

The WTO as a Mechanism for Securing Market Access Property Rights: Implications for Global Labor and Environmental Issues

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Can the World Trade Organization (WTO) play a constructive role in the attainment of sound labor and environmental policies? Many labor and environmental groups claim that it cannot, or at least not in its current form. To these groups, the WTO and its predecessor, the General Agreement on Tariffs and Trade (GATT), have been driven by a single mission: to serve the interests of exporters. Labor and environmental groups see this mission as increasingly at odds with sound choices over labor and environmental policies. They fear that the competitive pressures that accompany the continuing process of international economic integration will lead each government to resist raising the labor and environmental standards that it applies to its producers (in a “regulatory chill”)—and perhaps even to lower these standards (in a “race to the bottom”)—in order to preserve or enhance the competitive position of these producers in the international marketplace. They also fear that the WTO’s preoccupation with securing market access for exporters will prevent it from authorizing trade sanctions to enforce international commitments to labor and environmental standards that might be negotiated outside the WTO.

How can economists defend the WTO against the attacks of labor and

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environmental groups? A defense of the WTO (and GATT before it) might begin by noting that 50-some years of negotiations have produced impressive movements toward free trade. Perhaps it can be argued that a large part of this GATT/WTO-sponsored liberalization is attributable to the desire of governments to reap the economic efficiency gains of free trade for consumers and that GATT/WTO principles can be interpreted as harnessing this desire. Yet there is a basic impediment to the use of this argument in the defense of the WTO: virtually every tariff that has ever been lowered by a government as a result of a GATT/WTO negotiation—a tariff “concession,” in GATT parlance—has been lowered because some exporters somewhere in the world valued the resulting market access, and as a result their governments were willing to offer something of value in return (that is, export access to their own markets through reciprocal tariff concessions of their own). In other words, despite two centuries of economic arguments extolling the virtues of free trade, the consumer gain that comes from freer trade is not the liberalizing force that has been harnessed by the WTO. Instead, much as labor and environmental interests claim, the WTO is driven by exporter interests.

Trade economists find this fact deeply disturbing, but for a different reason than that of labor and environmental groups: to trade economists, this fact suggests that some form of mercantilist logic lurks at the foundation of the GATT/WTO. As a result, many economists have adopted the working view that the principles of the WTO are, in short, economic nonsense. According to this view, the WTO deserves the support of economists, not because its rules have any demonstrable merit on economic grounds, but simply because negotiations sponsored by and implemented under the GATT/WTO have led to a remarkable freeing of trade.

From this perspective, the economist’s defense of the WTO against the attacks launched by labor and environmental groups is unavoidably weak. When stripped to its essentials, this defense can be little more than an observation and an assertion. The observation is that GATT/WTO rules have delivered good trade policy outcomes. The corresponding assertion is that, while there also may be other legitimate policy goals like sound labor and environmental standards, these goals should not be allowed to “rock the WTO boat,” since we have no firm idea what keeps this boat afloat and don’t want to risk sinking it.

Is this the best defense of the WTO that economists can offer? We think not. In this article, we describe an alternative perspective according to which the central purpose of WTO rules is to create a negotiating forum where member governments can voluntarily exchange market access commitments, with the assurance that the property rights over negotiated market access commitments are secure against unilateral government infringement. As we describe below, this perspective identifies how supporters of sound trade policies and supporters of sound labor and environmental standards can in a broad range of circumstances both benefit from a well-functioning WTO.

The World According to GATT

Broadly speaking, the GATT/WTO provides a forum within which its member governments may negotiate over market access.¹ In developing this view, we consider the meaning of market access within GATT, and we describe the GATT rules that serve to secure the value of negotiated market access commitments.

Mercantilism and the Meaning of Market Access

Market access is interpreted in GATT to reflect the competitive relationship between imported and domestic products. For example, when a government agrees to reduce its import tariff on a particular product, it alters the competitive relationship between imported and domestic units of the product in favor of imported units, and it thereby provides greater market access to foreign producers. By agreeing to lower its tariff, the government is effectively agreeing to engineer an outward shift of its import demand curve—that is, all else equal, a greater volume of imports will be demanded at any given price from foreign exporters—and as a result, foreign exporters can expect to enjoy an increase in sales into the domestic market and to receive a higher price.

This interpretation of market access is very broad; there are as many ways to alter the level of market access as there are ways to alter the competitive relationship between imported and domestic products. For example, domestic market access could be altered by a foreign export subsidy or by changing market conditions at home or abroad. This is recognized in GATT, and it is largely for this reason that GATT is a far more complex institution than simply a set of rules for tariff policy. But the important question is how this interpretation of market access is applied in GATT. Crucially, when governments expand market access through a GATT negotiation, they do so as importers, not exporters. That is, in effect, each government agrees to undertake certain obligations (its tariff concessions) which shift out its import demand curve and thereby provide greater market access to foreign exporters, in exchange for the market access benefits that its own exporters enjoy when foreign governments similarly undertake obligations which shift out their respective import demand curves. GATT's legal structure is designed to facilitate this kind of exchange between governments.

At a general level, at least, a key point can now be made: it would be premature to equate the fact that GATT is driven by exporter interests with the conclusion that GATT is a mercantilist institution. In contrast with the mercantilist idea of setting one's *own* policies to stimulate exports—which as we have noted could be

¹ GATT was created in 1947, and the WTO was established by the Marrakesh Agreement (also referred to as the WTO Agreement) in April 1994. The WTO Agreement includes the text of GATT, as well as a set of additional agreements that build on and extend GATT principles to new areas. Since much of our discussion refers to GATT history, and to specific articles of GATT—as opposed to the additional articles of the WTO Agreement—we often make reference to GATT rather than the WTO.

interpreted as one way for a government to achieve greater access to foreign markets for its exporters—GATT negotiators achieve greater access to foreign markets for their exporters by securing changes in the import policies of their trading partners. The mercantilist approach to expanding foreign market access for one’s exporters, of course, could be pursued without international negotiations, since export subsidies can be offered unilaterally. GATT’s approach to engineering greater market access is fundamentally different—and requires international negotiations—since it focuses on policy changes to enhance market access from the importing country. Hence, the fact that governments are engaged in international negotiations as a way to expand market access for their exporters suggests that the liberalization sponsored by the GATT/WTO is not driven by nonsensical mercantilist forces.

The Security of Market Access Commitments

The WTO is about far more than tariffs, but this was also true of GATT. The GATT member governments saw agreements to reduce tariffs as the most expedient way to increase the access that their exporters could enjoy to the markets of their trading partners. They understood, though, that a low tariff was not sufficient to establish high access, and this understanding is reflected in the original articles of GATT.

As a result, while GATT accepts the legitimacy of (nondiscriminatory) tariffs as an instrument of trade protection, it instructs governments to consolidate *all* of their other protective measures into this form. For example, Article III of GATT requires that member governments abide by the rule of “national treatment” when setting their domestic policies. National treatment requires that, once foreign products enter the domestic market, they must be treated in the same way as domestic products. For instance, if after negotiating a commitment from a trading partner to reduce its tariff on a particular product, that trading partner subsequently imposed internal taxes on the sale of the product in a manner which favored domestic over imported products, a government could lodge a complaint under GATT’s “nullification or impairment” rules.

Article III and others like it provide governments with assurance that the tariff concessions they “win” from trading partners as a result of GATT negotiations will actually deliver better market access for their exporting firms. But two important points about the nature and the degree of this assurance under GATT rules must be kept in mind. First, the nature of assurance being offered to GATT members by Article III and others like it is not an assurance over export volumes. What is being offered is a more subtle assurance that governments will not be permitted to take internal policy actions which could undermine the link between market access and negotiated tariff concessions.²

² For example, to pay for the cost of programs to clean up hazardous waste sites under the Superfund Amendments and Reauthorization Act of 1986, the United States levied a higher tax on imported petroleum and petroleum products than on “like” domestic products. A number of affected exporting

A second point concerns the degree of assurance that GATT's policy proscriptions can offer. While rules like Article III can provide some assurance against certain kinds of targeted domestic policy actions that would undermine the meaning of a tariff concession, any of a host of domestic policies could be crafted to sever the effective link between negotiated tariff concessions and market access and yet not be in direct violation of any of GATT's rules. Many labor and environmental standards fall into this category. More generally, attempts to translate negotiated tariff concessions into secure market access commitments face a fundamental problem if governments are to retain autonomy in setting their domestic policies. This problem was well-understood by the original drafters of GATT (Hudec, 1990, p. 24). Their concern was that this domestic policy autonomy could interfere with the maintenance of "reciprocity"—the balance of negotiated market access commitments.

As Hudec (1990) documents, this concern eventually found its way into the articles of GATT in the form of an additional catch-all "nonviolation" nullification or impairment right. Petersmann (1997, p. 172) details the three conditions established by GATT panels for a successful nonviolation complaint: 1) a reciprocal concession was negotiated between two trading partners; 2) a governmental measure, while not in direct violation of any GATT rules, had been introduced subsequently by one of the governments which adversely affected the market access afforded to its trading partner; and 3) this measure could not have been reasonably anticipated by the trading partner at the time of the negotiation of the original tariff concession.

Under a successful nonviolation complaint, the complaining country is entitled to a "rebalancing" of market access commitments: either its trading partner finds a way to offer compensation for its domestic policy change through other policy changes that restore the original market access or that grant additional market access on other products, or the complaining government is permitted to withdraw an equivalent market access concession of its own. In principle, the prospect of nonviolation complaints therefore secures the cross-country balance of negotiated market access commitments (although not necessarily their levels) against erosion as a result of future changes in domestic policies.

The function of nonviolation complaints can be better understood when viewed in context. In the GATT/WTO, governments are not held rigidly to their negotiated market access levels. Rather, governments are essentially free to

countries challenged this tax as a violation of GATT's National Treatment clause (Article III). In the resulting GATT Panel, the question arose as to whether the assurances offered in Article III could be interpreted with regard to export volumes, in which case the United States might have been allowed to bring its measures into conformity with its GATT obligations under Article III by ensuring that export volumes from the relevant trading partners were sufficiently high. The GATT Panel ruled against this logic, reasoning that the nature of the assurance provided by GATT articles is to protect expectations on market access, not expected export volumes (Petersmann, 1997, p. 141).

renegotiate their market access commitments, provided that they satisfy the explicit renegotiation provisions contained in GATT Article XXVIII. Under these provisions, a government may modify or withdraw a tariff concession, but in return it must offer compensating tariff concessions on other products or else accept equivalent withdrawals of concessions by its affected trading partners. As Petersmann (1997, p. 172) explains, the function of nonviolation complaints in the GATT/WTO is then to provide a check on the domestic policy autonomy of member governments, “. . . and to prevent the circumvention of the provisions in GATT Article XXVIII . . . if a member, rather than withdrawing a concession *de jure* in exchange for compensation or equivalent withdrawals of concessions by affected contracting parties, withdraws a concession *de facto*.”

In combination with the GATT articles that proscribe certain forms of policy intervention and thereby create violation nullification or impairment rights, the complementary nonviolation nullification or impairment right provided in GATT is, in effect, a “safety net” linking the tariff concessions that a government voluntarily negotiates in GATT to commitments over the market access it must subsequently afford its trading partners. As just described, this link does not hold governments to the *level* of market access commitments implied by their negotiations. But governments are held to the *balance* of market access commitments implied by their negotiations, in that GATT’s rules are designed to prevent any government from upsetting this balance with a unilateral policy decision that would erode the market access it affords to its trading partners. In this way, GATT’s articles represent an attempt to create a system of property rights over negotiated market access commitments which are secure against unilateral government infringement.

GATT on its Own Terms

On GATT’s own terms, then, the central purpose of its rules would seem to be the provision of a forum for the exchange of secure market access commitments. More specifically, it would appear that governments approach trade negotiations seeking access for their exporters in foreign markets, that agreements to reduce tariffs in a GATT negotiation are interpreted as commitments to provide greater market access, and that GATT rules and procedures exist largely to preserve and enforce the balance of market access commitments that governments voluntarily negotiate. This perspective is nicely summarized in a recent GATT Panel report (as quoted in Petersmann, 1997, p. 168) discussing the logic of nonviolation complaints:

[T]he main value of a tariff concession is that it provides an assurance of better market access through improved price competition. Contracting parties negotiate tariff concessions primarily to obtain that advantage. They must therefore be assumed to base their tariff negotiations on the expectation that the price effect of the tariff concessions will not be systematically offset. If no

right of redress were given to them in such a case, they would be reluctant to make tariff concessions and the General Agreement would no longer be useful as a legal framework for incorporating the results of trade negotiations.

But how can these features be given economic content? In what sort of world would governments view opening their own markets as a “concession” to be offered only in exchange for the assurance of better access to the markets of others? In what sort of world would the primary purpose of trade negotiations be to expand market access? In what sort of world would GATT’s usefulness hinge on its ability to secure the balance of negotiated market access commitments?

The Terms of Trade

As it turns out, such a world is simple to describe in economic terms. But there is a catch. To do so, we must adopt a position that many trade economists have long since rejected as an empirically untenable starting point for understanding the GATT/WTO, namely, that the “terms-of-trade” implications of trade policy have something important to do with the real world. In later sections, we develop the implications of this position in depth, and we consider its empirical merits as well. For now, we simply provide a description of the position.

The position that terms-of-trade effects matter may be broken into two components: first, governments can reduce the prices received by foreign exporters when they deny these exporters access to their markets (that is, they face less than perfectly elastic foreign export supply); and second, governments do not internalize the consequences of price changes for foreign exporters.

Traditionally, this position has been joined by a third—and logically distinct—component: governments pursue tariff policies that maximize national income. In the company of this third component, the terms-of-trade logic leads to the classic “optimal tariff” analysis of Johnson (1953-54), in which governments set tariffs equal to the inverse of the elasticities of the foreign export supply they face, and to the resulting interpretation that trade negotiations such as those now sponsored by the WTO can help governments achieve free trade and thereby escape from a terms-of-trade driven prisoners’ dilemma. But to make sense of the WTO, we prefer not to adopt this third component.

We prefer not to impose such restrictions on the motives of governments for two reasons. First, empirical research into the political economy of trade protection has established that governments are motivated by more than national income considerations when they make trade policy decisions (for example, Rodrik, 1995). Governments also use trade policy as an instrument of redistribution across agents in the national economy, and a plausible description of the WTO must accommodate this fact. Second, the WTO itself accommodates a broad range of possible motives for the trade policy choices of its member governments. As it says on the WTO home page: “The WTO does not tell governments how to conduct their trade policies. Rather, it’s a ‘*member-driven*’ organization.”

Hence, by leaving unrestricted the possible political/distributional motives to which governments may subscribe in making their trade policy choices, we maintain a position that is consistent with empirical research and the WTO's own statements as we explore the ability of terms-of-trade effects to account for some of GATT's key features.

The WTO in a World without Standards

We now explore the role of terms-of-trade effects in providing an economic interpretation of WTO principles. We take for the moment the simplest case and suppose that governments have only tariff choices to make. In other words, we assume for now that governments have no domestic standards or other internal measures at their disposal (and no domestic market failures, like pollution, that might give rise to the need for such measures). We relax this assumption in the next section.

The Small-Country Benchmark

It is convenient to start with the benchmark case in which all countries are "small," in that each alone has no effect on the prices in markets outside its borders. In this case, when a government imposes market access restrictions, it is difficult to explain why these restrictions would matter to any other government. After all, the restrictions would have no effect on the prices received by exporters. Of course, even in a world of small countries, a government might be concerned if market access restrictions were imposed by a sufficiently large number of its trading partners. But the fact is that negotiations in the GATT/WTO take place overwhelmingly among a limited numbers of countries.³ It is thus difficult to reconcile the hypothesis that countries are small with the actual market access negotiations that occur through GATT/WTO rounds.

More fundamentally, in a world of small countries there is no basis for international tariff negotiations. When all countries are small, each government is unable to alter prices outside its borders and therefore confronts all of the costs and benefits of its unilateral tariff choices. This does not mean that trade need be free: that outcome will depend on the political and economic goals that each government seeks to achieve with its tariff choices. But regardless of those objectives, the resulting tariff choices will be efficient, relative to governments' preferences, from an international perspective. In a world of small countries, there would be nothing for trade negotiators to negotiate about.

³ This feature is noted, for example, by Horn and Mavroidis (2001, p. 34), who observe: "In the WTO, negotiations for the most part take place between subsets of Member countries. Sometimes this is 'officially sanctioned,' as in the case of Principal Supplier negotiations. But also in seemingly multilateral negotiations, the 'actual' negotiations occur between a very limited number of countries . . ."

A Large-Country Perspective

Let us now consider the two components of the terms-of-trade logic that were introduced above. The first component, that governments can reduce the prices received by foreign exporters when they unilaterally deny these exporters access to their markets, is a statement that most countries are “large,” at least in some markets, and therefore that not all of the costs and/or benefits of a government’s unilateral tariff choices are contained within its borders. The second component is that governments do not internalize the consequences of price changes for foreign exporters.

In practical terms, then, the terms-of-trade perspective may be described as follows. When a government unilaterally raises its trade barriers, part of the costs of its protective policies will be borne by foreign exporters, who receive lower prices, and this international cost-shifting will bias the unilateral trade policy choices of governments toward greater protection and diminished market access. Indeed, from this perspective, the unilateral bias toward greater protection and diminished market access—a bias caused by the ability to shift the costs of unilateral protection onto foreign trading partners through depressed foreign exporter prices—is the only source of inefficiency across governments when these governments make unilateral trade policy choices.

The terms-of-trade perspective exhibits an important feature. Suppose that, when one government imposes market access restrictions, its trading partners reciprocate by imposing equivalent market access restrictions of their own. In this event, the balance of market access levels across countries is preserved, and as a result the prices received by foreign exporters and those received by the government’s own exporters are reduced in an equivalent fashion. Reciprocal adjustments of this kind therefore serve to stabilize the terms of trade between the involved countries. But this would eliminate the ability of the first government to gain from international cost-shifting. In other words, the ability of a government to gain by shifting some of the costs of its intervention onto foreign trading partners hinges on the ability of that government to alter the *balance* of market access levels across countries, something that the *unilateral* intervention of a large country can achieve but reciprocal intervention by its trading partners can prevent.

Three observations now follow. First, from the standpoint of any single government, the terms-of-trade perspective implies that a necessary condition for this government to benefit from tariff negotiations with its trading partners is that it achieves greater access for its exporters into their markets. As a consequence, governments *should* view the market access commitments that they make in WTO negotiations as concessions, to be granted only in return for commitments of enhanced access to the markets of their trading partners. Second, the terms-of-trade perspective implies that there must exist reciprocal exchanges of increased market access under which all governments gain: as observed above, reciprocal changes in trade policy neutralize the international cost-shifting motives that arise under unilateral decisions and therefore remove the reason that each government

desired overly protective policies in the first place. Consequently, the primary purpose of trade negotiations *should* be to expand market access. Third, the terms-of-trade perspective identifies international cost-shifting as the fundamental source of inefficiency that WTO-sponsored negotiations can correct, and this cost-shifting occurs whenever a government alters the balance of market access levels across countries with its unilateral intervention. As a result, the WTO's usefulness *does* hinge on its ability to secure the balance of negotiated market access commitments. The terms-of-trade perspective therefore describes a world in which the key features of the GATT/WTO outlined above make economic sense.⁴

The Terms of Trade and the Real World

Exactly why the relevance of the large-country (terms-of-trade) perspective for understanding the WTO has been so firmly rejected by many trade economists is unclear (at least to us). It may reflect the fact that the terms-of-trade logic is traditionally associated with the selection of Johnson-type optimal tariffs by national-income maximizing governments, as mentioned above, and that such tariffs do not fit well with the trade policy practices of real-world governments. But governments interact repeatedly through GATT/WTO negotiation rounds and are thus able to enforce the selection of more cooperative tariffs.⁵ Furthermore, as we have observed, the terms-of-trade perspective does not require that the government's motive is to maximize national income using optimal tariffs, and indeed we are not assuming any such motive here. The skepticism about the relevance of the terms-of-trade approach may also reflect the abstract way in which the terms-of-trade logic is commonly described by trade economists, a description that surely finds no counterpart in the practical minds of trade negotiators. Has anyone ever heard the phrase "terms of trade" actually mentioned in a debate among trade-policy practitioners?

We consider elsewhere the theoretical and empirical arguments against the relevance of terms-of-trade considerations in a systematic fashion, and we conclude that upon closer inspection these arguments are not compelling (Bagwell and Staiger, 2000b). Here we limit ourselves to three points.

First, the omission of terms-of-trade discussions from real-world trade policy debates may mean only that the identical concerns are being expressed equivalently as concerns about market access. For example, a government that is concerned about the impact of a trading partner's market access restrictions on the prices received by its own exporters *is* concerned about the terms-of-trade effects of the policies of that trading partner. Indeed, the terms-of-trade logic can be completely recast in terms of market access concerns (Bagwell and Staiger, 2000a).

Second, it is often claimed that governments are not able to affect exporter

⁴ See Bagwell and Staiger (1999, 2001b) for a formal confirmation of these points.

⁵ For further developments of this point, see Bagwell and Staiger (1990, 2000b), Dixit (1987) and Maggi (1999). See also footnote 9.

prices with their policy choices in any significant fashion. But both direct and indirect evidence goes against this claim. For instance, Kreinin (1961) finds that roughly one-third of the U.S. tariff reductions negotiated in the GATT Kennedy round were passed through to U.S. consumers, with the remaining two-thirds accruing to foreign exporters in the form of terms-of-trade improvements for exporting nations. Such findings are not limited to large industrialized countries; for example, Winters and Chang (1999, 2000) find substantial terms-of-trade effects associated with regional liberalization in Latin America under the Mercosur trade agreement and under Spain's accession to the European Community. There is also a large literature on the extent to which foreign exporters pass through changes in exchange rates to domestic consumers. The survey of this literature by Goldberg and Knetter (1997) suggests that the degree of exchange rate pass-through averages about 60 percent. If exporters pass through cost increases associated with tariffs to the same degree that they pass through cost increases associated with exchange rate shocks (and Feenstra, 1995, offers empirical support for this position), then the exchange rate pass-through literature offers indirect support for the view that incomplete tariff pass-through by exporters is widespread.

Finally, we emphasize that even seemingly "small" countries may be able to impose some tariff incidence on foreign exporters. This is true, for example, when products are differentiated (Gros, 1987). Moreover, transportation costs encourage greater trade between proximate countries, so the issue is not the size of a country's economy relative to the world economy but rather the size of certain industries in a country relative to other industries in that region. For example, Mexico brought a WTO case against Guatemala, whose government imposed an 89 percent tariff on imports of Mexican cement (Tuckman, 1997). Apparently, in the context of the market for cement, Mexico does not regard neighboring Guatemala as a small country.

In short, terms-of-trade effects provide a direct, simple and empirically plausible link to the market access concerns that dominate GATT/WTO negotiations.

Labor, Environment and the WTO

We are now prepared to consider a world in which governments have many policy instruments at their disposal, so that in addition to tariffs they also make choices over labor and environmental standards. In this setting, the central purpose of the WTO remains the same—namely, to expand market access—provided that two key conditions are met.

The first condition is that, when governments engage in international tariff negotiations, a system of property rights over the implied market access commitments must exist which is secure against unilateral government infringement, but which does not prevent governments from honoring their market access commitments with the mix of policies they desire. When this condition is met, we say that

negotiated tariff commitments lead to *secure* property rights over market access. There is also a question of the “assignment” of issues to institutions. The selection of labor and environmental standards raises a set of race-to-the-bottom/regulatory-chill issues and a set of humanitarian/global commons (international nonpecuniary externality) issues. Our second condition is that the WTO is assigned to the task of dealing directly only with the former issues, leaving the latter issues to be handled by other international institutions. There is a logic to this assignment. Humanitarian/global commons issues, such as a concern for the welfare of children throughout the world or the depletion of the ozone layer, are not fundamentally market access issues. By contrast, as we will show, the prospect of a race to the bottom or a regulatory chill is fundamentally connected to market access and, hence, to the traditional business of the WTO.

When these two conditions are met, we argue that negotiations over tariffs alone can achieve efficient levels of market access while providing each government with the incentive to choose its domestic standards efficiently. We argue as well that the fear that the WTO-sponsored process of international economic integration will trigger race-to-the-bottom/regulatory-chill problems is unjustified. We develop these conclusions below.⁶ We then consider in sequence the problems that can arise when either of the two conditions is not met, and we discuss the extent to which the two conditions are satisfied in current WTO practice.

How the WTO Can Work

When governments choose both their tariffs and their domestic standards unilaterally, the incentive to choose inefficient market access levels remains. But the inclusion of domestic standards choices does not introduce any additional inefficiency. To understand why, observe that foreign trading partners are affected by a government’s unilateral tariff and domestic standards choices only if these choices shift the cost of unilateral policy intervention onto foreign trading partners through depressed foreign exporter prices. But this cost-shifting, as we observe above, is accomplished by unilaterally restricting access to one’s markets. As a consequence, when governments choose both their trade and domestic standards policies unilaterally, the only inefficiency is a market access inefficiency: there is just too little market access in the world.

The central purpose of trade negotiations thus remains the expansion of market access. This carries an interesting implication: the particular policy mix of tariffs and domestic standards with which a government fulfills a market access commitment is of no direct interest to its trading partners. But this implies in turn that negotiations over tariffs alone can lead to choices of tariffs *and* domestic standards which are efficient from a worldwide perspective, provided that the negotiated tariffs lead to property rights over market access that are secure, so that

⁶ The formal development of these points can be found in Bagwell and Staiger (2001a).

no government can use its policies to infringe unilaterally against its market access commitment and yet each government can honor its commitment with the policy mix that it desires.

To see how this could work, suppose that governments have in place initial domestic standards and then negotiate over tariffs and thereby make market access commitments. Now allow each government to adjust its domestic standards and tariffs as it sees fit, as long as it maintains its original market access commitment. These policy adjustments are then of no direct interest to foreign trading partners. With the potential for cost shifting thus neutralized, governments have the incentive to set their respective policy mixes in the efficient fashion. Therefore, when tariff negotiations lead to secure property rights over market access, tariff and domestic standards choices that are efficient on a worldwide scale can be achieved through tariff negotiations alone.

Race to the Bottom and Regulatory Chill

Let us now suppose that property rights over negotiated market access commitments are *not* secure. In this case, race-to-the-bottom and regulatory-chill problems can arise.

Consider two scenarios. First, consider a government that is facing pressure from domestic producers to offer import relief in an industry where it has agreed, as a result of WTO negotiations, to hold tariffs low. Under WTO rules, this government has various options for raising its tariffs on a temporary or even a permanent basis, but as we describe above, these choices would require either that the government offer its affected trading partners compensating tariff concessions on other products, or that it accept reciprocal withdrawals of tariff concessions by these trading partners.⁷ With its unilateral tariff options restricted, this government might be tempted to offer unilateral import relief to its producers by another route, namely, by eliminating costly environmental, health and safety regulations, much as those concerned with the race-to-the-bottom possibility would fear. In the absence of a usable nonviolation nullification or impairment right, its trading partners would have limited recourse under WTO rules to stop it.

Notice that, by offering import relief with a reduction in labor or environmental standards, the government would in effect be unilaterally “withdrawing” market access concessions that it had previously negotiated, and in altering the balance of market access concessions it would thereby shift some of the costs of its import relief decision on to foreign exporters. Hence, in this first scenario, the prospect of sound labor and environmental standards choices would be threatened by WTO-

⁷ For the option to offer temporary relief, an important distinction arises between GATT’s Article XIX “safeguard” rules as they existed up until 1994 and the amended safeguard rules incorporated into the WTO. Under the WTO’s amended Article XIX, governments are effectively exempt, for a three-year period following an original safeguard action, from any obligation to compensate trading partners or to accept “retaliatory” responses.

sponsored agreements to reduce tariffs given the lack of secure property rights over negotiated market access commitments, and the attainment of efficient levels of market access through WTO tariff negotiations would be compromised by the continuing cost-shifting possibilities as well.

A second scenario highlights the possibility of a regulatory chill. In particular, a government might be tempted to delay or even to cancel altogether its plans to implement tighter labor or environmental standards if its WTO commitments prevent it from offsetting the competitive consequences of tighter standards for its domestic firms. If the unilateral tightening of a standard to be applied to domestic import-competing producers were to raise their costs, this would be tantamount to a unilateral grant of market access to foreign exporters. By altering the balance of market access commitments in this way, a country wishing to impose a tighter standard would suffer *exaggerated* costs of its unilateral decision. In principle, the competitive effects of the new domestic standard could be offset by the government with adjustments in other policies, such as import tariffs or domestic producer subsidies, so that the level—and hence the balance—of market access commitments was preserved. For example, the government might attempt to renegotiate its tariff to a higher level and offer the tighter standard as “compensation.” In a similar spirit, the WTO subsidies agreement explicitly accommodates the granting of domestic subsidies which are intended to offset the financial burden of new environmental regulations on existing firms. But if the government were constrained by WTO obligations in its attempts to make such adjustments, it might be less inclined to implement the new standards owing to their exaggerated costs and less inclined as well to negotiate WTO market access commitments in the first place.

These scenarios illustrate that, if property rights over negotiated market access commitments are not secure, WTO-sponsored trade liberalization can indeed lead to damaging race-to-the-bottom or regulatory-chill problems. But two further points which are critical to the debate over labor, the environment and the WTO are also revealed.

First, the race-to-the-bottom and regulatory-chill possibilities are not driven by the standards choices of foreign trading partners—say, by the labor and environmental standards of the developing world. Indeed, nowhere in these two scenarios did the particular setting of foreign standards even arise. Instead, the fundamental factor which tempts a government to depart from sound labor and environmental standards is the market access advantage that a unilateral weakening of its standards (or a unilateral decision not to strengthen them) can produce for its firms, an advantage which becomes particularly attractive to a government when its ability to raise tariffs unilaterally is restrained by its WTO commitments. In this light, the most direct approach to prevent a damaging race to the bottom or regulatory chill is to ensure that the property rights to market access created by negotiated tariff concessions are secure.

This approach should be distinguished from various proposals recently put

forth by industrialized countries which would link access to their markets with the social policies of other countries. Under a so-called WTO “social clause,” a set of core labor and environmental standards would be identified, and subsequently governments would be permitted to raise tariffs against exports from countries that did not meet these standards. Effectively, compliance with the core standards would become the admission price for exporters from developing countries to sell in the markets of the industrialized world. But if the social clause is meant to prevent race-to-the-bottom and regulatory-chill problems, it is based on a misdiagnosis of the problem. Weak or nonexistent labor and environmental standards in the developing world will not fuel such problems among industrialized countries, as long as the property rights over negotiated market access commitments in the WTO are secure. When these property rights are secure, the government of an industrialized country would not weaken or resist raising its domestic standards for competitive-advantage reasons. Instead, if this government wishes to counter mounting foreign trade pressures—from developing-country sources or any other—it may surely do so, but it must choose among the various reciprocal options for withdrawing negotiated market access that the WTO allows. These options direct governments to address market access concerns with their tariff policy, not their domestic standards choices, and are designed to confront governments with the true costs of their decisions.

This point is worth further emphasis because it suggests a reorientation of the race-to-the-bottom/regulatory-chill debate. That debate has centered on the weak labor and environmental standards of developing countries. But from our perspective, the appropriate responses in principle are essentially already permitted under WTO rules.

There are four cases to consider. First, if the competitive pressures are on the import-competing firms of developed countries, then the WTO already provides for the appropriate response—developed countries can renegotiate their tariffs to higher levels. Second, if the competitive pressures are on the exporting firms of developed countries, and if these pressures stem from the growing capacity of developing-country firms to produce for the local market, then the WTO already provides for the appropriate response—developed countries can approach developing countries and engage them in market access negotiations to reduce developing-country tariffs. If such negotiations have previously taken place, and if the growing capacity of developing-country firms to produce for the local market is due to a reduction in developing-country standards, then developed countries can initiate a nonviolation complaint. Third, if the competitive pressures are on the import-competing firms of developed countries, and if these pressures arise because developed countries wish to raise their own standards, then a broader interpretation of WTO renegotiation rights will suffice—developed countries could renegotiate their tariffs to higher levels, but should also be permitted to offer commitments to higher standards as compensation for their higher tariffs. Finally, if the competitive pressures are on the exporting firms of developed countries, and

if these pressures arise because developed countries wish to raise their own standards, then an extension of the WTO subsidies agreement could accommodate the appropriate response—developed countries could offer subsidies to their exporting firms for the purpose of offsetting the financial burden of the higher standards.⁸ In any of these scenarios, weak standards in the developing world per se are not the problem for developed countries—weakening standards may be, but only if they reflect imperfections in the property rights over negotiated market access levels.

The second point revealed by these scenarios is that a surprising degree of common ground exists between the interests of those who support sound labor and environmental policies and the interests of those who support sound trade policies. The goals of each of these groups are compromised when the property rights over negotiated market access are weakened. Hence, it is in the interests of labor and environmental groups who fear damaging race-to-the-bottom and regulatory-chill problems to support the principles of the WTO, just as it is in the interests of those who seek sound trade policies to find ways to avoid such problems. A well-functioning WTO—a WTO that accomplishes in practice what its rules can achieve in principle—will help governments achieve sound trade policies as it helps them avoid damaging race-to-the-bottom/regulatory-chill problems as well.⁹

Humanitarian and Global Commons Concerns

We now consider the potential role of the WTO in helping to address humanitarian/global commons concerns as they relate to labor and environmental policies. There are really two questions here. Should the WTO be involved in providing a negotiating forum within which governments may attempt to address these concerns? Should the WTO be involved as an enforcer of international agreements to address these concerns that are negotiated in other forums?

⁸ Article 8 of the WTO subsidies agreement currently provides for this with regard to environmental (but not labor) regulations. We have actually omitted a fifth possibility from this list, namely, that in which the exporting firms from the developed country are competing with exporting firms from developing countries for third markets. While the race-to-the-bottom/regulatory-chill logic is slightly different in this case (Bagwell, Mavroidis and Staiger, 2001), the appropriate response is analogous to the fourth case described in the text.

⁹ Our discussion thus far has not emphasized the issue of how WTO commitments are to be enforced. But enforcement poses an important problem for the WTO, since this institution has no real enforcement power of its own. Instead, it must rely on the retaliation powers of its member governments to ensure that WTO rules are followed. In the context of labor and environmental standards, this raises the additional issue of whether, and if so to what extent, the WTO's limited enforcement ability should be used to prevent race-to-the-bottom and regulatory-chill problems and thereby to promote sound labor and environmental policies. Ederington (forthcoming) explores this issue and provides a striking answer: the limited enforcement power of the WTO should be allocated so as to prevent any possibility of a race to the bottom or regulatory chill. In terms of our discussion above, enforcement power should be allocated to ensure the security of property rights over negotiated market access. Conditional on this, the WTO's enforcement power should then be used to achieve the "most-cooperative" level of market access that can be sustained as a self-enforcing equilibrium.

As we argue above, the rules of the WTO are well-designed to help governments solve a particular problem: the problem of insufficient market access that derives from terms-of-trade effects that are associated with unilateral policy choices. Conversely, the negotiating forum created by WTO rules is not particularly well-suited to handle the international externalities which define humanitarian/global commons concerns. Indeed, there is no reason to expect that the successful role which the GATT/WTO has played in facilitating trade liberalization among its member governments would carry over to issues relating to humanitarian/global commons concerns.

On the question of using the WTO as an enforcement mechanism for agreements negotiated elsewhere, it is certainly possible that governments could enforce more cooperative solutions addressing their humanitarian/global commons concerns if the WTO were involved in an enforcement capacity. After all, a government might well be more hesitant to violate an agreement in the humanitarian/global commons context, if it were to understand that the WTO would then authorize retaliatory tariff increases that diminished the access of its exporters to foreign markets. Turning this argument around, it is even possible that governments could enforce more cooperative trade policy outcomes were they to understand that a violation in the trade policy context might lead to some retaliatory diminishment in the degree of cooperation with respect to a humanitarian/global commons concern. But circumstances matter: it is also possible that enforcement power may be reallocated across issues so that linkage results in greater cooperation in one issue and less cooperation in the other, as shown in the theoretical models of Spagnolo (2000) and Limao (2000). At this early stage in the research literature, it is impossible to advance with confidence an answer to whether using WTO trade sanctions as an enforcement mechanism for global labor and environmental standards would end up benefitting either freer trade, labor, or the environment.

Conclusion

We have described an economic perspective on the WTO that, in principle, suggests a central role for the WTO in preventing race-to-the-bottom and regulatory-chill problems from arising, and that views this role as being served through strengthened property rights associated with negotiated market access commitments. We conclude by considering three practical questions raised by this perspective.

First, a race-to-the-bottom/regulatory-chill problem arises if domestic regulatory choices affect market access and governments manipulate market access with these choices. But what is the evidence concerning the existence of such a problem? If there is little evidence that regulatory choices affect market access, then the perspective we have described would indicate that there is little that the WTO should do to respond to the debate over how trade rules should interact with labor

and environment rules. Indeed, Levinson (1996) surveys the evidence and concludes that there is little empirical support for the view that environmental regulations significantly affect trade volumes or firm locations.

However, the perspective we have described suggests some specific reasons for caution in interpreting the existing evidence as showing conclusively that fears of a race-to-the-bottom or regulatory-chill problem are unfounded. As we have observed, this problem is fueled by international cost shifting, and denying market access is the way in which a domestic government can shift the costs of its regulatory choices on to foreign exporters. All else equal, the *smaller* the trade volume effect of a marginal reduction in market access, the larger the reduction in exporter prices and therefore the *bigger* the cost-shifting impact. So when viewed from this perspective, it is not clear that evidence of a small trade volume impact from a marginal weakening of domestic regulation should comfort those who fear race-to-the-bottom and regulatory-chill problems.¹⁰

It seems reasonable in light of the existing empirical evidence to advocate a conservative approach to introducing changes in the WTO that are designed to respond the race-to-the-bottom/regulatory-chill threat. However, it also seems reasonable to remain open to the possibility that further empirical evidence might alter the wisdom of this approach.

A second practical question raised by the perspective we have developed is this: To the extent that the race-to-the-bottom/regulatory-chill problem is empirically important, how realistic is it to ask the WTO to address this problem by strengthening property rights over negotiated market access commitments? After all, relying too heavily on nonviolation complaints could overwhelm the WTO legal system with intractable measurement problems concerning arcane national regulations, and permitting governments to offer tighter standards to compensate their trading partners for tariffs renegotiated to higher levels could open the door to protectionist abuse. This second question, however, can only be answered when it is raised in the context of an alternative approach to addressing the problem. The prominent alternatives each envision the ability of countries to deny market access unilaterally to trading partners that do not meet certain minimum standards for labor and/or environmental policies.¹¹ In this context, the practical concerns associated with the approach to addressing race-to-the-bottom or regulatory-chill

¹⁰ Another reason for caution in interpreting the existing evidence too conclusively is that the existing empirical studies typically focus only on whether trade flows are responsive to regulatory choices, while treating those regulatory choices as exogenously determined. But as noted above, the race-to-the-bottom/regulatory-chill problem derives from a joint hypothesis which also holds that these regulatory choices are in fact endogenous. See, for example, Ederington and Minier (2001) on the empirical implications of this point.

¹¹ We have described in some detail the proposed social clause. Other proposed responses include broadening the ability of countries to raise tariffs against the weak standards of trading partners through GATT Article XX, along the lines of what is already allowed in regard to the products of prison labor.

problems that we have described appear no greater than those associated with the prominent alternatives.

Finally, the economic perspective described here does not yield a compelling case for addressing within the WTO humanitarian and global commons concerns that accompany the choice of labor and environmental standards. But again, what is true in principle is not necessarily true in practice. For example, while we have observed that there is no reason in principle to think that the WTO's apparent success in sponsoring market access negotiations would transfer to humanitarian and global commons concerns, there is no guarantee that these issues would be handled successfully outside the WTO either. Nevertheless, the economic perspective we have described does at least provide a way to think systematically about these different problems, and a better understanding of the problems is an important step to finding solutions.

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References

- Bagwell, Kyle and Robert W. Staiger.** 1990. "A Theory of Managed Trade." *American Economic Review*. September, 80, pp. 779–95.
- Bagwell, Kyle and Robert W. Staiger.** 1999. "An Economic Theory of GATT." *American Economic Review*. March, 89:1, pp. 215–48.
- Bagwell, Kyle and Robert W. Staiger.** 2000a. "Multilateral Trade Negotiations, Bilateral Opportunism and the Rules of GATT." mimeo, March.
- Bagwell, Kyle and Robert W. Staiger.** 2000b. "GATT-Think." NBER Discussion Paper No. 8005, November.
- Bagwell, Kyle and Robert W. Staiger.** 2001a. "Domestic Policies, National Sovereignty and International Economic Institutions." *Quarterly Journal of Economics*. May, 116:465, pp. 519–62.
- Bagwell, Kyle and Robert W. Staiger.** 2001b. "Reciprocity, Non-discrimination and Preferential Agreements in the Multilateral Trading System." *European Journal of Political Economy*. Forthcoming.
- Bagwell, Kyle, Petros Mavroidis and Robert W. Staiger.** 2001. "It's a Question of Market Access." mimeo, May.
- Dixit, Avinash.** 1987. "Strategic Aspects of Trade Policy," in *Advances in Economic Theory: Fifth World Congress*. Truman F. Bewley, ed. New York: Cambridge University Press, pp. 329–62.
- Ederington, Josh,** "International Coordination of Trade and Domestic Policies." *American Economic Review*. Forthcoming.
- Ederington, Josh and Jenny Minier.** 2001. "Is Environmental Policy a Secondary Trade Barrier? An Empirical Analysis." mimeo, University of Miami, April.
- Feenstra, Robert.** 1995. "Estimating the Effects of Trade Policy," in *The Handbook of International Economics*. Gene M. Grossman and Kenneth Rogoff, eds. Vol. 3, New York: North-Holland, pp. 1553–95.
- Goldberg, Pinelopi and Michael M. Knetter.** 1997. "Goods Prices and Exchange Rates: What Have We Learned?" *Journal of Economic Literature*. September, 35, pp. 1244–72.

- Gros, Daniel.** 1987. "A Note on the Optimal Tariff, Retaliation and the Welfare Loss from Tariff Wars in a Framework with Intra-Industry Trade." *Journal of International Economics*. 23, pp. 357–67.
- Horn, Henrik and Petros C. Mavroidis.** 2001. "Economic Aspects of the Most-Favored Nation Clause." *European Journal of Political Economy*. Forthcoming.
- Hudec, Robert E.** 1990. *The GATT Legal System and World Trade Diplomacy*. Second Edition, Salem: Butterworth Legal Publishers.
- Johnson, Harry G.** 1953–54. "Optimum Tariffs and Retaliation." *Review of Economic Studies*. 1:2, pp. 142–53.
- Kreinin, Mordechai.** 1961. "Effect of Tariff Changes on the Prices and Volume of Imports." *American Economic Review*. 51:3, pp. 310–24.
- Levinson, Arik.** 1996. "Environmental Regulations and Industry Location: International and Domestic Evidence," in *Fair Trade and Harmonization: Prerequisites for Free Trade?* Jagdish Bhagwati and Robert E. Hudec, eds. Volume 1. Cambridge: MIT Press, pp. 429–57.
- Limao, Nuno.** 2000. "Trade Policy, Cross-border Externalities and Lobbies: Do Linked Agreements Enforce More Cooperative Outcomes?" mimeo, Columbia University, August.
- Maggi, Giovanni.** 1999. "The Role of Multilateral Institutions in International Trade Cooperation." *American Economic Review*. March, 89:1, pp. 190–214.
- Petersmann, Ernst-Ulrich.** 1997. *The GATT/WTO Dispute Settlement System: International Law, International Organizations and Dispute Settlement*. London: Kluwer Law International Ltd.
- Rodrik, Dani.** 1995. "Political Economy of Trade Policy," in *The Handbook of International Economics*. Gene M. Grossman and Kenneth Rogoff, eds. Vol. 3, New York: North-Holland, pp. 1457–94.
- Spagnolo, Giancarlo.** 2000. "Issue Linkage, Delegation, and International Policy Cooperation." mimeo, Stockholm School of Economics.
- Tuckman, Johanna.** 1997. "Central Americans Start to Act Together." *Financial Times*, July 9, p. 4.
- Winters, L. Alan and Won Chang.** 1999. "How Regional Blocs Affect Excluded Countries: The Price Effects of MERCOSUR." CEPR Discussion Paper No. 2179, June.
- Winters, L. Alan and Won Chang.** 2000. "Regional Integration and the Prices of Imports: An Empirical Investigation." *Journal of International Economics*. August, 51:2, pp. 363–77.

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2. Natalia Bezmaternykh, Paul Missios. 2023. Preferential trade agreements, externalities, and domestic policy. *Review of International Economics* 31:5, 1571-1601. [[Crossref](#)]
3. Noha Elboghhdady, Michael Finus. 2022. Strategic climate policy with endogenous plant location: The role of border carbon adjustments. *Journal of Public Economic Theory* 24:6, 1266-1309. [[Crossref](#)]
4. Ali Cheshmehzangi. Well-Functioning Government and Peaceful Living Environments 63-68. [[Crossref](#)]
5. Zdenek Drabek. 2021. Governance of FDI and the East Asian Economic Community. *Asia and the Global Economy* 1:1, 100001. [[Crossref](#)]
6. Jayjit Roy. 2021. The effect of employment protection legislation on international trade. *Economic Modelling* 94, 221-234. [[Crossref](#)]
7. Josh Ederington, Yoonseon Han, Jenny Minier. 2021. Do Trade Agreements Actually Reduce Trade Volatility?. *SSRN Electronic Journal* 54. . [[Crossref](#)]
8. Silvia Nenci. 2020. Do We Still Need the World Trade Organization?. *Journal of International Commerce, Economics and Policy* 11:03, 2050012. [[Crossref](#)]
9. Eckhard Janeba. 2019. Regulatory chill and the effect of investor state dispute settlements. *Review of International Economics* 27:4, 1172-1198. [[Crossref](#)]
10. Mehdi Nemati, Wuyang Hu, Michael Reed. 2019. Are free trade agreements good for the environment? A panel data analysis. *Review of Development Economics* 23:1, 435-453. [[Crossref](#)]
11. Ashley Schram, Sharon Friel, J. Anthony VanDuzer, Arne Ruckert, Ronald Labonté. 2018. Internalisation of International Investment Agreements in Public Policymaking: Developing a Conceptual Framework of Regulatory Chill. *Global Policy* 9:2, 193-202. [[Crossref](#)]
12. Aneel Salman, Bakhtawar Sethi, Faheem Aslam, Tahir Kahloon. 2018. Free Trade Agreements and Environmental Nexus in Pakistan. *Policy Perspectives: The Journal of the Institute of Policy Studies* 15:3. . [[Crossref](#)]
13. Winston W. Chang. 2017. World Trade and the Environment: Issues and Policies. *Pacific Economic Review* 22:3, 435-479. [[Crossref](#)]
14. Carsten Herrmann-Pillath. Externalities, Complexity and Justice: Exploring the New Paradigm of 'Deliberative Trade Policy' 47-82. [[Crossref](#)]
15. Dirk De Bièvre, Arlo Poletti, Aydin Yildirim. About the Melting of Icebergs 120-146. [[Crossref](#)]
16. Carsten Herrmann-Pillath. 2017. Deliberative Trade Policy: Rethinking Global Governance of International Trade. *SSRN Electronic Journal* 15. . [[Crossref](#)]
17. Michihiro Ohyama. Partial Free Trade Agreements and Economic Welfare: Reconsidering GATT Article 24 159-167. [[Crossref](#)]
18. G. Maggi. Issue Linkage 513-564. [[Crossref](#)]
19. Mehdi Nemati, Wuyang Hu, Michael R. Reed. 2016. Are Free Trade Agreements Good for the Environment? A Panel Data Analysis. *SSRN Electronic Journal* 91. . [[Crossref](#)]
20. Carsten Herrmann-Pillath. 2015. Externalities, Complexity and Justice: Exploring the New Paradigm of Deliberative Trade Policy With a Case Study of TRIPS. *SSRN Electronic Journal* 81. . [[Crossref](#)]
21. Winston Chang. 2014. World Trade and the Environment: Issues and Policies. *SSRN Electronic Journal* 80. . [[Crossref](#)]

22. Pushan Dutt, Ilian Mihov, Timothy Van Zandt. 2013. The effect of WTO on the extensive and the intensive margins of trade. *Journal of International Economics* 91:2, 204-219. [[Crossref](#)]
23. Sharmin Jahan Tania. 2013. Is There a Linkage Between Sustainable Development and Market Access of LDCs?. *ldr* 6:1, 143-223. [[Crossref](#)]
24. Xiao Chen, Alan Woodland. 2013. International trade and climate change. *International Tax and Public Finance* 20:3, 381-413. [[Crossref](#)]
25. Christian Barry, Scott Wisor. World Trade Organization . [[Crossref](#)]
26. Carsten Herrmann-Pillath. 2013. Leadership, Deliberative Trade Policy, and Civil Society: The Hegelian Approach. *SSRN Electronic Journal* jou_vol[1].xmlText. . [[Crossref](#)]
27. Laixun Zhao. 2013. Some Alternative Catching Up Strategies for Developing Countries. *The International Economy* 16:0, 5-13. [[Crossref](#)]
28. Alexia Herwig. 2012. WTO Non-Violation or Situation Complaints: A Remedy for Extraterritorial Effects on the Human Right to an Adequate Standard of Living. *Global Policy* 3:4, 471-475. [[Crossref](#)]
29. Alexia Herwig. 2012. WTO Non-Violation or Situation Complaints: A Remedy for Extraterritorial Effects on the Human Right to an Adequate Standard of Living. *SSRN Electronic Journal* 15. . [[Crossref](#)]
30. Montserrat González-Garibay. 2011. The trade-labour and trade-environment linkages: together or apart?. *Journal of International Trade Law and Policy* 10:2, 165-184. [[Crossref](#)]
31. Tun-Hsiang Yu, Man-Keun Kim, Seong-Hoon Cho. 2011. Does Trade Liberalization Induce More Greenhouse Gas Emissions? The Case of Mexico and the United States Under NAFTA. *American Journal of Agricultural Economics* 93:2, 545-552. [[Crossref](#)]
32. Pushan Dutt, Ilian Mihov, Timothy Van Zandt. 2011. Does WTO Matter for the Extensive and the Intensive Margins of Trade?. *SSRN Electronic Journal* 105. . [[Crossref](#)]
33. Michael Huberman, Christopher M. Meissner. 2010. Riding the Wave of Trade: The Rise of Labor Regulation in the Golden Age of Globalization. *The Journal of Economic History* 70:3, 657-685. [[Crossref](#)]
34. Jung Hur, Laixun Zhao. 2009. Labor standards, labor-management bargaining and international rivalry. *Journal of Economic Behavior & Organization* 71:2, 259-272. [[Crossref](#)]
35. Laixun Zhao. 2009. International Labour Standards and North-South Competition. *The World Economy* 32:7, 1091-1114. [[Crossref](#)]
36. Daniel L. Millimet, Rusty Tchernis. 2009. On the Specification of Propensity Scores, With Applications to the Analysis of Trade Policies. *Journal of Business & Economic Statistics* 27:3, 397-415. [[Crossref](#)]
37. Bernhard Boockmann, Roland Vaubel. 2009. The Theory of Raising Rivals' Costs and Evidence from the International Labour Organisation. *The World Economy* 32:6, 862-887. [[Crossref](#)]
38. Jay Squalli, Kenneth Wilson. 2009. Openness and access. *Applied Economics* 41:3, 363-379. [[Crossref](#)]
39. Friederike Hoffmann. U.S. Support for the Labor-Trade Linkage in the WTO: Analyzing Success and Failure of the AFL-CIO's Efforts to Set the U.S. International Trade Agenda 131-152. [[Crossref](#)]
40. Yunfang Hu, Laixun Zhao. Dynamic Labor Standards Under International Oligopoly 217-237. [[Crossref](#)]
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42. Michihiro Ohyama. Chapter 1 The WTO and The World Economy: A Welfare-Theoretic Perspective 3-13. [[Crossref](#)]

43. Michihiro Ohyama. 2007. Partial Free Trade Agreements and Economic Welfare: Reconsidering GATT Article 24. *Review of Development Economics* 11:4, 621-628. [[Crossref](#)]
44. Carsten Herrmann-Pillath. 2006. Reciprocity and the hidden constitution of world trade. *Constitutional Political Economy* 17:3, 133-163. [[Crossref](#)]
45. Carsten Herrmann-Pillath. 2006. The true story of wine and cloth, or: building blocks of an evolutionary political economy of international trade. *Journal of Evolutionary Economics* 16:4, 383-417. [[Crossref](#)]
46. Ian Sheldon. 2006. Trade and Environmental Policy: A Race to the Bottom?. *Journal of Agricultural Economics* 57:3, 365-392. [[Crossref](#)]
47. Marion Panizzon. 2006. How Close Will GATS Get to Human Rights?. *SSRN Electronic Journal* 5. . [[Crossref](#)]
48. Emma Aisbett, Larry S. Karp, Carol McAusland. 2006. Regulatory Takings and Environmental Regulation in NAFTA's Chapter 11. *SSRN Electronic Journal* 15. . [[Crossref](#)]
49. STEVE MCCORRISTON, IAN M. SHELDON. 2005. Market Access and WTO Border Tax Adjustments for Environmental Excise Taxes under Imperfect Competition. *Journal of Public Economic Theory* 7:4, 579-592. [[Crossref](#)]
50. Steve Mccorrison, Ian Sheldon. 2005. Export Competition and the Remission of Domestic Environmental Taxes. *International Tax and Public Finance* 12:5, 627-637. [[Crossref](#)]
51. Simon Teitel. 2005. Globalization and its disconnects. *The Journal of Socio-Economics* 34:4, 444-470. [[Crossref](#)]
52. Chad P. Bown, Rachel McCulloch. Environmental Issues 1734-1767. [[Crossref](#)]
53. Andrei A. Levchenko. 2005. Institutional Quality and International Trade. *SSRN Electronic Journal* 19. . [[Crossref](#)]
54. Andrei Levchenko. 2004. Institutional Quality and International Trade. *IMF Working Papers* 2004:231, 1. [[Crossref](#)]
55. Chad P. Bown. 2004. Trade policy under the GATT/WTO: empirical evidence of the equal treatment rule. *Canadian Journal of Economics/Revue canadienne d'économie* 37:3, 678-720. [[Crossref](#)]
56. Chad P. Bown. 2004. On the Economic Success of GATT/WTO Dispute Settlement. *Review of Economics and Statistics* 86:3, 811-823. [[Crossref](#)]
57. Laurence Boy, Christophe Charlier, Michel Rainelli, Patrice Reis. 2003. La mise en œuvre du principe de précaution dans l'accord sps de l'omc. *Revue économique* 54:6, 1291. [[Crossref](#)]
58. James Rude, Karl D. Meilke. 2002. Two Unknowns and No Equations: Implications of the Doha Declaration for Canadian Agricultural Policy. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie* 50:4, 415-437. [[Crossref](#)]
59. Roberto Roson, Barbara Buchner. 2002. Conflicting Perspectives in Trade and Environmental Negotiations. *SSRN Electronic Journal* 9. . [[Crossref](#)]
60. Steve Charnovitz. 2002. Triangulating the World Trade Organization. *American Journal of International Law* 96:1, 28-55. [[Crossref](#)]
61. Kyle Bagwell, Petros C. Mavroidis, Robert W. Staiger. 2002. It's A Question of Market Access. *American Journal of International Law* 96:1, 56-76. [[Crossref](#)]