

SOVEREIGNTY AND REGULATION OF ENVIRONMENTAL RISK UNDER THE PRECAUTIONARY PRINCIPLE IN WTO LAW

The last word in ignorance is the man who says of an animal or plant: 'What good is it?' If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.

- Aldo Leopold¹

INTRODUCTION

The objective of the World Trade Organization (WTO) is to “reduc[e] obstacles to international trade and ensur[e] a level playing field for all, thus contributing to economic growth and development.”² Working toward achieving this seemingly benign goal becomes problematic, however, when WTO treaties conflict with the individual interests of the WTO’s Member-States. This Note is concerned with the effects of WTO treaties, in particular the Sanitary and Phytosanitary Agreement³ (SPS Agreement), on Member-States’ ability to regulate international trade in the face of insufficient scientific evidence underlying its regulation.

The SPS Agreement requires its signatories to “ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence.”⁴ The WTO Appellate Body has interpreted this language to mean that Member-States cannot pass domestic legislation restricting trade based solely on the precautionary principle—a principle of international law that provides that states can pass domestic environmental legislation in the face of a threat of serious damage, despite a lack of full scientific certainty.⁵ This interpretation is intended to ensure that measures⁶ are based on an adequate scientific assessment, and that

1. ALDO LEOPOLD, *The Round River: Conservation, in ROUND RIVER: FROM THE JOURNALS OF ALDO LEOPOLD* 145, 146–47 (Luna B. Leopold ed., 1993).

2. *About the WTO — A Statement by the Director-General*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/wto_dg_stat_e.htm (last visited Apr. 1, 2011).

3. Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 493, available at http://www.wto.org/english/docs_e/legal_e/15sps_01_e.htm [hereinafter SPS Agreement].

4. *Id.* art. 2.2.

5. Appellate Body Report, *European Communities—Measures Concerning Meat and Meat Products*, ¶ 124, WT/DS26/AB/R, WT/DS48/AB/R (Jan. 16, 1998) [hereinafter *EC-Hormones*].

6. An SPS measure is any law, decree, regulation, or procedure mandating testing, inspection, or any of a number of other requirements intended to protect human, animal, or plant life or health from

the scientific basis for the regulation is not merely a façade obscuring a protectionist objective. Some commentators, however, have questioned the WTO's strict interpretation of the requirement that a measure be "based on" sufficient science.⁷

This Note will argue that the WTO's interpretation of the "based on scientific principles" requirement provides a standard of review that is so stringent as to infringe on the members' ability to effectively protect their citizens' health, safety, and welfare. In placing such high requirements on the scientific foundation of measures, the WTO has effectively injected itself into the domestic lawmaking process, thus hindering members' ability to enact coherent statutory regimes that effectively regulate environmental risk. The current role of the WTO Appellate Body is one of an additional domestic court sitting parallel to members' judiciaries, determining the validity of domestic legislation. Such a role has limited members' ability to pass precautionary legislation in an effort to minimize environmental risk. Given the extent of scientific uncertainty surrounding current environmental issues such as climate change, coupled with the grave and potentially devastating consequences if the risk is realized, the need for domestic precautionary regulation is great. The current interpretation and application of the SPS Agreement presents serious obstacles to such regulation.

Part I of this Note will outline the current role of the precautionary principle in WTO jurisprudence, particularly in the context of the SPS Agreement. It will also discuss the role of the precautionary principle in other contexts, such as in U.S. domestic legislation. Part II will examine how WTO jurisprudence with respect to the scientific basis for its members' trade measures infringes important principles of state sovereignty. Finally, Part III will set forth a new proposal for how the WTO should review the scientific basis for members' trade measures. This Note will argue that WTO dispute resolution bodies should determine whether the measure has a rational scientific basis, taking into account geopolitical and natural law considerations in addition to the measure's scientific basis.

disease-carrying organisms, toxins, contaminants, or any of a number of other environmental risks. For a comprehensive definition, see SPS Agreement, *supra* note 3, Annex A, ¶ 1.

7. See, e.g., Jan Bohanes, *Risk Regulation in WTO Law: A Procedure-Based Approach to the Precautionary Principle*, 40 COLUM. J. TRANSNAT'L L. 323 (2002); Ilona Cheyne, *Gateways to the Precautionary Principle in WTO Law*, 19 J. ENVTL. L. 155 (2007); Robert Howse, *The Appellate Body Rulings in the Shrimp/Turtle Case: A New Legal Baseline for the Trade and Environment Debate*, 27 COLUM. J. ENVTL. L. 491 (2002); Vern R. Walker, *Keeping the WTO from Becoming the "World Trans-science Organization": Scientific Uncertainty, Science Policy, and Factfinding in the Growth Hormones Dispute*, 31 CORNELL INT'L L.J. 251 (1998); Claire Magee, Note, *Using Chevron as a Guide: Allowing for the Precautionary Principle in WTO Practices*, 21 GEO. INT'L ENVTL. L. REV. 615 (2009); see also *infra* text accompanying notes 96–100.

I. THE PRECAUTIONARY PRINCIPLE

No widely accepted definition of the precautionary principle exists.⁸ Rather, the principle is “a bundle of concepts lacking cohesion and internal consistency. . . . The essence of the precautionary principle is that positive action, for example a ban on certain activities in order to protect the environment or public health, may be required before the existence of a risk has been scientifically established.”⁹ Although the first appearance of the precautionary principle in an international legal document was in the 1987 London Declaration,¹⁰ a particularly clear example of the concept is Principle 15 of the Rio Declaration on Environment and Development, which states: “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”¹¹

The exact status of the precautionary principle in international law is uncertain.¹² Whether the principle has become customary international law is relevant, however, because a principle of international law recognized to be customary prevails over the terms of a treaty if the custom emerged later in time than did the treaty.¹³ The exception to this rule is that a treaty term will prevail over subsequent custom if the treaty term was intended to continue.¹⁴ Thus, if the precautionary principle crystallizes into customary international law, it will override any treaty terms that conflict with it, unless those terms were intended to continue as *lex specialis*.¹⁵

8. Magee, *supra* note 7, at 616–17. The precautionary principle appears in some capacity in, *inter alia*, the United Nations Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79; the United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107; the United Nations Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 57; the 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Nov. 7, 1996, 2006 A.T.S. 11.

9. Bohanes, *supra* note 7, at 331 (citing Tim O’Riordan & James Cameron, *Editorial Introduction*, in INTERPRETING THE PRECAUTIONARY PRINCIPLE 62, 66 (Tim O’Riordan & James Cameron eds., 1994); David Freestone, *International Fisheries Law Since Rio: The Continued Rise of the Precautionary Principle*, in INTERNATIONAL LAW AND SUSTAINABLE DEVELOPMENT—PAST ACHIEVEMENTS AND FUTURE CHALLENGES 139 (Alan Boyle & David Freestone eds., 1999)).

10. *Id.*

11. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (Vol. I), Annex I (Aug. 12, 1992).

12. *EC-Hormones*, *supra* note 5, ¶ 123.

13. Vienna Convention on the Law of Treaties art. 30, May 23, 1969, 1155 U.N.T.S. 331.

14. Joost Pauwelyn, *The Role of Public International Law in the WTO: How Far Can We Go?*, 95 AM. J. INT’L L. 535, 570 (2001).

15. A treaty term intended to continue, despite the emergence of customary international law

A. The Legal Framework of the SPS Agreement

The heart of the SPS Agreement is the Article 5 requirement that Member-States base SPS measures on an assessment of the “risks to human, animal or plant life or health.”¹⁶ Such a risk assessment must “take into account available scientific evidence.”¹⁷ The requirements set forth by Article 5 are strict in that it requires consideration of a wide variety of factors, including testing methods,¹⁸ economic factors,¹⁹ and relative cost-

conflicting with that treaty term, is referred to as *lex specialis*. *Id.*

16. SPS Agreement, *supra* note 3, at art. 5.1. Article 5 provides in part:

1. Members shall ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health, taking into account risk assessment techniques developed by the relevant international organizations.

2. In the assessment of risks, Members shall take into account available scientific evidence; relevant processes and production methods; relevant inspection, sampling and testing methods; prevalence of specific diseases or pests; existence of pest- or disease-free areas; relevant ecological and environmental conditions; and quarantine or other treatment.

3. In assessing the risk to animal or plant life or health and determining the measure to be applied for achieving the appropriate level of sanitary or phytosanitary protection from such risk, Members shall take into account as relevant economic factors: the potential damage in terms of loss of production or sales in the event of the entry, establishment or spread of a pest or disease; the costs of control or eradication in the territory of the importing Member; and the relative cost-effectiveness of alternative approaches to limiting risks.

4. Members should, when determining the appropriate level of sanitary or phytosanitary protection, take into account the objective of minimizing negative trade effects.

5. With the objective of achieving consistency in the application of the concept of appropriate level of sanitary or phytosanitary protection against risks to human life or health, or to animal and plant life or health, each Member shall avoid arbitrary or unjustifiable distinctions in the levels it considers to be appropriate in different situations, if such distinctions result in discrimination or a disguised restriction on international trade. Members shall cooperate in the Committee, in accordance with paragraphs 1, 2 and 3 of Article 12, to develop guidelines to further the practical implementation of this provision. In developing the guidelines, the Committee shall take into account all relevant factors, including the exceptional character of human health risks to which people voluntarily expose themselves.

6. Without prejudice to paragraph 2 of Article 3, when establishing or maintaining sanitary or phytosanitary measures to achieve the appropriate level of sanitary or phytosanitary protection, Members shall ensure that such measures are not more trade-restrictive than required to achieve their appropriate level of sanitary or phytosanitary protection, taking into account technical and economic feasibility.

Id. art. 5.

17. *Id.* art. 5.2.

18. *Id.*; see Magee, *supra* note 7, at 620–21 (discussing methodologies used by the scientific community in conducting a risk assessment).

19. SPS Agreement, *supra* note 3, art. 5.3.

effectiveness of alternative risk mitigation methods.²⁰ Article 5.4 provides a background for this discussion by requiring members to “take into account the objective of minimizing negative trade effects.”²¹ Article 5 thus provides the relevant standards that must be met by the scientific basis for the measure.

Article 2.2 expands on this requirement by limiting Member-States’ ability to regulate under the SPS Agreement “only to the extent necessary to protect human, animal or plant life or health,” and not beyond.²² This provision also requires Member-States to base any SPS measures directly on sound science and prohibits members from regulating if the scientific basis for the measure is insufficient or uncertain.²³

Article 5.7 provides an exception to this latter requirement.²⁴ The provision permits Member-States, in situations where sufficient science is not available, to adopt provisional measures, but requires Member-States to “seek to obtain the additional information necessary for a more objective assessment of risk and review the [SPS measure] accordingly within a reasonable period of time.”²⁵ This exception to the Article 2.2 requirements provides an important avenue for Member-States seeking to regulate environmental risk using a precautionary approach.²⁶ This provision has been interpreted by the Appellate Body, however, as prohibiting Member-States from invoking Article 5.7 to legitimize a precautionary regulation indefinitely until such science becomes available to satisfy the requirements of Article 2.2.²⁷

B. The Precautionary Principle and the Interpretation of SPS Agreement Articles 2.2 and 5

The case law interpreting the SPS Agreement is relatively broad.²⁸ Although exploration and discussion of other Panel and Appellate Body²⁹

20. *Id.*

21. *Id.* art. 5.4.

22. *Id.* art. 2.2.

23. *Id.*

24. *Id.* art. 5.7.

25. *Id.*

26. See Cheyne, *supra* note 7, at 158–59 (giving a brief history of Article 5.7 as construed in WTO Panel and Appellate Body reports).

27. See *infra* Part I.B.2.

28. For a version of the SPS Agreement annotated with relevant cases, see *WTO Analytical Index: Guide to WTO Law and Practice—Agreement on Sanitary and Phytosanitary Measures*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/res_e/booksp_e/analytic_index_e/sps_e.htm (last visited Apr. 1, 2011).

29. For an explanation of the WTO dispute settlement process, see *Understanding the WTO: Settling*

reports would undoubtedly aid the reader, this Note will focus on two disputes that provide especially clear explanations of the role of the precautionary principle in important provisions of the SPS Agreement.

1. The *EC-Hormones* Dispute

In *European Communities—Measures Concerning Meat and Meat Products*³⁰ (*EC-Hormones*), the WTO Appellate Body affirmed the Panel Report striking down measures enacted by the European Communities (EC) that prohibited importation and domestic production of meat from hormone-treated farm animals.³¹ The Appellate Body found that the evidence submitted in support of the measure was insufficient to satisfy the “based on a risk assessment” requirement of Article 5.1.³² In so ruling, the Appellate Body noted that “Article 5.1, when contextually read as it should be, in conjunction with . . . Article 2.2 of the *SPS Agreement*, requires that . . . there be a *rational relationship* between the measure and the risk assessment.”³³ At first glance, the Appellate Body seemed to set a low threshold for the amount of scientific support required to maintain an SPS measure. This encouraging language was followed by an assertion that

a risk assessment [need not] come to a monolithic conclusion that coincides with the scientific conclusion or view implicit in the SPS measure. The risk assessment could set out both the prevailing view representing the “mainstream” of scientific opinion, as well as the opinions of scientists taking a divergent view. Article 5.1 does not require that the risk assessment must necessarily embody only the view of a majority of the relevant scientific community.³⁴

In the later paragraphs of the Report, however, the Appellate Body held that the evidence submitted by the EC³⁵ was insufficient to satisfy even Article 5.1’s loose requirement that “the results of the risk assessment . . . reasonably support . . . the . . . measure at stake.”³⁶ The Appellate Body

Disputes, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/displ_e.htm (last visited Apr. 1, 2011).

30. *EC-Hormones*, *supra* note 5.

31. *Id.* ¶¶ 253–255.

32. *Id.* ¶ 188.

33. *Id.* ¶ 193 (emphasis added).

34. *Id.* ¶ 194.

35. *See id.* ¶ 195 (describing the evidence referred to by the European Communities in substantiating the measures at issue).

36. *Id.* ¶¶ 193, 197.

conceded that the evidence established a risk of cancer, but reasoned that the results of the risk assessment were not rationally related to the measure because the studies did not prove “the particular kind of risk here at stake - the carcinogenic or genotoxic potential of the residues of those hormones found in meat derived from cattle to which the hormones had been administered for growth promotion purposes.”³⁷ In reaching this conclusion, the Appellate Body found that one of the reports on which the EC particularly focused³⁸ “relates to the carcinogenic potential of entire categories of hormones, or of the hormones at issue *in general*.”³⁹ Thus, the Appellate Body in the *EC-Hormones* dispute required an extraordinary amount of specificity by interpreting Article 5.1 to require that the results of a risk assessment show that the exact carcinogenic or genotoxic substance poses a risk to the specific species that are protected by the measure. Despite the Appellate Body’s assertion that only a “rational relationship” is necessary between the measure and the risk, this language is clearly cold comfort for a Member-State attempting to maintain an SPS measure when the scientific basis for the measure does not meet the high standard set out in *EC-Hormones*.

In particular, the Appellate Body’s finding with respect to one of the hormones subject to the ban, melengestrol acetate (MGA), shows the level of specificity required to satisfy Article 5.1. In support of the ban on MGA-treated meat, the EC submitted studies regarding carcinogenicity of a category of hormones that includes the hormone progesterone.⁴⁰ The EC argued that, because MGA “mimics the action of progesterone,” the study satisfies Article 5.1.⁴¹ The Appellate Body refused to accept this argument, and upheld the Panel’s finding that the EC did not show a rational relationship between the risk assessment and the measure.⁴²

With respect to the precautionary principle itself, the Appellate Body acknowledged the uncertain status of the principle, but refused to rule on whether the principle had “crystallized” into customary international law.⁴³

37. *Id.* ¶ 200.

38. World Health Org., Int’l Agency for Research on Cancer, *Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42*, in IARC MONOGRAPHS ON THE EVALUATION OF CARCINOGENIC RISKS TO HUMANS (Supp. 7, 1987), available at <http://monographs.iarc.fr/ENG/Monographs/suppl7/index.php>.

39. *EC-Hormones*, *supra* note 5, ¶ 199.

40. *Id.* ¶ 201.

41. *Id.*

42. *Id.*

43. *Id.* ¶ 123; see Pauwelyn, *supra* note 14, at 570 (“I believe that the Appellate Body was obliged to rule on whether this principle is part of customary law binding on the disputing parties. Had this been the case, the Appellate Body should have acknowledged that a rule of customary law, if later in time and in conflict with an earlier (SPS) treaty rule, must prevail over the treaty rule (no inherent

In so ruling, the Appellate Body found that the precautionary principle is reflected in several parts of the treaty, including Article 5.7, which provides that where insufficient scientific evidence exists, a member may adopt provisional measures, but “shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time.”⁴⁴ The Appellate Body then concluded that the precautionary principle does not “override” Article 5.1.⁴⁵

2. The *Japan-Agricultural Products II* Dispute

One year later, in *Japan—Measures Affecting Agricultural Products*⁴⁶ (*Japan-Agricultural Products II*), the Appellate Body expanded on the requirements for provisional measures invoking Article 5.7. The case involved a Japanese law that prohibited importation of certain fruits and nuts from the United States and other countries.⁴⁷ The prohibition could be bypassed if the exporting country proposed an “alternative quarantine treatment which achieves a level of protection equivalent to the import prohibition.”⁴⁸ The Appellate Body set forth four requirements, which are “cumulative in nature,”⁴⁹ for provisional measures: (1) the measure must be “imposed in respect of a situation where relevant scientific information is insufficient”; (2) the measure must be “adopted on the basis of available pertinent information”; (3) the member must “seek[] to obtain the additional information necessary for a more objective assessment of risk”; and (4) the member must “review[] the . . . measure accordingly within a reasonable period of time.”⁵⁰ What is a “reasonable period of time” depends on the circumstances of the case.⁵¹ If any one of the requirements is not satisfied, the measure violates Article 5.7.⁵²

The effect of this case is that members cannot effectively enact long-term legislation based on the precautionary principle. Prior to *Japan-*

hierarchy existing between treaty and custom), unless it found an intention to continue applying the (SPS) treaty rule as *lex specialis*.”)

44. SPS Agreement, *supra* note 3, art. 5.7.

45. *EC-Hormones*, *supra* note 5, ¶ 125.

46. Appellate Body Report, *Japan—Measures Affecting Agricultural Products*, WT/DS76/AB/R (Feb. 22, 1999) [hereinafter *Japan-Agricultural Products II*].

47. *Id.* ¶ 2.

48. *Id.* The exporting country bears the burden of proof with regard to whether the proposed alternative method affords an equivalent level of protection. *Id.*

49. *Id.* ¶ 89.

50. *Id.* (internal quotation marks omitted).

51. *Id.* ¶ 93.

52. *Id.* ¶ 89.

Agricultural Products II, it remained an open question whether a Member-State could maintain an Article 5.7 provisional measure until more definite science became available. After the publication of the Appellate Body Report in this case, this question was answered resoundingly in the negative.

C. Precaution in United States Environmental Laws

This Note argues that the Appellate Body's interpretation of the SPS Agreement has intruded on the sovereignty of the WTO's Member-States. A brief discussion of precautionary legislation in the United States shows that, were the WTO to adopt a looser construction of Articles 2.2 and 5.1, Member-States, using the United States as an example, do in fact have the ability—political, legal, and technical—to regulate based on the precautionary principle.

Legislation integrating the precautionary principle can be found throughout U.S. domestic law.⁵³ The Endangered Species Act (ESA), for example, protects species in danger of extinction regardless of any proven scientific, ecological, or medical benefit to humans.⁵⁴ The ESA recognizes that all species have “esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people.”⁵⁵ The ESA affords protection to both endangered⁵⁶ and threatened⁵⁷ species, thus recognizing that precaution is necessary to ensure that species be afforded protection *before* they become extinct.

In *Tennessee Valley Authority v. Hill*, the Supreme Court cited with approval Congress's goal in enacting the ESA of preserving “the *unknown* uses that endangered species might have and . . . the *unforeseeable* place such creatures may have in the chain of life on this planet.”⁵⁸ Although Congress made the catch-all finding that all species have value, the ESA is precautionary because it mandates protection of certain species from extinction, regardless of whether Congress has found that the species has any sort of value—esthetic, scientific, or otherwise.⁵⁹

53. For a discussion on the precautionary principle in United States domestic law, see Phillip M. Kannan, *The Precautionary Principle: More Than a Cameo Appearance in United States Environmental Law?*, 31 WM. & MARY ENVTL. L. & POL'Y REV. 409 (2007).

54. 16 U.S.C. §§ 1531–1544 (2006).

55. *Id.* § 1531(a)(3).

56. *Id.* § 1532(6).

57. *Id.* § 1532(20).

58. *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 178–79 (1978).

59. One could not easily argue that each species of plant and animal, or even each of the 1,372 species listed as endangered or threatened, has esthetic, ecological, educational, historical, recreational, and scientific value. For general information regarding the endangered and threatened species list,

Similarly, courts have upheld legislation integrating the precautionary principle in the face of facial attacks on the lack of scientific basis for the legislation. In *International Fabricare Institute v. EPA*, the D.C. Circuit Court of Appeals upheld EPA regulations that set a maximum contaminant level of zero for perchloroethylene, a known carcinogen.⁶⁰ The regulations were based on a policy that “since current science could not ascertain exactly how a carcinogen caused cancer, ‘it was conservatively believed’ that exposure to any dose could have adverse health effects.”⁶¹

Other examples of domestic legislation implementing the precautionary approach can be found in the Clean Air Act,⁶² which regulates hazardous air pollutants as defined as airborne substances that “are known to cause or may *reasonably be anticipated* to cause adverse effects to human health or adverse environmental effects”;⁶³ the Clean Water Act,⁶⁴ which provides that EPA’s designations of toxic pollutants are final unless arbitrary and capricious;⁶⁵ and the Federal Insecticide, Fungicide, and Rodenticide Act,⁶⁶ which prohibits distribution of a pesticide unless it is registered by EPA.⁶⁷ While the precautionary principle does not pervade environmental legislation in the United States, it nonetheless provides important foundations to the cornerstones of domestic environmental law.⁶⁸ The important lesson to learn from the United States’ incorporation of the precautionary principle into its domestic laws is that Congress recognizes that full scientific certainty may not always be necessary for there to be a cognizable risk serious enough to require mitigatory legislation.

including a list of all protected species, see *Endangered Species Program*, U.S. FISH & WILDLIFE SERV., <http://www.fws.gov/endangered/> (last visited Mar. 2, 2011).

60. *Int’l Fabricare Inst. v. EPA*, 972 F.2d 384, 391 (D.C. Cir. 1992).

61. *Id.* (quoting National Primary Drinking Water Regulations: Volatile Synthetic Organic Chemicals, 50 Fed. Reg. 46,880, 46,884 (Nov. 13, 1985) (codified at 40 C.F.R. pt. 141)).

62. 42 U.S.C. §§ 7401–7671q (2006).

63. *Id.* § 7412(b)(3)(B) (emphasis added).

64. 33 U.S.C. §§ 1251–1387 (2006).

65. *Id.* § 1317(a)(1); see also Kannan, *supra* note 53, at 448–51 (discussing other examples of the precautionary approach in the Clean Water Act and its implementing regulations).

66. 7 U.S.C. §§ 136–136y (2006).

67. *Id.* § 136a(a); see also *id.* § 136a(c)(1)(F) (requiring petitioners for registration to provide EPA with “a full description of the tests made and the results thereof upon which the claims are based, or alternatively a citation to data that appear in the public literature”); 40 C.F.R. § 164.80(b) (2009) (placing “ultimate burden of persuasion” on proponent of registration).

68. Kannan, *supra* note 53, at 456–58.

II. WTO REVIEW OF THE SCIENTIFIC BASIS FOR AN SPS MEASURE

A. *The Vitality of Sovereignty*

The concept of sovereignty is best viewed as an umbrella term for distinct sub-types of sovereignty.⁶⁹ International legal sovereignty refers to the recognition of a state's ability to participate in the international legal system—e.g., enter into international agreements or be a member of international institutions.⁷⁰ Westphalian sovereignty is defined by “the exclusion of external actors from domestic authority structures.”⁷¹

Sovereignty as a geopolitical and international legal concept has changed drastically in recent years.⁷² While it once embraced an absolute bar of any external interference in affairs within the boundaries of a state, such a rigid definition can no longer be maintained in light of the increased participation of states in international and transnational institutions and the intrusions into states' domestic affairs that often accompany them.⁷³ In exercising their international legal sovereignty through participation in institutions such as the WTO Dispute Resolution Body, states also have contracted away portions of their Westphalian sovereignty.⁷⁴

That states have ceded portions of their sovereignty, however, does not lead to the conclusion that the concept of sovereignty as a bar to external meddling in domestic affairs is a creature of the past. Rather, the boundaries and contours of Westphalian sovereignty have shifted to accommodate the rise of international and transnational institutions that have transformed the

69. Joshua Meltzer, *State Sovereignty and the Legitimacy of the WTO*, 26 U. PA. J. INT'L ECON. L. 693, 695 (2005); see also STEPHEN D. KRASNER, *SOVEREIGNTY: ORGANIZED HYPOCRISY* 9 (1999). Krasner argues that in addition to international legal sovereignty and Westphalian sovereignty, two additional meanings of sovereignty exist: “domestic sovereignty, referring to the organization of public authority within a state and to the level of effective control exercised by those holding authority; [and] interdependence sovereignty, referring to the ability of public authorities to control transborder movements.” *Id.* at 9.

70. KRASNER, *supra* note 69, at 14.

71. *Id.* at 20. This Note is concerned primarily with Westphalian sovereignty.

72. For examples of limitations placed on sovereignty, see J.D. van der Vyver, *State Sovereignty and the Environment in International Law*, 109 S. AFR. L.J. 472, 475 (1992) (“[T]he powers, privileges and immunities included in the notion of sovereignty in every one of its component attributes have been subjected to radical limitations dictated by the demands of international co-existence of peoples and founded, amongst other things, on the norms of human-rights promotion and protection”).

73. *Id.*

74. See Meltzer, *supra* note 69, at 695 (noting that WTO membership can “undermine states' Westphalian Sovereignty”).

concept of international legal sovereignty.⁷⁵ Stated more concisely, states continue to possess a right protected under the umbrella concept of sovereignty unless it is expressly contracted away through a treaty or other legal instrument.⁷⁶ A 1970 UN Declaration, for example, provides that “[a]ll States enjoy sovereign equality.”⁷⁷ The Declaration goes on to define sovereignty as meaning that states are “juridically equal,” possess “the right freely to choose and develop [their] political, social, economic and cultural systems,” and enjoy “[inviolable] territorial integrity and political independence.”⁷⁸ The UN Charter, the foundation of all agreements signed under the auspices of the UN—including WTO agreements such as the SPS Agreement—further provides: “In the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail.”⁷⁹ That absolute sovereignty still exists unless ceded by express legal authority is evident from the very existence of multinational treaties—such as the SPS Agreement—that place limitations on sovereignty. Otherwise, multinational treaties would be extraneous and pointless exercises.

B. The SPS Agreement and Sovereignty

Article 2.2 of the SPS Agreement requires that trade measures be “based on scientific principles and . . . not maintained without sufficient scientific evidence.”⁸⁰ In construing the relationship between a trade measure and the scientific basis necessary to ensure compliance with Article 2.2, the Appellate Body has turned to Article 11 of the Dispute Settlement Understanding⁸¹ (DSU), which requires WTO dispute resolution panels to make an “objective assessment of the facts of the case.”⁸² The Appellate Body interpreted this provision to require dispute resolution bodies to apply a standard of review that falls between affording no deference to the findings of national

75. Van der Vyver, *supra* note 72, at 475.

76. Howse, *supra* note 7, at 519–20. It is a “foundational principle[] of public international law . . . that the sovereignty of states is plenary in the absence of specific legal constraints to the contrary. One does not presume, or presume lightly, that the sovereignty of states is restricted.” *Id.* at 519.

77. G.A. Res. 2625 (XXV), U.N. Doc. A/RES/2625, at 124 (Oct. 24, 1970).

78. *Id.*

79. U.N. Charter art. 103.

80. SPS Agreement, *supra* note 3, art. 2.2.

81. *EC-Hormones*, *supra* note 5, ¶ 116.

82. Understanding on Rules and Procedures Governing the Settlement of Disputes, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401, available at http://www.wto.org/english/docs_e/legal_e/28-dsu.pdf.

authorities and affording total deference.⁸³ This interpretation is problematic, however, because the phrase “objective assessment of the facts” does not on its face preclude deference to the findings of national authorities. Objective is defined as “expressing or involving the use of facts without distortion by personal feelings or prejudices.”⁸⁴ The Appellate Body would be acting completely within the terms of Article 11 if it simply assessed the facts of the case completely and fairly, without allowing the preconceptions of the panelists to color its final judgment. The Appellate Body is acting outside the power granted to it by the SPS Agreement in interpreting this language to grant dispute resolution bodies the power to substitute its own findings for the findings of a national authority.

Such an interpretation is also supported by the proposition that international agreements should, unless clearly required by their terms, be interpreted so as not to infringe on state sovereignty.⁸⁵ It has long been international law that limitations on sovereignty should not be presumed in the absence of express language indicating such.⁸⁶ Since the end of the eighteenth century, sovereignty has been the very foundation of, and the glue that holds together, the international legal and political system.⁸⁷ Given the important role played by sovereignty, a limitation on sovereignty should not be inferred; the limitation must be clearly expressed by the language of the instrument.⁸⁸

Furthermore, a look at the often-lengthy process of negotiating international agreements, such as the SPS Agreement, strengthens the argument that limitations on sovereignty should be avoided if the potentially limiting language is ambiguous. First, as Joshua Meltzer has pointed out, the product to which a negotiator agrees may be very different from the product to which the negotiator was instructed to agree.⁸⁹ Meltzer refers to the discrepancy between the two as the “agency costs” of negotiating international agreements.⁹⁰ Negotiators can establish “working relationships” with other negotiators that, when combined with the physical distance and time spent away from their employer-states, can contribute to the likelihood

83. *EC-Hormones*, *supra* note 5, ¶ 117.

84. WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 1155–56 (2002).

85. *See supra* Part II.A.

86. *See, e.g.*, Case of the Free Zones of Upper Savoy and the District of Gex (Fr. v. Switz.) 1932 P.C.I.J. (ser. A/B) No. 46, at 167 (June 7) (stating that “a limitation of sovereignty must be construed restrictively”).

87. KRASNER, *supra* note 69, at 20–21.

88. Howse, *supra* note 7, at 519; Case of the S.S. “Lotus” (Fr. v. Turk.), 1927 P.C.I.J. (ser. A) No. 10, at 19 (Sept. 7).

89. Meltzer, *supra* note 69, at 706–07.

90. *Id.*

that the terms agreed upon will differ markedly from a state's actual view.⁹¹ Because a negotiator should not be allowed to cede without permission a portion, however minute, of his state's sovereign right to conduct domestic affairs, cessions of sovereignty should be construed narrowly.

Second, the asymmetrical distribution of geopolitical power makes it very unlikely that all participating states will freely consent to international agreements.⁹² The WTO has 153 members,⁹³ and the size and power of each varies widely. It is unlikely, for example, that the interests of the Solomon Islands are equally represented as those of the United States. Even if actual coercion is absent, the vast dissimilarity in geopolitical power can have essentially the same effect, as was the case during negotiations for the Agreement on Trade-Related Aspects of Intellectual Property Rights⁹⁴ (TRIPS), during which it is alleged that the United States "systematically threaten[ed] to close its borders to countries that would not agree to minimum intellectual property standards."⁹⁵

This is not to advance a new principle of treaty interpretation—that treaties should never be construed to infringe on sovereignty—but rather is meant to demonstrate that the process of coming to international agreements presents different challenges than, for example, those posed by the American legislative process. In the latter, the rights of individual members of Congress are not implicated in the legislative process. In the context of international agreements, however, every action of a state has major implications for the rights and privileges of that state to freely conduct its own affairs in the international system. In light of this difference, international agreements should, absent express language to the contrary, be read not to impose limitations on sovereignty.

III. A PROPOSED METHOD OF REVIEWING THE SCIENTIFIC BASIS FOR AN SPS MEASURE

Because the WTO has overstepped its role by applying a narrow interpretation of the "based on scientific principles" requirement of Article 2.2,⁹⁶ it is therefore necessary for the WTO to adopt a broader interpretation

91. *Id.* at 707.

92. *Id.*

93. *Understanding the WTO: The Organization - Members and Observers*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited Apr. 1, 2011).

94. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, 1869 U.N.T.S. 299, 33 I.L.M. 1197, available at http://www.wto.org/english/docs_e/legal_e/27-trips.pdf.

95. Peter M. Gerhart, *Reflections: Beyond Compliance Theory—TRIPS as a Substantive Issue*, 32 CASE W. RES. J. INT'L L. 357, 368 (2000).

96. *See supra* Part I.

in order to respect the sovereignty of its members. Although the primary objective of this Note is to argue that the WTO's strict requirements for the scientific foundations for Member-States' trade measures infringes on sovereignty and undermines the international political and legal system, it would be incomplete without a proposal for a new system of review. Many proposals have been set forth as to how this can be achieved.⁹⁷

From the perspective of the WTO, the objective of which is to "reduc[e] obstacles to international trade and ensur[e] a level playing field for all," shifting to a broader interpretation is desirable because it will ensure that signatories to future treaties will not be surprised by the interpretations of future WTO treaties.⁹⁸ For example, in agreeing to the SPS provisions of the North American Free Trade Agreement⁹⁹ (NAFTA), which also requires that parties ensure that SPS measures are based on scientific principles,¹⁰⁰ the United States did not anticipate such a narrow interpretation in this context, as evidenced by its official interpretation of NAFTA's SPS provisions following the conclusion of negotiations:

[It is clear that] under the NAFTA, the requirement that measures be based on "scientific principles" and not be maintained "where there is no longer a scientific basis" do *not* involve a situation where a dispute settlement panel may substitute its scientific judgment for that of the government maintaining the sanitary or phytosanitary measure. The question under the NAFTA in this

97. This Note does not attempt to set forth a comprehensive and entirely novel proposal, but rather it seeks to assess and combine important aspects of prior proposals, in the context of considerations of sovereignty, to advocate for a new proposal. *See, e.g.*, Bohanes, *supra* note 7, at 323 (advocating that the WTO should defer to "democratic deliberation," not "potentially inconclusive science"); Cheyne, *supra* note 7, at 161–62 (discussing how Member-States can incorporate the precautionary principle under current SPS jurisprudence); Howse, *supra* note 7, at 491 (discussing role of Appellate Body in recent cases implicating the trade/environment tension); Walker, *supra* note 7, at 255 (arguing that the WTO should avoid becoming a "global meta-regulator" by emphasizing burdens of proof and standards of review in dispute settlement proceedings); Magee, *supra* note 7, at 628 (advocating for a regime of deference to national authorities modeled after United States administrative law).

98. *About the WTO*, *supra* note 2.

99. North American Free Trade Agreement, U.S.-Can.-Mex., Dec. 17, 1992, 32 I.L.M. 289 (1993).

100. *Id.* art. 712(3)(a). Article 712(3), which appears in Section B – Sanitary and Phytosanitary Measures, states in its entirety:

3. Each Party shall ensure that any sanitary or phytosanitary measure that it adopts, maintains or applies is:
 - a) based on scientific principles, taking into account relevant factors including, where appropriate, different geographic conditions;
 - b) not maintained where there is no longer a scientific basis for it; and
 - c) based on a risk assessment, as appropriate to the circumstances.

Id.

regard is whether the government maintaining the sanitary or phytosanitary measure has “a scientific basis” for the measure. “Scientific basis” is defined as “a reason based on data or information derived using scientific methods.”

The question is also *not* whether the measure was based on the “best” science or the “preponderance” of science or whether there was conflicting science. The question is only whether the government maintaining the measure has a scientific basis for it. This is because [the NAFTA sanitary and phytosanitary text] is based on a recognition that there is seldom, if ever, scientific certainty and consequently any scientific determination may require a judgment among differing scientific opinions. The NAFTA preserves the ability of *governments* to continue to make those judgments.¹⁰¹

The United States thus did not anticipate the WTO’s much narrower interpretation of the “based on scientific principles” requirement. It follows that future WTO treaty negotiators will be hesitant, and perhaps unwilling, to cede to the WTO some piece of regulatory authority otherwise protected under the umbrella of state sovereignty. Altering its interpretation of this requirement to more closely align with the expectations of signatories would provide predictability in negotiations of international agreements. Parties will know what they are bargaining for before they sign, and they will know what to expect after they sign.¹⁰²

Nonetheless, the objective of the WTO is to prevent obstacles to free trade, not to ensure geopolitical equality among states.¹⁰³ This objective could potentially conflict with the position advocated in this Note—increased deference to national authorities regarding their scientific findings.¹⁰⁴ Were national authorities allowed too much deference, or, were Member-States allowed to pass trade measures with no scientific basis at all, the WTO’s mission to ensure conditions favorable to free trade would be seriously jeopardized.¹⁰⁵ Clearly, the extent of such deference must be

101. David A. Wirth, *The Role of Science in the Uruguay Round and NAFTA Trade Disciplines*, 27 CORNELL INT’L L. J. 817, 885 (1994) (quoting Statement of Administrative Action, North American Free Trade Agreement Implementation Act, ch. 7 § B(A)(8)(c), reprinted in H.R. Doc. No. 159, 103d Cong., 1st Sess. 450, 542 (1993)).

102. A relaxed interpretation of the Article 2.2 requirements will also reduce agency costs. See *supra* text accompanying note 88.

103. See *supra* text accompanying note 2.

104. Bohanes, *supra* note 7, at 364–65 (citing Michele D. Carter, *Selling Science Under the SPS Agreement: Accommodating Consumer Preference in the Growth Hormones Controversy*, 6 MINN. J. GLOBAL TRADE 625, 656 (1997)).

105. *Id.* at 365.

limited so as not to allow the possibility of abuse. In other words, a proposal for a new system of reviewing measures under Article 2.2 must strike a balance between these two competing interests.¹⁰⁶

A. Affording Deference to National Authorities

In reviewing whether a trade measure is based on scientific principles, a WTO dispute resolution body should defer to the findings of national authorities as to the scientific basis for the measure. Review of the measure must take into account the threat this requirement poses to sovereignty.¹⁰⁷ Therefore, to ensure that the measure does not infringe on a Member-State's sovereign right to regulate the health, safety, and welfare of its citizens, WTO dispute resolution bodies should defer to national authorities' scientific findings to the extent that the measure is a protected exercise of sovereignty and still furthers the WTO's goal of fostering free trade. Notably, the preamble of the SPS Agreement sets forth a similar goal:

Reaffirming that no Member should be prevented from adopting or enforcing measures necessary to protect human, animal or plant life or health, subject to the requirement that these measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between Members where the same conditions prevail or a disguised restriction on international trade.¹⁰⁸

The WTO has seemingly instituted its strict interpretation of Article 2.2 based on the last clause of the preambular paragraph above.

Such deference does have some precedent elsewhere in WTO law. The WTO Anti-Dumping Agreement,¹⁰⁹ which allows parties to the treaty to impose domestic provisional measures¹¹⁰ and anti-dumping duties¹¹¹ to halt allegedly illegal dumping, recognizes the need for deference to national authorities' findings in the dispute settlement process. Instead of mandating that Member-States substantiate measures with a certain amount of well-established science, the treaty provides that:

106. *Id.*

107. *See supra* Part I.

108. SPS Agreement, *supra* note 3, at pmb1.

109. Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994, art. VI, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 201, available at http://www.wto.org/english/docs_e/legal_e/19-adp.pdf.

110. *Id.* art. 7.

111. *Id.* art. 9.

[I]n its assessment of the facts of the matter, the panel shall determine whether the authorities' establishment of the facts was proper and whether their evaluation of those facts was unbiased and objective. If the establishment of the facts was proper and the evaluation was unbiased and objective, even though the panel might have reached a different conclusion, the evaluation shall not be overturned.¹¹²

Although the SPS Agreement does not include such an express grant of deference to national authorities, the WTO should not interpret the absence of such language as a license to assess supporting science with such intense scrutiny. Furthermore, the inclusion of this provision shows that a deferential regime is possible with regard to science underlying Member-States' anti-dumping measures. In that respect, the level of deference allowed in the Anti-Dumping Agreement provides a useful model for reform of WTO review of the scientific basis for trade measures under the SPS Agreement.

In reviewing whether measures are based on scientific principles, the WTO should inquire first, whether the science itself is sound, and second, whether the relationship between the science and the measure is sound.

1. Was the Scientific Method Adequate to Ensure Accuracy?

Reviewing the sufficiency of the scientific process, rather than the substantive science underlying the measure, is a useful approach to balancing the competing interests of free trade and state sovereignty.¹¹³ Such an approach recognizes and addresses in an effective manner the WTO's justifiable concern that the science underlying measures be sound and transparent. Part of the WTO's current interpretation is that where supporting science is lacking or inconclusive, the measure inherently cannot be based on scientific principles because incomplete science is not a "scientific principle" as defined by SPS Article 2.2.¹¹⁴ Whether a measure is

112. *Id.* art. 17.6(i).

113. For an articulation of the process-based approach, see Bohanes, *supra* note 7, at 365:

Under the proposed approach, in exchange for a deferential standard of review of the substance of regulation, the legislative process at the origin of the measure in question would have to satisfy certain requirements—aimed at a high degree of transparency and informed decision-making. This would include taking into account results of pertinent scientific studies, cost-benefit analyses and observations submitted by groups from both the private sector and civil society.

Id.

114. *See supra* Part I.A.

based on scientific principles, however, should take into account the fact that science is rarely incontrovertible and conclusive.

The presence or absence of a number of components will determine whether a measure purporting to regulate risk is credible or whether it serves a protectionist objective.¹¹⁵ First, the measure must be based on a scientific risk assessment.¹¹⁶ This is already mandated by Article 5 of the SPS Agreement. Second, scientific findings supporting a measure should be subjected to a period of notice and comment.¹¹⁷ Although sometimes expensive, notice and comment incorporates democratic values and counterbalances the inherent biases that scientists carry with them.¹¹⁸ Third, subjecting the findings to peer review can be particularly effective in situations in which a scientific consensus is lacking.¹¹⁹ A “peer review committee” consisting of specialists should be established to resolve competing science.¹²⁰ Fourth, a cost-benefit analysis will ensure that the costs of the measure, which are borne primarily by the regulated parties, do not unduly outweigh the benefits to the regulating party.¹²¹ This concern is already addressed by Article 5.3, which requires the regulating Member-State to consider in its risk assessment the costs to the regulated Member-States, and by Article 5.6, which proscribes Member-States from enacting measures that are more trade-restrictive than necessary.¹²² Finally, exceptions should exist allowing parties to take preventative measures in emergency situations.¹²³ This last component is the specific concern of this Note.

Incorporating each of the above components may not be possible given the constraints imposed by the language of the SPS Agreement itself. WTO dispute resolution bodies should take into account, however, the objectives served by each component in construing the requirements of Article 2.2. This in turn will ensure that the WTO respects Member-States’ sovereign rights to regulate the health, safety, and welfare of their citizens within the limitations placed on them by international law.¹²⁴ The WTO will no longer

115. Jeremy D. Fraiberg & Michael Trebilcock, *Risk Regulation: Technocratic and Democratic Tools for Regulatory Reform*, 43 MCGILL L.J. 836, 871–72 (1998); see also Bohanes, *supra* note 7, at 366–70 (providing further discussion of these components).

116. Fraiberg & Trebilcock, *supra* note 115, at 872.

117. *Id.* at 873.

118. *Id.* at 873–74.

119. *Id.* at 874.

120. *Id.*

121. *Id.* at 875.

122. SPS Agreement, *supra* note 3, art. 5.3, 5.6.

123. Fraiberg & Trebilcock, *supra* note 115, at 876–77.

124. See van der Vyver, *supra* note 72, at 476–85 (discussing the protection of the environment as an economic, social, and cultural right of the people).

act as a sitting panel of scientists, thereby substituting its scientific judgment for the judgment of others. Instead, it will recognize that the findings of national authorities should be afforded deference if, and only if, the scientific methods conducted are sufficient. Thus, the WTO can remain within the boundaries set by its mandate and the structure of the international system.

2. Is There a Sufficient Relationship Between the Science and the Measure?

The potential for abuse of this deference will remain, however, unless there exists a reasonable relationship between the science proffered by the national authority and the measure itself. In other words, although deference to scientific findings is necessary to preserve state sovereignty, such deference does not dictate that the WTO uphold measures that do not accurately reflect the scientific findings of the risk assessment. Thus, to ensure this, WTO dispute resolution bodies should require a reasonable relationship between the Article 5.1 risk assessment and the measure.¹²⁵ By doing so, the WTO will decrease the ability of a Member-State to use science to mask a protectionist measure.

To this end, Article 5 of the SPS Agreement contemplates the relationship between the science (identification and methods for mitigation of the perceived risk, i.e., the end to be achieved) and the measure (the means through which mitigation is to be achieved). These provisions preclude Member-States from regulating in isolation from the risk to be mitigated by the measure. The SPS Agreement also requires that the cost-effectiveness of the measure be assessed in relation to other approaches that could be used to mitigate the same risk.¹²⁶ More specifically, the SPS Agreement goes further in requiring that the measure utilized be no more trade-restrictive than necessary, taking into account technical and economic feasibility.¹²⁷

As noted above,¹²⁸ the Appellate Body in the *EC-Hormones* dispute interpreted Article 5.1 to require only a “rational relationship between the measure and the risk assessment.”¹²⁹ This language, however, is a sheep’s clothing obscuring the wolf’s true identity. In the same case, the Appellate Body found that there was no rational relationship between the measure (banning meat treated by certain hormones because of the carcinogenicity

125. Walker, *supra* note 7, at 279–80.

126. SPS Agreement, *supra* note 3, art. 5.3.

127. *Id.* art. 5.6.

128. *See supra* Part I.A.1.

129. *EC-Hormones*, *supra* note 5, ¶ 193.

of those hormones) and the risk assessment (showing that the class of hormones to which the banned hormones belonged was carcinogenic).¹³⁰

By interpreting “rational relationship” so narrowly, the WTO has set a very high requirement for the relationship between the measure and the risk assessment, and in the process has engaged in a strained interpretation of the treaty language. In order to bring the meaning of “rational relationship” closer to a realistic interpretation, the Appellate Body should require only that—a rational relationship. The Appellate Body should review the risk assessment to determine whether it could rationally support the measure.¹³¹ Under the current regime, the Appellate Body reviews a risk assessment to determine whether the assessment conclusively supports the measure. In taking such a narrow interpretation of “rational relationship,” the Appellate Body has twisted its own words.

B. Deference and the Precautionary Principle

The objectives of this Note are twofold: first, to argue that the WTO’s refusal to allow its Member-States to enact SPS measures reflecting the precautionary principle infringes on state sovereignty; and second, to present a framework whereby the precautionary principle can be given its proper role in WTO SPS jurisprudence. Effective implementation of the above principles, such that Member-States are able to regulate environmental risk based on the precautionary principle, requires that precautionary measures be able to withstand scrutiny by the WTO dispute resolution body.

The precautionary principle can be incorporated in SPS measures while still maintaining compliance with the SPS Agreement.¹³² Doing so in a permanent measure, as opposed to a provisional measure under Article 5.7, will require the WTO to apply a more reasonable interpretation of the “rational relationship” requirement. For example, in the *EC-Hormones* dispute, the European Communities cited, as the basis for the ban on hormone-treated beef, studies that showed carcinogenicity of categories of hormones (of which the banned hormones were members) but not of the specific hormones themselves.¹³³ Nonetheless, the Appellate Body did not find a rational relationship between the results of the risk assessment and

130. *Id.* ¶¶ 199–200.

131. Such an interpretation of Article 5.1 is consistent with the United States’ interpretation of the NAFTA’s SPS provisions. *See supra* text accompanying notes 99–101.

132. *See* Cheyne, *supra* note 7, at 161 (discussing how Member-States can incorporate the precautionary principle under current SPS jurisprudence).

133. *EC-Hormones*, *supra* note 5, ¶ 199; *see supra* text accompanying notes 34–41.

the measure.¹³⁴ While measures incorporating the precautionary principle may not be based on a conclusive risk assessment that comes to a “monolithic conclusion,”¹³⁵ they are often supported by some well-respected science.

Signatories to the SPS Agreement need not worry that affording increased deference to national authorities’ scientific findings will result in a regulatory free-for-all in which Member-States are given too much freedom to regulate in furtherance of impermissible economic objectives. The SPS Agreement explicitly prohibits measures that “arbitrarily or unjustifiably discriminate between Members [or which] constitute a disguised restriction on international trade.”¹³⁶ This provision would act as a backstop, preventing Member-States from abusing the deference given to them by WTO dispute resolution bodies. Furthermore, even if a measure were based on an adequate risk assessment using sufficient science, a dispute resolution body could strike down the measure if it violated the mandates in Article 2.3.

CONCLUSION

The current interpretation of the SPS Agreement is aimed at encouraging conditions favorable to free trade, but it does so at the expense of states’ ability to adequately mitigate unknown environmental risks. The right of states to enact precautionary environmental regulation is protected by the sovereign rights of nations to protect against risk. Because cessions of state sovereignty should be narrowly construed, this right remains even though countries have ceded portions of their sovereignty by becoming members of the WTO and other international institutions.

The best way to balance the competing interests of protection of free trade and mitigation of unknown environmental risk is to require that national authorities undertake procedures to ensure that a given measure is a legitimate SPS measure and not protectionist legislation in disguise. WTO dispute resolution bodies should defer to national authorities regarding the substance of the science supporting an SPS measure. Affording deference to the findings of national authorities in reviewing SPS measures will not adversely affect the WTO’s objective of providing optimal conditions for free trade.

Aldo Leopold recognized long ago that although (indeed, because) we are ignorant of so much of the finer machinery of our natural environment,

134. *EC-Hormones*, *supra* note 5, ¶¶ 199–200.

135. *Id.* ¶ 194.

136. SPS Agreement, *supra* note 3, art. 2.3.

we should err on the side of caution by diligently protecting that machinery. If the significance of an organism is unknown, he wrote, then that organism should be protected, for we may be surprised later to learn that it is in fact of the utmost significance. This logic, transposed to the SPS Agreement, dictates that if the risks of a chemical substance are unknown, then we should avoid introducing it into our ecosystem. That a substance has not been extensively studied or that studies resulted in inconclusive results should not prevent states from regulating to prevent the risk. The United States engages in such regulation already through a number of statutory regimes.¹³⁷ That the risk-preventing regulation is imposed at a national border should not prohibit states from taking such legislative action.

—*John Bernetich*^{*†}

137. *See supra* Part I.C.

* J.D. and Master of Environmental Law and Policy Candidate, Vermont Law School, 2011; B.A., *magna cum laude*, Virginia Tech, 2007.

† The Author thanks Professor David Wirth of Boston College Law School for stimulating the author's interest in this topic, and Professor Janet Milne of Vermont Law School for her guidance during the writing process.

