research paper series

Internationalisation of Economic Policy

Research Paper 2004/28

The WTO Dispute Settlement Mechanism: Battlefield or Cooperation?

by

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The Centre acknowledges financial support from The Leverhulme Trust
under Programme Grant F114/BF

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Acknowledgements

I have been invited to write this paper as an extended comment on Breuss (2004) by the editor of the Journal of Industry, Competition and Trade. Both papers are forthcoming in the Journal of Industry, Competition and Trade. Thanks are due to Fritz Breuss for helpful comments.

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Abstract

EU-US trade disputes have recently caught much attention, because they have involved lasting non-compliance coupled with WTO-authorized retaliation. A recent paper by Breuss (2004) shows that the outcome in most cases has probably involved economic damage on both sides. Does this testify to a general weakness, or even failure, of the WTO Dispute Settlement Mechanism? This paper develops a theoretical framework, based on the Bagwell-Staiger (2002) theory of the GATT/WTO, that helps us explain why the DSM might lead to mutually harmful non-compliance cum sanctions. If this happens, we should still not jump to concluding failure of the DSM. Interpreting the DSM as a *political* cooperation device, the framework allows us to identify conditions under which the outcome is efficient in political economy terms, even though it might involve *economic* harm on both sides. In addition to a better understanding of the empirical results reported by Breuss (2004), the framework also allows us to identify certain general weaknesses and flaws of the DSM that should be recognized when reviewing the Dispute Settlement Understanding in the Doha round negotiations.

JEL classification: F02, F13

Keywords: WTO, GATT, Trade Policy

Outline

Non-Technical Summary

EU-US trade disputes have recently caught much attention, because they have involved lasting non-compliance coupled with WTO-authorized retaliation. A recent paper by Breuss (2004) shows that the outcome in most cases has probably involved economic damage on both sides. Does this testify to a general weakness, or even failure, of the WTO Dispute Settlement Mechanism (DSM)? The question seems particularly interesting in view of the fact that the DSM has undergone profound change through the Uruguay round agreement which has established the WTO. Unlike the GATT-DSM, the WTO-DSM involves a distinct element of coercion, due to automatic adoption of Panel (or Apellate Body) rulings by the Council with an attendant authorization of sanctions, if the defendant country is unwilling to comply or offer agreeable compensation. Adoption can only be avoided through unanimous Council agreement, while under the previous GATT-DSM, it was adoption as such that has required unanimous consent. Violation, thus, seems more dangerous now than before. Yet, major players repeatedly choose to violate, and the ensuing settlement procedure apparently carries a real danger of mutual economic damage.

The WTO-DSM is usually portrayed as an enforcement mechanism for trade agreements that suffer from incentives for unilateral violation. Against this criterion, one is tempted to conclude failure from repeated non-compliance, and harmful settlement, by major WTO members. However, this paper argues that the DSM should not be interpreted and judged against the paradigm of self-enforcing agreements. It develops a theoretical framework, based on the Bagwell-Staiger (2002) theory of the GATT/WTO that cautions against concluding failure from the mere observation of mutually harmful non-compliance cum sanctions. Interpreting the DSM as a *political* cooperation device, the framework allows us to identify conditions under which the outcome is efficient in political economy terms, even though it might involve *economic* harm on both sides.

Instead of indicating failure as an enforcement device, such outcomes may indicate that the DSM plays a useful role in “re-balancing” the agreement in the face of a changes in the economic or political environment. Somewhat provocatively, this suggests a rather favourable judgement on the WTO-DSM. In a sense, the new (unlike the old) DSM acts like allocating "property rights", and the so-called “trade wars” may simply be a decentralized process of efficiency-enhancing exchange, in this case an exchange of retaliation for non-compliance.

However, the paper also identifies certain dangers inherent in this “property-rights-interpretation”. First, it relies on accepting the non-economic objectives that governments pursue in this game of exchange, which potentially undermines the primary purpose of the WTO as a vehicle towards world-wide realization of gains from trade. It may also aggravate time-inconsistencies of domestic policies towards structural reform and adjustment. And perhaps most importantly, the DSM is heavily biased against compensation (as opposed to sanctions), and against “re-balancing” agreements towards less (instead of more) protection.

1 Introduction

The WTO is under strain not only from various groups of globalization critics, but also internally from disputes between its pivotal members, the US and the EU. Trade spats were quite common also under the GATT, but now they are much more highly publicized and, indeed, they appear to be of a qualitatively different nature. The reason partly is that a fundamental change has occurred in the way disputes are carried out through the Dispute Settlement Understanding (DSU) reached in the Uruguay round of the GATT, which is a cornerstone of the WTO that arose out of that round in 1994. Prior to the WTO, disputes were dealt with under a pure veto (and thus voluntary) system. In contrast, the WTO-DSU features automatic adoption of panel rulings, which can be avoided only by means of a unanimous vote of the Dispute Settlement Body. Thus, countries can no longer block adoption of a panel ruling which states that their policies are in violation of the GATT/WTO.[1] Moreover, (automatic) adoption implies authorization of compensation claims and/or sanctions on the part of the plaintiff country. This introduces a firm element of coercion into the dispute settlement mechanism (DSM), which makes WTO-disputes more contentious than those under the GATT. However, automaticity does not imply compliance. Thus, the disputes between the EU and the US meet the headlines not only because they involve major players, but also because they feature non-compliance and, consequently, authorized retaliation and sanctions. We shall see below why this is the case and whether we should judge it as good or bad for the world trading system. The degree of controversy is further aggravated by the fact that some of the headline-disputes of today involve policies that are deemed more fundamental to the respective country than the mere magnitude of trade barriers.[2]

In an interesting and thought-provoking paper, Breuss (2004) looks at some of the most important recent disputes between the EU and the EU:

[1] In this note, I use the acronym WTO/GATT for the present world trading system, indicating that the GATT has in full substance become part of the WTO.

[2] See Sapir (2002) for a more detailed history of EU-US trade disputes.

1. The EU ban on imports of hormones-treated meat on the grounds of safety concerns, which the US claims is in violation of *GATT Art. III* (National Treatment on Internal Taxation and Regulation) and *Art. XI* (General Elimination of Quantitative Restrictions), as well as special provisions of the *Agreement on the Application of Sanitary and Phytosanitary Measures*, the *Agreement on Technical Barriers to Trade*, and the *Agreement on Agriculture*.

2. The EU regime of banana imports, which the US as the plaintiff has argued to be in violation of *GATT Art. I* (General Most-Favoured-Nation Treatment) and *Art. XIII* (Non-discriminatory Administration of Quantitative Restrictions), as well as the General Agreement on Trade in Services (GATS) and special provisions of the *Agreement on Import Licensing Procedures*, the *Agreement on Agriculture*, and the *Agreement on Trade-Related Investment Measures*.

3. The tax treatment of foreign sales corporations (FSC) in the US, which was charged by the EU as violating *GATT Art. XVI* (Subsidies), as well as special provisions of the *Agreement on Subsidies and Countervailing Measures*.

4. And finally, the so-called steel case, where the EU (alongside several other plaintiffs) has charged US steel tariffs introduced in 2002 as violating the Uruguay round *Agreement on Safeguards*.

Breuss (2004) uses a numerical general equilibrium model (GTAP) to quantify the welfare effects of the violation as well as the retaliatory measures taken in each of these cases. Of the vast array of results reported, the most significant ones are those relating to the combined effect of the violation and the retaliation. In all cases but one, both sides suffer a welfare loss, the exception being the FSC case where the EU as the plaintiff gains while the US loses. How can we make sense of a dispute settlement mechanism where countries end up hurting themselves, and seemingly do so even voluntarily? In this note, I suggest an explanation, and in doing so, I also point out some general characteristics and weaknesses of the WTO-DSM.

In all of the above cases, the violation charged by the plaintiff was confirmed by a

panel ruling, and in all cases the defendant failed to fall into full compliance. Hence, they are true and lasting disputes. However, charged as they are, calling them *wars*, even mini-wars as in Breuss (2004), may sound exaggerating. In common understanding, wars are deplorable acts of aggression that in some sense destroy existing order. But the DSM is an integral part of the world trading system. Hence, since the disputes are carried out on the basis of the WTO-DSM, they make use of, rather than destroying, existing order. In a more specific and narrower understanding, trade theorists use the term trade wars to indicate situations where governments act in a non-cooperative way, ignoring the (political and economic) cost that their policies impose on one another (see Grossman and Helpman (1995)). But in this sense too, the aforementioned cases can hardly be called wars. As I shall argue in more detail below, the DSM of the WTO, in contrast to the pre-WTO system, can be interpreted as a cooperation device. Consequently, disputes fought under the DSM appear as cooperative exercises, not wars. Indeed, one may regard disputes such as the ones considered by Breuss (2004) as important, and indeed welcome, instances of clarification and interpretation of a world trading arrangement, formally codified in the GATT and the WTO, which – by virtue of its ever increasing complexity – leaves room for interpretation, and which has ingredients of an incomplete contract.

On the other hand, there are clear and undeniable indications that some of the recent trade disputes, particularly between the US and the EU, do go beyond mere clarification and unavoidable settlement of open issues. For instance, in all of the cases in Breuss (2004) there is lasting *non-compliance*, and in at least two cases the issues reflect fundamental differences in values and policy attitudes that go beyond classic trade spats about the magnitude of trade barriers. For instance, in the Hormones-case principles of dealing with large societal risks are at issue,[3] and in the FSC-case core principles of income taxation are at stake. Moreover, one may argue that lasting non-compliance comes close to de facto destruction of the DSM. More generally, the significance of a case where *rules of enforcement* are

[3]The same can be said for the EU ban on genetically modified organisms, a case which has also been brought to the WTO by the US.

applied extends well beyond the quantitative importance, per se, of the issue for the two parties involved. This is aggravated if they involve alleged champions of the WTO. Thus, much is at stake, and calling the disputes "mini-wars" may not be entirely unjustified after all, particularly if we take into account the evidence that they have generated economic harm on both sides. For the FSC-case, even the diminutive should perhaps be dropped, as suggested by Breuss (2004), if one considers the magnitudes involved. If calculated on the basis of import-weighted average tariffs, retaliatory protection in this particular case reaches unprecedented levels that threaten to undo, albeit temporarily, much of the liberalization that has been achieved in the Uruguay round.[4]

In this short note, I do not go into the substance of each, or any, of the cases considered by Breuss (2004). In particular, I do not want to identify what the course of events has meant for the respective plaintiff and defendant, nor whether the rulings and positions taken are in line with the letter or immediate intent of the dispute settlement rules invoked. What I want to do, instead, is take the study by Breuss as a starting point to explore into the rationale and logic of the WTO-DSM in view of the ultimate purpose of the WTO as a whole. In doing so, I want to highlight the dual motivation that is likely to drive both negotiators of trade agreements and actors in the dispute settlement process, viz. to advance *economic well-being* of their countries' citizens at large, and to cater to special interest groups or to improve or solidify the *political-status* of the incumbent government. More specifically, I use the economic theory of the GATT developed by Bagwell and Staiger (1999, 2002) to shed light on the DSM that helps us understand the results obtained by Breuss, but also points out in a general way the strengths and weaknesses of the DSM that have arisen out of the Uruguay round. Based on these insights, I try to draw conclusions also with an eye on the built-in agenda of review and further reform of the DSU in the present round of negotiations initiated in Doha.

[4]Thus, Lawrence (2003) points out that a 100 percent tariff on the $4 billion plus imports that the WTO has permitted for retaliation would imply a in import-weighted tariff increase on EU imports from the US by 1.8 percent, which exceeds the Uruguay-round tariff cut of 1.6 percent.

In the next section, I briefly reiterate the general point, made several times in the literature, that the general logic of the GATT/WTO appears flawed in terms of economic theory, but may make sense from a political point of view. I argue that the same can be said with respect to the WTO-DSM. In section 3, I present some general doubts, partly based on the cases described and analyzed by Breuss (2004), as to whether the DSM may be interpreted as an enforcement device, as is often done in the literature. Section 4 then develops an analytical framework, relying on the Bagwell-Staiger theory of the GATT/WTO, that helps us understand the numerical results obtained by Breuss, and which allows us to more generally identify the key characteristics and problems of the WTO-DSM. Section 5 adds some important reservations and qualifications, and in section 6 I draw some general conclusions.

2 The apparent logic of WTO-DSU

The dispute settlement understanding (DSU) which defines the "battlefield of trade wars" was reached in the Uruguay round of the GATT, and it is perhaps the most important cornerstone of the WTO that arose out of that round. As I have mentioned in the introduction, the DSU has brought a sharp turnaround in dispute settlement, from a pure veto (and thus voluntary) system to automatic adoption of panel rulings, which can be avoided only by unanimity, and which thus establishes a firm element of coercion. More specifically, under the old (GATT) system of settlement, a Panel ruling could be adopted only by *unanimous* decision of the GATT council. Under the new (WTO) system, the Dispute Settlement Body *automatically* adopts the Panel or Appellate Body ruling, unless members unanimously agree otherwise.[5] In addition, the procedural steps are now laid down in more detail by the legal system. While the *legal characteristics* of the system have thus undergone profound change, the *economic logic* still follows what Krugman (1991) has dubbed "GATT-think": exports are good, imports are bad, and – other things equal – an

[5]For more details, see Hoekman and Kostecki (2001) and Mercurio (2003).

equal increase in imports and exports is good.

From an economic point of view arguably the most important substantive point of the whole DSU is its reference to the *"nullification or impairment of benefits"*, which is the prime target of dispute settlement. If a country suffers such nullification or impairment through some other country's violation of any WTO-related international agreement, it may seek direct compensation, or respond with retaliatory sanctions in the form of a (temporary) suspension of concessions granted under that agreement.[6] The crucial term that economists will jump at here is "benefits". This establishes a relationship between the DSM and the ultimate rationale of the world trading system, viz. securing the *benefits (or gains) from trade*.[7] The crux, however, is how these benefits are defined in the practical operation of the DSM.

Krugman and others have repeatedly pointed out that the "GATT-think" is profoundly flawed in the way it expects benefits from trade. It ignores, specifically, that for the country as a whole, benefits do not arise from exports as such, but from *exchange* of exports for imports. Moreover, whether a certain increase in exports in exchange for imports is good, depends on the *terms of trade*, compared to the domestic opportunity cost of exports. In particular, it is well known that, provided markets are functioning reasonably well, subsidizing exports is harmful. It drives a wedge between the terms of trade and the opportunity cost of exports, and it is likely to worsen the subsidizing country's terms of trade. Flawed "GATT-think" is clearly evident also in the way that the DSU is put to work in trade disputes: "Impaired benefits" are largely identified with increased imports, or exports lost, while compensation and sanctions are sought primarily through increased exports

[6] For a more detailed account of the difference between compensation and retaliatory measures in the provisions of the DSM, see Anderson (2002).

[7] See article 22 on "Compensation and the Suspension of Concessions" of the Understanding on Rules and Procedures Governing the Settlement of Disputes. The agreement contains no exact definition of benefits, but identifying it with aggregate welfare as defined in normative trade theory seems justified in view of the consensus interpretation of the purpose of the GATT and the WTO. Hoekman & Kostecki (2001) refer in a somewhat more general sense to "nullification and impairment of the objective" of a GATT/WTO agreement. For the present purpose, however, the objective should arguably be seen as achievieng welfare through trade.

and barriers to imports, almost always looking at import and export quantities (or values) in their own right, and independently. While "GATT-think" straightforwardly leads to the idea that a sanction may take the form of a suspension of tariff "concessions" on the grounds that this would cut into the volume of imports, economics tells us that a true sanction will arise only to the extent that the suspension has a *terms of trade effect*. An important merit of the study by Breuss (2004) is that it goes beyond trade volumes, to include such terms of trade effects and, thus, national welfare of the plaintiff and defendant country. I shall return to this below.

How are we to make sense of a world-trading system that has been established, and is kept operating, under such ill-guided ideas? It is only through imperfections of the political process that one can explain why the "GATT-think", flawed as it is in terms of economics, has done such a good job in securing the *true* benefits of trade in the past half-century. One of the reasons is that "GATT-think" has become a dominant idea in an "enlightened" form, i.e., in the form of the twin principles of *reciprocity* and *nondiscrimination*. These principles, in turn, reflect a recognition of the fact that plain "GATT-think" is bound to run into difficulties if applied simultaneously by many countries (see Krugman (1991)). In a series of papers, brought together in Bagwell and Staiger (2002), the authors have shown that these principles have been instrumental in internalizing mutually harmful *economic externalities* that one country is likely to exert on others in its pursuit of benefits from trade. Such externalities arise in the form of *terms of trade effects*. And internalization through nondiscrimination and reciprocity may bring, and has brought, the world from non-cooperative protectionist policies towards a less protectionist and more cooperative trading system.

An important upshot of the Bagwell-Staiger approach is that this holds true irrespective of whether governments are pursuing national welfare alone, or are also driven by political economy motives. In either case, there is an efficiency case for cooperation, which explains why countries may seek trade agreements leading to more benefits from trade than would obtain in a non-cooperative environment. However, Ethier (2002) has argued that economic externalities alone do not suffice to explain behavior that we observe in GATT/WTO negotiations, where small countries are

eager to participate, and where agreements do not in fact rule out terms of trade manipulation. He therefore introduces *political externalities* where a government's vehicle to pursue its political objective *directly* impacts on other governments' political fortune, even at *constant terms of trade*. In this paper, I do not follow this route, but stick to the Bagwell-Staiger approach.[8]

The Bagwell-Staiger approach views the GATT/WTO as a framework for negotiating *efficient trade policies*, efficient simply meaning that international economic spillovers of trade policies are internalized. Such spillovers are not restricted to trade policies, and restricting the scope of the GATT/WTO to "border-measures" is in some sense arbitrary. Indeed, questions of whether certain "non-border-policies" should be drawn into the WTO on account of cross-border economic externalities are among the most contentious issues in the present WTO-debate.[9] I do not pursue this question any further in this note. The point discussed here is quite general, but it is best understood in the context of classic border-measures where the economic externality (terms-of trade) is direct and straightforward, and where a direct manipulation of the externality is more easy to pursue.[10]

Whatever the policy in question, an efficient set of policies will, in general, not be "self-enforcing". Instead, each of the countries will perceive an incentive to manipulate the economic externality to its own advantage, for instance through terms of trade improving import or export taxes. It is worth mentioning here that Bagwell and Staiger (2002) provide alternative interpretations of the terms of trade externality which sound more like the kinds of concern that bother trade policy negotiators, for instance concerns about market access. The discussion is, thus, more general

[8] Likewise, I do not take up, except for a brief remark at the end, the role that a trade agreement may play as a *commitment device* in the domestic game between the government and the private sector (see again Bagwell and Staiger (2002)).

[9] Labor standards and environmental policies are prominent examples (see for instance Irwin (2002) and Bhagwati (2002)). It should be noted here that solving the problem of economic externalities of such policies that arise through trade by no means implies *harmonization* (see the discussion in Krugman (1997)).

[10] "Manipulation" does not mean that trade effects of ones policy are directly used to achieve a certain policy goal, but simply that the efficiency cost coupled with such a policy are partly shifted to foreign countries through a terms-of-trade improvement.

than might appear at first sight.[11] At any rate, if there is scope for an efficiency-enhancing trade agreement, there is the additional problem of a suitable *enforcement device* securing that these efficiency gains are not annihilated by unilateral violations of the agreement. And it is in this context that the GATT/WTO DSU is usually discussed. However, the following observations cast doubts on whether the conventional enforcement paradigm helps us understand the nature of what has been going on in recent disputes, particularly the ones discussed by Breuss (2004).

3 Some doubts about the DSU as an enforcement device

Enforcement problems of cooperative equilibria are usually analyzed relying on the notion of *repeated games*. An equilibrium is deemed self-enforcing, if any unilateral deviation from the agreed-upon (efficient) policies provokes retaliatory actions, such that the short-run benefit from defection is outweighed by long-run losses from a less cooperative outcome. A typical case often considered is one where retaliation takes the form of a return to the non-cooperative (and inefficient) Nash equilibrium. If the short-run gains from defection are lower, in present value terms, than the long-run losses from falling back into the Nash equilibrium, then defection becomes unattractive. In the WTO-context, under reasonable conditions self-enforcement of this type would put a lower bound on the negotiated level of trade barriers that is higher than efficiency as such would dictate.

Notice that, if an agreement represents a *self-enforcing* equilibrium, then unilateral defection and retaliation will either not be observed, or will lead to the non-cooperative equilibrium. As the paper by Breuss (2004) makes abundantly clear, however, this is often not what we observe under the GATT/WTO dispute

[11] However, Ethier (2002) points out that a typical GATT agreement does not, in fact, rule out terms-of-trade manipulation, provided it is done by export taxes. In this case, the problem is not, strictly speaking, one of enforcement, and the dispute settlement machinery is no longer at governments' disposal when fighting "trade wars".

settlement. In all cases considered, the defendant country has failed to change its policy towards compliance, hence the panel (or the Appellate Body) upheld the initial finding that a violation of GATT/WTO obligations had occurred. Automatic adoption thus meant that the parties should either settle for compensation, or else there would be retaliation. In all cases, the dispute went to the state or retaliation. However, the retaliatory measures did not undo the underlying agreement as such. There was no collapse with a subsequent return to a non-cooperative equilibrium. Instead, as I shall substantiate below, the defendant country seems to have willingly traded non-compliance for retaliation.

More generally, according to the repeated game enforcement paradigm, an effective enforcement mechanism for a WTO agreement would minimize, in the perfect case to zero, the number of violations. And where a defection arises, sanctions or threats of sanctions should quickly do away with it. But despite the increase in coerciveness brought about by the Uruguay round DSU (see above), the cases considered by Breuss (2004), as well as many other cases, testify to the fact that WTO trade disputes often feature *non-compliance*, whereby a defendant country maintains a certain policy even in the face of a panel ruling clearly stating that it is in violation of a GATT/WTO obligation. At the same time, lasting non-compliance does not entail rataliation of the kind that would bring down the relevant agreement as such and lead to a non-cooperative equilibrium. Hence, the DSM is apparently difficult to understand under the self-enfrocement paradigm.

Non-compliance was a characteristic also of the pre-WTO dispute settlement system. Indeed, it was much more prevalent under the old system. However, non-compliance is a qualitatively different behavior under the new system, since the principle of "automaticity" implies that it causes *sanctions*, which was not the case under the former veto-system. Notice that during the process the defendant country has repeated options to revert to compliance. In other words, non-compliance is a deliberate act of trading compliance for sanctions. And in the cases considered by Breuss (2004), sanctions did not take the form of negotiated compensation, but retaliatory restrictions by the plaintiff. And all of this, one might argue, is aggravated by the fact that major players of the world-trading system are involved.

Should we, then, conclude utter failure of the dispute settlement mechanism in that it has degenerated to a market-place for violations and sanctions? In the remainder of this paper, I develop a framework, relying on the Bagwell-Staiger theory of the GATT/WTO, that helps us understand the outcome in the cases considered, which, as mentioned before, features welfare losses by both countries. While the framework does reveal certain key problems of the WTO-DSM, it does not warrant concluding failure of the DSM from the mere observation of repeated violation and sanctions by major players.

4 A cooperative interpretation of non-compliance

My point is best illustrated by using a stylized model which focuses on a two-country-, two-commodity-case with perfect competition and classic trade policy in the form of tariffs.[12] Both countries are assumed to be large. It will become evident as I go along that the basic insight extends to more general cases, particularly ones where policies other than tariffs are at issue. The large-country-case with terms of trade manipulation is often criticized for lack of realism. However, it is more realistic than perhaps commonly thought. In particular, concerns about market access that apparently dominate much of trade negotiation and dispute settlement can be shown to be broadly equivalent to concerns about terms of trade manipulation (see Bagwell and Staiger (2002), chapters 2 and 11).

I assume a government that is concerned about domestic welfare, but is also motivated by some political economy consideration. For simplicity, the *political economy concern* is modeled by a continuous function $G(p)$, where p is the domestic relative commodity price. An obvious interpretation, of course, is a distributional objective, with distribution being driven by equilibrium commodity prices through the Stolper-Samuelson effect. This does not place any obvious general restriction on

[12] The underlying model used here is of the type developed by Bagwell and Staiger (2002), chapter 2.

the function $G(p)$.[13] A corresponding function $G^*(p^*)$ is stipulated for the foreign government. Throughout this paper, the foreign country is denoted by an asterisk. Denoting the equilibrium world market price by $\tilde{p}$, we have $p = \tau\tilde{p}$ and $p^* = \tilde{p}/\tau^*$, where $\tau = 1 + t$ and $\tau^* = 1 + t^*$ are the two countries' price-wedges from tariff rates t and t^*, respectively.

Without any more detailed modeling, I stipulate a reduced form general equilibrium relationship between the terms of trade $\tilde{p}$ and the two countries' trade policies: $\tilde{p} = \tilde{p}(\tau, \tau^*)$, with partial derivatives $\tilde{p}_\tau < 0 < \tilde{p}_{\tau^*}$. Ruling out the Metzler-paradox, we also have $\mathrm{d}p/\mathrm{d}\tau = \tau\tilde{p}_\tau + \tilde{p} > 0 > \mathrm{d}p^*/\mathrm{d}\tau^*$. In what follows, I use p_τ to indicate $\mathrm{d}p/\mathrm{d}\tau$, and analogously for $p^*_{\tau^*}$. We may further shorten our notation by writing

$$g(\tau, \tau^*) = G[\tau\tilde{p}(\tau, \tau^*)], \qquad \text{with} \tag{1}$$

$$g_\tau = G_p p_\tau \qquad \text{and} \qquad g_{\tau^*} = G_p \tau \tilde{p}_{\tau^*}, \tag{2}$$

using subscripts to denote partial derivatives. It is worth pointing out that under the present assumptions g_τ and g_{τ^*} have the same sign, but the sign of G_p as such is left open.[14] Moreover, it is important to realize that there is no *direct* political externality running from τ^* to G. More specifically, for constant terms of trade any variation in τ^* is devoid of any effect on the domestic government's political position G. In other words, $g_{\tau^*} \neq 0$ only on account of $\tilde{p}_{\tau^*} > 0$. This is the key difference between the two approaches followed by Bagwell and Staiger (2002), and by Ethier (2002).

[13] The analysis is quite general and does not specify whether the political economy motive works through selling policy for campaign contributions, a median voter model, or more generally some distributional objective of the government; see also Bagwell and Staiger (2002). In a vast variety of different models featuring trade policy driven by motivations other than maximizing aggregate welfare, the relevant policy channel in one way or another works through the use of trade policy as a hidden tool of income redistribution. In the context of trade wars and trade talks, see for instance Grossman and Helpman (1995).

[14] While a domestic tariff increase improves the terms-of-trade, $\tilde{p}_\tau < 0$, it raises the domestic price, if the Metzler Paradox is ruled out. A rise in the foreign tariff worsens the home-country terms-of-trade, $\tilde{p}_{\tau^*} > 0$, and the domestic tariff wedge $\tau > 0$ magnifies this into a domestic price increase. Hence, whatever the sign of G_p, g_τ and g_{τ^*} are of the same sign.

Domestic welfare is determined according to an indirect utility function $V[p, Y(\tilde{p}, \tau)]$, where Y is domestic income, inclusive of policy revenues R which are assumed to be distributed in a lump-sum manner to the representative household, as usual. More specifically, domestic income is determined as $Y(\tilde{p}, \tau) = Q(p) + R(\tilde{p}, \tau)$, with revenues $R(\tilde{p}, \tau) = D[p, Y(\tilde{p}, \tau) - Q(p)]\tau\tilde{p}$, whereby D and Q, respectively, denote Marshallian demand functions and competitive supply functions of the domestic economy.[15] Using $p = \tau\tilde{p}$, we may write domestic welfare as

$$W(\tilde{p}, \tau) = V[\tau\tilde{p}, Y(\tilde{p}, \tau)]. \tag{3}$$

It can be shown that

$$\mathrm{d}W/\mathrm{d}\tau = V_Y[t\tilde{p}M_p p_\tau - M(p, Y)\tilde{p}_\tau], \tag{4}$$

where $M(p, Y)$ denotes the import demand function.[16] Notice that, since $M_p < 0$ and $\tilde{p}_\tau < 0$, we have two opposing effects emanating from a change in the domestic tariff. Setting $\mathrm{d}W/\mathrm{d}\tau$ equal to zero gives the optimal domestic tariff, for any given tariff of the foreign country. Using $\tilde{p} = \tilde{p}(\tau, \tau^*)$, we may also write domestic welfare as

$$w(\tau, \tau^*) = W[\tilde{p}(\tau, \tau^*), \tau], \tag{5}$$

$$\text{where} \qquad w_{\tau^*} = V_Y[t\tilde{p}M_p p_{\tau^*} - M(p, Y)\tilde{p}_{\tau^*}], \tag{6}$$

once more using subscripts to denote partial derivatives. Notice that $p_{\tau^*} = \tau\tilde{p}_{\tau^*} > 0$, since $\tilde{p}_{\tau^*} > 0$, and with $M_p < 0$ an increase in the foreign tariff always worsens domestic welfare: $w_{\tau^*} < 0$. For any domestic tariff lower than the optimal tariff, we have $w_\tau = \mathrm{d}W/\mathrm{d}\tau > 0$. Analogous expressions hold for the foreign country (see also Dixit (1987)).

[15] I abstain from indicating the role of endowments for domestic supply in the function Q.

[16] See, for instance, Dixit and Norman (1980).

The domestic government's overall objective function is now assumed as

$$z(\tau, \tau^*) = \alpha g(\tau, \tau^*) + w(\tau, \tau^*), \tag{7}$$

where α represents the relative weight of distributional (political economy) concerns over aggregate welfare. Again, an analogous expression holds for the foreign economy. For the present purpose, we may set $\alpha = \alpha^* = 1$, without any loss of generality. We may now identify policy changes that leave domestic and foreign welfare constant, and set these against policy changes that leave the domestic and foreign government's overall evaluation of the policies, as measured by z and z^*, unchanged. We have

$$\left.\frac{\mathrm{d}\tau}{\mathrm{d}\tau^*}\right|_{\mathrm{d}w=0} = -\frac{w_{\tau^*}}{w_\tau} \quad \text{and} \quad \left.\frac{\mathrm{d}\tau}{\mathrm{d}\tau^*}\right|_{\mathrm{d}w^*=0} = -\frac{w^*_{\tau^*}}{w^*_\tau} \tag{8}$$

$$\left.\frac{\mathrm{d}\tau}{\mathrm{d}\tau^*}\right|_{\mathrm{d}z=0} = -\frac{g_{\tau^*}+w_{\tau^*}}{g_\tau + w_\tau} \quad \text{and} \quad \left.\frac{\mathrm{d}\tau}{\mathrm{d}\tau^*}\right|_{\mathrm{d}z^*=0} = -\frac{g^*_{\tau^*}+w^*_{\tau^*}}{g^*_\tau + w^*_\tau} \tag{9}$$

For suboptimally low tariffs, the iso-welfare contours in (8) each have positive slope. We may rewrite (9) for the domestic economy as

$$\left.\frac{\mathrm{d}\tau}{\mathrm{d}\tau^*}\right|_{\mathrm{d}z=0} = -\frac{1 + g_{\tau^*}/w_{\tau^*}}{1 + g_\tau/w_\tau} \cdot \frac{w_{\tau^*}}{w_\tau} \tag{10}$$

A completely analogous expression may be derived for $(\mathrm{d}\tau^*/\mathrm{d}\tau)|_{\mathrm{d}z^*=0}$. Notice that the term g_τ/w_τ tells us how, at the margin, a variation of the domestic tariff is valued from the political economy perspective by the domestic government, relative to the welfare perspective; analogously for g_{τ^*}/w_{τ^*}. In what follows, I shall call contours defined by (9) and (10) iso-policy-value contours.

It seems reasonable to restrict our attention to cases where tariffs are "suboptimally low", whence $w_\tau > 0$. Notice again that $w^*_{\tau^*} > 0$ holds irrespective of the level of tariffs. Moreover, I assume that for both countries the overall policy consideration of the government is in favor of raising the tariff, i.e., the political economy concern does not over-compensate the terms of trade effect: $g_\tau + w_\tau > 0$ and $g^*_{\tau^*} + w^*_{\tau^*} > 0$, and analogously for cross-country effects: $g_{\tau^*} + w_{\tau^*} < 0$ and $g^*_\tau + w^*_\tau < 0$. These

conditions are important for what follows, and I should like to point out that they are *not* trivially satisfied.

Under these conditions, we may now compare the slopes of the iso-welfare contours with those of constant policy values for each of the two governments (iso-policy-value contours). It is relatively straightforward to separate two cases defined by whether $\frac{1+g_{\tau^*}/w_{\tau^*}}{1+g_\tau/w_\tau}$ is larger or lower than one. Under the aforementioned conditions, it is larger than one if

$$g_{\tau^*}/w_{\tau^*} > g_\tau/w_\tau \tag{11}$$

and vice versa. Given that $w_{\tau^*} < 0 < w_\tau$ and that g_{τ^*} and g_τ are of the same sign, condition (11) is met, if and only if the political economy consideration works against a tariff increase, $g_\tau < 0$ and $g_{\tau^*} < 0$, and vice versa. Graphically, if distributional concerns in the domestic economy favor a higher tariff, then at any point in tariff-space the iso-policy-value contour is flatter than the iso-welfare contour.[17] The intuition is straightforward. A *tariff-prone* political economy in either country implies that *both* g_τ and g_{τ^*} are positive, hence the overall damage of a foreign tariff increase is mitigated from w_{τ^*} to $w_{\tau^*} + g_{\tau^*} < w_{\tau^*}$. The offsetting domestic tariff increase thus needs to make up for a smaller damage than from the welfare consideration alone. At the same time, a tariff increase of any given size now has a larger effect on z than on w alone: $z_\tau = g_\tau + w_\tau > w_\tau$. Hence, for any increase in τ^*, a constant level of z is attained through a smaller increase in τ than for a constant level of welfare w.

Figure 1 traces out two efficiency locus in policy-space with τ and τ^* on the axes.[18] The E_w-locus depicts all policy values for which the iso-welfare contours (8) for the two countries have equal slopes, while the E_z-locus depicts policies for which the iso-policy-value contours defined in (9) have equal slopes. From the insights that I have just derived on the slopes of the iso-welfare and the iso-policy-value

[17] Throughout this note, I use the terms 'political economy concerns' and 'distributional concerns' synonymously.

[18] The figure is borrowed from Bagwell and Steiger (2002), chapter 2.

contours, it is clear that the *entire* E_z-locus lies to the northeast of the E_w locus, if the political economy in the domestic *and* the foreign country, respectively, is tariff-prone, i.e., if $g_\tau > 0$ and g_{τ^*} *as well as* $g^*_{\tau^*} > 0$ and $g^*_\tau > 0$. By the same token, the Nash equilibrium in a case where the two governments also worry about political economy involves more protectionist policies, than would be the case if they behaved as benevolent dictators. Two such Nash equilibria are depicted by points N_z and N_w in figure 1.[19] The opposite holds if either country's political economy favors a low relative price p or p^*, respectively. We restrict ourselves to the symmetric case here, although there is nothing particularly natural about symmetry. Indeed, the asymmetric case might be considered the more natural one. To avoid clutter, figure 1 depicts only the case of a *symmetric, tariff-prone political economy.* In this case the entire welfare-efficiency locus E_w lies to the left and below the policy-value-efficiency locus E_z.[20]

It is obvious that a Nash equilibrium is inefficient. But efficiency does not dictate a unique set of policies, and countries are obviously facing a conflict of interest. In figure 1, the set of efficient policies dominating the Nash equilibria are found on the solid parts of the lines E_w and E_z. We may distinguish between two sets of questions. One has to do with issues of *negotiation*, i.e., whether governments can find an agreement which secures at least some of the efficiency gains that would be wasted in a non-cooperative Nash equilibrium. The second is how an agreement can be *enforced*. Although enforcement is an integral part of the negotiating process, the distinction is useful. Bagwell and Staiger (2002) point out the principal difference between a rules-based and a power-based approach to negotiation, arguing that the

[19] In other words, tariff-prone political economy considerations shift both countries' reaction functions out, compared with a case where governments worry only about welfare. We assume that the appropriate second order conditions on $G(p)$ and $G^*(p^*)$ are fulfilled, so that the curvature of the z- and z^*-contours are the same, in principle, as the traditional iso-welfare lines. Moreover, we assume a reasonably symmetric case where the welfare-efficiency locus runs through the free-trade point with $\tau = \tau^* = 1$. On this latter point, however, it is worth pointing out that alternative cases are possible (e.g. Bagwell and Staiger (2002)).

[20] With anti-tariff political economy channels, N_z will lie to the south-west of E_w. For shortage of space, I abstain from exploring into cases other than the one depicted in figure 1, which seems to capture the empirically relevant case.

GATT/WTO has always been favoring a rules-based approach. They provide an in-depth analysis of how the twin principles of reciprocity and non-discrimination prove useful in moving the world closer to the efficiency locus. In this paper, I concentrate on the role and interpretation of the WTO-dispute settlement mechanism which seems to be dealing with the enforcement issue.

According to the repeated game paradigm of *self-enforcement*, the two countries would try to find an agreement where a set of policies (τ^f, τ^{*f}) leads to $z^f > z^N$ and $z^{*f} > z^{*N}$, such that any short-run unilateral defection $\tau > \tau^f$ or $\tau^* > \tau^{*f}$ triggers retaliation with an ultimate collapse of the agreement.[21] Self-enforcement requires that the threat of loosing $z^f - z^N$ and $z^{*f} - z^{*N}$ permanently offsets any short run gain from unilaterally breaking the agreement and imposing a higher tariff. It is likely that such an agreement would involve tariffs (τ^f, τ^{*f}) above the efficiency locus E_z. Although such a "balance of terror" view on the GATT/WTO has at various stage been expressed,[22] I argue below that the basic thrust of the DSM is different. For this reason, and to avoid clutter, figure 1 does not depict any such self-enforcing policy equilibrium.

Extending on the general observations made in section 3 above, this framework suggests two specific further reasons for why the self-enforcement paradigm is ill-suited for a correct understanding of the WTO-DSM. First, there is no indication anywhere in the GATT/WTO, including the DSU, that unilateral violation of any one agreement carries a real danger of complete *collapse* of that agreement, let alone the whole system represented by the WTO, followed by a return to *non-cooperation*. Moreover, while the DSU does feature retaliation, this is governed by the idea of *equivalence* between damage and compensation or retaliation, whereby equivalence is sought on a periodic (annual) basis. Such a notion of equivalence is fundamentally at odds with the aforementioned idea of self-enforcement, where

[21] Notice that any set of policies to the right of an iso-z^*-line is preferred by the foreign government, and analogously for the home government with any of policies above an iso-z-line. Maximizing z by choice of τ for a given value of τ^{*0} would require moving to a point where a z-contour becomes vertical (at τ^{*0}).

[22] See Bagwell and Staiger (2002, p. 41).

violation leads to a situation which is *worse for both parties*, with no way of return. By way of contrast, the DSM features multiple options to "think twice". Indeed, elements of re-negotiation, appeal, and arbitration about equivalence, ideas central to the notion of dispute as such, and also to the WTO-DSM, are all conspicuously absent in the analyses of self-enforcement. The second reason for why the self-enforcement paradigm is ill-suited for an understanding of the DSM is that, at least in its rudimentary form, it rests on the twin assumptions of perfect knowledge and a static environment. Both assumptions are highly unrealistic in the present context. Relaxing either of these assumptions makes genuine dispute and dispute settlement appear in an altogether different light, where the emphasis lies on "cooperation in violation", rather than enforcement.

Suppose, then, that there is no credible threat of bringing the entire agreement down, but governments have imperfect knowledge of the efficiency locus E_w and E_z. Alternatively, some (economic or political) change may occur that shifts the E_z-locus, leading to a situation where the initial policies violate the tangency condition (9). In figure 2 the new locus is labeled $\bar{E}_z$. The new iso-policy-value contours associated with the initial policies (τ^0, τ^{*0}), labeled $\bar{z}^0$ and $\bar{z}^{*0}$, are no longer tangent to each other due to this shift. Now, as before, each of the two governments has an incentive to become more protective, and with the underlying agreement unchanged, any such move would be found in violation of WTO obligations. Suppose the foreign country takes the lead, raising its tariff to τ^{*1}. Suppose, moreover, that the domestic government files a dispute settlement case, and the panel ruling states there is a violation. Under the pre-WTO-DSM, it would have been up to the foreign country to decide whether or not a compliance issue arises at all, as it could always veto adoption of the panel ruling. As the figure is drawn, the overall policy incentive, judged from the z^*-contours, is to block adoption. Hence the two countries are stuck with the old policies, and they forego the efficiency gain from a new set of policies that has become possible due to the exogenous shift in economic/political conditions.

Under the new WTO-DSM, the panel would still rule in favor of the plaintiff, but now automatic adoption immediately raises a compliance issue, with the prospect of

compensation or retaliation. The crucial point made by figure 2 is that compliance, i.e., returning to τ^{*0}, may not be in the interest of either government, if judged by the overall policy values z and z^*, respectively. *Compensation* normally involves the defendant country reducing some of its other barriers (see Anderson (2002)). As this is difficult to model in our two-commodity-framework, and since it did not occur in any of the cases considered by Breuss (2004), I assume that compensation does not take place.[23] The procedure then moves on to the *retaliation* stage.

Now, everything depends on how "nullification and impairment" is calculated. If it is calculated in welfare terms, then in figure 2 the domestic government would be authorized to increase its tariff up to τ_r^1. While this is above τ_n^1, the retaliation level that would be welfare-neutral to the foreign country, the foreign government would still find that it represents a higher overall policy value, compared to the initial situation (τ^0, τ^{*0}). In practice, as Breuss (2004) notes, the WTO will usually not have the means to identify such a welfare-equivalent retaliation, say through some elaborate CGE model. Indeed, even a consistent notion of welfare changes as such does not yet appear to be entrenched in the "nullification and impairment calculus" of the WTO-DSM which mainly focuses on trade volumes lost. As emphasized several times above, in the retaliation cases considered by Breuss (2004) the retaliation finally settled upon has brought economic harm for both countries, with the sole exception of the the EU in the FSC-case.

We cannot conclude, except by some revealed preference argument, that both governments have still gained in terms of overall policy values. But figure 2 clearly points to this possibility. It depicts a case where it would have been optimal in economic terms to mutually reduce tariffs, while political economy motives draw the economies towards more protection. With any retaliation between τ_n^1 and τ_r^1, both *countries* end up worse-off in strict welfare terms, but due to political economy

[23] Many critics of the DSM have argued, and I will do so towards the end as well, that a principal weakness of the DSM is that it does not set enough incentives to go for compensation, rather than retaliation.

concerns both *governments* still prefer the outcome to the initial situation.[24] In cases like this, a fundamental question arises for the WTO as to whether it accepts, more or less unquestioned, any political economy concerns that its member governments might have. If it does, then the verdict is that the DSM is a useful vehicle to "re-balance" the agreement, towards a new political equilibrium, after the previous one was disturbed by some change to the political economy. It would seem that this is comes close to what Bagwell and Staiger call an "on-equilibrium path" of non-compliance and retaliation.[25]

Difficulties of calculating "nullification and impairment" notwithstanding, this leads to a rather favorable judgement on the WTO-DSM. In a sense, it acts like allocating "property rights", geared towards a decentralized process of efficiency-enhancing exchange, in this case an exchange of retaliation for non-compliance. It is interesting to note in this context that some of the reform proposals that developing countries have come up with in the Doha round review of the DSU take a similar "property-rights-approach" to the DSM. This is true in particular for the proposal, tabled by Mexico, to establish a right for plaintiff countries to auction off an authorization for retaliatory measures granted under a certain dispute settlement case.[26] However, there are several important and serious reservations that lead one to question, or at least qualify, such a favorable view. These are taken up in the next section.

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[24] We must recognize, though, that this is by no means guaranteed in the type of case depicted by figure 2. It is relatively easy to envisage a case where the retaliatory tariff τ_r^1 lies above the iso-policy-value contour $\bar{z}^{*0}$.

[25] See the discussion in chapter 6 of Bagwell and Staiger (2002).

[26] See Bagwell, Mavroidis and Staiger (2003). The view is also similar to the "modus vivendi" approach that Hufbauer and Neumann (2002) see as a likely paradigm for future US-EU trading relationships. See also my comment in Kohler (2002).

5 Reservations and qualifications

First and foremost, most people would probably agree that the GATT and the WTO have been established with a view on facilitating *welfare* gains from trade. Placing its DSM at the disposal of governments in order to pursue "non-welfare goals" seems a potentially dangerous endeavor which is at odds, potentially at least, with the fundamental thrust of the post-World-War II trading system. Everything depends on what these "non-welfare goals" are. I shall return to this question below.

It has often been argued that an important purpose of trade agreements in general, and of the GATT/WTO in particular, is to guard enlightened governments against special domestic interest groups that would otherwise be stumbling blocs for these governments in their sincere attempts to pursue national welfare (see Krugman (1993)). In a similar manner, a trade agreement like the GATT/WTO might be an important commitment device for the domestic government whose policy might otherwise suffer from *time inconsistency* problems.[27] This could be the case, for instance, in the process of restructuring in tradeable goods sectors in the face of changes in world market conditions. It is abundantly clear from the above analysis that the benign "property-rights-interpretation" of the DSM seriously undermines this advantage of the GATT/WTO. Indeed, it may even aggravate time-inconsistency problems, since the private sector will typically anticipate the flexible, exchange-oriented nature of the DSM, and the potential that it generates for at least temporary protection for troubled domestic industries.[28]

There is a further, somewhat paradoxical point. I have emphasized above that the new DSM has "more bite" through automatic adoption and the associated provision of "Compensation and the Suspension of Concessions" (Art. 22 of the DSU). This is certainly true "at the margin" of an individual violation. But this "bite at the margin" may also reduce the likelihood of potentially more devastating scenarios that a violation might otherwise trigger. More specifically, the DSM might avoid

[27] See again Bagwell and Staiger (2002), chapter 2.

[28] This concern has also been expressed by Sapir (2002).

war-like retaliatory rounds that would carry a much larger danger to the offending country that the ultimate outcome would be detrimental also in terms of political value. Under the old DSM, if the foreign country were to bloc adoption, the home country might be tempted to retaliate anyway, similarly vetoing adoption of a panel ruling (if any), and so on. Looking at figure 2, it is relatively easy to recognize that this most likely leads to a set of policies lying outside the "efficiency lens" defined by the contours $\bar{z}^0$ and $\bar{z}^{*0}$. Comparing this with the outcome in case of *regulated* retaliation under the new DSM, the old system may well have involved a larger threat of economic loss from violation. In a sense, in the new system the coercive element at the margin of an individual violation acts like a "brake" on the round of multiple retaliations, which would in all probability be more painful for the offending country than the specter of a DSM-controlled compensation or single retaliation. Under the old system, this "brake" was missing. Metaphorically speaking, cars without brakes are driven very gently. Somewhat paradoxically, then, the more coercive new DSM may have less deterring power for an "individual try" than the pre-WTO system with de facto unregulated retaliation.[29]

Turning again to the somewhat charming "property-rights-interpretation" of the DSM, an immediate criticism is that it is asymmetric in a way which runs counter to the basic thrust of the GATT/WTO. The system offers a means of exchange (of violation for compensation or retaliation) if, for whatever reason, a country is tempted to deviate from the agreement towards more protection. But it offers no symmetric provisions in the opposite direction. It is relatively easy to envisage a case, analogous to figure 2, where some economic or political change opens up an "efficiency lens" to the left of the agreed-upon initial set of policies. If, in addition, both countries have a tariff-adverse political economy, then a situation completely symmetric, though in

[29] The high degree of cooperation in the early decades of the GATT testifies to this interpretation, as does the increase in the number of cases filed, and the prevalence of non-compliance, under the new DSM. The odd piece of GATT history which does not support this interpretation in a straightforward way is the loss in cooperation under the old system towards the beginning of the 1990s (see Hoekman & Kostecki (2001) and Mercurio (2003)).

opposite direction to the one depicted in figure 2, would arise.[30] Re-balancing the agreement would now require "deviation" from the agreement towards less protection by *both* countries. One could argue that the countries can always try to enter a whole new negotiation taking them into this lens, just as the Bagwell-Staiger view of the GATT would suggest. Indeed, on this level of abstraction, the difference between negotiating and settling disputes would disappear altogether. But the charm of the "property-rights-interpretation" of the DSM is its decentralized and speedier nature, compared with the complex machinery of a whole round of negotiations. On the other hand, it would most likely run into conflict with nondiscrimination. Indeed, the equivalence of such moves into "leftward-efficiency-lenses" is probably what is often at work in the emergence of preferential, i.e., discriminatory trade agreements.

Let me mention a final observation which speaks in favor of the new DSM. It relates to the nature of the policies that constitute non-compliance. Relatively little may be at stake if a country tries to manipulate its terms of trade by some traditional border measure, like a tariff. However, if giving up a specific policy that is found in violation of an international obligation would imply also giving up fundamental values deeply entrenched in society, or if firm political restrictions make compliance virtually impossible, then the country would probably find it advantageous to accept regulated retaliation under the DSM, if that is what the plaintiff prefers,[31] rather than revert to compliant behavior. More generally, an enforcement system relying on the extreme outcomes of perfect compliance, or else complete collapse of all cooperation, would seem like a dangerous game, if policies relating to fundamental values of a society are at stake. Arguably the trade disputes under the GATT/WTO are increasingly moving into more delicate areas, where questions more fundamental to a country are at stake than the magnitude of tariffs. Perhaps the Hormones-

[30] In this case, condition (11) would be reversed, and the iso-welfare lines would be flatter than the iso-policy-value contours.

[31] Anderson (2002) gives several reasons why plaintiff countries might prefer retaliation over compensation. These asymmetries are deficiencies of the DSM in and of themselves.

dispute and the GMO-issue are cases in point.

6 Conclusions

What are my general conclusions? First, on the "calculus of nullification and impairment", I agree with Breuss (2004) that an exact calculation is practically impossible. But some improvement could by achieved, if a consistent notion of *welfare equivalent* compensation or retaliation were entrenched in the system, in contrast to the *trade loss* equivalent which, as Breuss rightly points out, will correctly estimate the damage only by coincidence. But do we really need an exact calculation? The answer is yes, if administrated fairness is what we expect from DSM, *and* if we accept the pre-violation distribution of the gains from trade. However, the answer is less clear, if one is interested only in efficiency. Then, the Arbitrators' task is reduced to finding some reasonable level of retaliation that, in terms of figure 2, leads into the "efficiency lens". They might succeed in doing so even without any elaborate CGE model. The "property-rights-view" of the DSM would simply hold that if they fail, the respondent country would always have the option to comply. The problem, however, is that the DSM features no symmetric option in case the authorized retaliation is agreeable to the violator, but seems inadequate to the plaintiff. This is an asymmetry which is troubling from an efficiency point of view, in addition to the asymmetry that is often argued with respect to large and small countries, where the concern is more one of fairness. Moreover, not unlike a price adjustment in ordinary markets, it should provide for a certain degree of flexibility and adjustment in the level of retaliation, in order to explore the possibility of re-balancing the trade policies in an efficiency-enhancing way.

I fully agree with the criticism, also expressed by Breuss (2004), that the DSM has a tendency to lead WTO member countries to "shoot in their own feet" via protectionary measures. The crucial question here is whether or not one accepts "non-welfare goals" of policy which the WTO is deemed to serve. If one does, then mutual economic damage in the form of a welfare loss, as calculated from a

CGE model, does not imply that the DSM has been operating against the main purpose of the WTO. I do agree that accepting *any* "non-welfare-goal" would be inconsistent with the purpose and intent of the GATT/WTO, and I have detailed some of the dangers we would face if we did. However, I would also argue that the opposite extreme of always judging the success of the world trading system against the sole benchmark of a "CGE-calculable" welfare-measure runs the risk of occasionally putting it under severe political strain. As I have argued above, fundamental societal values that are not amenable to such a welfare-measure may be at issue in certain trade disputes, such as maybe in the Hormones-case, and even more so in the GMO-case. Future WTO-disputes are likely to see more cases of this kind. Therefore, a more general approach extending beyond a traditional "welfare-calculus" of the type employed by Breuss (2004) may be appropriate for the future course of the WTO. This is not to deny that the approach could and should be more ingenious than the present DSM which is certainly one-sided in favoring tariff-oriented retaliation, for instance by placing more emphasis on direct compensation payments.

Despite the limitations of traditional "welfare-calculus" in dealing with present and future trade disputes, studies like Breuss (2004) are highly welcome and important in that they increase the awareness, also on the part of policy makers and the actors in dispute settlement, of the harm that retaliation, however justified it may seem from a "GATT-think" point of view, is likely to inflict on countries seeking authorization of such retaliation from the WTO. It is to be hoped that they contribute to a more consistent notion of benefits from trade being entrenched the future mechanism through which the world trading system deals with trade disputes.

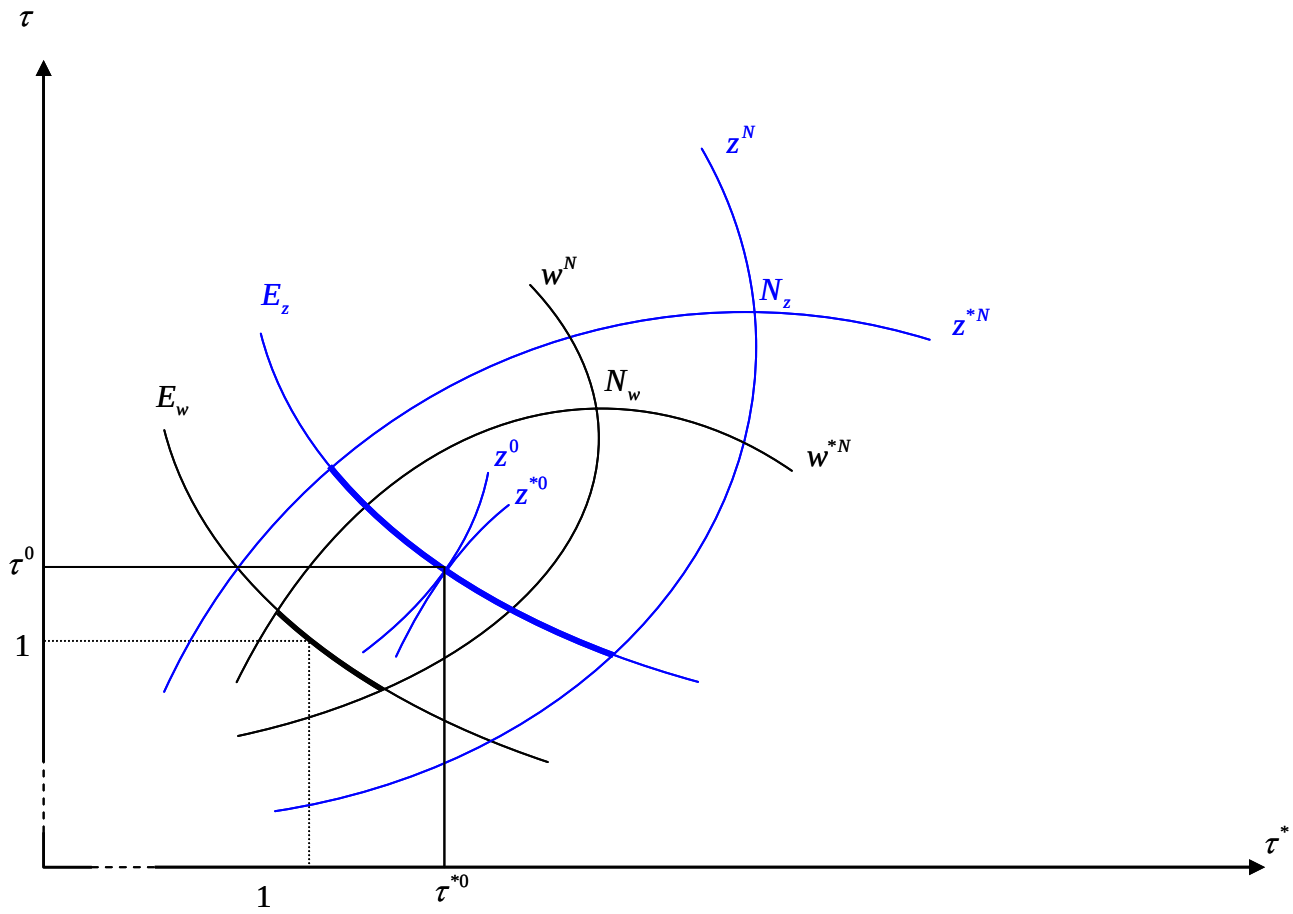

Figure 1: Nash equilibria and efficient policies from a welfare and political economy perspective

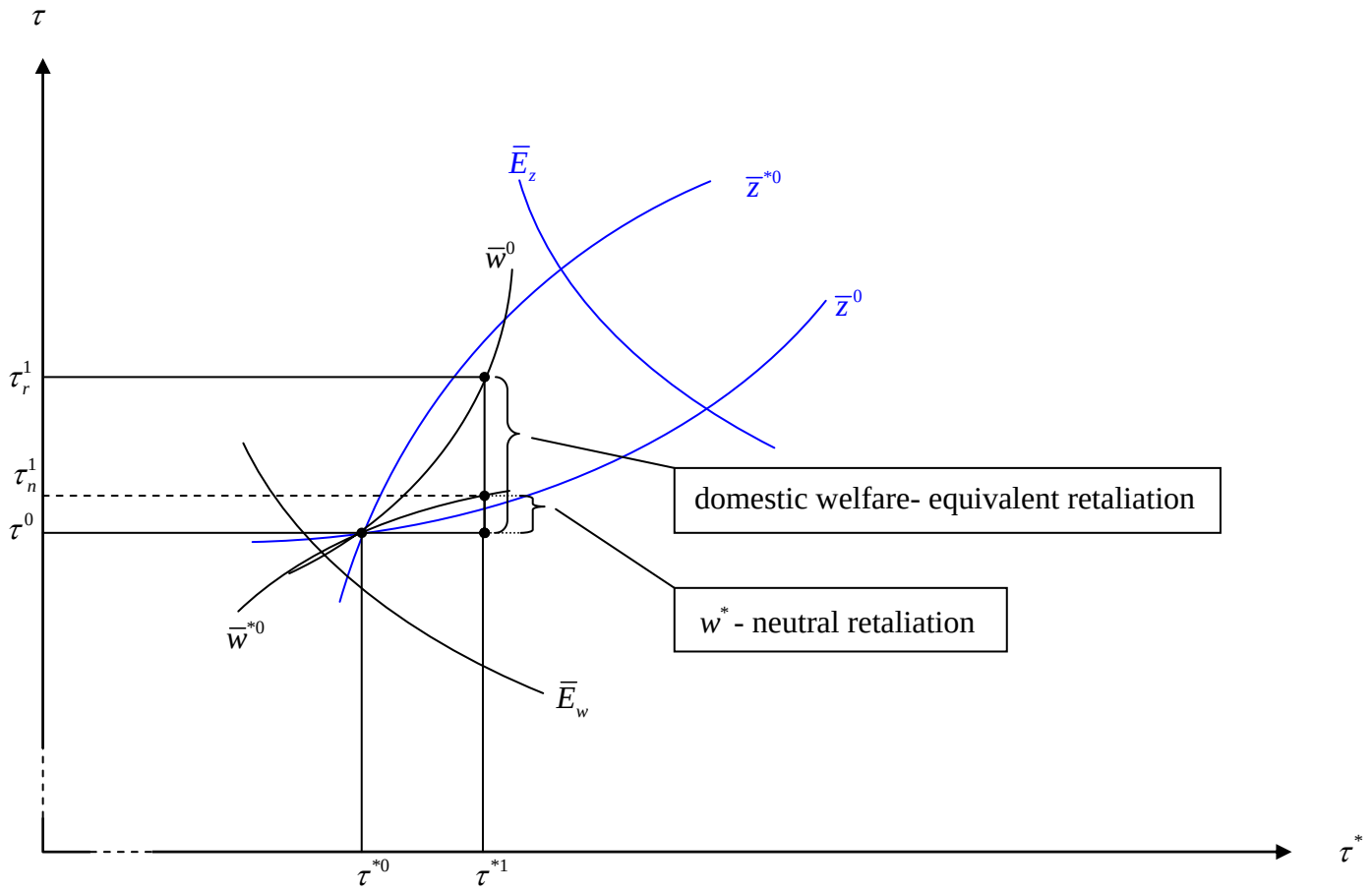

Figure 2: Rebalancing the agreement with the Dispute Settlement Mechanism

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