MULTIPLE REGIMES, ISSUE LINKAGE, AND INTERNATIONAL COOPERATION: EXPLORING THE ROLE OF THE WTO

OREN PEREZ*

The World Trade Organization ("WTO") has been heavily criticized since its inception for its potentially destructive influence on other policy domains, particularly environmental and labor policies. The public debate with respect to the WTO was structured, to a large extent, by this negative stance. "Linkage" emerged over the last decade as an alternative framework for thinking about the relationship between the WTO and other international regimes. The narrative of linkage replaces the themes of conflict and animosity which have dominated the "trade and ——" debate, with a tale of synergy and mutual support. The linkage literature highlights the potential positive role that the WTO can play in the facilitation of cooperation in other policy domains (e.g., environmental protection). This Article questions the validity of this emerging discourse, setting it against the complex reality of the contemporary international system.

The Article starts with an exposition of the linkage thesis, exploring its theoretical underpinnings. The idea of linkage emerged as a response to the problem of managing global dilemmas in an anarchic world that is governed by weak and fragmented international institutions. Linkage can help in coping with this governance "deficit" by unleashing hidden synergies between regimes, thereby creating more effective governance structures. While the idea that cross-regime linkage may yield synergistic benefits is intuitively compelling, it suffers from several blind spots, which make its actual feasibility doubtful. The Article exposes these blind spots by situating the "linkage" hypothesis in a richer theo-

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retical framework, which recognizes the institutional complexities and cleavages that characterize the contemporary international system. Realizing the synergistic potential of cross-regime linkage requires policymakers to develop workable responses to these blind spots.

The Article then moves to examine the question of linkage in the context of the WTO, exploring the extent to which the law of the WTO accepts the linkage narrative as a legitimate policy choice, and highlighting the barriers facing linkage within the WTO. The study of the WTO focuses on the relationship between this regime and environmental regimes. The Article considers several policy responses to these difficulties, outlining several institutional mechanisms that should facilitate the creation of mutually reinforcing links between the trade and environment domains. The Article concludes with an assessment of the future prospects of the linkage idea in the WTO, in view of the principles set out in the 2001 Doha Ministerial Declaration and the negotiations that took place within the WTO before the 2005 Hong Kong Summit.

Ultimately, the Article seeks to develop a richer theoretical framework for thinking about cross-regime linkage, by juxtaposing the theoretical analysis of linkage with a deep analysis of the socio-legal reality of the contemporary international arena, and the institutions governing it. This richer framework is necessary for developing more feasible policy recommendations. While the Article focuses on the trade-environment nexus, its conclusions are relevant to other domains.

1. THE LINKAGE THESIS

1.1. Exposition: Fragmentation and Association

The current international legal sphere is extremely fragmented. Different policy issues are dealt with by distinct and highly compartmentalized legal regimes. Each regime has its own legal and political institutions that control the negotiation process within its boundaries and govern its dispute settlement process. While there is a certain degree of institutional consolidation between regimes, this remains the exception. Two examples from the environmental realm could illustrate this point. The United Nations Environment Programme ("UNEP") has some coordinating authority over the operation of several environmental treaties; however, this authority is highly limited and the executive and legal authority ulti-

mately lies at the hands of the secretariats and conferences of the parties of each treaty.[1] Similarly, while many treaties mention the International Court of Justice ("ICJ") as their chosen "arbiter," the court's authority is very restricted, and depends almost universally on the discretion of the disputing parties (the parties have to declare whether they agree to subject themselves to the ICJ's authority).[2]

This fragmented picture does not reflect the deep linkages that actually exist between various international regimes. These linkages reflect two key features of the international realm. First, the "players" associated with these regimes are drawn from a common pool. Irrespective of one's view of the identity of these players—whether one takes a Westphalian perspective which views states as the main players within the international arena, or a more complex standpoint which recognizes the role of other players—there are broad commonalities in the identity of players across different regimes. These commonalities open various paths for cooperation across regimes, which will be pursued below. Second, there are also links at the "issue level." At this level there can be two types of links. The first type is "legal": it reflects the fact that different regimes may have overlapping jurisdictions. The second type is "tangible": it reflects the fact that actions in one domain may have an effect (economic, social, or ecological) in another domain.

To illustrate this typology of linkages let us examine the relation between the WTO and the Kyoto Protocol. Consider first how the two regimes could "meet" at the legal plane. The new compliance arrangements of the Kyoto Protocol, which were negotiated at the seventh Conference of the Parties, include as part of their sanctioning repertoire a potential trade sanction. An Annex I Party (a party that undertook emission reduction obligations under the Protocol)[3] that has not complied with its emission targets may be

[1] *See* Bharat H. Desai, *Mapping the Future of International Environmental Governance*, 13 Y.B. INT'L. ENVTL. L. 43, 51 (2002) (describing the powers of United Nations Environment Programme ("UNEP")); Achim Steiner, Lee A. Kimball & John Scanlon, *Global Governance for the Environment and the Role of Multilateral Environmental Agreements in Conservation*, 37 ORYX 227, 232 (2003) (discussing the autonomous decisionmaking authority of the conferences of the parties).

[2] *See, e.g.*, Convention on Biological Diversity art. 27, June 5, 1992, 1760 U.N.T.S. 143, 31 I.L.M. 818; United Nations Framework Convention on Climate Change art. 14, May 9, 1992, *available at* http://unfccc.int/resource/docs/convkp/conveng.pdf [hereinafter Climate Change Convention].

[3] For a list of Annex I parties, see Climate Change Convention, *supra* note 2, annex I.

barred from "selling" emission reduction units ("ERUs") under the Protocol's emissions trading scheme.[4] This sanction interferes with the trading relations between the parties and thus may be seen as incompatible with the "most-favored nation" ("MFN") non-discrimination principle.[5] Another potential dispute could arise from an attempt to use trade measures to enforce participation in, or compliance with, the provisions of the Kyoto Protocol. Such behavior would clearly fall under the jurisdiction of the WTO, and would probably be considered incompatible with the WTO's basic principles.[6]

But the linkage between the domains is not confined to the legal plane. The accelerated growth triggered by trade liberalization is also likely to raise emissions of CO_2, increasing the likelihood of a climate change crisis, and making it more difficult for Annex I parties to comply with their obligations under the Kyoto Protocol.[7]

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[4] It may be subject to additional penalties. For further details on the compliance mechanisms of the Kyoto Protocol, see the website of the United Nations Framework Convention on Climate Change, http://unfccc.int/kyoto_mechanisms/compliance/items/3024.php (last visited Oct. 25, 2005). *See also* Conference of the Parties to the United Nations Framework Convention on Climate Change, 6th Sess., pt. 2, Bonn, F.R.G., July 18-27, 2001, *Decisions Concerning Procedures and Mechanisms Relating to Compliance under the Kyoto Protocol*, art. 14(5), U.N. Doc. FCCC/CP/2001/2/Add.6 (June 11, 2001), *available at* http://unfccc.int/resource/docs/cop6secpart/02a06.pdf.

[5] Whether the Most-Favored Nation principle ("MFN") applies to trade in emission reduction units ("ERUs") depends primarily on the proper classification of these units, i.e., whether they could be seen as "goods" for World Trade Organization ("WTO") purposes. The opinions on that question are varied, although most observers tend not to classify ERUs as goods. Wiser, for example, argues that ERUs should be properly viewed as a kind of license that confers, "a future right to pollute." From a legal perspective a license, he argues, is not a good. Glenn M. Wiser, *Frontiers in Trade: The Clean Development Mechanism and the General Agreement on Trade in Services*, 2 INT'L J. GLOBAL ENVTL. ISSUES 288, 295 (2002). For a different view, exploring the idea of classifying ERUs as "investment goods," see Annie Petsonk, *The Kyoto Protocol and the WTO: Integrating Greenhouse Gas Emissions Allowance Trading into the Global Marketplace*, 10 DUKE ENVTL. L. & POL'Y F. 185, 201-02 (1999).

[6] A recent article in the *Newstatesman* reported that Pascal Lamy, the outgoing European Union trade commissioner, and the current Director of the WTO, hinted that "the European Union feels within its rights to use economic measures against the United States" because the U.S. failure to ratify the Kyoto Protocol could be considered as an indirect subsidy to American producers, especially those in fossil fuel-intensive industries. Andrew Simms, *Bush Faces Trade Sanctions*, NEWSTATESMAN, Nov. 15, 2004, at 18. Using such measures (e.g., countervailing duties) will probably be considered incompatible with the rules of the World Trade Organization. Arguably one can try to justify such measures under Article XX. On this question, see also discussion *infra* Section 3.2.

[7] For a study of the link between trade liberalization and global CO_2 emis-

Similar questions arise in the context of the relationship between the WTO and other environmental treaties such as the Basel Convention on the Control of Transboundary Movements of Hazardous Waste of 1989.[8] The question is what should be the policy response to the mismatch between the fragmented structure of the global legal system and the social reality in which it is embedded? In thinking about this dilemma, it is important to bear in mind that the various regimes that populate the global legal system are not symmetrical. International economic institutions are much more powerful in terms of their resources and political and legal influence than other regimes. Global environmental institutions such as UNEP and the secretariats of major environmental treaties, suffer in that respect from enduring weakness.[9]

The policy dilemma seems to be clear: how to restructure the fragmented global legal infrastructure in order to achieve a better fit between the law and the underlying global reality. At a very general level this challenge calls for the development of cross-regime sensitivities. Such sensitivities should allow the segregated regimes to take into account—in the course of their normal operations—the impact of actions taking place within their boundaries on other domains. In the trade and environment context, this call for concurrent sensitization is also motivated by the enduring insensitivity of the global economic system to the adverse ecological effects of rapid trade liberalizations.[10]

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sions, see M.A. Cole, A.J. Rayner, & J.M. Bates, *Trade Liberalisation and the Environment: The Case of the Uruguay Round*, 21 WORLD ECON. 337, 342–44 (1998).

[8] For a discussion of a possible collision between the rules of the WTO and those of the Basel Convention and other multilateral environmental treaties, see generally the collection of articles published by the Heinrich Böll Foundation, TRADE AND ENVIRONMENT, THE WTO, AND MEAS: FACETS OF A COMPLEX RELATIONSHIP (Lane Schalatek ed., 2001), *available at* http://www.boell.org/docs/WTO-MEA.pdf. *See also* Robyn Eckersley, *The Big Chill: The WTO and Multilateral Environmental Agreements*, 4 GLOBAL ENVTL. POL. 24 (2004).

[9] For a discussion of the weakness of transnational environmental institutions, see John Whalley & Ben Zissimos, *An Internalisation-Based World Environmental Organisation*, 25 WORLD ECON. 619, 620 (2002).

[10] *See, e.g.*, OREN PEREZ, ECOLOGICAL SENSITIVITY AND GLOBAL LEGAL PLURALISM: RETHINKING THE TRADE AND ENVIRONMENT CONFLICT 65–108 (2004) (discussing the tension between trade policies and environmental protection); Alejandro Nadal & Timothy A. Wise, *The Environmental Costs of Agricultural Trade Liberalization: Mexico-U.S. Maize Trade Under NAFTA* 9–27 (Working Group on Dev. & Env't in the Americas, Discussion Paper No. 4, 2004), *available at* http://ase.tufts.edu/gdae/Pubs/rp/DP04NadalWiseJuly04.pdf (examining the environmental impacts of the North American Free Trade Agreement ("NAFTA") on the United States and Mexico and focusing on the transformation of the maize

Responding to this dilemma requires the development of concrete institutional and discursive mechanisms that would enable the development of cross-regime sensitivities. The idea of regime linkage provides an interesting response to this challenge. The concept of linkage does not focus on minimizing cross-regime externalities but rather on exploiting potential synergies between regimes. In the specific context of the trade and environment conflict, the linkage thesis questions the role that the WTO can play in facilitating broader cooperation toward the resolution of global environmental dilemmas. The argument that the trade and environmental realms may be mutually supportive can be found in several international instruments such as the 1992 Rio Declaration on Environment and Development and Agenda 21.[11] However, these instruments provide abstract formulations that do not provide real guidance as to how such potential synergy may be unleashed.[12] The following Section explores in more detail the linkage thesis, the theoretical insights underlying it, and the institutional mechanisms it envisions.

1.2. The Argument for Linkage

The argument for linkage is based on three key insights regarding the difficulties of resolving global dilemmas. First, achieving collective solutions to global dilemmas is in many cases difficult because of their public-good characteristics. Negotiating a collec-

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market). Over the last few years there have been some indications of a deeper acknowledgement of these adverse ecological influences within the global economic system. The *Shrimp-Turtle* decisions, *see* discussion *infra* Section 3, are a reflection of this process within the WTO.

[11] *See* United Nations Conference on Environment and Development, June 3–14, 1992, *Rio Declaration on Environment and Development*, ¶ 31, U.N. Doc. A/CONF.151/26 (Aug. 12, 1992) [hereinafter *Rio Declaration*]; *see also* United Nations Conference on Environment and Development, June 3–14, 1992, *Agenda 21: Earth's Action Plan*, ¶¶ 2.1–2.43, U.N. Doc. A/CONF.151/26, *available at* http://www.un.org/esa/sustdev/documents/agenda21/english/Agenda21.pdf [hereinafter *Agenda 21*].

[12] Principle 12 of the Rio Declaration urges states to "promote a supportive and international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation." *Rio Declaration, supra* note 11, ¶ 31. Similarly, Agenda 21 states that the "international community should provide a supportive international climate for achieving environment and development goals" by, among other things, "promoting sustainable development through trade [liberalization]" and "making trade and environment mutually supportive." *Agenda 21, supra* note 11, ¶¶ 2.3, 2.9.

tive agreement regarding a global public good, such as climate change or arms controls, could be hindered by widely shared opportunistic drive. That is, countries may prefer to profit from more stable atmospheric conditions or a more peaceful international arena but not pay the associated costs—relying instead on the joint efforts of other countries. This is possible because the benefits associated with these agreements are not excludable.[13] Second, in an international system that is still largely anarchic, free-riding cannot be deterred through hierarchical control. Without a central authority endowed with enforcement powers, it is difficult to achieve and implement global agreements. Indeed, one of the consequences of this assumption is that in order to be viable, international agreements must be self-enforcing.

Finally, a further difficulty concerns the asymmetries among countries with respect to their moral preferences regarding global dilemmas, and the potential impact of such dilemmas (and associated policy responses) on their society, economy, and ecosystem. Consider, for example, the problem of climate change. Countries may differ in their approach to this dilemma, first, because they may hold different moral views regarding the rights of future generations—the primary victims of possible climate change. Second, opinions may differ also because the adverse impacts of climate change are not distributed equally. Model-based analyses show that the most adverse effects of climate change are likely to appear in developing countries.[14] Finally, there could also be disagreements with respect to the policy response. Developing countries may argue that requiring them to curb CO_2 emissions is unjust because it could hinder their efforts to reduce poverty through industrial development—following the same path which allowed the developed countries to reach their current wealth.[15] In that sense, the social costs of radical CO_2 reductions are higher in developing regions. Such asymmetries make it difficult to reach an agreement which will be acceptable for all parties.

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[13] Laurent L. Viguier, *A Proposal to Increase Developing Country Participation in International Climate Policy*, 7 ENVTL. SCI. & POL'Y 195, 197 (2004); *see also* Inge Kaul, Isabelle Grunberg & Marc A. Stern, *Defining Global Public Goods*, *in* GLOBAL PUBLIC GOODS 2, 6–7 (Inge Kaul et al. eds., 1999).

[14] *See* Viguier, *supra* note 13, at 195.

[15] In other words, the marginal costs of such cutbacks, in terms of national welfare, will be much higher in the developing regions than in the developed world (reflecting the different location of these nations in the development ladder).

The linkage literature focuses on three major mechanisms through which cross-regime linkage may resolve these difficulties and extend the prospects for global cooperation. First, linkage can resolve the problem of reaching an international agreement in a world without a central authority by allowing countries to use the surplus enforcement power that may be available in one policy domain to discipline cooperation in other domains.[16] Linkage thus provides a method for aggregating dispersed enforcement power, allowing for its more efficient allocation to additional policy domains. Second, issue linkage may be used to resolve the problem of free-riding by linking the negotiations on a regional or global public good to negotiations on another issue that has the characteristic of a club good (that is, a good whose benefits are only provided to club members, and thus cannot be reaped by free-riders). Paradigmatic examples of international clubs are the European Union, the North American Free Trade Agreement ("NAFTA"), and the WTO. The intuition behind this proposal is that the incentives to free-ride on the non-excludable benefits of the global public good can be offset by the incentives to appropriate the excludable benefits of the club good.

Finally, issue linkage can resolve the problem of asymmetric preferences and varied geo-economic conditions, by allowing countries to link together issues in which they have dissimilar interests. Institutional linkage operates in this context as an indirect form of side payment. If cooperation on an individual issue benefits country *A* but hurts *B* (or is simply not of interest to *B*), then linkage allows country *A* to compensate *B* by offering cooperation on a different issue that benefits *B*. Linkage thus utilizes the mechanism of economic exchange to bridge between different worldviews (regarding, for example, the value of natural resources). The use of linkage as a form of side payment when there are asymmetric benefits across countries is especially important in the context of the relations between northern and southern countries.

In the remaining part of this section I want to discuss in further detail some of the papers that explored these varied mechanisms. Giancarlo Spagnolo explores the synergic potential of linkage in

[16] I use the idea of surplus enforcement power in two ways. First, it can reflect disparities in institutional capacities (e.g., denoting the extra powers of the WTO dispute settlement system). Second, it can also be used in a game-theoretic way, reflecting certain properties of linked games. *See* discussion *infra* Section 6.

the context of regimes with asymmetrical enforcement powers.[17] He considers a model of two countries, interacting over *n* policy issues. The interaction over each policy issue takes place within the strategic structure of an infinitely repeated prisoner's dilemma with complete information. Countries are assumed to be individual, rational players.[18] Underlying Spagnolo's model is the view of the international domain as anarchic space, in which law has no independent force. This means that international agreements are meaningful only to the extent that they are self enforcing. That is, the agreement will be implemented only if there is a possible equilibrium in which (given the incentive structure pertaining to the concrete regime) no party has an incentive to withdraw (defect) unilaterally from the cooperative equilibrium. Another simplifying assumption in Spagnolo's model is that it disregards the transaction costs associated with the expansion of the transnational regime through issue linkage. These simplifying assumptions raise various difficulties, which will be explored in the next section.

Spagnolo argues that under this highly stylized model any rule which constrains the ability of governments to link several issues in one agreement (e.g., by punishing the violation of rules—defection—of one agreement through the introduction of retaliatory measures in another regime) is strictly welfare-reducing, since it constrains the optimal design of international agreements. The basic logic is the following: issue linkage can facilitate cooperation by allowing countries to use the surplus or slack enforcement power that may be available in one policy domain to discipline cooperation in other domains. Surplus enforcement power is defined as the expected losses from punishment (in response to defection) minus the expected gains from one-off defection (free-riding), that may be available in one domain to discipline cooperation in additional domains.[19] Spagnolo argues that a single "grand international agreement" may thus prove superior to any fragmented structure, because it aggregates available enforcement power, allowing for its more efficient allocation to additional policy domains. This basic intuition holds in cases where policy issues are separable and countries are assumed either symmetric or asym-

[17] Giancarlo Spagnolo, *Issue Linkage, Delegation, and International Policy Cooperation* 4-8 (Fondazione Eni Enrico Mattei, CEPR Working Paper No. 49.96, 2001), *available at* http://ssrn.com/abstract=163173.

[18] *Id.* at 4-5.

[19] *Id.* at 3.

metric.[20] In Section 6, I provide a more detailed exposition of Spagnolo's argument, which I also use to clarify my critique of some of his assumptions.

The idea of resolving the problem of free-riding by linking negotiations on a global/regional public good with negotiations on a club good is explored, for example, by Buchner and others in the area of climate change. Buchner and others study the U.S. decision not to ratify the Kyoto Protocol (a decision that drastically reduced the effectiveness of the Kyoto Protocol in controlling greenhouse gases ("GHG") emissions).[21] They analyze a possible linkage between negotiations on climate change control with decisions concerning international research & development ("R&D") cooperation, and question whether this linkage could induce the United States to revise its decision and to ratify the Kyoto protocol. They consider the incentives of six players: the European Union, Japan, the former Soviet Union, United States, China, and the rest of the world. In exploring the usefulness of linkage in facilitating cooperation on climate change they focus on two main questions: first, they consider the incentives for the European Union, Japan, and Russia to adopt a strategy of linkage; second, they consider the incentives for the United States to join a coalition which cooperates both on climate change control and on technological innovation. The extended regime in which cooperation takes place on both dimensions (GHG emissions and R&D) is examined from the viewpoint of countries' profitability and free-riding incentives.

Their results, which rely on computer simulations, indicate that issue linkage is unlikely to be effective in inducing the United States to reconsider its decision to withdraw from the Kyoto Protocol. The intuition for this finding is as follows: the benefits from technological cooperation are much higher for the European Union, Japan, and above all the former Soviet Union, than for the United States. The threat of these three countries (the environmental coalition) to exclude the United States from R&D cooperation if it does not comply with the Kyoto agreement is therefore not credible, because the European Union, Japan, and the former Soviet Union stand to suffer a bigger loss when the issue linkage

[20] That is, when they differ in their objective functions.

[21] Barbara Buchner et al., *Back to Kyoto? US Participation and the Linkage between R&D and Climate Cooperation* (Ctr. for Econ. Studies & Ifo Inst. for Econ. Research, Working Paper Series No. 688, 2002), *available at* http://ssrn.com/abstract=307200.

threat is implemented. In addition, the environmental benefits arising from cooperation on climate change control are smaller than the technological benefits from R&D cooperation. Therefore the European Union, Japan, and the former Soviet Union prefer to lose the environmental benefits than the technological benefits, and thus accept the United States' free-riding on climate cooperation if the United States cooperates on R&D.[22] Other sorts of linkage—for example, Kyoto and the WTO—could however yield different results.

The capacity of issue linkage to facilitate cooperation by allowing countries to tie issues in which they have dissimilar interests is explored, for example, by Abrego and others in a paper from 2001.[23] The starting point for their study is the friction between developed countries ("DCs") and less-developed countries ("LDCs") in the WTO regarding trade and environment interests. This friction reflects a presumed variation in the preferences of northern and southern nations regarding environmental values (northern nations value the existence of certain ecological assets more strongly), the fact that these environmental assets are located mainly in the South, and that these environmental assets are depleted more rapidly when used in trade-related production activities. Abrego and others argue that linkage expands the bargaining set and that this could result in a new multi-issue agreement, which could be embraced by both sides.[24]

The basic intuition is that "[l]inking environmental and trade negotiations thus gives developing countries opportunities to restrain adverse trade policies in DCs, with environmental concessions being available to bargain for lower trade barriers."[25] Using computer simulations they show that joint trade and environment negotiations are superior to trade-only negotiations because they allow the North to generate welfare gains from southern environmental management and the South to lower northern trade barriers. Their policy lesson is that LDCs should embrace a trade and environment negotiation as it provides them with more leverage over trade.[26]

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[22] *Id.* at 21–22.

[23] *See* Lisandro Abrego et al., *Trade and Environment: Bargaining Outcomes from Linked Negotiations*, 9 REV. INT'L ECON. 414, 416–20 (2001).

[24] *Id.* at 415.

[25] *Id.*

[26] *Id.* at 416. For a similar point made by Spagnolo, see Spagnolo, *supra* note

Hilary Sigman offers an empirical analysis of the linkage question.[27] Her paper examines the question whether bilateral trade had a positive impact on pollution in rivers that cross international borders. She finds evidence of lower water pollution in rivers shared between countries with more extensive trade.[28] She concludes that improved coordination from expanded trade may thus represent a benefit to weigh against the environmental costs of trade liberalization (e.g., the pollution havens effect). Her paper does not trace the causal path through which trade promotes environmental cooperation. She hypothesizes that trade may promote cooperation by providing opportunities for implicit side payments if explicit side payments are politically difficult, and by providing contractual opportunities for "linking" between environmental and trade concessions (economic threats support bargaining over environmental objectives). Economic integration also allows countries direct leverage over each other's production, as, for example, through pollution content tariffs. Finally, intensive trade relationships may instill a perception of shared goals that helps resolve disputes in other arenas.[29]

In a series of articles, Bagwell, Mavroidis, and Staiger argued that the WTO regime could be utilized to prevent a "race to the bottom" in environmental standards.[30] Their argument explores the possible role of the WTO in preventing a race to the bottom in local environmental standards. While their argument is not structured in terms of "cross-regime linkage," it is still relevant to our discussion because national commitments under international treaties usually have domestic repercussions, such as stricter local emission standards (the Kyoto Protocol constitutes a paradigmatic example). A possible race to the bottom could thus have a chilling effect on the capacity of states to join multilateral environmental treaties or to

17, at 3.

[27] Hilary Sigman, *Does Trade Promote Environmental Coordination?: Pollution in International Rivers*, 3 CONTRIBUTIONS ECON. ANALYSIS & POL'Y 10-11 (2004).

[28] Building on data from the United Nation's Global Environmental Monitoring System ("GEMS") on water quality in international waters.

[29] *Id.* at 2-3.

[30] Kyle Bagwell, Petros C. Mavroidis & Robert W. Staiger, *It's a Question of Market Access*, 96 AM. J. INT'L L. 56, 56 (2002); *see also* Kyle Bagwell & Robert W. Staiger, *National Sovereignty in the World Trading System: Labor, Environment, and the WTO*, HARV. INT'L REV., Winter 2004, at 54, 59 (2001) (describing an adjustment to WTO rules where governments would be granted more freedom to choose those policies to deliver their negotiated market-access levels).

comply with their provisions. Bagwell and Staiger argue that WTO rules can be used to prevent members from lowering their environmental standards, relative to their level at the time in which the parties negotiated their market-access commitments. The logic of this argument is that such policy change constitutes a breach of the original agreement between the parties. It transforms the competitive conditions between the parties by giving an advantage to the local industry, both in the local market (against foreign imports) and in export markets (against foreign producers). They argue that in terms of GATT and WTO law, such policy change should lead either to the imposition of countervailing measures (when the manipulative Member is an exporter) or to a non-violation complaint (when that Member is an importer).

2. A SECOND LOOK AT THE LINKAGE ARGUMENT

The idea of linkage provides an alternative framework for thinking about the relationship between international regimes. It replaces the narrative of conflict, which dominated the "trade and ——" debate with a narrative of synergy and collaboration. The linkage literature highlights three possible advantages of cross-regime linkage. First, by allowing countries to use the surplus enforcement power that may be available in one policy domain to discipline cooperation in other domains, linkage can extend the set of sustainable (or self-enforcing) agreements.[31] Second, linkage can be instrumental in resolving the problem of free-riding by bridging the negotiations regarding a global public good dilemma and negotiations on a club good.[32] Finally, by allowing countries to engage in cross-regime bargaining, linkage provides a (welfare-enhancing) mechanism that can bridge distinct world views and preferences regarding various global dilemmas.[33] There is tentative and very preliminary empirical support for these arguments,[34] which give support to the claim that the WTO should extend its involvement in the resolution of transnational environmental di-

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[31] Spagnolo, *supra* note 17, at 3.

[32] Buchner et al., *supra* note 21, at 4; *see also* Carlo Carraro & Domenico Siniscalco, *International Environmental Agreements: Incentives and Political Economy*, 42 EUR. ECON. REV. 561, 566 (1998) (describing the linkage between negotiations over issues with excludable and those with nonexcludable benefits).

[33] Abrego, *supra* note 23, at 416; *accord* Spagnolo, *supra* note 17, at 3.

[34] Abrego, *supra* note 23, at 416; *accord* Sigman, *supra* note 17, at 10–11.

lemmas.[35]

While the argument for the synergic potential of cross-regime linkage seems to stand on solid ground, a closer look reveals various blind spots, which call into question the prospects of actually realizing this idea. In this Section, I want to lay bare these blind spots. I will focus on two main issues: first, the architecture of the international sphere, and the powers and composition of the institutions governing it; and second, the way in which the reality of a pluralistic global society, characterized by clashing cultures and world-views, may affect the linkage argument. Exploring these blind spots is a necessary step in the effort to develop feasible linkage mechanisms.

Consider first the characterization of the transnational domain as an anarchic space, in which law has no independent force. This assumption forms the basis for the game-theoretic discussion of international environmental cooperation.[36] It leads to the common economic claim that to be sustainable, international agreements must be self-enforcing. Further, conceptualizing the transnational realm as a lawless environment portrays the distinct regimes populating it as totally symmetric in terms of their fundamental institutional structure and compliance procedures. The differences between the domains are assumed to arise solely from their distinct subject matter (e.g., trade, environment, or peace) and the varied preference configurations of the negotiating states.

This assumption does not provide an accurate portrait of the contemporary international universe. It disregards the important role of international institutions and international law in the governance of global regimes. International institutions, such as treaty secretariats and scientific committees, influence the negotiation and consequent operation of international regimes in various ways that are not captured by the game theory point of view.[37] First, international institutions can change parties' preferences by creating new cognitive frames and generating new knowledge. A good example is the work of the scientific communities associated with the Vienna Convention for the Protection of the Ozone Layer of 1985

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[35] For this argument, see, for example, PEREZ, *supra* note 10, at 80–109.

[36] *See, e.g.*, Carraro & Siniscalco, *supra* note 32, at 563; Spagnolo, *supra* note 17, at 2.

[37] For a general discussion of this "institutionalist" thesis, see Ronald B. Mitchell, *International Environmental Agreements: A Survey of Their Features, Formation, and Effects*, 28 ANN. REV. ENV'T & RESOURCES 429, 451–53 (2003).

and the Climate Change Convention.[38] Second, treaty secretariats can influence the negotiation process by means of the power that they hold over the structure and dynamics of the negotiations (e.g., by setting the agenda, creating priorities, providing new frames through secretariat's reports, and more). Finally, treaty secretariats play an important role in collecting and disseminating information about the performance of the treaty signatories.[39] In this way, treaty secretariats play a critical role in facilitating better compliance with the provisions of the treaty.

A further blind spot of the game theory vision is its failure to provide a rich account of the role of law in the governance of international regimes. In some regimes, and the WTO is a prominent example, law has evolved into an autonomous system, endowed with independent powers.[40] The economic/political models that conceptualize international treaties through the prism of infinitely repeated prisoner's dilemmas do not capture the critical role that is played by the law in such regimes. In these models law has no meaning: the emergence and continuous operation of the international regime is explained as a product of the repeated interaction between the parties, in view of their exogenously determined preferences, the subject matter of the treaty, and the game's predetermined rules. The emergence of an autonomous system of law, changes, however, the structure of the interaction. The idea of legal autonomy implies, usually, the existence of a judicial body,

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[38] *See, e.g.*, PENELOPE CANAN & NANCY REICHMAN, OZONE CONNECTIONS: EXPERT NETWORKS IN GLOBAL ENVIRONMENTAL GOVERNANCE 17, 34 (2002); John Houghton, *Science and International Environmental Policy: The Intergovernmental Panel on Climate Change, in* ENVIRONMENTAL LAW, THE ECONOMY AND SUSTAINABLE DEVELOPMENT: THE UNITED STATES, THE EUROPEAN UNION AND THE INTERNATIONAL COMMUNITY 353 (Revesz et al. eds., 2000).

[39] Thus, for example, the secretariat of the Climate Change Convention is responsible for collecting from the signatories National Reports, which include, in the case of Annex I parties for example, detailed reports of their greenhouse gas inventories; it is also responsible for operating an open database that will bring together the various national reports. *See* U.N. Framework Convention on Climate Control, *National Reports*, http://unfccc.int/national_reports/items/1408.php (last visited Nov. 17, 2005) (detailing the complex reporting requirements of this convention).

[40] Other leading examples are the International Criminal Court and the International Tribunal for the Law of the Sea. More details about the structure and jurisdiction of these two bodies can be found in their highly elaborated websites, see, respectively, *International Criminal Court*, http://www.icc-cpi.int/ (last visited Oct. 25, 2005) and *International Tribunal for the Law of the Sea*, http://www.itlos.org (last visited Oct. 25, 2005).

which provides non-trivial monitoring of players' performance, determines whether the parties have complied with the treaty provisions, and finally decides whether (and in what way) to sanction a violating party. In all of these decisions the judicial system maintains substantive discretion. In contrast, the game-theoretic narrative of self-enforcing contracts assumes that players can perfectly detect and determine defections (i.e., treaty violations).[41] Further, the sanction is part of the players' predetermined strategy, and is constructed and executed by them.[42] The WTO system provides a paradigmatic example for such a juridical setting. In the WTO, the Panels and Appellate Body have the exclusive authority to determine whether a certain member has violated the treaty provisions, to decide whether such violation justifies the initiation of a sanction, and to determine the magnitude of the sanction.[43]

A further aspect of legal autonomy is that legal tribunals, and again I refer primarily to the WTO, may change through their interpretative power the parties' negotiated obligations, that is, the "rules of the game."[44] This process takes place outside the parties'

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[41] *See* Spagnolo, *supra* note 17, at 6.

[42] For example, see discussion of the "grim-trigger" strategy *infra* Section 6. *See also* Ken Binmore, *Reciprocity and the Social Contract*, 3 POL., PHIL. & ECON. 5, 20 (2004).

[43] *See* Understanding on Rules and Procedures Governing the Settlement of Disputes art. 22, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, LEGAL INSTRUMENTS—RESULTS OF THE URUGUAY ROUND, 33 I.L.M. 1125 (1994) [hereinafter Dispute Settlement Understanding].

[44] Prominent examples in the case of the WTO are the Appellate Body decisions in the *Shrimp* case, which recognized the power of a WTO member to use trade measures in order to promote the establishment of an international environmental treaty, in contrast to a General Agreement on Tariffs and Trade ("GATT") precedent. Another example includes the decision of the Appellate Body in the *Asbestos* case (and several others) to allow non-members, such as non-governmental organizations, to submit briefs to the Court, even though such procedure is not recognized anywhere in the WTO Agreement. For the details of these decisions, see Panel Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/R (May 15, 1998); Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R (Oct. 12, 1998) [hereinafter *First Shrimp Report*]); Panel Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/RW (June 15, 2001); Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products – Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/AB/RW (Oct. 22, 2001) [hereinafter *Second Shrimp Report*]; Appellate Body Report, *European Communities – Measures Affecting the Prohibition of Asbestos and Asbestos-Containing Products*, ¶¶ 50–57, WT/DS135 (Mar. 12, 2001) [hereinafter *EC-Asbestos*]. It should be noted that my interpretation of these cases is incompatible with article 3(2) of the Dispute

control (although of course there is strategic interaction between the judiciary and the parties—especially through the political bodies of the regime—but this interaction is very difficult to capture in a formal model). In the world of the game theory models discussed above, such change in the rules of the game can only happen through the intervention of the modeler. The contours and scope of law as an autonomous social force within a certain regime cannot be determined a priori; this requires a contextual inquiry. But it is a mistake to disregard the independent role of law in structuring expectations and behavior in the transnational domain.

A further problematic feature of the game theory models concerns the way in which they aggregate the parties' costs and benefits across the linked regimes. The technique that is utilized in these models depends on the existence of a common monetary (or other) scale, to which the varied costs and benefits could be translated. In the context of the trade and environment conflict, this assumption requires one to accept the idea that nature and environmental damage can be attributed with monetary values. The claim that linkage could facilitate bargains between trade concessions and environmental commitments is based on the assumption that the value of these exchanged "goods" can be calculated and compared using a common scale. This assumption is, however, highly problematic.[45] First, the anthropocentric worldview underlying the assumption of common denomination is at odds with the vision—shared by several schools of environmental thought—that nature has an intrinsic and nonderivative value.[46] While linkage may succeed in giving nature a voice in the trade arena, this voice is filtered by uncommitted economic calculations. The alternative philosophical standpoint, which postulates nature as an equal member of the global, moral, and political community, is thus left unchallenged. But the idea of linkage is also problematic from a mercan-

Settlement Understanding which states that the rulings of the WTO tribunals "cannot add to or diminish the rights and obligations provided in the covered agreements." There is a wide gap between this provision and the actual legal dynamics of the WTO.

[45] However, there has been significant progress on the question of how to value nature and how to translate environmental damage into monetary terms. *See, e.g.*, Stephen C. Farber et al., *Economic and Ecological Concepts for Valuing Ecosystem Services*, 41 ECOLOGICAL ECON. 375, 377 (2002).

[46] The anthropocentric bias is reflected in the valuation techniques used by environmental economists, which commonly measure environmental goods by evaluating their monetary value to humans.

tilist perspective because the kind of exchange it calls for—between tangible trade concessions and ecological commitments whose economic value is uncertain and even speculative—is seen as artificial and problematic.

A further blind spot of the game theory models concerns their assumptions regarding national preferences with respect to environmental matters.[47] The economic case for linkage was based, among other things, on the idea that cross-regime linkage could create new opportunities for welfare enhancing deals by exploiting asymmetries in national preferences regarding, for example, environment and economic development. This presupposition disregards the wide gap between what people say about the environment and what they are willing to do about it in terms of their economic and political choices. This gap can be found, for example, in the social attitude toward ecological problems whose impact is projected to happen in the future (e.g., climate change), and generally in the context of ecological problems whose social impact is uncertain (e.g., loss of biodiversity).[48]

The foregoing critique requires us to change the way we think about cross-regime linkage. First, any attempt to promote linkage schemes must identify and deal with the discursive or ideological differences that permeate the targeted regimes. These differences may bar potential cross-regime deals by preventing an agreement on how to aggregate costs and benefits across the linked domains. For example, the idea that northern and southern nations may exchange trade concessions for environmental commitments depends on the ability of these nations to reach a consensus on an algorithm that could be used to aggregate environmental costs and trade benefits. This is not an easy task. Indeed, when one examines the negotiating history of the GATT/WTO, one sees little evidence of a true and effective willingness of the northern countries to engage in trade-environment bargains.[49]

Second, accepting the idea that institutions matter means that one has to consider more seriously the implications of different institutional structures and cultures to the linkage project. One implication has to do with the meaning of "power." Whereas the

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[47] Abrego et al., *supra* note 23, at 418.

[48] *See, e.g.*, Buchner et al., *supra* note 21, at 6–10 (discussing the U.S. decision not to ratify the Kyoto Protocol).

[49] For a more detailed exposition of this point, see PEREZ, *supra* note 10, at 86–88.

game-theory narrative postulates this idea simply in terms of asymmetries in the long-term benefits associated with different regimes (considered against possible gains from one-off deviation), the institutionalist view requires us to consider, also, asymmetries in the powers and maturity of the organizations associated with distinct policy domains. These may reflect the fact that one regime has developed an independent judicial system and a highly influential community of bureaucrats that support its operation. Indeed, the WTO is seen as more powerful than parallel global environmental regimes particularly because of the independent powers of its judicial system and the efficient backing it receives from a powerful trade community.

A second issue that is brought to fore by the institutionalist perspective is the recognition that linking separate regimes could generate various transaction costs. Most of the economic discussions of linkage tend to disregard this question. This modeling choice does not seem justified, however. A more realistic assumption is that these costs not only exist, but increase with the number of linked issues. These costs may reflect various aspects of the process of linkage. A first type of cost reflects the difficulties of administering an enhanced regime. This may reflect the increasing complexity of simultaneously negotiating multiple issues (e.g., evaluating, in a single point in time, the total costs and benefits of all linked issues), the implementation phase (e.g., monitoring behavior across multiple domains), and the possible erosion in the functional efficacy of existing institutions. In Section 6, I give a formal illustration of the idea of transaction costs, building on the model of Spagnolo.

A second type of transaction cost reflects the organizational barriers associated with clashing institutional cultures. Different international regimes can develop idiosyncratic cultural dispositions and biases, which may remain hidden if these regimes are observed just in terms of the collective benefits they produce, measured in sterile monetary terms. In weighing distinct regimes such as the GATT/WTO and the Climate Change Convention, one has to consider, therefore, not just the economic value of their underlying "goods" (free trade and a stable climate), but also the conflicting cultural dispositions associated with them, which could act as barriers to potential welfare enhancing linkages.

The tendency in the economic literature to disregard the intricate details of the organizational and cultural attributes of the transnational environment is therefore highly problematic. The

following section explores how the question of linkage is dealt with under the law of the WTO.

3. PROSPECTS FOR CROSS-REGIME LINKAGE UNDER CONTEMPORARY TRADE LAW

3.1. The Institutional Culture of the WTO and the Ground-breaking Decisions of the Appellate Body in the Shrimp *Case*

Exploring the question of linkage in the context of the WTO requires an understanding of the institutional idiosyncrasies of this organization—its ethos and cultural orientation. This could expose the possible barriers and adverse effects of linking the WTO with other domains. The GATT,[50] which the WTO replaced in 1995, was strongly influenced by a mercantilist ethos. The mercantilist ethos was a product of two ideals: fairness and nationalism. The wrangling over tariff levels and other trade concessions within GATT negotiating rounds was not guided by the maxims of welfare or efficiency. Rather, it was driven by a common obsession with "market access." Tariff reductions were agreed upon only if they withstood the test of balanced reciprocity: any forgone custom income was to be compensated for by comparable payoffs in terms of increased access to foreign markets.[51]

This mercantilist culture was unreceptive to environmental concerns. The parties to the "mercantilist game" were seeking market access, not ecological benefits.[52] The practitioners of mercantilism were blind to the ecological implications of this game: both to the possibility that trade expansion could lead to ecological degradation, and to the idea that linking between the negotiations

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[50] General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT].

[51] The mercantilist spirit of the GATT was captured nicely by Paul Krugman:

> Anyone who has tried to make sense of international trade negotiations eventually realizes that they can only be understood by realizing that they are a game scored according to mercantilist rules, in which an increase in exports—no matter how expensive to produce in terms of other opportunities foregone [sic]—is a victory, and an increase in imports—no matter how many resources it releases for other uses—is a defeat.

Paul Krugman, *What Should Trade Negotiators Negotiate About?*, 35 J. ECON. LITERATURE 113, 114 (1997).

[52] *See* Kyle Bagwell & Robert W. Staiger, *Domestic Policies, National Sovereignty and International Economic Institutions*, 116 Q.J. ECON. 519, 522 (2001).

within the GATT and negotiations in other international forums could provide greater flexibility in resolving global environmental dilemmas. The persistence of the mercantilist game, and the closed community of trade bureaucrats and corporate lobbyists who participated in it, produced a deep sense of purposefulness within the GATT. The mercantilist vision of facilitating transnational trade through balanced—rather than welfare-maximizing—liberalization of national markets was seen as the overarching mission of the organization.[53]

The Appellate Body, in its landmark decisions in the *Shrimp* dispute,[54] has moved away from the mercantilist ethos, which has dominated the GATT era, offering a broader interpretation of the goals of the WTO. The Appellate Body has reconstructed the normative hierarchy of the WTO by creating parity between the environmental exceptions included in Article XX of the GATT and the substantive obligations of the GATT (e.g., Articles I and III).[55] These decisions of the Appellate Body reflect a clear exercise of judicial autonomy, signaling a stronger willingness to experiment with cross-regime linkages. However, this willingness remains bounded by the heritage of the GATT and is still a far cry from the highly developed structures envisioned in the theoretical literature discussed above.

The *Shrimp* dispute was triggered by an import ban that was introduced by U.S. authorities on the importation of shrimp that were harvested in a way that endangered the lives of sea turtles. The U.S. regulations required exporting countries to adopt, as a condition for obtaining export certificate, a conservatory program including a requirement to use ecologically friendly fishing technology—i.e., Turtle-Excluder Devices—supported by a credible enforcement system.[56] The Appellate Body concluded that the U.S. import ban on shrimp was not consistent with Article XI of GATT, because it was a quantitative restriction on trade, and could not be

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[53] See, further on that point PEREZ, *supra* note 10, at 51–54 (discussing the mercantilist ethos of the GATT and the environment).

[54] *Second Shrimp Report, supra* note 44.

[55] *See also* Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, at 17–18, WT/DS2/AB/R (Apr. 29, 1996) [hereinafter *Reformulated Gasoline*].

[56] Revised Notice of Guidelines for Determining Comparability of Foreign Programs for the Protection of Turtles in Shrimp Trawl Fishing Operations, 61 Fed. Reg. 17,342, 17,344 (Apr. 19, 1996). In order to simplify the presentation, some of the details of the U.S. program were omitted.

justified under Article XX.[57] The second *Shrimp* ruling was triggered by an article 21.5 of the Dispute Settlement Understanding ("DSU") complaint by Malaysia accusing the United States of failing to properly implement the recommendations of the Appellate Body.[58] The complaint challenged the measures that were taken by the U.S. to implement the Appellate Body decision, focusing in particular on the Revised Guidelines, which were issued by the United States in July 1999.[59] The Appellate Body rejected the Malaysian complaint and upheld the Panel's finding that the United States' revised regulatory framework was being applied in a manner that met the requirements of Article XX.[60]

The Appellate Body's first ruling sets out a new interpretative framework for reading the text of the GATT. The Appellate Body rejected the Panel's attempt to reintroduce to the WTO legal system, through the interpretation of the introductory section of Article XX—the *chapeau*—a pro-trade preference (in the spirit of the *Tuna-Dolphin* decisions).[61] The Panel ruled that measures (such as unilateral trade embargos) which undermine the WTO multilateral trading system must be regarded as not within the scope of measures permitted under the *chapeau* of Article XX,[62] a formulation similar to the one used by the *Tuna* Panels.[63] The Appellate Body disagreed. It noted that the interpretation of the *chapeau* should *not* be governed by the narrow goal of maintaining the multilateral trading system.[64] The *chapeau* reflects the necessity to strike a bal-

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[57] *First Shrimp Report, supra* note 44, at ¶¶ 187–88.

[58] Under article 21.5 a panel is called to review the measures taken to implement the Panel's or Appellate Body's rulings. *Second Shrimp Report, supra* note 44, ¶¶ 1–2.

[59] Revised Guidelines for the Implementation of Section 609 of Public Law 101-162 Relating to the Protection of Sea Turtles in Shrimp Trawl Fishing Operations, 64 Fed. Reg. 36,946, 36,949 (July 8, 1999).

[60] *Second Shrimp Report, supra* note 44, ¶¶ 153–54. For a more detailed analysis of the *Shrimp* saga, see PEREZ, *supra* note 10, at 70–94.

[61] The references that follow, unless explicitly noted, are to the first decision of the Appellate Body.

[62] *Second Shrimp Report, supra* note 44, ¶ 48 ("[T]he approach taken by the Panel [is] that Members are not allowed to resort to measures that would undermine the multilateral trading system and thus abuse the exceptions contained in Article XX.").

[63] *See* Panel Report, *United States—Restrictions on Imports of Tuna*, ¶ 5.27, DS21/R (Sept. 3, 1991) [hereinafter *Tuna I*]; Panel Report, *United States—Restrictions on Imports of Tuna*, ¶ 5.26, 32 I.L.M 842, 894 [hereinafter *Tuna II*]; *First Shrimp Report, supra* note 44.

[64] *First Shrimp Report, supra* note 44, ¶¶ 116, 155–56.

ance between the rights embodied in the various exceptions of Article XX and the primary obligations of the GATT (e.g., Articles I and III).[65] This balancing exercise should be guided by the recognition that the rights that are embodied in the environmental exceptions of Article XX and the primary obligations of the GATT (e.g., Articles I and III) are of the *same order*.[66] The main goal of the *chapeau*, the Appellate Body stated, is to prevent abuse of the exceptions of Article XX[67]; it is, in fact, "one expression of the principle of *good faith*."[68] The Appellate Body emphasized in this context that a failure to comply with one of the general obligations of the GATT cannot, in itself, prevent a Member from invoking Article XX successfully. Such interpretation would deprive Article XX of any practical meaning, denying its independent and primary normative value.[69]

The Appellate Body's general ruling was embedded in a new framework for interpreting Article XX, based on a two-tiered model.[70] According to this model, to be accorded the protection of Article XX, a measure must not only come under one of the particular exceptions listed in Article XX, it must also satisfy the requirements imposed by the opening clause of Article XX—the *chapeau*.[71]

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[65] *Id.* ¶¶ 156, 159.

[66] It might be useful to quote the exact words of the Appellate Body on this point:

> The task of interpreting and applying the chapeau is, hence, essentially the delicate one of locating and marking out a line of equilibrium between the right of a Member to invoke an exception under Article XX and the rights of the other Members under varying substantive provisions (e.g., Article XI) of the GATT 1994, so that neither of the competing rights will cancel out the other and thereby distort and nullify or impair the balance of rights and obligations constructed by the Members themselves in that Agreement. The location of the line of equilibrium, as expressed in the chapeau, is not fixed and unchanging; the line moves as the kind and the shape of the measures at stake vary and as the facts making up specific cases differ.

Id. ¶ 159.

[67] *See id.* ¶ 150.

[68] *Id.* ¶ 158 (emphasis added).

[69] *See id.* ¶ 151 ("[T]he exceptions of Article XX may be invoked as a matter of legal right.").

[70] *First Shrimp Report*, *supra* note 44, ¶ 118.

[71] *See Reformulated Gasoline*, *supra* note 55, at 22.

3.2. *The Implications of the Shrimp Decision for Extending the Linkage Between the WTO and the Environmental Realm*

The Appellate Body's innovative reading of Article XX reflects a deep recognition of the linkage between the trade and environmental domains, and a willingness to give this linkage a legal effect. In the second *Shrimp* ruling, the Appellate Body accepted as legitimate the imposition of an effective embargo by the United States against certain shrimp producing countries (mainly from East Asia), as a means to pressure these countries to join a multilateral effort to promote the conservation of sea turtles. By that, the Appellate Body has recognized the decisive role that trade measures can play in securing participation in, and compliance with, multilateral environmental agreements, acknowledging that the conclusion of multilateral environmental agreements may be thwarted by "free-riding," and that the threat of trade sanctions may be necessary in order to deter such behavior.

The Appellate Body laid down several conditions, which must be satisfied by a trade measure, if it is to receive the protection of Article XX (which I call the "good-faith protocol" of Article XX). The conditions consist of the following obligations: a requirement to *explore* the possibility of solving the environmental problem through a multilateral agreement rather than unilaterally; application of the measure in question in a transparent, flexible, and even-handed manner (a "due process" requirement); a requirement to provide technological assistance on a *nondiscriminatory basis*; and finally, an obligation to consider the *incremental costs* that the environmental program may generate, both for the domestic manufacturers and for the foreign exporters as a result of the measure.[72]

This broader reading of the goals of the WTO seems to signal, then, a greater institutional willingness to experiment with cross-regime linking. In the following sections I would like to consider the various repercussions and possible extensions of the *Shrimp* rulings.

It is important to point out, at the start, the differences between the *Shrimp* ruling and the economic-inspired models of linkage, discussed above. The Appellate Body's decision does not provide a di-

[72] The first three requirements are based on the decisions of the Appellate Body in the *Shrimp* case. The latter obligation is based on the Appellate Body decision in *Reformulated Gasoline*, *supra* note 55, at 28. See also PEREZ, *supra* note 10, at 82, for a more detailed explanation of this argument.

rect authority for wide-ranging experimentation in linkage schemes. It is much more modest in what it authorizes: it merely allows one country to suspend some of the trade concessions that it has previously negotiated with another country. Despite the narrow scope of the Appellate Body's decision, the rationale of its decision can be used to justify broader actions, which are closer in their structure to those envisioned in the theoretical literature.

To identify these possible extensions we need to understand the *ratio decidendi* of the *Shrimp* case. The *Shrimp* case dealt with a relatively narrow environmental dilemma—the conservation of an endangered migratory species,[73] and focused on the difficulties of forging a new Multilateral Environmental Agreement ("MEA"). It was triggered by a unilateral trade measure, which was initiated by the United States without a formal legal backing from an international legal authority (e.g., from an MEA).[74]

There are various directions in which this decision may be extended. One possible direction questions the applicability of the *Shrimp* ruling to cases involving pure global public goods, such as problems relating to the atmosphere. This extension seems to follow naturally from the case reasoning, and does not seem to raise difficult questions.[75] A second possible direction concerns extending the *Shrimp* ruling to a group of countries acting together. Such extension seems consistent with the logic of the decision (as long as these countries satisfy, collectively, the "good-faith" protocol depicted above). This possible extension may be very important in real life, because given the current asymmetries that characterize the global society, pressuring big players such as the United States or the European Union to collaborate on some environmental cause can only happen, if at all, through the concerted action of several countries.

A further question involves the extension of the *Shrimp* ruling from the *negotiation* phase (which characterized the Shrimp case) to the *post-contractual* phase. While the free-riding problem is most visible at the *pre-contractual* phase, similar difficulties can arise after

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[73] *See First Shrimp Report, supra* note 44, ¶ 133.

[74] *E.g.*, Convention on the Conservation of Migratory Species of Wild Animals art. 3, June 23, 1979, 1651 U.N.T.S 361, 19 I.L.M. 15.

[75] One possible difficulty may arise in the case of global public goods, which are located in the territory of one nation such as tropical forests. This scenario involves a deeper tension between the collective interests of the global community and the sovereignty of the nation state hosting the global public good.

the conclusion of a MEA, both with respect to non-signatories that free-ride on the efforts of contributing parties, and with respect to members that fail to comply with the provisions of the MEA. This scenario raises the question of the legality of a trade measure that was initiated after the conclusion of a MEA in order to enforce non-signatories to join the agreement, or in order to force a non-complying party to fulfill his commitments. Such measures may be authorized by the MEA or reflect a private initiative.[76] Whether such measures can be justified under the *Shrimp* ruling may be open to debate. On the one hand, if it is legitimate to use a unilateral trade measure in order to secure participation in a multilateral effort to resolve a global ecological problem, (the *Shrimp* case) it is hard to see why it should not be legitimate to invoke this tool in order to secure participation in, or compliance with, the provisions of an existing agreement. On the other hand, one can argue that once an agreement has entered into force, its parties should abide by its provisions, including those governing the issues of compliance and dispute resolution. Thus, if the trade measures under dispute were not authorized by the MEA, they can be interpreted as an act of "bad faith," denying the acting state(s) from the protection of Article XX.[77]

WTO law offers two further routes through which trade and environmental commitments may be linked: the doctrines of countervailing measures and non-violation complaint. As noted in Section 1.2, Bagwell, Mavroidis, and Staiger argue that a country lowering its domestic environmental standards relative to their level at the time in which the parties negotiated their market-access commitments is breaching its WTO commitments. This is because in this act the country transforms the market conditions, by giving a competitive advantage to its domestic industry, both in the local market (against foreign imports) and in export markets (against foreign producers).[78] One can try to extend their argument also to cases in which a WTO signatory refuses to join a costly MEA.[79] To the extent

[76] States may use a variety of trade measures to pressure their trading partners. These include, in addition to trade embargos, eco-tariffs, countervailing measures, or green subsidies.

[77] Under this view there is no conflict between the rules of the WTO and trade measures used and authorized by certain MEAs, such as the Basel Convention and the Convention on International Trade in Endangered Species ("CITES").

[78] Bagwell, Mavroidis & Staiger, *supra* note 30, at 61.

[79] Such argument seems difficult, though, because the environmental requirements of a new MEA (e.g., the Kyoto Protocol) would not have been in force when

that such refusal may be judged illegitimate by WTO law—it could lead either to the imposition of countervailing measures (when the manipulative state is an exporter) or to a non-violation complaint (when that state is an importer). I doubt, however, that these possible reactions can be justified under the current countervailing and non-violation rules of the WTO. A state invoking such measures would thus have to invoke Article XX, bringing us back to the *Shrimp* ruling and its conditions.

Overall the *Shrimp* ruling seems to open the door for a partial usage of trade measures in order to facilitate cooperation in the environmental realm. Note that the foregoing scenarios, even though they extend the "linkage repertoire" of the WTO, are still relatively modest, in that they realize the idea of linkage indirectly through pro-linkage interpretation of Article XX. Under current WTO law it is therefore the parties, rather than the organization as a whole, who take the lead in realizing the linkage vision. Currently, what the WTO provides (at most) is a receptive ground for such state-triggered experimentation.

3.3. *Other Forms of Trade-Environment Linkage within the WTO: The Generalized System of Preferences ("GSP")*

The *Shrimp* ruling has opened new routes for using the enforcement capacities of the WTO in the environmental domain, although some of the routes outlined above reflect a speculative reading of current WTO law. In this section, I would like to focus on another mechanism of cross-regime linkage, which is available under current WTO law: GSP conditionality. GSP conditionality creates an explicit linkage between trade concessions and environmental commitments. The Generalized System of Preferences provides preferential market access to developing countries; it reflects the non-homogenous efforts of various developed countries to provide developing countries with preferential tariffs and other privileges, in response to Article XXXVI, paragraph 3 of the GATT of 1947.[80] Some of these schemes, such as the EU GSP scheme, re-

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the parties first negotiated their market-access commitments. It should be emphasized, though, that a race to the bottom in, for example, local air pollution standards, is also likely to deter international negotiations regarding global climate issues.

[80] Article XXXVI, paragraph 3 of GATT states that "[t]here is need for positive efforts designed to ensure that less-developed contracting parties secure a share in the growth in international trade commensurate with the needs of their economic development." For a general discussion of the implementation of spe-

quire the beneficiary countries to meet certain environmental requirements as a condition for receiving the preferential treatment. It is beyond the scope of this Article to explore the whole universe of GSP schemes, so I will concentrate on the two biggest players, the European Union and the United States.

The current EU GSP Scheme offers five different arrangements for beneficiary countries. Among the five options is a special incentive arrangement that is available on request to countries implementing certain standards for the sustainable management of tropical forests. The special environmental arrangement provides eligible countries with an additional tariff reduction.[81] The current GSP scheme is due to be replaced by a revised scheme starting from the beginning of 2006. The revised scheme will include more comprehensive environmental requirements, which will be part of a new scheme called "GSP Plus." Countries wishing to benefit from this scheme will be required to ratify and effectively implement twenty-seven core conventions dealing with human and labor rights, good governance, and the protection of the environment (by December 31, 2008).[82]

The United States operates four systems of preferential trade for developing countries: the Generalized System of Preferences, the African Growth and Opportunity Act, the Andean Trade Pref-

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cial and differential treatment provisions of the WTO agreements, see Note by Secretariat, *Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions*, WT/COMTD/W/77 (Oct. 25, 2000).

[81] For further details on the EU Generalized System of Preferences ("GSP") scheme, see *User's Guide to the European Union's Scheme of Generalised Tariff Preferences*, Feb. 2003, http://europa.eu.int/comm/trade/issues/global/gsp/gspguide.htm. The EU scheme also offers additional incentives for countries that accept certain standards pertaining to the protection of labor rights.

[82] The key environmental treaties mentioned in the proposal are: Montreal Protocol, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Stockholm Convention on persistent Organic Pollutants, Convention on International Trade in Endangered Species, Convention on Biological Diversity, Cartagena Protocol on Biosafety, and Kyoto Protocol to the UN Framework Convention on Climate Change. *See* Commission of the European Communities, *Developing Countries, International Trade and Sustainable Development: The Function of the Community's Generalised System of Preferences ("GSP") for the Ten-Year Period from 2006 to 2015*, at 6, COM (2004) 461 final (July 7, 2004) (highlighting the objectives of the new GSP scheme); *GSP: The New EU Preferential Market Access System for Developing Countries*, http://europa.eu.int/comm/trade/issues/global/gsp/memo230605_en.htm (last visited Dec. 4, 2005) (noting that the new GSP plus "will cover around 7200 products which can enter the EU duty free [as long as the beneficiaries] meet a number of criteria").

erence Act, and the Caribbean Basin Initiative.[83] In contrast to those of the European Union, the U.S. preferential schemes do not have an explicit environmental component; they focus on the beneficiary countries practices relating to trade, investment, intellectual property, and the protection of human rights and worker rights.[84] Thus, for example, the African Growth and Opportunity Act ("AGOA") authorizes the President to designate countries as eligible to receive the benefits of AGOA if they are determined to have established, or are making continual progress toward establishing the following: a market-based economy that protects private property rights; a viable legal system based on the principle of equality; a pluralistic political system; elimination of barriers to U.S. trade and investment; protection of intellectual property rights; policies to reduce poverty, increasing availability of health care and educational opportunities; and protection of internationally recognized worker rights.[85] Further conditions include a requirement not to engage in activities that undermine U.S. national security or foreign policy interests,[86] and a requirement not to engage in gross violations of internationally recognized human rights or to provide support for acts of international terrorism.[87]

It is an open question whether the GSP schemes operated by developed countries actually contribute to the welfare of developing countries. A recent study of the GSP schemes of the United States, the European Union, Japan, and Canada, which was con-

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[83] *See* Office of the United States Trade Representative, *Preference Programs*, http://www.ustr.gov/Trade_Development/Preference_Programs/Section_Index.html (last visited Nov. 17, 2005) (providing an overview of the U.S. schemes).

[84] *See* United Nations Conference on Trade and Development, Jan. 30, 2004, *Trade Preferences for LDCs: An Early Assessment of Benefits and Possible Improvements* 8-11, U.N. Doc. UNCTAD/ITCD/TSB/2003/8 (Jan. 30, 2004), http://www.unctad.org/en/docs/itcdtsb20038_en.pdf [hereinafter UNCTAD Report]. In contrast, many of the recent free trade agreements negotiated by the United States (e.g., those with Jordan, Australia, and Singapore) do include extensive environmental provisions. *See generally* Office of the United States Trade Representative, *Trade Agreements Home*, http://www.ustr.gov/Trade_Agreements/Section_Index.html (last visited Nov. 17, 2005).

[85] *See* Trade and Development Act of 2000, § 104, 19 U.S.C. § 3703 (2000) (mentioning the following internationally recognized worker rights: "the right of association, the right to organize and bargain collectively, a prohibition on the use of any form of forced or compulsory labor, a minimum age for the employment of children, and acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health").

[86] *Id.* § 3703(a)(2).

[87] *Id.* § 3703(a)(3).

ducted by the United Nations Conference on Trade and Development ("UNCTAD"), offers a solemn picture of the efficacy of the WTO GSP program. It points out that the utilization and benefits of these trade preferences are concentrated in few country/product pairs and that their general impact has been inconsequential.[88] If this is indeed the case, it seems reasonable to assume that the influence of the environmental conditions imposed by these schemes has also been negligible.[89] Whether such conditions are compatible with the rules of the WTO is still an open question despite the recent ruling of the Appellate Body in *European Communities – Conditions for the Granting of Tariff Preferences to Developing Countries*[90] and is likely to generate further debate within the WTO.[91]

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[88] *See* UNCTAD Report, *supra* note 84, at x; *see also* Bernard Hoekman et al., *Special and Differential Treatment of Developing Countries in the WTO: Moving Forward After Cancun*, 27 WORLD ECON. 481, 503 (2004) ("[P]references are not a long-term solution . . . they come at a high cost to excluded countries and may not benefit recipients much either.").

[89] An additional question in this context is to what extent GSP conditionality serves the interests of the beneficiary countries or the global community (e.g., environmental and human rights values) or rather those of the granting state. This is particularly true in the case of the U.S. schemes, which include conditions pertaining to the protection of foreign investors and intellectual property rights.

[90] Appellate Body Report, *European Communities – Conditions for the Granting of Tariff Preferences to Developing Countries*, WT/DS246/AB/R (Apr. 7, 2004).

[91] The Appellate Body did not consider directly the environmental and labor conditions of the EU scheme, because India has dropped its claims on these issues, focusing only on the EU Drug Enforcement provisions. However, some of the Appellate Body comments have a more general application. The Appellate Body first stated that, "[i]n granting . . . differential tariff treatment . . . preference-granting countries are required . . . to ensure that identical treatment is available to all similarly-situated GSP beneficiaries." *Id.* ¶ 173. Second, the "response of a preference-granting country must be taken with a view to improving the development, financial, or trade situation of a beneficiary country, based on the particular need at issue." *Id.* ¶ 164. The second prong of the Appellate Body ruling seems to raise doubts as to the WTO compatibility of some of the conditions included in the EU and U.S. schemes. Some of these conditions cannot be easily justified on the basis of the "development, financial or trade situation" of the beneficiary countries and may more accurately reflect the interests of the granting country (e.g., the trade/investment provisions of the U.S. schemes) or the global community (the requirement to ratify core environmental treaties in the new EU GSP scheme). For a more detailed discussion of the implications of this ruling, see Steve Charnovitz et al., *Internet Roundtable: The Appellate Body's GSP Decision*, 3 WORLD TRADE REV. 239, 239–65 (2004).

4. REALIZING THE LINKAGE VISION: THE INSTITUTIONAL CHALLENGE WITHIN THE WTO

4.1. The Challenge

Linking trade and environmental regimes can have positive synergic effects. However, as explained in Section 1, it is difficult to implement the idea of linkage in a society that is divided in its stance toward nature and is governed by real and "messy" institutions rather than sterile infinitely repeated games. First, implementing linkage schemes requires the development of a common metrics that would facilitate the balancing of costs and benefits across the distinct domains (e.g., trade and environment). Second, implementing a linkage project requires policymakers to deal with the institutional barriers and transaction costs that are likely to accompany this process. These dual challenges are not unique to the trade and environment context; they are likely to be present in other policy contexts such as trade and labor rights.

These difficulties could hinder further experimentation with the idea of linkage in the WTO. To understand this problem, consider again how linkage is realized within the contemporary universe of WTO law. The principal forms of linkage that are recognized by WTO law are: Article XX enforcement actions (following the *Shrimp* ruling), incentive measures (under the GSP), and very restricted institutional cooperation (e.g., limited observer status to certain MEAs). Let us focus, for example, on the idea of using Article XX to authorize enforcement action. In deliberating the consistency of such measures with Article XX, WTO tribunals are likely to face serious difficulties, which were not given sufficient attention in the *Shrimp-Turtle* rulings. The WTO tribunals would be required to apply the good-faith protocol, which was developed by the Appellate Body as a guide for interpreting the *chapeau*, in order to decide the legality of trade-based enforcement action. This protocol requires a state, before introducing a unilateral trade measure, to explore the possibility of responding to the environmental risk in question through international agreement.

The law of the WTO does not contain, however, evaluative criteria that could allow its tribunals to determine whether the member using a trade measure has made a good-faith effort to negotiate an MEA with the countries targeted by the trade measure. The ultimate failure of such negotiations may be the result of conflicting

moral preferences with respect to the value of the ecological asset that was the subject of the dispute.[92] In some cases this ideological dispute may be (legally) resolved by looking into the existing body of international environmental law. For example, in the *Shrimp-Turtle* dispute, the thesis that sea turtles are worth preserving was supported by their classification as endangered species in the Convention on International Trade in Endangered Species of Wild Fauna and Flora.[93] But this move can only provide a partial solution because international environmental law is predominately treaty-based, and the membership in MEAs is far from universal. And of course, some negotiations may focus on issues that are not covered by existing agreements.[94] The negotiations may also fail because the parties may have different views with respect to the economic value of the ecological asset, preventing the conclusion of eco-financial barters. To give a concrete example, imagine that Malaysia would have agreed to join a multilateral effort to protect sea turtles, but would have demanded financial compensation to help fund the environmental technology needed to protect sea turtles. This demand could reflect the disparate moral-environmental preferences of the two countries, as well as variance in their national wealth. Suppose, next, that Malaysia rejects a certain package proposed by the United States. What criteria should a WTO panel use to evaluate the fairness of this proposed deal?

These cultural and ideological cleavages are not the only difficulties that the linkage project may face. More extensive experimentation with linkage is also likely to generate substantial transaction costs. In the case of the WTO, these costs represent the need to extend the decisionmaking capacities of the legal and administrative branches, so as to enable them to cope with the increasing cognitive, decisional, and political burdens that are likely to be imposed on them by the linkage process.[95] These increasing burdens

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[92] And thus not a result of the bad faith of either party.

[93] *See First Shrimp Ruling, supra* note 44, ¶ 132 ("The exhaustibility of sea turtles would in fact have been very difficult to controvert since all of the seven recognized species of sea turtles are today listed in Appendix 1 of [CITES]").

[94] For example, in the *Shrimp* case, both the United States and some of the complainants (Malaysia and Thailand) were not parties to the Convention on the Conservation of Migratory Species of Wild Animals. *See First Shrimp Ruling, supra* note 43, ¶ 130 n.113 ("We note that India and Pakistan have ratified the Convention on the Conservation of Migratory Species of Wild Animals, but that Malaysia, Thailand and the United States are not parties to the Convention.").

[95] It is quite clear, for example, that the WTO current legal establishment does not have the expertise that is needed to administer a complex environmental re-

could severely erode the operational efficacy of these branches, eroding the functional effectiveness of the WTO and linked regime. A further potential barrier concerns the conflicting institutional cultures that may characterize the trade and environment context. For example, the enduring influence of the mercantilist tradition within the WTO community of trade bureaucrats could form a barrier to potential linkage schemes.

4.2. Building Feasible Trade-Environment Linkage Mechanisms

Building feasible linkage mechanisms at the trade-environment front depends therefore on finding plausible answers to two dilemmas: first, the deep discursive and ideological discords that permeate the trade-environment nexus; and second, the organizational discords that are likely to accompany any attempt to integrate highly different organizations. The challenge of the linkage project is to find institutional mechanisms that may deal with these dilemmas.

In approaching this challenge, it is important to recognize that the ideological cleavages underlying the trade-environment conflict may be unbridgeable. Modern society does not have at its disposal some meta-discourse that could—superseding economics or environmental philosophy—offer a precise and universally acceptable algorithm for balancing between trade and environmental objectives (which could, subsequently, be incorporated into the rule-book of the WTO or UNEP). Similarly, this task cannot be handed over to a single institution, whether UNEP or the WTO. It is unrealistic, for example, to expect the Appellate Body to lead this project independently through a creative reading of Article XX. Such a move could generate intense opposition, both because of its incompatibility with the mercantilist culture that still dominates the WTO, and because it is likely to be interpreted as an illegitimate intrusion into state sovereignty. At this point, it might make more sense, therefore, to adopt a second-best tactic, which would take the linkage project as a gradual process that must be implemented in stages (maybe never reaching full scale integration). Rather than implementing such project in one stroke, which in the WTO context would require the introduction of radical changes to

gime such as the Kyoto Protocol. Think, for example, of the complexity of determining a breach of the Kyoto emissions obligations, given the multiple options through which parties can offset their emissions, using carbon sinks, joint projects, and emissions trading.

the rules governing the dispute resolution process[96] and to the provisions of Article XX, the focus should lie on creating institutional conditions, which could facilitate the development of feasible linkage projects.

Reforming the institutional setting in which the trade-environment dilemma is deliberated should form the starting point of this gradual process. Such reform should focus on two key issues: first, building a richer understanding of the environmental risks facing humanity, and second, the causal relations between trade liberalization and ecological degradation.[97] Developing such an understanding is a necessary step in any attempt to evaluate trade and environmental policies. To this end the international community will have to invest more resources in developing mechanisms that can evaluate and monitor the ecological impacts of trade policies. These mechanisms should provide both ex ante assessment of trade negotiations (in the style of environmental impact assessment in the planning context) and ex post monitoring of working regimes. There are already some examples of such mechanisms.[98]

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[96] *See generally* Dispute Settlement Understanding, *supra* note 43.

[97] *See* Brian R. Copeland & M. Scott Taylor, *Trade, Growth, and the Environment*, 42 J. ECON. LITERATURE 7, 35 (2004) (noting the scarcity of pollution data, particularly with respect to the economic and ecological conditions in less-developed countries).

[98] Both the United States and the European Union engage in environmental review of trade agreements. In the United States, the United States Trade Representative ("USTR"), following Executive Order 13,141 of 1999 regarding the Environmental Review of Trade Agreements, published several environmental reviews of bilateral trade agreements. *See* Exec. Order No. 13,141, 64 Fed. Reg. 63,169 (Nov. 18, 1999) (establishing a policy of assessing the environmental impact of United States trade agreements); Office of the USTR, *Bilateral Trade Agreements*, http://www.ustr.gov/Trade_Agreements/Bilateral/Section_Index.html (last visited Dec. 3, 2005) (listing bilateral trade agreements between the U.S. and various countries). The European Commission developed a methodology for Sustainability Impact Assessment ("SIA") that was applied to the Doha Agenda and to the EU negotiations with Mercusor/Chile. *See* European Commission, *Sustainability Impact Assessment*, http://europa.eu.int/comm/trade/issues/global/sia/index_en.htm (last visited Dec. 3, 2005) ("The idea [of an SIA] is to identify the economic, social and environmental impacts of any given trade agreement."). The Commission for Environmental Cooperation of North America, which was established according to NAFTA's environmental side agreement, has also published several studies documenting the ecological implications of NAFTA. *See, e.g.*, COMMISSION FOR ENVIRONMENTAL COOPERATION OF NORTH AMERICA, THE ENVIRONMENTAL EFFECTS OF FREE TRADE 1 (2002), http://www.cec.org/files/pdf/ECONOMY/symposium-e.pdf (presenting thirteen research papers dealing with a variety of topics ranging from the environmental impact of NAFTA in local regions to the

A second issue that such reform should focus on is expanding the organizational setting in which the trade and environment question is deliberated within the WTO (both in the context of negotiations and disputes). This should proceed by extending the organizational ties between the WTO and environmental organizations, such as the United Nations Environment Programme ("UNEP") and MEAs' secretariats. These changes would create a setting in which the various groups involved in this conflict could converse and negotiate middle-ground responses to the difficult dilemmas noted above. Extending the organizational relations between the two regimes can both improve the problem-solving capacities of the emerging (augmented) regime and increase its legitimacy. More extensive institutional relations between the WTO and environmental organizations could enhance the capacity of the WTO legal system to cope with the difficult cognitive and decisionmaking challenges that are likely to arise with the introduction of stronger forms of linkage (manifested, for example by the need to deal with increased number of trade-environment disputes).[99]

The real challenge lies in developing specific institutional modules, which would realize this vision, exploiting the varied institutional strengths of the coupled regimes. Thus, for example, it makes sense to keep intact the organizational framework of the WTO legal system while finding ways to extend its decisionmaking capacities. One option for realizing this idea would be to give environmental organizations a more active role in the governance of the WTO. This role should transcend the concept of mere "observer," which is currently discussed in the WTO. It could include, for example, giving UNEP and key MEA secretariats full member rights at the WTO Committee on Trade and the Environment and other relevant committees and a seat at the Appellate Body in cases that involve environmental issues. Article XV, paragraph 2 of GATT, which re-

general issues relating to the linkage of trade and environmental policies). UNEP has also done some work in this area. *See* UNITED NATIONS ENVIRONMENT PROGRAMME, REFERENCE MANUAL FOR THE INTEGRATED ASSESSMENT OF TRADE-RELATED POLICIES, at iii (2001), *available at* http://www.unep.ch/etu/etp/acts/manpols/urlrmia.htm ("This Manual is designed to help policy makers and practitioners . . . to conduct *integrated assessments* of the economic, environmental and social impacts of trade policy and trade liberalization."). It is clear, however, that more can be done, especially in bringing such review mechanisms into the WTO negotiating framework.

[99] *See generally* PEREZ, *supra* note 10, at 49–114 (providing a more extensive discussion of the institutional limitations of the WTO legal system).

quires the contracting parties to consult with the IMF in cases that involve, "problems concerning monetary reserves, balances of payments or foreign exchange arrangements"[100] could provide a possible blueprint for the incorporation of UNEP into the WTO decisionmaking apparatus.

5. CONCLUSIONS AND A LOOK INTO THE FUTURE

The notion of linkage constitutes an interesting response to the challenge of cross-regime sensitization. Designing workable schemes of linkage, both in the trade-environment context and in other domains, must take into account the conflicted discursive space surrounding these domains and their idiosyncratic institutional characteristics. Disregarding these intricate particulars could not only erode the welfare benefits associated with cross-regime linkage, but may also decrease the functional efficacy of the associated regimes.

What are the prospects of more extensive uses of linkage projects in the trade-environment context? The *Shrimp* decision represents a bold, judicial attempt to extend the responsiveness of the WTO to ecological concerns; it also recognizes the potential for synergic linkage between the WTO and the environmental realm. However, as was argued above, the *Shrimp* ruling constitutes only a first step in this direction. Achieving greater synergy between the trade-environment domains requires some preparatory organizational moves, which will extend the institutional setting in which trade and environmental dilemmas are being deliberated. A broader institutional framework could serve as a platform for dealing with the deep discursive frictions underlying the trade-environment conflict and with the extensive administrative burdens that are likely to accompany the linking process.[101]

Unfortunately, at least from the perspective of the environmental community, the bold vision of the *Shrimp* ruling has so far failed to make an impact on the WTO's negotiation agenda. The environmental part of the Doha negotiation framework, introduced in the 2001 Doha Declaration,[102] is very modest in the targets

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[100] GATT art. 15, para. 2.

[101] *See* Roberto A. Sanchez, *Governance, Trade, and the Environment in the Context of NAFTA*, 45 AM. J. BEHAV. SCI. 1369, 1388 (2002) (discussing the lack of cooperation between the trade and environmental arms of the NAFTA agreement).

[102] Negotiated in the Fourth WTO Ministerial Conference, held at Doha, Qatar in 2001. *See generally* World Trade Organization, Ministerial Declaration of

it sets out and even on these very limited targets, there are still wide disagreements. There are three major items in the environmental part of the Doha Declaration. The first item refers to "the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements."[103] The negotiations over this item dealt with the clarification of the relationship and possible tension between trade measures taken under MEAs and WTO rules. The question of whether the WTO's excessive enforcement capacities or its status as a club-regime could be used to enforce the various environmental obligations set out in these agreements was not included in the Doha negotiation framework. The second item focuses on establishing "procedures for regular information exchange between MEA secretariats and the relevant WTO committees" and on granting observer status to certain MEAs.[104] More radical ideas, such as granting UNEP (or leading MEA secretariats) a formal voice in the decisionmaking process within the WTO, were left out of the negotiation agenda. No agreement was reached so far on any of these items.[105] The *only* negotiating item on which there seems to be a growing consensus, is the reduction or elimination of tariff and non-tariff barriers to environmental goods and services.[106] While the idea of using the WTO regime to promote production and distribution of ecologically friendly goods and services certainly fits the logic of "linkage," the range of products that are currently projected to benefit from this move is quite limited.[107]

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14 November 2001, WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002) [hereinafter Doha Declaration].

[103] *Id.* art. 31(i).

[104] *Id.* art. 31(ii).

[105] For a detailed description of the status of the negotiations prior to the Sixth Ministerial Conference in Hong Kong, December 2005, see Committee on Trade and Environment, *Report by the Chairperson of the Special Session of the Committee on Trade and Environment to the Trade Negotiations Committee*, TN/TE/12 (July 20, 2005) and the continuous coverage in *Bridges Weekly Trade News Digest*, online at http://www.ictsd.org/weekly.

[106] Doha Declaration, *supra* note 102, art. 31(iii).

[107] There is still wide disagreement between Members about the proper definition of environmental goods: whether they should be limited, primarily, to "end-of-pipe" technologies, or should also cover "green" processes or production methods. One of the difficulties of the "end-use" approach is that its main beneficiaries are likely to be the developed countries, which hold ninety percent of the so-called traditional market of environmental goods. *See* Submission by Brazil, *Environmental Goods for Development*, ¶ 5, TN/TE/W/59. A broader definition of "green goods," which would embrace also products made through "green" pro-

Unfortunately the Hong Kong summit ended without making real progress on any of items on the Doha environmental agenda.[108] Prior to the summit several developing countries have hinted that movement on some of the environmental items of the Doha agenda (in particular the linkage between MEAs and the WTO) will depend on achieving progress on other negotiating issues, notably agriculture.[109] However, these projected cross-sector deals did not materialize, postponing a decision on the Doha environmental items for future talks.

6. APPENDIX

I want to use this appendix to explore in further detail the link-

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duction methods, including, for example, organic agricultural products and sustainable forest products could extend the ecological impact of the proposed tariff cuts and would also enable developing countries to reap some of the economic benefits associated with them. *See id.* ¶¶ 8–13; *Environmentally Preferable Products (EPPs) as a Trade Opportunity for Developing Countries*, UNCTAD/COM/70, Geneva; SANDEEP SINGH, INT'L INSTITUTE FOR SUSTAINABLE DEVELOPMENT, ENVIRONMENTAL GOODS NEGOTIATIONS: ISSUES AND OPTIONS FOR ENSURING WIN-WIN OUTCOMES 6 (2005), *available at* http://www.iisd.org/pdf/2005/trade_environmental_goods.pdf. Recently India has proposed a different approach, linking the proposed tariff cuts to specific projects, rather than a fixed list. For a review of the different approaches, see Committee on Trade and Environment, *Special Session: Synthesis of Submissions on Environmental Goods – Informal Note by the Secretariat*, TN/TE/W/63 (Nov. 17, 2005). The Hong Kong Summit ended without resolving this controversy. *See* World Trade Organization, Draft Ministerial Declaration of 18 December 2005, ¶ 30, WT/MIN(05)/W/3/Rev.2 (2005) [hereinafter Draft Ministerial Declaration].

[108] *See* Draft Ministerial Declaration, *supra* note 107, ¶ 30; *see also* Larry Elliott, *Lamy Calls on Blair to Broker Trade Deal*, GUARDIAN (London), Dec. 19, 2005, at 20. This result stands in contrast to a recent speech by WTO Director General Pascal Lamy, who signaled his agreement to some of the ideas raised in this Article. Lamy noted, for example, the importance of a "continued dialogue with UNEP and other organizations," the need for investing in regulatory tools such as "Sustainability Impact Assessments," and the need to ensure that WTO rules and policies "do not frustrate the implementation of multilateral environmental protection accords" and "strengthen the consensus on which they are based." While these words are certainly consistent with the linkage thesis, the challenge, as noted above, is to translate these abstract formulations into actual institutional modalities. Pascal Lamy, Director General, WTO, Opening Address at the WTO Symposium on Trade and Sustainable Development within the Framework of Paragraph 51 of the Doha Ministerial Declaration (Oct. 10, 2005), *available at* http://www.wto.org/english/news_e/sppl_e/sppl07_e.htm.

[109] *See CTE Moves on to Technical Discussions on Environmental Goods*, BRIDGES WKLY. TRADE NEWS DIG. (Int'l Ctr. for Trade and Sustainable Dev. Geneva, Switz.), Sept. 21, 2005, at 4 (2005), *available at* http://www.ictsd.org/weekly/05-09-21/BRIDGESWeekly9-31.pdf.

age argument, using the tools of game theory. This exploration is motivated by two key objectives: first, to give a better sense of the game-theoretic argument, and second, to clarify my critique of this argument—especially my critique regarding the importance of the institutional and "transaction costs" factors. In particular I will show how, by enriching the scenario that serves as the basis for the model, it is possible to expose the shortcomings of the game theory argument discussed in Section 2. The following model, which builds on the work of Spagnolo,[110] explores the idea of using linkage as a mechanism for facilitating broader cooperation. The intuition behind this idea is that linking two (or more) regimes could allow countries to use the surplus enforcement power that may be available in one policy domain to discipline cooperation in other domains.[111]

This model is based on the following strategic situation: two countries interacting over two policy issues. The interaction takes the form of an iterated prisoner's dilemma ("PD") game. I will consider first the single-shot game, and then move to discuss the infinitely repeated interaction. Consider the game illustrated in Table 1. In this game, state *A* is considering cooperating on some aspect of its international relations, for example, trade, climate change, ozone protection, arms control, or technology standards. I focus on bilateral rather than multilateral punishment. If both states cooperate on issue *i*, it is assumed that state A receives X_{Ai}, state B receives X_{Bi}. If both states defect they receive N_{Ai} and N_{Bi} respectively. If state *A* defects while state *B* cooperates, state *A* receives Y_{Ai} and state *B* receives Z_{Bi}, while if state *A* cooperates while state *B* defects, state *A* receives Z_{Ai} and state *B* receives Y_{Bi}.

Table 1: A Bilateral Game of Prisoner's Dilemma with Reciprocal Punishment

		State B	
		Cooperate	Defect
State A	Cooperate	X_{Ai}, X_{Bi}	Z_{Ai}, Y_{Bi}
	Defect	Y_{Ai}, Z_{Bi}	N_{Ai}, N_{Bi}

110 *See Spagnolo, supra* note 17.

111 The model explored in this section covers only one aspect of the argument for the synergic potential of linkage and consequently captures only part of my critique.

The foregoing game is a prisoner's dilemma game when the following is true (for A and B respectively): $Y_i > X_i > N_i > Z_i$. This means that the preference schedule of the countries is the following: defect, given that the other state is cooperating; cooperate, given that the other state is cooperating; defect, given that the other state is defecting; and cooperate, given that the other state is defecting. A single-shot PD game has a unique solution in which both players defect. This is determined by the structure of players' preferences, which means that playing defect is a dominant strategy, irrespective of the other player choices. The single-shot game thus has a unique solution in which both players defect.

However, the single-shot version of the PD game does not capture the dynamics of international life in which countries interact with each other over an indefinite period. The repeated PD game has two important features. First, the strategies played by each state at time t can be made conditional on the history of play up to time t. Second, these strategies can include the possibility of punishment if a state deviates from the cooperative path. These two features of infinitely repeated PD games create new strategic options for the parties. Some of these options, such as the strategies of "tit-for-tat" or "grim-trigger," can support under some conditions (relating, in particular, to the discount factor used by the parties) the cooperative solution. The key for sustaining cooperation in such games is the expectation of an ongoing relationship—the shadow of the future.[112]

I do not intend to offer here a complete analysis of infinitely repeated PD games. Let me just describe the intuition behind the grim-trigger strategy, which I explore below. According to the grim-trigger strategy, a player begins by cooperating in the first period and continues to cooperate until a single defection by her opponent, following which, the player defects forever. The grim-trigger is thus a highly unforgiving strategy, because a single defection brings about an eternal end to cooperation, in contrast to the much more forgiving tit-for-tat.[113] Generally a grim-trigger strategy may support the cooperative outcome of infinitely re-

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[112] *See generally* Binmore, *supra* note 42; James S. Harvey, *The Trust Paradox: A Survey of Economic Inquiries Into the Nature of Trust and Trustworthiness*, 47 J. ECON. BEHAV. & ORG. 291, 292 (2002).

[113] *See generally Game Theory, at* http://www.gametheory.net (last visited Nov. 9, 2005), and, in particular, *Grim Trigger Strategy, at* http://www.gametheory.net/ Dictionary/GrimTrigger.html (last visited Nov. 9, 2005) for a useful introduction to the concept of trigger strategies.

peated PD games if the immediate gain from defecting is less than the present value of all future lost payoffs that are expected from the cooperative path, given the prevalent discount factor (which is a proxy for how much the players care about the future). Using the above notation, and assuming for simplicity that the parties are symmetric and face an interest rate of r, the grim-trigger strategy may support the cooperative outcome if:

(1) $Y_i - X_i < (X_i - N_i) / r$[114]

Whether a grim-trigger strategy may succeed in securing cooperation depends, then, on three factors: the interest rate, the gain from defection $(Y_i - X_i)$, and the projected loss from foregoing the future gains from cooperation.

Consider now a scenario with two PD games of complete information with symmetric players, associated with different and independent issues. Assume next, that in game i a grim-trigger strategy supports a cooperative solution (that is, $Y_i - X_i < (X_i - N_i) / r$); whereas in game j, it does not (that is, $Y_j - X_j > (X_j - N_j) / r$). In what way can linkage help in such a case? Linkage can foster cooperation by allowing the parties to invoke the surplus enforcement power of regime i, that is, $(X_i - N_i) / r - (Y_i - X_i)$, to support cooperation in the other regime, j. This could be achieved through the invocation of a multi-game grim-trigger strategy, according to which, a player begins by cooperating in both games in the first period, and continues to cooperate in both until she detects a single defection by her opponent (in *either game or both*), following which, the player defects forever in *both* games. If the condition specified below is satisfied, a player's best reply to the multi-game grim-trigger strategy of the other players is the multi-game grim-trigger strategy.

(2) $(Y_i - X_i) + (Y_j - X_j) < (X_i - N_i) / r + (X_j - N_j) / r$ (*a synergic linkage*)[115]

Note however that linkage can also destroy cooperation (irrespective of the issue of transaction costs, which will be discussed

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[114] The figure $(X_i - N_i) / r$ reflects the present value of the stream of lost cooperative payoffs. It is the converged outcome of the infinite sum: $(X_i - N_i) / (1 + r) + (X_i - N_i) / (1 + r)^2 + (X_i - N_i) / (1 + r)^3 + \ldots$.

[115] In other words, the surplus enforcement power of game i should be higher than the surplus opportunistic potential of game j: $(Y_j - X_j) - (X_j - N_j) / r < (X_i - N_i) / r - (Y_i - X_i)$.

below) if instead of (2) the following condition is satisfied:

(3) $(Y_i - X_i) + (Y_j - X_j) > (X_i - N_i) / r + (X_j - N_j) / r$ (*a destructive linkage*)

This condition reflects the possibility that the surplus opportunistic potential of one of the regimes (that is, $(Y - X) - (X - N) / r$), could outweigh the surplus enforcement power of the other regime, making defection a dominant strategy in both regimes. In such a scenario, linkage could destroy the cooperation in the regime in which cooperation was originally supported by the grim-trigger strategy, turning linkage into a destructive policy move.

The main point of the foregoing discussion was to clarify the enforcement rationale of linking two regimes, as it was presented in the game-theoretic literature. Consider now a more complex setting, in which law has independent force and linkage has some transaction costs. There are of course various ways in which one can introduce these variables into a game. I propose the following simple variation of Spagnolo's original setting. Consider the two regimes, *i* and *j*, but only now defection *cannot be detected* by the parties but by some exogenous agency—a judicial tribunal (with a distinct tribunal acting in each regime).[116] It is assumed that the tribunals monitor the parties' behavior and announces, at the end of each round of play, any defection.[117]

Now assume that whereas within the original regimes the tribunals could have detected perfectly any breach, this perfect capacity is not maintained once linkage is activated, and the tribunals are merged into a new super-court. Let us further assume that the newly merged tribunal is controlled by the legal team of one of the original regimes, which has taken control of the integrated court. The erosion of the court's monitoring capacity can be modeled by assuming that the probability of detecting defection, within each of the linked regimes decreases with the number of linked issues

[116] The tribunal's existence and mode of action is part of the game structure and is not endogenized as part of the game (although I will provide some hints as to how this may be done). This hypothetical setting resembles the structure of the WTO's dispute settlement mechanism.

[117] Such a model fits a setting in which the players cannot assess their payoffs in real time and depend on the tribunal's ruling. This scenario reflects a situation in which the players recognize the hypothetical value of cooperation, but because of limited cognitive capacities are unable to monitor the behavior of their counterparts and thus can only assess their payoffs after several rounds of play. Such a scenario fits complex interactions such as climate change negotiations, in which the players depend on the superior cognitive capacities of a third party.

(apart from the regime whose legal team controls the merged tribunal, in which the probability of detection is assumed to remain 1.0 for simplicity).[118] This erosion, as will be illustrated below, reduces the potential synergy between the two regimes, by giving more room for opportunistic behavior.

Consider a concrete example. Let us assume that $n = 2$; the probability of detection in regime i, $p_i = 1$; and the probability of detection in regime j, $p_j = q$.[119] Let us assume, further, that the two games satisfy condition (2), that is, they offer the possibility of synergic linkage. As before, knowing that the other state is committed to using a multi-game grim-trigger strategy, each state needs to determine whether multi-game grim-trigger strategy is a best reply; that is, it needs to determine whether the immediate gain from defection is larger than the present value of all future lost payoffs. However, in this new setting the players must also take into account the fact that there is some probability that the merged tribunal will not detect a defection in regime j, allowing the non-cooperative player to escape punishment. This reasoning pattern could lead, as will be demonstrated below, to the collapse of the cooperative equilibrium.

To understand how this may unfold consider the following revised multi-game grim-trigger strategy: in the first round of play, defect in the second regime, j (the regime where $p < 1$) and cooperate in the other (regime i); from the second round, play multi-game grim-trigger strategy, using the tribunal declaration as a trigger for activating punishment.[120] The expected payoff—what one can term the opportunistic function—of this country from defecting (when playing against a party using the "normal" multi-game grim-trigger strategy) is:

$$(4)\quad M = [(X_i) + (Y_j)] + (1 - q)[(X_i + X_j) / r] + q[(N_i + N_j) / r]$$

The *first* term reflects the one-off gain from defection in regime j (added to the gain from cooperation in game i), the *second* term reflects the potential gain from cooperation in both regimes given the prospect of the tribunal not detecting the defection, and the last

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[118] However, in reality it seems reasonable to expect that some erosion will take place in both regimes, since the increasing cognitive burdens are likely to have negative effect on judicial performance in both regimes.

[119] Therefore, in regime j, $1-q$ represents the probability of judicial mistake.

[120] That is, if the court detects defection of either player, the player must play defect infinitely. Otherwise, the player should play cooperate.

term reflects the projected payoff given mutual activation of grim-trigger strategy following a judicial detection. It can be shown easily that $dM / dq < 0$; hence, M increases as q decreases. As before, we want to determine whether defection is worthwhile, given the prospects of punishment, only now punishment is uncertain. To determine that, consider the prospective gain from cooperation:

(5) $R = (X_i + X_j) + (X_i + X_j) / r$

Defection is worthwhile if $M > R$ or $M - R > 0$. After some rearrangement we get:

(6) $(Y_j - X_j) > q[(X_i - N_i) + (X_j - N_j)] / r$

The meaning of (6) is that what had been a synergic linkage could turn into a destabilized linked structure. The prospects of such destabilization increase—the larger is the one-off gain from defection in regime j, and the smaller is the probability of detection. For a certain utility structure we can derives a general condition for q, in which (6) will hold:

(7) $q < r(Y_j - X_j) / [(X_i - N_i)+(X_j - N_j)]$

If (7) is satisfied, both players will be induced to adopt the revised multi-game grim-trigger strategy leading to the collapse of cooperation.[121] What the revised model illustrates, then, is that once the model is enriched by incorporating some of the features of "real" institutions—in this model, the possibility of erosion in the institutional capacities of the merged court—linkage can actually lead to the destruction of cooperation by extending the prospects for opportunistic behavior.

[121] What will happen when both players play the revised grim-trigger strategy against each other? Starting with defection in both regimes will lead to the activation of the grim-trigger strategy in the second round, unless the tribunal will fail to detect both defections, the probability of which is $(1 - q)^2$. In this (and only this) case the players will continue cooperating, and the revised grim-trigger strategy would not lead to the collapse of cooperation. The chance of such a scenario depends on the size of q. If q is *equal* to 0.95, for example, the probability of a concurrent judicial mistake is very small and amounts to 0.0025. Note that q may in some cases foster cooperation, for example, when the surplus opportunistic potential of one of the linked regimes is very big. In such cases the court's error may cover the players' opportunistic "slip," enabling them to continue cooperating in the next stages.