WTO members decided to ensure that domestic instruments would not undo concessions in the fields of tariffs and subsidies or impose additional costs on exporters through their domestic regulation.⁹⁶

In this vein, the SPS Agreement is an elaboration of Article III GATT, in that it provides additional criteria to distinguish whether a measure operates 'so as to afford protection' in the sense of Article III(1) GATT.⁹⁷ Governments enacting SPS measures

⁹⁵ Grossmann, Horn, and Mavroidis, *supra* note 86, at sect. 3.2.

⁹⁶ Hoekman and Trachtman, 'Continued Suspense: *EC-Hormones* and WTO Disciplines on Discrimination and Domestic Regulation', 9 *World Trade Rev* (2010) 151, at 174.

⁹⁷ This point is brought home by the preamble, which states that the SPS is aimed at elaborating GATT rules applicable to SPS measures, and also by Art. 2(4) SPS Agreement, which provides for a rebuttable presumption of GATT consistency of measures complying with the SPS Agreement. See also Staiger, *supra* note 78, at 11.

have to comply with a set of additional requirements. They have to ensure that their SPS measures are necessary, consistent, and based on scientific evidence and where possible on international standards. All these features are ‘proxies’⁹⁸ for detecting a government’s regulatory intent and mitigating an information asymmetry, eventually lowering the transaction costs for trading partners and adjudicators in assessing regulatory policies. In turn, governments that comply with the requirements enshrined in the SPS can ‘signal’ their non-protectionist regulatory intent to adjudicators and other WTO Members. Accordingly, the Agreement’s purpose is not to second-guess regulatory choices. It is simply that WTO Members were confident that certain elements, as for instance the lack of scientific evidence, were reliable cues for protectionist intent.

Yet, the problem remains that governments which pursue purely protectionist goals will also try to ‘mimic’ the behaviour of governments enacting legitimate regulation.⁹⁹ In other words, absent additional costs, protectionist governments are induced to allege that they have conducted a risk assessment and complied with the other SPS requirements, so that the adjudicator’s task of detecting regulatory intent will not disappear. An effective strategy to change such an equilibrium in which *bona fide* and *mala fide* agents are indistinguishable is to alter the agents’ utility by manipulating their pay-off structure.¹⁰⁰ This is precisely what the SPS’ additional obligations potentially bring about. If the costs incurred are high enough relative to the gains from the protectionist measures, they allow for *bona fide* governments to be distinguished from *mala fide* governments because the latter are effectively deterred from enacting protectionist regulations. To be effective, the requirements imposed on governments must be sufficiently cost-intensive (i.e., stringent).

The primary means to this end are the SPS’ science-based obligations (Article 2(2) and 5(1) SPS). The commitment to rely on scientific evidence shields the domestic decision-making process from ‘protectionist’ interference, the idea being that an SPS measure which is required by scientific demands will not, or at least is less likely to, be adopted with a view to manipulating a country’s terms of trade.

2 Addressing De Jure Non-discriminatory Measures

In addition, the scientific disciplines, as well as the other obligations, may have the effect of outlawing policies that are not prohibited under the Article III GATT national-treatment obligation. For example, a non-discriminatory trade embargo would never fall foul of Article III GATT (it may, however, violate Article XI GATT). In contrast, under the SPS Agreement such a measure could be found to be in violation of a member’s obligations, if it does not comply with the Agreement’s additional requirements.¹⁰¹

⁹⁸ Hoekman and Trachtman, *supra* note 96, at 180; Horn, ‘The Burden of Proof in Trade Disputes and the Environment’, 62 *J Environ Econ and Management* (2011) 15, at 16; Sykes, ‘Regulatory Protectionism and the Law of International Trade’, 66 *U Chicago L Rev* (1999) 1, at 17–18.

⁹⁹ Horn, *supra* note 98, at 27.

¹⁰⁰ Akerlof, *supra* note 54, at 499–500.

¹⁰¹ Mavroidis, *supra* note 65.

The broad scope of application of the SPS Agreement is thus an important advancement in comparison to the GATT because, as Staiger and Sykes show, under the conditions that tariffs are bound, a national-treatment rule applies to domestic taxes and regulations and product-specific consumption taxes are not available for whatever reason,¹⁰² upward distortions in regulatory standards become an attractive option for 'large' country governments, because a portion of the compliance cost can be shifted onto foreign producers.¹⁰³ In other words, even if governments adhere to a national-treatment rule like Article III GATT, they can influence their terms of trade by adopting excessively stringent regulations and thereby frustrate previously committed market access concessions by raising foreign producers' costs. That is to say, the discipline enshrined in Article III GATT is in and of itself not sufficient to outlaw terms of trade manipulations through domestic regulatory measures.

Hence, even if the SPS is perhaps not capable of ruling out every externality caused by overly strict regulation,¹⁰⁴ its objective is clearly to mitigate the distortions triggered by beggar-my-neighbour policies. If requirements such as necessity, consistency, risk assessment, and scientific evidence are rightly understood as proxies for filtering out 'protectionist' policies, it seems to follow intuitively that the SPS' purpose is to minimize negative impacts of terms-of-trade motivated regulations. That is to say, the additional obligations ensure that an SPS measure indeed addresses a negative consumption externality deriving from an imported product, without, however, imposing negative externalities on foreign traders by shifting part of the costs onto them.

3 Refining National Treatment

As explained above, the SPS addresses a shortcoming of the national-treatment obligation, which inhibits differential treatment of 'like' products with diverging negative externalities. By contrast to those of the GATT and the TBT, the SPS' non-discrimination policy is not concerned with the comparability of products but with the comparability of risks.¹⁰⁵ Hence, 'like' products causing dissimilar risks (externalities) are not subject to non-discriminatory treatment and can legitimately be regulated differently under the SPS.¹⁰⁶ For instance, the obligation to carry out a risk assessment is precisely meant to demonstrate such differences.

This insight perfectly ties in with the SPS' stated purpose of elaborating on Article XX(b) GATT,¹⁰⁷ which allows the imposition of discriminatory regulation in spite of

¹⁰² Staiger and Sykes, *supra* note 81. If product level consumption taxes are available, non-tax regulation is set at the efficient level. In the model, however, Staiger and Sykes assume that differential consumption taxes are not feasible for political or administrative reasons. This seems to be a sensible assessment of real-world taxation systems in which product-specific consumption taxes are the exception rather than the rule.

¹⁰³ Staiger and Sykes, *supra* note 81, at 173–178.

¹⁰⁴ *Ibid.*, at 201.

¹⁰⁵ WTO Panel Report, *European Communities – Measures Concerning Meat and Meat Products (Hormones)*, WT/DS26/R, 18 Aug. 1997, at para. 8.176.

¹⁰⁶ To this effect see WTO Appellate Body Report, *Australia – Measures Affecting Importation of Salmon*, WT/DS18/AB/R, 20 Oct. 1998, at para. 146.

¹⁰⁷ SPS Agreement, Preamble, 7th recital.

Article III GATT, and thus enables Members to adopt differentiated and efficient measures. In sum, the SPS is therefore also, as regards Article XX GATT, a means to reduce transaction costs concerning the detection of regulatory intent.

4 *Improving Tariff Negotiations?*

The existence of the SPS may have positive effects on tariff negotiations. However, this is not unambiguous. The general insight can be exemplified in a two-stage setting, on the basis of the principle of reciprocity:¹⁰⁸ in the first stage, governments bargain over tariff reductions; in the second they may enact SPS measures. Negotiators thus bargain in the shadow of potential SPS measures, at least if they account for the fact that tariff commitment can subsequently be affected by SPS measures.

But first recall the economic rationale for reciprocal commitments.¹⁰⁹ In the Nash equilibrium, governments agree on a trade agreement, and overall welfare can be improved if the volume of trade can be increased without worsening the terms of trade. Actually, liberalization will occur only reciprocally because any unilateral abolition of trade barriers will worsen a country's terms of trade and thus make it worse off than before. Therefore, market access commitments will be balanced against each other so that additional exports equal additional imports and the terms of trade remain stable. By virtue of the principle of reciprocity, governments can maximize their countries' welfare without a decline in their terms of trade and are accordingly better off than before. Therefore, reciprocity is key to successful tariff negotiation. In addition, it is vital that the reciprocity of commitments is preserved over time in order to incentivize governments to liberalize in the first place. If reciprocal commitments could be distorted in the aftermath of negotiations, rational governments would factor this into their initial commitment offers. They would calculate the odds of deterioration and adapt their offer accordingly: the higher the remaining uncertainty, the lower the liberalization bid would be.

Against this backdrop the potential additional value of the SPS becomes appreciable. Let us turn to the two-stage situation to drive this point home. In the first stage negotiators commit to reciprocal liberalization. One of the difficulties is to assign values to the individual tariff liberalization commitments because, as negotiators know,¹¹⁰ in stage two governments can enact SPS measures which may frustrate the negotiated market access gains ('concession erosion'). If governments had full discretion regarding SPS measures, no rational negotiator would make any tariff commitment, given that the market access offered to him could be substantially devaluated.¹¹¹ By contrast, if a government's ability to promulgate SPS measures manipulating its terms of trade is circumscribed, the negotiator's liberalization bid will depend on the extent to

¹⁰⁸ Art. XVIIIbis GATT.

¹⁰⁹ For a full account see Bagwell and Staiger, *Economics*, *supra* note 67, at 59–68.

¹¹⁰ If negotiators are myopic, i.e., they do not account for the second stage, the presence of rules on SPS measures does not have an impact on tariff negotiations.

¹¹¹ Limão and Tovar, 'Policy Choice: Theory and Evidence from Commitment via International Trade Agreements', 85 *J Int'l Econ* (2011) 186, showing that tariff commitments increase the likelihood of non-tariff barriers.

which the commitment offered to him is secured by the discipline on SPS measures. On the other hand, negotiators would also factor into their liberalization offers their limited ability to undo commitments and would therefore offer less access than they would absent disciplines on SPS regulations.

An important practical problem is how precisely to measure the trade effect of SPS measures so as to preserve the reciprocity of commitments. In negotiations about customs duties it is possible to approximate reasonably accurately the value of a tariff commitment, if certain variables such as tariff rates, the volume of trade, the elasticity of demand and supply, and some other factors are known. Determining the trade effect of SPS measures, on the other hand, is much more difficult. To do so economists try to estimate the 'ad-valorem tariff equivalent' of the SPS measure by two different methods: either by comparing the price of a product before and after the promulgation of the measure (price gap method),¹¹² or by using econometric models (econometrics-based method).¹¹³ However, both approaches have their limitations, in particular because neither is capable of disentangling the effect of an individual measure when multiple measures are in place.¹¹⁴

Despite these practical problems, the SPS Agreement can be understood as a means to reduce uncertainty relative to the previous GATT setting, theoretically conducive to enhanced market access, expansions of trade volumes, and thus increases in overall welfare. The final outcome, however, depends on how negotiators react to enhanced predictability, i.e., whether they remain myopic or account for it.¹¹⁵

4 Conclusion

Both its negotiating history and economic theory provide evidence that the overarching purpose of the SPS is to secure market access, which may be impeded by domestic policies, manipulating a country's terms of trade.¹¹⁶ Even though negotiators did not explicitly address the question of terms-of-trade manipulation, their emphasis on the preservation of market access commitments can easily be understood in this way. As Bagwell *et al.* explain:

The terms-of-trade rationale for trade agreements and the market access emphasis found in the GATT/WTO are simply two different ways of saying the same thing. In general, a government that is concerned about the impact of a trading partner's market access restrictions on the prices received by its own exporters is concerned about the terms-of-trade effects of that

¹¹² Ferrantino, 'Quantifying the Trade and Economic Effects of Non-tariff Measures', OECD Trade Policy Working Paper No. 28 (2006).

¹¹³ On the different methods see Chen and Novy, 'On the Measurement of Trade Costs: Direct vs. Indirect Approaches to Quantifying Standards and Technical Regulations', 11 *World Trade Rev* (2012) 401.

¹¹⁴ WTO, World Trade Report 2012, 'Trade and Public Policy: A Closer Look at Non-tariff Measures in the 21st Century', at 139–140.

¹¹⁵ Pienaar, 'Economic Problems of the WTO Consistency Requirement', Institute for International Economic Studies Stockholm University, Monograph Series No. 52 (2005).

¹¹⁶ Antràs and Staiger state that, at their core, all WTO disciplines (except for TRIPs) serve the purpose of preserving market access concession: see Antràs and Staiger, 'Offshoring and the Role of Trade Agreements', 102 *Am Econ Rev* (2012) 3140.

trading partner's policies. The reduced export price (diminished terms of trade) is just the price effect induced by the corresponding reduction in export volume that restricted market access implies. And rules that prevent any government from unilaterally upsetting the balance of negotiated market access commitments equivalently prevent unilateral manipulation of the terms of trade. Therefore, the terms-of-trade logic can be completely recast in terms of market access concerns.¹¹⁷

By the same token, both economic theory and the *travaux préparatoires* confirm that there is a legitimate role for regulatory measures to fulfil. In economic terms there is nothing wrong with domestic policies adopted for legitimate reasons, as long as those policies are not motivated by terms-of-trade considerations. Similarly negotiators tried to strike a balance between market access commitments and the importing states' regulatory autonomy. In this vein, recourse to international standards and the risk assessment requirement were considered to be the most viable tools for achieving that end. Yet, the negotiation record is tacit on how to proceed in cases of insufficient data for an appropriate risk assessment.

The conclusion from the foregoing is that – at least, if one cares about welfare, efficiency and regulatory autonomy – any application of the SPS Agreement should focus on international (negative) externalities following from the frustration of market access commitments. This follows from the economic rationale as well as from the discussions of SPS negotiators during the Uruguay Round negotiations. The proposition as such is trivial. It is, however, instrumental for the questions of how to assess the obligations enshrined in the SPS Agreement. That is to say, when everything is about capturing negative externalities, the individual provisions of the SPS should be construed accordingly. Thus, SPS measures should be found to fall foul of a Member's obligations only if negative externalities are indeed detectable.

Let us turn back to the three initial criticisms. First, is there a sound economic rationale for the SPS Agreement? In view of the foregoing the response to this question should be strongly in the affirmative. Secondly, does the SPS unduly interfere with domestic regulatory affairs, creating a 'post-discrimination' world trade order? Given that the agreement's purpose is to detect covert protectionist measures and to elaborate on the Article III GATT non-discrimination discipline, the answer is in theory negative. The purpose of the SPS is to preserve market access commitments, which may be frustrated through terms-of-trade manipulations, in particular through discriminatory policies but nothing else.

Yet, some allege that in practice – contrary to the theoretical proposition developed here – the SPS has gone beyond non-discrimination and even non-protectionism, in particular because its science-based obligations do not require any proof of protectionism. Proponents of this view in particular refer to cases such as *EC–Hormones* and *EC–Biotech*, which involved origin-neutral production and sales bans, lacking, however, scientific justification. Since in both cases the measures in question also responded to strong public health and environmental concerns and were therefore not motivated by protectionist ambitions, they conclude that the adjudicative bodies got it wrong

¹¹⁷ Bagwell, Mavroidis, and Staiger, *supra* note 67, at 60.

when condemning the EC's measures as being inconsistent with the SPS. However, reference to these two cases might not be all that convincing. As, for instance, Jackson and Anderson have shown with regard to the *GMO* case, the EC had strong economic incentives to exclude genetically modified (GM) products from its markets to protect its domestic farmers (or some of them) and that there is a good chance that the EC measures resulted in terms-of-trade manipulation.¹¹⁸ They, *inter alia*, point out that the majority of the relevant intellectual property rights are held by non-Europeans and that in densely populated areas like Europe it is much more costly to provide for buffer zones between conventional and GM crops.¹¹⁹ Staiger and Sykes provide similar clues for the *Hormones* case.¹²⁰ Accordingly, it has not been unambiguously established whether in these cases non-protectionist measures were struck down. Taking into account the insights provided by these authors, there is the possibility that the WTO adjudicating bodies' rulings were correct because they rightly detected terms-of-trade manipulations on the part of the EC.

There remains the problem of type-1 errors (over-enforcement), given that an infringement of Article 2(2) or 5(1) SPS suffices to establish the SPS inconsistency of a measure, regardless of its trade effects. Yet, in view of the fact that WTO Members voluntarily agreed to these requirements and are free to adopt provisional measures where it is unfeasible to provide scientific evidence (Article 5(7)), this should in principle not be an issue: if scientific evidence is available there is nothing wrong with holding states to their international commitments; if there is none, the measure in question will not fall into the provisions' scope of application in the first place. To be sure, this is a very stylized view of the subject matter since these questions are in practice much more complicated and the line between states of scientific certainty and uncertainty is often blurred. Ultimately, this is a question of correct fact-finding and interpretation.

Finally, does the SPS Agreement interfere with democratic choices when these are in contradiction to the SPS science-based disciplines? Arguably, yes. Like other international treaties it does not impact on the compelling character of the SPS' obligations whether the political domestic equilibrium has shifted subsequent to its ratification. To decide otherwise would be tantamount to denying the SPS the status of law.¹²¹ Hence, if scientific evidence requirements are taken seriously, irresolvable tensions can arise between national sovereignty and open trade to the point that one must give way.¹²²

Is the WTO thus insensible towards such vital values as democracy and popular sovereignty? This is not the case, at least as long as a country is willing to pay the economic price for its policy choice. In response to a negative DSB ruling, Members could

¹¹⁸ Jackson and Anderson, 'What's Behind the GM Food Trade Disputes', 4 *World Trade Rev* (2005) 203.

¹¹⁹ *Ibid.*, at 208.

¹²⁰ Staiger and Sykes, *supra* note 81, at 154–155.

¹²¹ Davies, 'Morality Clauses and Decision Making in Situations of Scientific Uncertainty', 6 *World Trade Rev* (2007) 249, at 250–251.

¹²² Sykes, 'Domestic Regulation, Sovereignty and Scientific Evidence Requirements: A Pessimistic View', 3 *Chicago J Int'l L* (2002) 353.

renegotiate their initial commitments.¹²³ Under Article XXVIII GATT WTO Members are free to modify their concessions, provided they agree to maintain the terms of trade, i.e., increases in protection in one sector are outweighed by liberalization in another. Accordingly, a regulating state could in theory maintain its preferred health safety regime while at the same time the terms of trade are preserved.

¹²³ This solution is, of course, viable only if one considers market access as a liability rule but not as a property right. See on this issue the discussion between Bello, 'The WTO Dispute Settlement Understanding: Less is More', 90 *AJIL* (1996) 416, and Jackson, 'The WTO Dispute Settlement Understanding – Misunderstandings on the Nature of Legal Obligation', 91 *AJIL* (1997) 60 and 'International Law Status of WTO DS Reports: Obligation to Comply or Option to "Buy-Out"?', 98 *AJIL* (2004) 109.