Climate Change Packet (April 30, 2010)

1. "A global warming fund could succeed where Kyoto failed," *Financial Times,* August 16, 2006

2. "Is action against U.S. exports for failure to sign Kyoto Protocol WTO-legal?" Coauthored with Petros Mavroidis in *World Trade Review (2007),* 6:2, 299-310

3. "Global Warming," Florence Speech, April 2008

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7. Climate Thinkers Video commissioned by the World Bank and played at the Copenhagen Summit, 2009
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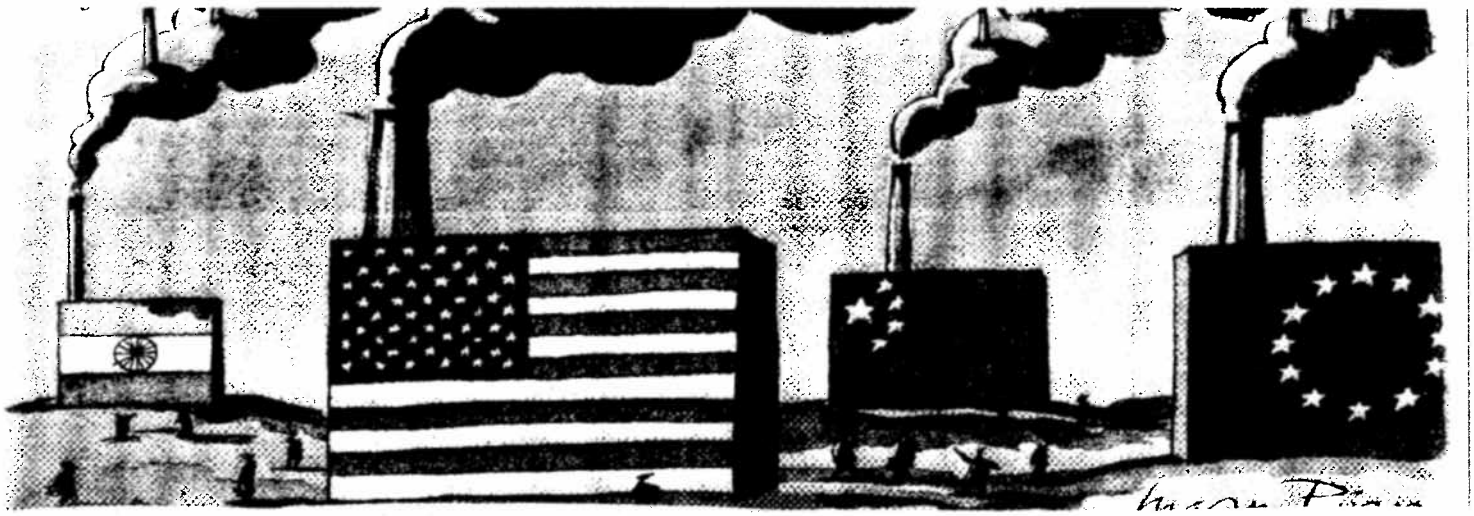

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JAGDISH BHAGWATI

A global warming fund could succeed where Kyoto failed

Al Gore has been busy returning global warming to centre stage with terrifying warnings of disaster with his best-selling book, *An Inconvenient Truth*, and the popular companion documentary. Tony Blair, the UK prime minister, has joined – even led – the renewed focus on global warming, charging Sir Nicholas Stern, the economist, with solving the problem. Alongside his successful initiative on Africa, this is to be his sure-fire international legacy as he ends his last term in office.

Getting global warming on the radar screen is only half the game, however. The other half has to be the design of policies to address it effectively. The centrepiece of world action has been the 1997 Kyoto Protocol to the Framework Convention on Climate Change. But while it embodied national obligations on carbon dioxide emission reductions and has now been ratified and approved by more than 160 countries, the US has not done so. So, the Kyoto protocol is dead in the water: you cannot stage *Hamlet* without the Prince.

Even though Bill Clinton, then president, and Al Gore, then vice-president, were whole-hearted supporters of the Kyoto accord – Mr Clinton even signed it – they could not get it ratified by the Senate that had united against it by a vote of 95-0 in 1997. When President George W. Bush rejected Kyoto, he was therefore resurrecting a corpse and confining it, simply to please his anti-environmental constituents. But despite the presence of many who share the alarm over global warming, the unwillingness of the US Senate to sign on to Kyoto cannot be put down to US capriciousness. Rather, it reflects a serious flaw in the design of the protocol. When this is understood, the outlines of a better international assault on the global warming problem, which is both more attractive and likely to bring the US on board, become evident.

The fatal flaw in the Kyoto protocol is that it left India and China out of the emission-reduction obligations. Both are major polluters; India still way behind but China closing in on the US. The US Senate could not buy into this exemption of India and China. First, the principle of "progressive taxation" that would leave the poorer countries with little obligation no longer has political salience in the US. Second, the image of these two giants long asleep and snoring has shifted to that of giants astir and spewing out significant levels of CO_2 into the atmosphere, undermining the credibility of those who would exempt them from burden-sharing. So, why were India and China left off the hook?

The answer lies, as often, in analytical confusion and a political fudge. While the emissions of today are substantial and growing for India and China, the emissions of yesterday are mainly by the rich countries. The accumulated fossil fuel CO_2 for 1850-2004 shows the damage attributable to India and China as less than 10 per cent while the European Union, Russia and the US jointly account for nearly 70 per cent.

India and China argued successfully that because they were hardly responsible for the "stock" problem – past damage – they should be exempted from the "flow" obligation – the current damage – at least for now. So, the stock problem was addressed by fudging the solution to the flow problem. The political fudge left Kyoto unsaleable. It will remain so unless it is revised to reflect the distinction between the stock and flow obligations and, therefore, the disconnect between the nations that did damage in the past and those that are joining their ranks with a vengeance. How is one to do this?

The stock problem can be addressed by adopting the very technique that the US has used at home to deal with past damage to the environment. Consonant with the American fascination with torts actions, the US enacted in 1980 the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as the Superfund. Under it, a tax was levied on the chemical and petroleum industries and, among other actions, liability established for people responsible for the release of hazardous waste at closed and abandoned hazardous waste sites. It established a trust fund (which would also receive the payments for past damage under the act) to provide for "clean-up" when no responsible party could be identified.

This principle for dealing with past damage makes sense and can surely be applied in the international context. The rich nations, which have been responsible for the overwhelming bulk of the release of CO_2 into the atmosphere in the past, would have to agree to payment of damages into a global warming superfund. These payments could be assessed for a period of no less than 25 years. The estimated damages could reflect the opportunity cost of reducing the CO_2 emissions by a corresponding amount in the next 25 years.

> It is hard to imagine the US objecting to making nations pay for their total pollution. Such a tax is only a way of creating a missing market

Since "clean-up" does not make sense in the context of global warming, these funds would instead be allocated to researching a variety of CO_2-saving technologies, such as wind and solar energy, and to subsidising the purchase of environment-friendly technologies by the developing countries, including India and China. Such subsidies would rebound to the benefit of the rich countries paying into the superfund, since their companies typically produce these technologies. So, aside from the global warming superfund being palatable to the rich countries because it reflects a principle already in domestic practice, business support for it can be expected as well.

On the other hand, the flows need to be taxed, just as in the polluter-pays principle. The existing obligations are based broadly on the half-baked principle of "prevention of significant deterioration", whereby those who pollute more do not have to pay more and only the excess pollution generated by each country is sought to be redistributed more equitably.

Instead, efficiency and fairness require nations to be taxed on their total CO_2 discharge annually. China and India would then have liabilities reflecting their net discharges and the US burden would be significantly higher than that of almost all other nations because it pollutes most. Again, funds collected could be partly added to the global superfund for international uses; the rest could be spent on domestic projects for the same purposes. It is hard to imagine the US, the ideological ally of markets, objecting to this application of the market principle: making each nation pay for its total pollution. The tax is only a way – like selling tradeable permits for CO_2 discharges – of creating a missing market.

There will be differences on how much we ought to spend on preventing global warming. But the difficulties posed by the flawed Kyoto design are gratuitous and can be remedied. It is time to correct them.

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Is action against US exports for failure to sign Kyoto Protocol WTO-legal?

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1. The issue

Since the jurisprudence on *US–Tuna* was overturned by the Appellate Body's *US–Shrimp* decision in favour of the United States, lending legitimacy to action against other nations because of their refusal to conform to the production processes and methods (PPMs) unilaterally specified by a member of the WTO, there has been concern that this has opened the door to all kinds of punitive measures such as the use of trade action, including against the United States itself for not having signed on to the Kyoto Protocol. Thus, in his 2004 book, *In Defense of Globalization*, in the context of an extended critique of the legitimization of such unilateral assertions of PPM requirements and the faultlines opened up by the *US–Shrimp* decision (2004: 153–158), one of us (Bhagwati) argued:[1]

> The shrimp–turtle decision ... is a dangerous ruling because of the possibility, which bothered the authors of the 1991 GATT report on trade and the environment, that it opens up a Pandora's box. Consider that this finding applies

We would like to thank Bernard Hoekman, André Sapir, and an anonymous referee for very helpful comments. Remaining errors are of course our own.

1 Critiques of demands for including unilaterally defined PPMs as a ground for suspension of market access to products not using the required PPMs has long been discussed by one of us (Bhagwati) in different places. See, in particular, Jagdish Bhagwati and T. N. Srinivasan, 'Trade and the Environment: Does Environmental Diversity Detract from the Case for Free Trade?', in Jagdish Bhagwati and Robert Hudec (eds.), *Fair Trade and Harmonization: Pre-requisites for Free Trade?*, Cambridge, MA: MIT Press, 1996, Volume 1; and Bhagwati, 'Afterword: The Question of Linkage', *American Journal of International Law*, 96(1) (2002): 126–134. Bhagwati was also Economic Policy Adviser in 1991–93 to the Director General of GATT, Arthur Dunkel, when the original Dolphin–Tuna Panel decision was taken, rejecting the GATT legality of unilaterally specified PPMs as a way of restricting market access.

> *fully* to the United States, which has failed to sign the Kyoto Protocol on global warming, whereas almost all other nations have. The United States is therefore producing traded products using PPMs that other nations can claim damage the environment.

Not doubting that the US could be targeted for trade action because of its failure to ratify the Kyoto Protocol, the analysis then moved to the politics of such trade action:[2]

> We would in effect be talking about a virtual embargo, as most products use energy in their manufacture! The United States is protected only by its size and its ability as a hegemon to browbeat other nation-states into not passing such legislation [or using executive to take the trade action]. But that leaves a gaping incoherence and cynicism in the world at the inherent asymmetry and injustice of a WTO Dispute Settlement Mechanism that implicitly, even if perhaps unwittingly, favors the powerful.

Since then, this idea – admittedly not developed with the sophisticated legal analysis that is clearly necessary and which we offer here – has been taken up by others. In particular, Joseph Stiglitz, our colleague at Columbia University, has now proceeded to ask for joint trade action against the United States by the EU and Japan, among others.[3] And the French Prime Minister, Dominique de Villepin, never far behind in tweaking the American nose, has even followed in Bhagwati's footsteps and proposed such action by the European Union.[4] It would appear that Peter Mandelson, the EU Trade Commissioner, has dismissed the French proposal as a 'probable breach of trade rules' and, exactly as Bhagwati had suggested, as 'not good politics'.[5]

Clearly, the matter needs sophisticated legal analysis, as also a realistic assessment of the politics, of a Kyoto-based action against the United States. In what follows, therefore, we first explore what kind of action the European Union could legally, that is, in conformity with its WTO obligations, undertake against the United States (Section 2), and then move to discuss the policy dimension of an (eventual) US response (Section 3). In Section 2, consequently, we assume that the European Union has decided to move in this direction. In Section 3, on the other hand, we ask the question whether the European Union should be contemplating such actions in the first place: for, even if an action were legally possible, which we

2 Bhagwati, *In Defense of Globalization*, page 157.

3 See both his latest book, *Making Globalization Work*, Norton, 2006, and the website of the Center for Global Development, a Washington DC think-tank, dated 29 September 2006, where the idea is presented by Stiglitz. His rationale for the implementation of the Bhagwati idea is however based on legal confusions between two quite different arguments: the Shrimp–Turtle decision and the argument that the failure to ratify and implement Kyoto amounts to the US using 'hidden subsidies'. See the legal analysis in the text above.

4 The French Prime Minister's proposal was made in mid-November 2006 and immediately drew attention worldwide.

5 See the *Financial Times*, 17 December 2006, titled 'EU Trade Chief to Reject "Green Tax" Plan'.

will argue could be the case under current WTO jurisprudence, it still does not follow that what is legally possible is also politically prudent. We also offer some critical comments on the evolving WTO jurisprudence that has made actions like the proposed EU measures against US exports possible, stressing that they pose increasing dangers, not to the rich, but to the poor countries.

We should enter the caveat however that we do not pronounce here on the issue of whether the United States *should* ratify the Kyoto Protocol; this is not our concern.[6] We pronounce on the much narrower issue of whether they could be 'punished' for non-ratification.

Legal analysis

The legal (WTO-conferred) rights of the European Union

The legal analysis of an action by, let us say, the EU cannot proceed with clarity unless we first note that the European Union's action could, in principle at least, use either trade or domestic instruments. By virtue of its adherence to the WTO, every member state has bound *both* its trade and domestic instruments (affecting trade);[7] but the disciplines imposed on these two categories of instruments are not identical. Hence we proceed with the possibility of action using each of them, in turn.

Trade instruments

The European Union has two possible avenues. First, it could add new tariff lines and impose new higher tariffs on US products that have been produced in violation of the commitments undertaken under the Kyoto Protocol. Or, second, it could impose a countervailing duty (CVD) against such US products.

Pursuing the first alternative, the European Union would notify the WTO Secretariat of its new tariff lines. The Secretariat would, in turn, circulate the tariff lines to the WTO Membership, which would have 90 days to object to them. Assuming objection by one WTO Member, a rather reasonable assumption under the circumstance, the Secretariat will not include the new tariff lines in the EU schedule, and the matter will end up before a WTO panel in case the European Union insists on implementing the new (higher) tariff rates. Eventually, the issue before the WTO panel would be whether two otherwise *like* products, one of which, nevertheless, has been produced in conformity with the various disciplines embedded in the Kyoto Protocol, and one not, continue to be like products as per

6 However, we have definite ideas on the Kyoto Treaty, its problems, and ways to amend it to remedy its defects. See in particular Jagdish Bhagwati, 'A Global Warming Fund could succeed where Kyoto failed', *The Financial Times*, 16 August 2006.

7 As we will see, the EU could theoretically use tariffs, CVDs, domestic taxes, and/or quotas. We classify the last, however, under domestic instruments since, in the case at hand, we would be enforcing, albeit at the border, a domestic instrument (i.e. a sales ban, for example, of a good produced using an undesirable production process). A sales ban enforced at the border is considered as *per* the Interpretative Note ad Art. III.4 GATT, a domestic measure.

Art. I of GATT (which reflects the most favoured nation clause). We discuss likeness *infra* in Section 2.2.[8]

The second option, however, is definitely not promising. The disciplines on subsidies embedded in the *WTO Agreement on Subsidies and Countervailing Measures* (SCM) are applicable to pecuniary subsidies only. A subsidy exists only if a government has made a financial contribution or has incurred a cost. Obviously, the failure to ratify the Kyoto protocol does not amount to a financial subsidy by the government of the United States. The argument that the United States policy amounts to a 'hidden subsidy' is irrelevant and cannot justify an EU action under the SCM agreement. But we can also argue, additionally, that the EU cannot derive any support for action under the SCM agreement even if we consider the implications of the recent *US–FSC* litigation.[9] Here, the Appellate Body was confronted with an argument by the United States to the effect that its tax exemptions for overseas income were necessary in order to remove a competitive disadvantage that burdened the US companies; absent this device, US companies would have to pay US income tax for income made overseas, whereas EU companies did not have to do so. So, evidently, the United States was incurring a financial cost in the sense that it was foregoing tax revenue; and the question therefore was whether this practice was in violation of the SCM disciplines.

The Appellate Body argued that, in the absence of an agreed, uniform world tax law, every WTO Member was free to exercise its own preference in taxation. The various SCM disciplines would apply to national tax systems irrespective of whether they look alike or whether substantial regulatory diversity across them is observable. In other words, each WTO Member can unilaterally decide what income to tax and under what conditions. Once they have made such a choice and decide which income is due (taxable), then and only then the SCM disciplines will apply. Assuming they forego income they have decided should be taxable in the first place, they have ipso facto conferred a subsidy within the meaning of the SCM Agreement. Both the United States and the European Union know they cannot exempt economic operators from paying taxes. The former decided to tax overseas income, the latter did not. This was a sovereign choice not open to challenge by the SCM Agreement. By subsequently exempting overseas income from taxable income, the United States therefore violated its obligations under the WTO.

In other words, the WTO legal regime cannot request from the United States that it tax a particular source of income. It can, however, decide whether a subsidy has been conferred *after* the United States has revealed its preference as to what constitutes taxable income (*assuming* that it has exempted a source of taxable

8 Strictly speaking, likeness is not established using identical criteria under Art. I and Art. III GATT. However, in this case, tariff classification (the dominant criterion to establish likeness under Art. I GATT) is of no help, since there is no common classification (the European Union will notify eight digit tariff lines). In such cases, the criteria used in Art. III GATT are relevant to decide on likeness under Art. I GATT as well.

9 See WTO doc. WT/DS/108/AB/R.

income from tax imposition). The first choice nevertheless, concerning what constitutes taxable income, belongs to the United States, and the United States only.

By the same token, the United States remains free, as a matter of WTO law, to decide whether it should (or not) join the Kyoto Protocol. The United States revealed its preference by not ratifying it. In light of this revelation, the Kyoto Protocol disciplines are simply irrelevant to US law. It is thus inconceivable that, as a matter of WTO law, a pecuniary subsidy can be found to exist, since there is no obligation to follow the Kyoto Protocol in the first place. If no subsidy can be found to exist, this means that no CVDs can ever be lawfully imposed since, for this to be done, the investigating authority must *cumulatively* demonstrate that (a) a subsidy is being provided, and (b) that it has been causing injury to its domestic industry producing the like product. Since no subsidy can be shown to exist, no CVDs can be lawfully imposed. Going down the subsidy argument for taking action against the United States therefore will not work.[10]

Domestic instruments

The European Union however could, conceivably, afford a different treatment on products produced in a Kyoto Protocol-compatible manner, and on products produced in violation of such disciplines, by using its domestic instruments to this effect. The dominant discipline in this respect is Art. III GATT, which requires all WTO Members to treat all *like* products (domestic and foreign) in a non-discriminatory manner. The crucial issue here is whether a pair of products (Kyoto-compatible, Kyoto-incompatible) should be viewed as like products.

The Kyoto Protocol imposes caps on emissions, and leaves it to the discretion of its signatories to decide how the agreed caps will be achieved. By moving into environmentally friendly production, it is hoped that greenhouse effects (and the ensuing global warming) will be reversed. The Kyoto Protocol thus intervenes in the *process* of production; it raises the longstanding question of PPMs and what the WTO requires concerning them. In what follows, we will attempt to clarify the status of case law as it now stands on this score, including the *US–Shrimp* decision of the Appellate Board. We will ask the question: what are the current disciplines on domestic instruments regulating PPMs?[11]

At the outset, we must distinguish between cases where the process of production has been *incorporated* in the final product, and cases where this is not the case.

The leading case in the first category is *EC–Asbestos*. The European Union, we recall, distinguished between asbestos-containing and asbestos-free construction material, allowing the sale of the latter and banning the sale of the former throughout markets under its sovereignty. Canada complained, arguing that the two products were like and therefore differential treatment was not justified. In a

10 Therefore, the Stiglitz assertion (*Making Globalization Work*) that the United States is open to action because its refusal to sign the Kyoto Protocol amounts to a 'hidden subsidy' is simply wrong.

11 Importantly, we do not make any normative statements: our analysis aims to describe the current status of WTO law.

dramatic overturning of the Panel decision, the Appellate Body decided that the two products were unlike. The key to understanding the Appellate Body's opinion is the manner in which it construed physical characteristics: the process of production is, in the Appellate Body's view, part of the physical characteristics of a product (probably because the process, in this case, is incorporated in the final product). Physical characteristics, thus construed, become the dominant criterion when deciding whether two products are like. A 'reasonable' consumer, in the eyes of the Appellate Body, when confronting two construction materials knowing that one of them contains asbestos and one does not, and further knowing the negative health externalities stemming from consumption of the asbestos-containing product, will not treat the two as like products, the difference in physical characteristics mandating this outcome.

Recall that the Appellate Body, in treating the two products as different or 'unlike', did not go by any econometric analysis of whether this was so (in which case the elasticity of substitution between them must be less than infinite) but confined itself to an assertion that such would be the reaction of a 'reasonable' consumer. Since the two products were deemed unlike, the Appellate Body found that the European Union was not violating its obligations under Art. III GATT by allowing the sale of asbestos-free, while banning the sale of asbestos-containing construction, materials.

With respect to transactions where the process of production has not been incorporated in the final product, we observe that the leading case is *US–Shrimp*. In this case, the United States imposed a sales ban on all shrimp fished in a manner that would lead to the incidental taking of the life of sea turtles. The United States mounted no defense under Art. III GATT, had it done so, it would have had to elaborate on the distinction between like and unlike products based on their process of production. The dispute was litigated instead under Art. XX GATT, which is the clause including all exceptions to general obligations (such as non-discrimination) assumed under the GATT contract. So, we were in the presence of a domestic instrument (sales ban) enforced at the border. The Appellate Body, overturning the Panel in this case as well, held that the US measure at hand (sales ban) related to the protection of exhaustible natural resources (sea turtles). Following a change in US legislation so as to allow flexibility in its application,[12] the Appellate Body found that the United States was in full compliance with their WTO obligations.[13] In a previous case (*US–Gasoline*), the Appellate Body had held that clean air as well was an exhaustible natural resource.

12 Originally, the United States had requested from its trading partners to use its own technology when fishing shrimp. It subsequently accepted that any technology which could achieve comparable results was appropriate as well.

13 Note that no reference was made to the CITES treaty which prohibits trade in endangered species and their parts, presumably because that treaty has no provisions relating to collateral damage inflicted on the endangered species by PPMs used in other activities. Bhagwati has argued that CITES should be extended by negotiation to include such collateral damage.

What would have been the outcome had the case been litigated under Art. III GATT? The GATT Working Party on *Border Tax Adjustments* is helpful in this respect.[14] This Working Party dealt with the coverage of Art. III.2 GATT. Applied to the specifics of the case before us, we hypothesize that the European Union wishes to impose a carbon tax against imports from the United States, because US products have been produced in disrespect of the EU environmental norms.[15] If at all, the preparatory work of Art. III GATT, suggests that the intent of the negotiators was to include only taxes which *directly* hit products. The problem is that it is far from easy to distinguish between direct and indirect taxes. Additionally, the WTO judge does not have to use preparatory work to interpret the GATT; there is no legal compulsion to this effect: Art. 32 VCLT provides him with substantial leeway to this effect. However, the Working Party on *Border Tax Adjustments* is a decision that has been adopted by the GATT CONTRACTING PARTIES. As a result, it should, by virtue of Art. XVI of the Agreement establishing the WTO, guide the WTO judge. In this vein, the WTO judge should note that

> the Working Party concluded that there was convergence of views to the effect that taxes directly levied on products were eligible for tax adjustment. Examples of such taxes comprised specific excise duties, sales taxes and cascade taxes and the tax on value added. It was agreed that the TVA, regardless of its technical construction (fractioned collection), was equivalent in this respect to a tax levied directly – a retail or sales tax. Furthermore, the Working Party concluded that there was convergence of views to the effect that certain taxes that were not directly levied on products were not eligible for tax adjustment. Examples of such taxes comprised social security charges whether on employers or employees and payroll taxes.[16]

The term *border tax adjustment* is defined in §4 of the report

> as any fiscal measures which put into effect, in whole or in part, the destination principle (i.e. which enable exported products to be relieved of some or all of the tax charged in the exporting country in respect of similar domestic products sold to consumers on the home market and which enable imported products sold to consumers to be charged with some or all of the tax charged in the importing country in respect of similar domestic products).[17]

14 It bears repetition, but here we are dealing with a case where the process of production has not been incorporated in the final product, hence *EC–Asbestos* is probably of limited relevance. We appropriately look elsewhere (as well) for guidance.

15 To avoid any misunderstandings on this score, we are not arguing that the European Union can legitimately enforce the *Kyoto Protocol* through trade measures. The European Union requests from all imported *and* domestic products to satisfy its regulatory framework with respect to gas emissions. As such, it is simply irrelevant if the source of the regulatory framework is an international agreement (*Kyoto Protocol*) or a unilaterally defined domestic measure.

16 See the Working Party report on *Border Tax Adjustments*, §14.

17 The *destination* principle, as explained above was taken over from bilateral agreements negotiated in the 1930s, such as the agreement of 6 May 1936 between the United States and France, see §10 of the Annex to Working Party report on *Border Tax Adjustments*.

The GATT contracting parties took this exercise, that is the coverage of Art. III.2 GATT, quite seriously; the Secretariat was asked to compile a document where it included cases of border tax adjustments.[18] Nevertheless, beyond the noted convergence on some taxes, the GATT contracting parties did not go any further.[19]

We noted that the distinction between direct and indirect taxes is awkward. Even if maintained, nevertheless, a carbon tax on imported products – which is the equivalent of the burden imposed on domestic producers who are called to satisfy the *Kyoto Protocol* disciplines would, in principle, be consistent with the destination principle. There is one important argument against this thesis: the WTO judge, in *EC–Asbestos*, relied on the process of production (as relevant criterion to define likeness) in a case where the process had been incorporated in the final product. This is unlikely to be the case when US products are being produced in disrespect of the Kyoto Protocol-disciplines. If Art. III GATT is limited to transactions such as those coming under the purview of *EC–Asbestos*, then a regulatory distinction that would justify a carbon tax would not be possible.

In this case, the European Union would have recourse to Art. XX GATT, and try to justify its measures making arguments *à la US–Shrimp*. Note that in US–Shrimp, the Appellate Body did not even enter the discussion whether the process of production had been incorporated in the final product (it was evidently not); moreover, it fully applied the destination principle, since it *implicitly* recognized the right of the United States to regulate under what conditions products will be sold in its market.[20]

The *EC–Tariff Preferences* jurisprudence[21] could also be of relevance to our analysis here. In this case, the Appellate Body was facing a challenge against EU legislation according to which one-way preferences granted to developing countries were conditioned on the prior adoption of policies (in this instance, the adoption of anti-drug-production policies) favoured by the donor. The Appellate Body held that, assuming such policies are based on *objective* criteria, such

18 See GATT Doc. L/3379 of 6 May 1970. See on this score the excellent analysis in P. Démaret and R. Stewardson, 'Border Tax Adjustments under GATT and EC Law and General Implications for Environmental Taxes', *Journal of World Trade*, 28 (1994): 5–65.

19 So far, GATT/WTO case law has not dealt with cases of indirect taxes, such as payroll taxes.

20 The Appellate Body had no choice in this respect: in *US–Shrimp* it recognized the self-evident right of the US government to regulate the conditions for selling products in its market; it is their sovereign right to do so. This right however, like most rights, if exercised in an absolute, that is, an un-limited, manner will give rise to legitimate quarrels. The problem is that absent multilateral agreements, it is difficult to come up with clear criteria concerning the exercise of this right. Could the European Union for example, suggest that it will stop importing products from countries, such as the United States, that practice the death penalty because the death penalty runs afoul of the EU public order? Classic public international law analysis privileges the use of the *effects doctrine*, an instrument well suited to address pecuniary – but ill conceived to address non-pecuniary externalities, such as those discussed in this paper; hence the need to sign international agreements.

21 See WTO Doc. WT/DS/246/AB/R.

discriminatory preferences can be lawfully accorded. Unfortunately, we do not know what kind of policies can constitute *objective* criteria, since the Appellate Body did not elaborate on this issue any further. It is not inconceivable that the signing or otherwise of Kyoto Protocol would be treated by the Appellate Body as providing such an *objective* criterion for discriminatory action against Kyoto-non-signatory nations, even though this category includes only the developed nations, the United States and Australia, and the *EU Tariff Preferences* case was decided in the context of preferences accorded to a subset of developing countries. At least, this case opens the door a little wider for those seeking to restrict or reduce preferentially the market access of products from member nations that do not satisfy a unilaterally specified PPM requirement. It must be concluded that regulatory distinctions based on the process of production are likely to be held as WTO compatible even in cases where the process of production has not been incorporated in the final product, assuming of course, that the various other conditions discussed above have been complied with.

To conclude (as a matter of law)

To recapitulate: the European Union cannot impose a CVD under the SCM agreement against US imports because the United States has not signed the Kyoto Protocol. This much is clear. Can it however introduce new tariff lines providing advantages to products originating in countries ratifying the Kyoto Protocol? This option might be of little practical importance, of course, since EU tariffs are quite low anyway. Setting such concerns aside however, it seems that there is no bar to WTO Members according preferences when sub-classifying tariff lines to products using the PPMs they prescribe. There has never been a dispute discussing under what conditions this can lawfully be the case. There are good arguments to assume however that the WTO jurisprudence on *EC–Tariff Preferences* could be of relevance here. Assuming that under *objective* criteria we understand that the donor has no *intention* to discriminate in favour of a particular origin, and simply wants to promote particular transactions (based on its own preferences), then the underlying rationale of *EC–Tariff Preferences* could be imported in this context as well. We underscore nevertheless, that this is our evaluation of the situation, since no such dispute has ever been submitted to the WTO.

Can the European Union impose say a carbon tax (or even, ban sales of) on *Kyoto Protocol*-incompatible goods?[22] Recall our discussion above: irrespective of whether the production process has been incorporated in the final product, regulatory distinctions based on the production process can be perfectly legitimate,

22 By the same token, the EU could impose a sales ban of all products produced in a Kyoto-unfriendly manner. The legal analysis remains the same as the choice between a fiscal domestic and a non-fiscal domestic measure is practically identical. It could also be the case that the EU imposes a carbon tax only on products originating in countries that have not enacted a similar carbon tax in order to implement the Kyoto Protocol. Once again the legal analysis is the same since, at the end of the day, the EU will be treating in a like manner like goods (i.e. Kyoto-friendly goods), assuming of course that one accepts that Kyoto friendliness is the defining characteristic for likeness.

assuming the various conditions included in the relevant GATT provisions have been respected. In case of incorporation of the production process, the issue seems quite straightforward: a reasonable consumer test (whereby 'reasonable' means 'informed') would lead to the conclusion that a consumer (in the eyes of the Appellate Body) who is aware of the environmental (and eventually health)[23] hazard that global warming might represent, will treat the two goods (*Kyoto Protocol*-compatible, *Kyoto Protocol*-incompatible) as unlike goods.

In case the production process has not been incorporated in the final product, then the regulator *might* have to look for a regulatory objective in the list of Art. XX GATT and couch the regulatory intervention in these terms. Since clean air has been acknowledged to be an exhaustible natural resource, the European Union could argue that reduction of global warming contributes to this objective. If such argument prevails, all the European Union will have to demonstrate is that its carbon tax *relates* to its protection (of clean air). Assuming the fight against global warming is not considered synonymous with promoting clean air, the European Union will have to seek refuge in Art. XXb GATT, and show that its measures are *necessary* to protect the environment. The *necessity* test is more demanding than the *relating to* test, since only the reasonably available least-restrictive measure will pass the test and not simply any measure that relates to the stated objective. Still, the discussion will, in all likelihood, focus on the magnitude of the carbon tax, and not on the decision to tax differentially.

Policy analysis

The policy issue

So, the European Union has at least one option (domestic instruments) that it can use with substantial confidence that it is not violating its WTO obligations when punishing countries that have not adhered to the disciplines of the Kyoto Protocol. We now turn to the question of whether the European Union should, as a matter of policy prescription, make use of this legal possibility.

Does the European Union sincerely believe that the United States will be forced to join *Kyoto Protocol* because of EU trade countermeasures? There are good arguments that suppose that such actions, if undertaken, would be counter-productive. Recall first, that the European Union, when it had the opportunity to impose substantial[24] countermeasures against the United States (*US–FSC*), it

23 One reading of the case law suggests that the Appellate Body is more deferential when health concerns are at stake. If true, the Appellate Body would be ill-advised to continue in a linear manner on this score: a basic premise of the negative integration character of the GATT is that WTO Members are free to unilaterally reveal their social preferences. All the judge could do (assuming litigation) is to ask whether the means sought are legitimate, without questioning the ends themselves. There is a fine line between environment and health though anyway, and regulatory interventions such as the ones discussed here could be drafted in terms of public health policy as well.

24 Over 4 billion dollars of transatlantic trade would have been affected, had the European Union decided to exercise its rights under the WTO.

decided not to do that: countermeasures are costly (at least in the short run) to the country imposing them. Are the EU leaders prepared to assume the economic (and other) cost? History points in the opposite direction.

As for the political rationale for an EU action, this clearly lies in the hope that the reaction of the United States to this 'gaiatsu' (foreign pressure) would be to ratify the *Kyoto Protocol*. But remember that gaiatsu did not work with Japan and India when the United States used Special 301 legislation to target them with 100% tariffs on selected products because they were declared 'unfair traders' by the unilateral determination of the USTR. It is hardly likely therefore that, even if the EU were to survive a US referral of the EU action to the WTO Dispute Settlement Mechanism, the reaction in the United States would be anything except one of outrage. Indeed, that is exactly how Australians (another country that could be facing EU trade counter-measures) have reacted. Thus, the Australian Prime Minister John Howard said: 'This is a thoroughly silly proposal and utterly out of touch with reality ... Mind you, [de Villepin] comes from a country that is known for imposing high trade barriers against other countries like Australia.'[25] The *Daily Telegraph* (15 November 2006) carried the headline alleging hypocrisy and double standards against France, exactly the way predicted by those who did not wish 'values'-related PPMs to be legitimated for denial of market access in GATT jurisprudence. The outrage at the French, of all people, trying to claim the higher moral ground was typical: 'The country that spent 30 years testing its nuclear weapons in our region wants to punish Australia for not signing off on a voluntary greenhouse agreement.' The story was accompanied by a photograph of a mushroom cloud from a French nuclear test in the South Pacific in 1971, with a headline: 'Back off, Frogs'. Indeed, moral arguments and trade actions in support thereof by governments whose own moral record leaves a lot to be desired are deeply resented and, especially when directed against powerful nations like the United States, are likely to precipitate strong and damaging reactions.

In fact, despite the present resurgence of global warming concerns in the United States, it is hardly likely that the US public and politicians will approve of a virtual ban, or tariffs, on exports of nearly all US exports just because the United States has not ratified the *Kyoto Protocol* (which happens, in many thoughtful analysts' view, to have a number of objectionable design features). One should note that the blue-ribbon Task Force of the Council on Foreign Relations, led by former CIA Director and MIT Professor John Deutsch and former Energy Secretary James Schlesinger, on National Security Consequences of US Oil Dependency, produced a Report (2006) that does not even consider the possibility of foreign tariff retaliation as a way to push the United States into ratifying Kyoto, leave aside welcoming it as politically helpful to the business of getting the US to reduce its energy dependence. So, one may well imagine how the United States Congress will

25 Reported in many newspapers worldwide. See, in particular, *Daily Telegraph* (Australia), 15 November 2006.

react if such an EU action was undertaken. The reaction would well be to retaliate, not just with 'moral', values-related PPMs that could be advanced against the EU but on several other dimensions: there is no dearth of contentious issues that divide the EU from the US from time to time. Paula Dobriansky of the State Department, representing the United States at the Nairobi Conference on the Environment in November 2006 therefore brushed off the French proposal politely but firmly. Peter Mandelson is surely right when he claims that the proposal is not 'good politics'.

If the European Union *really* wants to bring the US government to the table of negotiations once again and persuade them to ratify the Kyoto Protocol, it should better look into other avenues. Imposing counter-measures will yet again unnecessarily politicize the WTO ambiance at a rather difficult (for the WTO) moment: the *Doha* round is stalling and the last thing needed at this juncture is yet another confrontation (and to make it worse, this time from, in principle, trade un-related issues).

Global Warming

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By

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For Meeting in Florence, April 2008

I make here a few pertinent points that bear on the negotiation of Kyoto II which, so far, seems to re-enact the conceptual confusions that marred Kyoto I. Additional comments are directed at other issues raised currently in the debate on appropriate policy response to the Global Warming Crisis.

A: Appropriate Design of Kyoto II

1. Bringing India and China into a new Kyoto: The idea that they should be in the new Kyoto for PRESENT (current) emissions makes sense but ONLY as part of a package that simultaneously introduces liability for PAST damage by the rich countries. The problem with the old Kyoto agreement was that it confused 2 different issues: past damage and current liability, or what I call the Stock and the Flow aspects of the Global warming issue. The liability for current flows/emissions by India and China was waived because they did not damage the atmosphere in the past (the stock aspect)!
2. So, with the case for exemption for India and China presented as if it was simply a question of letting off two big CO2 emitters

simply because they were underdeveloped --- i.e. there was an implicit or explicit appeal to the progressive taxation principle which does not have today in the US the moral appeal that it carried earlier --- and had not emitted CO2 in the past the way that rich countries had done, the US Senate would not ratify Kyoto: the "vote" in the Senate was 99 to 1 against! Even the former Vice President Al Gore and President Bill Clinton withdrew from battling for Kyoto in the US Congress; it is doubtful that either of them really had thought the matter through or was willing to expend political capital on the issue.

3. **How can then Kyoto II be devised so as to resolve this problem in an analytically correct, and politically equitable, fashion? I propose in my Financial Times (August 16, 2006) article, appended, that to bring India and China on board on current emissions, we need to introduce the Superfund idea, from US practice itself, under which the rich countries would pay for past damage.**
4. **What is however going on politically, and cannot be accepted by India and China, is that they are being asked to accept the flows liability for current emissions WITHOUT the creation of a Superfund for past (stock) damages.**
5. **In short, not surprisingly, one may note cynically, India and China are being asked to take obligations while the complementary obligation on US, EU and other rich countries is being ignored. I am not surprised that they refuse. We must walk on 2 legs or not at all. [Former President Clinton remarked recently, on Tim Russert's Meet the Press TV show in September**

2007, that India had to be brought into Global Environmental obligations, adding that a 4-year old child had fallen into the river in Delhi and had died because of toxic pollutants in the river. Alas, this celebrated "policy wonk" cannot distinguish between Global Warming and domestic pollution.]

6. **I should also add that, as for the calculation of the current liability, it should not also be equalized at the margin, but must reflect the shadow cost of ALL emissions currently (minus CO2 absorption through rain forests, for example). The rich countries have again introduced the self-serving US principle of Prevention of Significant Deterioration (PSD), under which those States which already pollute more are to accept (relative to what a tax on ALL emissions would imply) a lower obligation just because they pollute more. While their quantitative obligations under Kyoto (which even most of the EU did not fulfill) looked larger, in fact they reflected a truncated and "self-serving" bastardization of the full-bodied market principle of charging each State for ALL emissions. So, even on the Flow dimension, the rich countries must move from what is de facto a PSD approach to a full tax on ALL emissions for all.**

B: Some Problems with Cap & Trade and a Carbon Tax

1. **Cap & Trade is simply the quantitative counterpart of the price instrument, the carbon tax. All that different caps for different sectors in a country do is to segment the markets & therefore allowing trade of caps/permits among them reduces the**

economic cost of achieving an overall sum of the different caps. Again, if the caps are to be traded within segmented markets only --- e.g. only energy-producing plants can trade among one another their caps --- the reduction in economic cost will be correspondingly less.

2. **The key question really is: what is the overall CO2 emissions cap to be set at? This is the same question as what the Carbon Tax rate should be. Evidently, after the recent Reports on the urgency of the Global Warming problem, we have shifted to thinking of a higher carbon tax than we would have otherwise. The fine Stern report's calculations underline this also. [I imagine, however, that the main reason why public perceptions have shifted towards doing something drastic on Global Warming is the melting of the glaciers and the simultaneous release of the classic French film on Penguins, with the Al Gore documentary providing belatedly an added push. Similarly, the discovery of the hole in the Ozone layer served to change public perception on the need to eliminate CFCs in the Montreal Protocol. [As a proponent of Free Trade against ceaseless attacks by protectionists and populists, I am continually arguing at an intellectual level, taking care to write in an accessible fashion. But I need and seek the equivalent of Penguins and melting glaciers to win the war! Suggestions are welcome.]**
3. **But there is a difficult Measurement Problem here. Before a Carbon Tax can be effectively applied, we must know what the CO2 emissions are for different activities. In some cases like emissions from fossil-fuel energy plants, the discharges are easily**

observed and measured. But there are countless activities where we just do not know their "carbon imprint". [This is the insuperable problem faced by the proposal that every human being should be given a carbon quota beyond which a carbon tax would kick in: how would one know the carbon imprint from the hundreds of activities of a human being such as walking on carpets, floors, cycling, riding buses, driving cars, eating etc.?

4. The result of the inability to measure carbon emissions from many activities is that we often go by whatever some activist NGOs demand in regard to specific activities, often without any evidence. Thus, some NGOs wanted cut flowers not imported from the poor countries of Africa into London because they argued that trade creates CO2 emissions, and therefore we should go "local". The British DFID (Department for International Development), no anti-environmentalist agency, commissioned a study which found that cut flowers imported form the much-closer Rotterdam created in fact larger CO2 emissions per bunch delivered to London because the CO2 emissions from growing them in Greenhouses were more substantial! Yet, you have NGOs crawling all over aircraft and demonstrating against international trade.
5. Leave that problem aside & let us say we concentrate only on some big, observable & measurable emissions of CO2. But even then, we run into the problem that the carbon tax must be equalized net of what is already being done: e.g. countries with big petrol taxes would have lower carbon taxes. Who is going to

tell the US that therefore their liability on a carbon tax would have to be higher than that of many foreign countries?

6. **In turn, this raises serious questions about the EU desire currently to apply a tariff on countries that do not match the proposed EU carbon tax. This is the French proposal of a few years ago (going back to an original discussion of my own many years earlier). The exact WTO-legality of this proposal is discussed fully in the Bhagwati-Mavroidis paper last year in the World Trade Review (2007, Vol. 6(2)), attached herewith. But Peter Mandelson has it right: the proposal could degenerate into chaos as the US (whose Congress is also considering similar legislation ironically) turns to similar actions and the rest of the world retaliates, drawing on all kinds of environmental (e.g. that the US and the EU have not paid for a Superfund) and "social-values" (e.g. the US has not ratified most of the core ILO conventions) arguments to restrain the EU and US trade, in turn.**

   [In fact, the original Dolphin-Tuna GATT Panel decision over 15 years ago, on which I had been consulted as Economic Policy Adviser (1991-1993) to the GATT Director General Arthur Dunkel, had found in favour of Mexico and against the US principally because we could foresee the chaos that would break out in this fashion, a lesson that recent WTO Appellate Body rulings have unwisely ignored.]

C: Exhortation & Self-Restraint

1. **Given the impracticality of a carbon tax that gets all carbon imprint into the tax net, it makes sense for us to exercise self-restraint where the effect on CO2 emissions is demonstrable and plausible.**
2. **Thus, if I turn off the lights or computers when I am not using them, that clearly reduces energy use and therefore CO2 emissions (even though a purist might say that turning off lights more will wear out bulbs more and therefore create emissions from the manufacture of bulbs, a second-order effect I presume). [See the attached cartoon on how you could use skates instead of driving to reduce CO2 emissions. The Nobel Laureate William Vickrey, my colleague at Columbia, was a Quaker and a Pacifist, and in fact used to skate his way from the rail station to Columbia daily!] Indeed, as the impressive presentation by Mr. Narayana Murthy of Infosys today shows dramatically, huge savings of energy have been undertaken by numerous such actions in his firm in Bangalore. Indeed, there are tremendous possibilities from such actions by individuals and, equally importantly, by firms.**

   As the "green ethos" spreads and firms also increasingly realize that good citizenship pays off, going green is seen increasingly as a way of avoiding being in the red. Of course, this does not mean that incentives, as produced by a carbon tax or a suitably restrictive overall cap, to reinforce the impetus of voluntary action are unnecessary.
3. **But then you have also absurd suggestions, typically from the celebrities. Thus, Sheryl Crow, the wonderful singer, suggested**

recently that, instead of using 2 pieces of toilet paper, we should use one! My reaction was that my daughter's rottweiler --- let me assure the Chairman Prime Minister Tony Blair that, contrary to Princess Diana's views, rottweilers can be as charming as she was --- uses none; maybe we should emulate her! Perhaps singers, including Bono, should sing and collect moneys & should leave development and the environment to others better equipped to think through the problem, just as Warren Buffet, who obviously knew how to make enormous amounts of money, decided to give it for altruistic spending to Bill Gates who knows how to spend it effectively.

4. **One other point. In the US, there is a certain sense, expressed best by Governor Schwarzenegger, that if there is pain involved in curtailing CO2 emissions, it will not fly. But we can use technology to continue living the same lifestyle, e.g. he cites his Hummer & argues how he can continue using it because now the new fuel technology will allow him to equip it with an almost zero-emissions engine. [See his brilliant and witty speech on California's environmental initiatives at the Council on Foreign Relations last year; it is available from the Council.] But, is he sure that if you use more batteries, that their manufacture does not create its own CO2 emissions and environmental waste problems? Would it not be better to forego his SUV (what I call a Socially Undesirable Vehicle) and just use less fuel? And since higher speeds cause more emissions, how about preventing cars (except for police, fire department and ambulances) from being put on road with**

engines that can go beyond 75 miles per hour? Putting caps on emissions possibilities on cars does not change your lifestyle; but putting caps on speed possibilities on cars does. There lies the problem! So, one must pause and ask: how far can one go with this technological, no-pain approach?

5. **The same question arises in regard to the so-called "offsets". Mr. Gore has been accused of a lifestyle that results in substantial emissions. But he claims that his carbon imprint is zero because he buys offsets, getting others to do the CO2 saving. My reaction to this is: this argument of Mr. Gore is as if I was to knife Mr. Gore to death and was then to tell the world that my wife was giving birth to a baby and therefore my "population imprint" was zero! If Mr. Gore wants to reduce CO2 emissions worldwide, let him subsidize others who do so, but that should be in addition to his reducing his own CO2 emissions, not a substitute for reducing his own emissions.**

6. **In fact, while the US politicians now talk ceaselessly about Global Warming, one can only doubt if there is seriousness about the need for urgent action when the going gets tough. Thus, it is astonishing that, as part of the Presidential campaign, as gas prices have gone up at the pump, Hillary Clinton and John McCain have promised to reduce the gas tax! How can such irresponsibility be tolerated by world opinion even as the Clinton campaign, in particular, talks a good game on environmentalism? If there is indeed a huge crisis, no short-term, politically-expedient reversals like this can be tolerated. [It is to the credit of Barrack Obama that he**

has refused to endorse this proposal, even if it will lose him votes: this is in keeping with his enormous courage and integrity shown in his solitary willingness to condemn the daily rantings of the popular Lou Dobbs of the CNN against immigration.]

D: Broader Environmental Issues such as Shifting between Fuels

1. **The question of shifting among different fuel sources is even trickier, as we now know. The food crisis accentuated by the biofuels shows how we might save on CO2 emissions, saving many lives in the future, while helping create a virtual famine that kills many here and now.**
2. **On nuclear power, we have Greenpeace (and the Nobel Peace laureate Jody Williams who earned her Nobel for activism against landmines and has no expertise on the nuclear issue) dead opposed to its spread. Yet, many including its founder Patrick Moore have argued recently --- see his Q&A interview with Fareed Zakaria in Newsweek , titled "A Renegade Aginst Greenpeace: Why he says they're wrong to view nuclear energy as 'evil' ", updated April 12, 2008 --- that this is an unscientific position, and that Greenpeace is now being run by people who have no training in the sciences. This has also been my experience at Davos and in other international fora where, increasingly, those who know a field are now surrounded on Panels by ill-informed but impassioned representatives of gigantic NGOs,**

often founded in the rich countries and whose competence lies in other fields instead, but whose immense funds and PR skills get them public attention whereas the viewpoints of the smaller NGOs, typically to be found in the poor countries, get muscled out).

3. **We also now have to re-open the question of the GM seeds. Again, many environmental NGOs oppose their use on the ground that they are Frankenstein foods. But by denying them, we also forego the technology that promises a second Green Revolution. Are we to substitute currently-unproven fears of Frankenstein for the Grim Reaper that promises the near certainty of continuing poverty and food crises in the poor countries?**

JAGDISH BHAGWATI

7

Reflections on Climate Change and Trade

Let me start with a general comment that is relevant as background to the theme of this book, and then move on to some of the specifics of the interface between trade, the World Trade Organization, and the environment that many of the chapters above have addressed. At the outset, we need to remember that those who work on trade (mostly academics) and those who work on the environment (mostly activists) have traditionally been at loggerheads from time to time.

Why? One important philosophical difference that underlies much of this tension, which I think we tend to forget, is that trade economists are typically considering and condemning governmental interventions (specifically, protectionism, such as the imposition of tariffs and nontariff barriers) mainly as *creating* distortions and harming the general welfare. Conversely, environmentalists are typically dealing with what are best described as "missing markets" (for example, people dump carcinogens into lakes, rivers, and oceans and emit them into the atmosphere, and they do not have to pay for the pollution). Therefore, they see government intervention (for example, the use of pollution-pay taxes or the use of tradable permits) as *correcting* a distortion. It is useful to recall this fundamental difference in the experiences and lifestyles of the people on the two sides of the trade-and-environment aisle, because it underlies and explains, to some extent, the occasional frictions between them.

Of course, trade and the environment are integrally related, and that is why many disputes were coming up at the General Agreement on Tariffs and Trade (GATT)—the most important being, of course, the celebrated dolphin-tuna case between the United States and Mexico. I will return to the important issues raised by the dolphin-tuna jurisprudence and its later reversal in the shrimp-turtle dispute, also involving the United States. But let us start with the problems raised by global warming.

In his comment on chapters 5 and 6, Daniel Drezner points out that, in the past, America has opted for short-run adjustment costs with a view to long-run gain. I do not quite know what he means by "short-run adjustment costs," but

I would simply say that an enlightened hegemon like the United States, when going in for the GATT, certainly did not insist on the developing countries having reciprocal obligations. It simply gave away membership. It was, in fact, getting the developing countries into the GATT while gaining nothing in terms of an immediate, reciprocal opening of markets.

I think the intention was to create more legitimacy for the GATT by increasing membership. Down the road, then, you would have graduation and begin to "collect"—via what is called extended reciprocity or intergenerational reciprocity. There were no short-run costs à la Drezner either. After all, the developing countries at that time, in the mid-1940s, were not important markets anyway; nor were they, by and large, major exporters. They were really small players in world trade, and it was only later, when they had grown, that the usual question of reciprocity would become economically relevant.

So one may ask why this argument does not work with the Kyoto Protocol at the moment. Why are we not willing to play that old GATT game? I think we need to look into this question carefully to get a sense of where the problems might be with how we approach the design of the successor pact to Kyoto—what I like to call Kyoto II.

A key problem, of course, is that there are two big players, India and China, with current and prospective emissions of carbon dioxide that are simply large for India and huge for China. We did not have anything like this at the time the GATT was formed; then, as noted, the developing countries were all little players in trade, for all practical purposes. Exempting India and China from the emission obligations of a climate change treaty today is thus not like exempting the developing countries from trade obligations in the 1940s. Moreover, India and China are not willing to make any payment to get into the Kyoto club, as it were, simply because they feel—and this is where, I think, the real crux comes in—that they did not contribute to past environmental damages.

Now, if one looks at the past environmental damages, it is clear that the accumulated fossil fuel carbon dioxide for 1850 to 2005 shows the damage attributable to India and China is about 10 percent, whereas the countries now belonging to the European Union, Russia, and the United States jointly account for over 60 percent. So you have basically what I have called a "stock" problem,[1] the problem of "past" damage to the environment—for which America and the EU, basically, are particularly responsible. And the solution to this "stock" problem in the Kyoto Protocol, which was devised to bring India and China on board, was to say, "Look, because we were the ones who imposed large losses on the environment in the past, and not you, we will exempt you from any 'flow' obligation for reducing the current damage, no matter how large."

1. This was in a center-page *Financial Times* op-ed article in August 2006.

Now, the problem is that, in so designing the Kyoto Protocol, its framers were trying to kill two birds with one stone. And, of course, that stone is not something palatable—to mix metaphors—to the U.S. Congress. The U.S. Senate virtually unanimously rejected Kyoto in 1997 because its members thought that India and China were going to be free riders, when in fact the free ride was being provided because they had not been riding for almost a hundred years while America had been! I think that the general feeling instead was that these countries were being let off simply because they were developing countries, presumably on a progressive taxation ground; but progressive taxation has become increasingly a hard sell (though the Barack Obama administration may well restore it to some respectability).

In sum, India and China were *not* free riders. Rather, their governments were saying to the Western nations: "Look, you have done a lot of damage. You've got this 'stock' liability for past emissions. And you cannot just get us to accept significant 'flow' liability for current emissions while you do nothing significant on the stock side."

Thus, I have always felt that the Kyoto Protocol was doomed, in a way, because it really could not be effective, as designed, until we addressed this particular basic issue clearly and directly in a transparent manner—forgoing the fudge that mixed up the stock and the flow dimensions of the obligations. And I think this problem is going to afflict Kyoto II as well. Frankly, what we are negotiating so far shows little willingness on the part of today's rich, developed countries to accept the notion that they must pay for past damages; and so it would be little short of ethical nonsense for them to ask India and China to accept much larger flow obligations.

Now, this unwillingness to face up to the liability for past carbon emissions is rather strange, in the sense that the United States has already accepted,[2] in its domestic environmental practice, the superfund approach under which, for hazardous waste, liability has been assigned, in eligible industries, for past damages, even when the pollution was not regarded at the time to be harmful. America is a nation that thrives on torts; indeed the Democratic Party does also, and it cannot be denied that America has actually accepted the superfund approach in its own environmental policy.

So, in my judgment, for us to go around saying that India and China have to accept obligations on the flow side—which I think is perfectly appropriate—while doing nothing like a substantial superfund for past carbon emissions on the stock side, is to invite condemnation as a superpower play by nations, both the EU members and the United States, that are no longer quite the superpowers

2. I noted this in my 2006 *Financial Times* article.

ers that they were once. You really need to walk on two legs and not just on one leg.

I see statements all the time, from even Al Gore and Bill Clinton, about the desirability of China and India accepting flow obligations. But unless I have missed something, neither has publicly acknowledged the need for a substantial superfund for the U.S. stock liability. So much for their environmentalism: self-serving for the United States, not cosmopolitan and just.

Now, the same problem arises in trade negotiations because India, and several developing nations, say to America, "How can you have to this day sizable trade-distorting agricultural subsidies, and then expect us to open our agricultural sector to competition from such subsidized exports by you?" In fact, the Doha Round multilateral trade talks collapsed in August 2008 precisely because India claimed that nearly two-thirds of its people were in the farming sector, most were subsistence farmers, and the United States had only 2 million, often large, farmers with much larger subsidy support. So, India wanted a special safeguards mechanism that, in my view, was excessively cautious, citing our subsidies. Remember, of course, that the United States itself had introduced special safeguards against China; and that nothing works better to get protection than to allege, often without any basis, that the exporters are "unfairly" subsidizing exports to us. Yet, when the talks collapsed, the U.S. trade representative and an obliging media, and Congress in turn, zeroed in on India as the rejectionist culprit.

So, as one draws analogies between trade and the environment, it is necessary to remember that unless America brings to both negotiations, each of which is extremely important, the notion that it cannot just impose what it wants on others, often to its presumed advantage regardless of the others', it is likely to meet with failure. Charles Kindleberger famously called the United States an "altruistic hegemon." I fear that it has increasingly tended in recent years to become a selfish hegemon.

I should add that it is not just the United States that is a problem. I see little attention being paid to the stock problem in Europe either. As then–senator Obama said about Senator John McCain: He is a good man; it is just that he does not get it. Thus, when I was in Florence recently, and Tony Blair was in the chair and talking about what he was doing on the environment, Kishore Mahbubani, myself, and others from the developing countries drew his attention to the superfund idea. He continued through the session as if he had heard nothing. As then–senator Obama would have said: Prime Minister Blair just does not get it. But unless he, Gore, Clinton, and others do get it, do not expect that Kyoto II can be signed and ratified by India, China, the United States, and European Union.

Now, let us turn to the problem raised by the notion—fashionable in Congress these days—that if India and China do not accept green house emissions obligations, America would impose a "border tax," better called an import duty, that is equal to the carbon tax that they are not imposing in sync with America's. This is, of course, like the idea that the French floated against the United States, saying they would tax American exports to the EU because America had not signed the Kyoto Protocol. This issue, of course, takes us back to the tuna-dolphin case in 1991 at the GATT. When tuna-dolphin came up, the environmentalists were terribly upset that the United States lost the case. At that time, I happened to be the economic policy adviser to Arthur Dunkel, the director-general of GATT. And so I was consulted by the legal adviser, Frieder Roessler, on the ongoing case and what the position of the GATT Secretariat should be. The focus at the time was whether specific process and production methods (PPM) should be allowed to be prescribed for import eligibility—that is, could the United States specify that tuna should be allowed to be imported only if purse-seine nets that also caught dolphins were not used?

Coming from the economic side, I felt that PPMs, as a general case, should not be allowed to be so used to regulate the entry of imports because they could thus be used to discriminate against specific suppliers while appearing to be nondiscriminatory. After all, those involved in international trade have all been brought up on the famous apocryphal example (based, however, on a real case) of imported cheese being taxed by Germany if it was produced by cows grazing at 4,500 feet and above, with bells around them and under Alpine conditions. This was obviously aimed at Swiss cheese, although, in principle, if Tanzania were to satisfy the conditions, Tanzanian cheese would be equally subjected to the same high tariff. The use of the PPM could then defeat the intent of nondiscrimination required by the GATT.

So we were coming at the PPM issue from the trade side, because the GATT was a trade institution. And we did not really think of the environmental aspect specifically at that particular point (except that, if the issue fell under Article XX, greater leeway was permissible).

Thus the position we took was that the legitimation of a free use of PPMs to regulate imports would open the door to the indiscriminate use of de facto discrimination in trade among different suppliers, undercutting the basic principle of nondiscrimination underlying the GATT. Anybody could say the way you produce something, no matter how or why, is unacceptable. We could not see how de facto discrimination could be contained; it could proliferate hugely.

But the shrimp-turtle decision years later, by the Appellate Body of the World Trade Organization, basically reversed the dolphin-tuna jurisprudence, ignoring our caution. It meant that we would now be opening the floodgates for all

kinds of PPM prescriptions that would afflict anyone, on any issue (though we had also argued that the situation would be asymmetrical between weaker and stronger nations because it was unlikely that the weaker nations could take on the stronger nations in this essentially arbitrary fashion—a worry that has also been expressed by prominent nongovernmental organizations in the developing countries).

I was among the few who thought that this decision was ill judged, revealing the weakness of an Appellate Body where familiarity with legal jurisprudence and practice is not a requirement for an appointment. Now, I would simply say that the chickens have come home to roost against the United States itself. The French plan to tax imports from the United States because the United States had not signed on to the Kyoto Protocol was exactly the kind of thing I had predicted. And now the United States, which has among the lowest gasoline prices in the world, absurdly believes that, instead of being subjected to PPM restrictions itself on grounds of inadequate energy prices, it can put import taxes on such PPM grounds against India and China.

And, frankly, what would then prevent India from discriminating against U.S. exports on the ground that the United States does not have a superfund? I could go on endlessly. This way lies chaos, just as I had argued to Roessler, and to Dunkel, during the dolphin-tuna panel's deliberations.

I think America needs to be very careful about not going down the route that has been opened up by the U.S. legislation and the World Trade Organization's ruling in support of it in the shrimp-turtle case. If America goes down that legislative route, it is likely to be the loser in the end—certainly on energy and the environment. Thus, Congress needs to be told that this is a game everybody can play.

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A Thoughtless Tax

Jagdish Bhagwati and Arvind Panagariya, Dec 8, 2009, 12.10am IST

There are several substantive issues dividing the developed and developing countries as we enter the Copenhagen conference on climate change. But none are more gratuitous than the threat posed by the US Congress - in its proposed legislation such as the Waxman-Markey Bill - and in remarks by President Nicolas Sarkozy and French proposals, that any carbon tax (or its equivalent "cap premium" in national cap and trade schemes) in the developing countries which falls below the one in the developed countries would be "equalised" or countervailed through border taxes or in other equivalent ways.

Such proposals are based on fears that have little grounding in economic analysis. They are also likely to be considered violative of the WTO rights of the developing countries on whom such tariffs would be imposed and, even if found WTo-legal in a challenge at the WTO Dispute Settlement Mechanism, will certainly provoke WTO-legal retaliation in several ways by countries that are hit with such tariffs. Besides, the implementation of such tariffs raises impossible conceptual problems in implementation. In fact, the threat of such tariffs will certainly produce "local warming" at Copenhagen and undermine the progress to a satisfactory conclusion of a new climate change treaty.

At the outset, the demands are driven by a misguided sense of "fairness" and morality: that, unless others cut their emissions, we should not be asked to cut ours. If a pastor at one's church said to his flock, however, that it should be virtuous only if others are, that moral restraints by oneself in the presence of licentiousness by others should be rejected, his sermons would be popular but would draw the wrath of his superiors.

But there is also the fear of trade uncompetitiveness of one's industries if other countries do not have an identical burden: virtue practised alone would have too high a cost. This sounds more reasonable; but the fear is not grounded in compelling economic analysis. Careful empirical analysis at Brookings Institution by Warren McKibbin and Peter Wilcoxen, under the leadership of economist Lael Brainard, now with the US Treasury, have demonstrated that uncompetitiveness is a much-exaggerated fear.

Importantly, the Netherlands Bureau for Economic Policy Analysis concluded recently that raising import tariffs on imports from low-carbon-tax countries would have little impact on total carbon emissions. For example, only 6 per cent of cement produced is traded internationally whereas only 8 per cent of China's steel, admittedly carbon-messy, is exported. In short, the most polluting industries serve the domestic, not the export, market.

Then again, many fear that our industries will go abroad to exploit lower carbon tax burdens. But many studies show that the investment decision, as to where to locate, reflects several factors such as infrastructure, availability of raw materials and political stability.

The administration of carbon tariffs is also a complex task that will raise hackles. For example, in today's interdependent world economy, most production involves importation of components and raw materials from several sources. Calculating the carbon content of a product is therefore as arbitrary as calculating the "local content" and source of origin in implementing preferential trade agreements and eligibility for cheaper market access; and, because it involves imposing tariffs rather than exemptions from tariffs, it will be more contentious and productive of disharmony.

What are the better alternatives to carbon-tax-equalising tariffs? There are several. First, the use of such carbon tariffs must be effectively ruled out. This cannot be done by mere advocacy and hoping that governments will become more enlightened. This is particularly so because, if there is ambiguity about the WTO-illegality of such tariffs, the temptation to go this route will be great. So, the Copenhagen accord, when concluded, must contain a moratorium under which no such tariffs would be levied, foregoing therefore the use of Articles II, III and XX at the WTO to do so.

Second, we need to shift to an incentive, rather than a punishment, mode. At the moment, there is ambiguity about our ability to use green subsidies. In fact, under the 1995 Subsidies and Countervailing Measures Code at the WTO, the use of green subsidies unless they are strictly across-the-board is actionable. Even the currently designed cap-and-trade regime in the United States, with its many exemptions for different industries and hence differential sector-specific subsidies implicit in the scheme, is actionable. We need, therefore, to get a waiver from the SCM Code; or we need to amend it.

Finally, we can also unite behind the proposal to free trade in environmentally friendly products and services. This market has been variously estimated but is likely to be close to a turnover of half a trillion US dollars. Surely, this has to be a matter of high priority in any climate change treaty.

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Agreeing on a Framework Agreement at Copenhagen

By

Jagdish Bhagwati

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The Copenhagen Conference approaches rapidly, but not a Copenhagen Treaty that will succeed the Kyoto Protocol in 2012. In despair, one can echo Horace:

> **Even while we have been talking,**
> **Time has been swiftly flying.**
> **So, seize the day.**

Seize the day, we can and we must. At this late hour, however, many recognize that a two-stage progress to the ultimate Treaty is now the only realistic path to travel. The first stage requires that we arrive at a "framework agreement" which all can sign on to. The second stage would then have the negotiators flesh out this framework agreement during 2010 and after.

But, what should be a framework agreement that has a reasonable chance of reconciling the conflicts that still prevail? A plausible framework emerges if we borrow ideas from institutions such as the World Trade Organization --- an idea that has been canvassed by Australia also, under the leadership of Professor Ross Garnaut of ANU --- and the US practices on domestic pollution and on the use of public funds to create public goods. Consider first the current conflicts and then their resolution.

In essence, regarding "flow" obligations, the developed countries, led by the United States, reject the Kyoto Protocol's exemption of India, China and other developing countries from Annex 1 which imposed targets for reducing current, emissions. Equally, the United States has been adamant in arguing that will not accept "stock" liability for past emissions. Besides, its negotiators assert that it would be politically impossible to use such funds, in any event, to subsidize the

adoption of mitigation technology by countries as successful in the world economy as India and China.

In opposition, India maintains that its emission is only 4.5% of the total world emissions (unlike China's which is a fifth of the total and has already exceeded that of the United States). Citing Prime Minister Indira Gandhi's famous observation in Stockholm in 1972, "are not poverty and need the greatest polluters?", Indian spokesmen have argued that the country's extremely low per capita income makes the diversion of resources to reducing carbon emissions disproportionately expensive for her. Therefore, India would be unable to accept significant growth-retarding emission-reduction commitments with currently available environment-friendly technology and without the foreseeable availability of new and substantial mitigation technology whose costs also she cannot meet.

But these differences can be resolved. Regarding the flow obligations, the new framework agreement should include two key features of the WTO. First, the WTO model of a single undertaking, introduced in 1995, provides an institutional solution. In 1995, the earlier exemption of developing countries from obligations under the provision for Special and Differential Treatment, was generally replaced by obligations imposed on all, but with grace periods for the developing countries instead. At Copenhagen, we can therefore have all signatories accept emission commitments; but these would kick in at later periods for the developing countries. Thus India, with extremely low emissions and high poverty levels, would get a much longer grace period than China; Botswana would do even better.

Second, at the WTO, if commitments are not kept, there are consequences which carry penalties that cannot be avoided once the binding Dispute Settlement Mechanism has adjudicated the issue. It is well-known that the European countries that accepted large carbon emission cuts at Kyoto failed to keep them; and they were not accountable to any international institution. This cannot be allowed to happen again after Copenhagen.

The "stock" aspects can be addressed equally efficaciously. First, while Prime Minister Gordon Brown has accepted the notion that sums of the order of $100 billion annually be provided for a Climate Change Fund, the United States must still be brought on board. This can be done by appealing to the principles accepted in US domestic pollution policy itself. The Superfund, which attached strict liability (i.e. ignorance of adverse impact was scientifically unknown at the time of the damage done) for clean-up of hazardous discharges, is exactly what defines this "tort" approach to addressing the issue of past damage to the environment .

Second, the bulk of these funds in turn should be spent exactly like in the Green Revolution: the moneys would support the creation of mitigation technologies, inviting open tenders where every nation could compete for every nation's Superfund expenditures (but where clearly the innovative developed nations like the US have the competitive advantage), but where the resulting technologies would then become available to all. So, India and China, as would any other nation including the United States, can use the resulting technologies, thus addressing simultaneously the political problem in the US of financing sales of

technology to these nations and in India and China of having to pay for these technologies.

With a Framework Agreement along these lines, we could have accord in place of the current discord.

MEMORANDUM

To: Jagdish Bhagwati

From: Michael B. Gerrard

Date: July 5, 2009

Re: Superfund

Origins of the U.S. Superfund Law

President Richard Nixon created the U.S. Environmental Protection Agency (EPA) in 1970. Over the next six years Congress enacted the major environmental statutes. New laws regulated environmental impact review, air pollution, water pollution, pesticides, noise pollution, the formulation of new toxic chemicals, and the transport, storage and disposal of hazardous waste.

By the end of the decade, one of the major remaining gaps in the law was the cleanup of sites that had been contaminated years earlier with hazardous waste. This was, in essence, the old stock of hazardous wastes; the current flows were governed by the Resource Conservation and Recovery Act of 1976 (RCRA). EPA was eager to fill this gap.

The opportunity arose in 1978 at Love Canal, a neighborhood in the city of Niagara Falls, New York.[1] In the 1890s an entrepreneur named William T. Love had dug a mile-long trench as part of a canal project that was soon abandoned. Between 1942 and 1952, Hooker Chemical Company disposed of more than 21,000 tons of chemical waste in the trench. In 1953, after the trench filled up, it was covered with earth and clay. A public school, a playground, and modest homes were built on top of the area. In 1976 chemicals were found to have leaked from the

trench into the Niagara River; they flowed downstream into Lake Ontario, where they contaminated the fish. This led to several studies tracing back the pollution, and in August 1978 the New York State Health Commissioner declared a public health emergency at Love Canal. Families with pregnant women or young children were urged to evacuate, and residents were urged to stay out of their basements and to avoid eating anything from their gardens.

A media firestorm erupted. President Jimmy Carter declared a federal emergency. The homeowners association hired a cancer researcher who produced a study showing serious health effects. The study was later discredited, but the image remained of a large corporation callously poisoning little children.

EPA seized the opportunity to push forward legislation that would empower it to clean up old hazardous waste sites and hold the responsible parties liable. Amid the intensive media attention on the issue, many members of Congress were receptive to enacting a new law. The bill passed the House in September 1980. Before the Senate acted, however, on November 4, 1980 President Carter was defeated by Ronald Reagan, and the election also changed control of the Senate from the Democrats to the Republicans. In the two months before leaving office in January 1981, as one of their last acts, President Carter and the Senate Democrats pushed through the law, which became the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

Design of CERCLA

The new law gave extensive powers to EPA to investigate and clean up contaminated sites. The agency was required to prepare a "national priorities list" of the most contaminated sites, and to direct their cleanup. The cost of the cleanups was primarily to be borne by the companies and other entities that had caused the pollution. CERCLA adopted a broad liability

scheme under which many different parties could be held responsible: current and prior owners of the sites; current and prior operators of the sites; those who had generated wastes that were disposed at the sites; and those who transported waste to the sites. Liability was strict, meaning that it was no defense that these activities were strictly legal at the time they were undertaken. Liability was retroactive; even if the disposal had occurred decades before, the successors to the polluters could be held liable. Liability was also joint and several, meaning that if only a few of the many parties responsible for a site could be found and had substantial assets, these remaining viable parties could be required to pay the entire cleanup cost, even if they had contributed only a small fraction of the contamination.

Congress recognized that for some sites, no deep-pocketed liable parties could be found. (Love Canal itself was not one of those sites -- Hooker Chemical's successor Occidental Petroleum ultimately paid for its cleanup.) For these "orphan" sites, Congress created the Superfund, as the funder of last resort. The money would come from special taxes on chemical feedstocks, imported chemical substances that are derived from one of the covered types of feedstocks, crude oil purchased by domestic refineries, refined petroleum products imported into the U.S., and a special corporate alternative minimum tax. The rationale was that most hazardous wastes were formulated from these feedstocks and from petroleum. Thus the cleanup of the stock of old hazardous waste sites was to be financed in part from the flow of current chemical and petroleum production.

Litigation and the Arc of Liability

Ronald Reagan, who became President in January 1981, was no friend of CERCLA. It took his EPA an extended period of time to formulate the national priorities list and begin imposing liability. In 1986, the Democrats regained control of the Senate and kept control of the

House, and Congress enacted the Superfund Amendments and Reauthorization Act (SARA), which strengthened EPA's authority, took away some of EPA's discretion, and expanded liability. A series of federal court decisions further expanded liability, and went so far as to suggest that banks may be liable for the hazardous wastes of their defaulting borrowers, possibly even if they did not foreclose.

One result was an explosion of litigation activity. The late 1970s and early 1980s were a period of tremendous growth in lawsuits (and the number of lawyers handling them) as waste generators, disposal companies, insurance carriers, and others sued each other to allocate CERCLA liability among themselves.

This litigation caused tremendous anxiety in the corporate and financial communities, and led to the widespread practice of performing environmental due diligence before acquiring real estate that had been used for industrial purposes or otherwise might be contaminated, and before acquiring corporations that hold such real estate or might otherwise have CERCLA liability. Approximately $525 million/year is spent on environmental site assessments to guard against this liability.[2] This concern over liability also made companies reluctant to acquire or develop possibly contaminated property, leading to the "brownfields" problem and the abandonment of many urban lots.

The Superfund taxes generated roughly $1.5 billion/year. However, in 1995, when the Republicans had regained control of both houses of Congress, they decided, over the opposition of President Bill Clinton, that these taxes would expire in late 1996. About $3.8 billion was still in the Superfund accounts upon expiration of the taxes. It was used up by 2003. Thus the orphan shares must now be paid from general tax revenues as annually appropriated by Congress. President Barack Obama has called for resumption of the Superfund taxes.

Corporations and banks pressured Congress to relax the CERCLA liability scheme. As a result, amendments were adopted in 1996, 1999 and 2001 that afforded liability relief to banks, fiduciaries, recyclers, and certain innocent purchasers and others.[3] The U.S. Supreme Court also issued a series of decisions that limited the liability of certain kinds of parties, most recently in a decision issued on May 4, 2009, *Burlington Northern & Santa Fe Railway v. United States,* which allowed parties to escape joint and several liability if they could show that their contribution to a site's contamination could be distinguished from that of other parties.

These relaxations of liability did not, however, reduce the cost of cleaning up contaminated sites; they merely meant that more parties escaped liability, while the remaining parties had to pay more and more. Enforcement actions brought by EPA have generated approximately $30 billion in expenditures or commitments by responsible parties for cleanup work and associated activities.[4] The federal government itself has had to bear significant liability because of contamination left behind by its operations, most notably World War II-era war production and Cold War-era nuclear weapons manufacture.

The concern over liability also had a major deterrent effect. Because the potential liability for disposal of hazardous waste was so great, and the contours of such liability were so uncertain, companies had a real incentive to reduce their generation of hazardous waste, and the production of this material declined, as companies found ways to produce their goods and services with lowered generation of regulated substances.

Relationship to Tort Liability

The drafts of CERCLA that were proposed by the Carter Administration and passed by the House of Representatives included provisions for victim compensation and for federal court jurisdiction over personal and property injury claims. However, in the frantic negotiations that

took place in the weeks after the electoral defeat of President Carter and the Senate Democrats, these provisions were dropped from the bill at the insistence of Senator Jesse Helms (R, NC). Thus CERCLA as signed into law in 1980 did not provide for tort liability in favor of victims of contamination.

Instead these victims must still sue in the state courts using conventional tort remedies. A number of major Hollywood movies have concerned such real-life lawsuits, such as *Erin Brockovich* (2000) starring Julia Roberts and *A Civil Action* (1998) starring John Travolta, but these were all about common law suits, not CERCLA suits. CERCLA did play a role in both of those cases, as it was the basis for EPA investigation and cleanup actions, but the compensation paid to the victims was under the common law.

Tort damages are awarded at only a small fraction of the sites where CERCLA liability is imposed. There are two main reasons for this. First, potential endangerment to public health is a sufficient basis for imposing CERCLA liability; thus many sites are cleaned up under CERCLA before anyone actually becomes sick and tort litigation becomes ripe. Second, the standards of proof that EPA must meet in court to establish a CERCLA claim are much lower than the standards that private plaintiffs must meet in a personal injury case.

CERCLA does impose one tort-like liability scheme. This is for "natural resources damages," which occur when pollution has contamination has impaired rivers, lakes and other natural areas. These cases are brought by, and money damages are paid to, federal and state agencies that act as trustees for the natural resources; municipalities and private parties cannot utilize the natural resources damages provisions of CERCLA.

Lessons

The experience under CERCLA and its Superfund tells us several things about the behavior of the U.S. courts and the U.S. Congress in dealing with major liability schemes. Some of these lessons would be relevant to a climate change liability program.

CERCLA arose in reaction to a highly-publicized incident in which American children were perceived to have been endangered by large corporations. Congress adopted a scheme that imposed liability on broad classes of companies, and the courts interpreted the statute to throw the liability net even more broadly. This liability scheme cast aside conventional notions of knowledge, proof of causation, retroactivity, and statutes of limitations. The scheme generated large amounts of money for cleanups (albeit with very high transaction costs), and fear of liability had a major deterrent effect on those who would continue to generate or otherwise be involved with hazardous wastes. The liabilities were imposed on those who were deemed to have contributed to the stock of hazardous wastes.

However, Congress has been much less willing to impose a tax on the flow of materials that could lead to the generation of hazardous waste. The taxes that fed the Superfund expired at the end of 1996 and have not been renewed. Even when they were being collected, they paid for only the orphan shares for which no other liable parties could be found.

CERCLA has allowed EPA to avoid many difficult issues. Supply chain complexity is finessed by imposing liability on a broad range of parties and letting them sort out among themselves (usually in protracted litigation) their respective shares. EPA does not have to identify the victims of contamination and decide who to compensate to what degree; the funds it obtained from the Superfund taxes and still obtain from liability actions go to site investigation and cleanup, and to administration of the program, with the victims left to their own separate

legal remedies. In this separate tort litigation, there is a limited number of plaintiffs and a limited number of defendants; even in the largest class actions, there are rarely more than a few hundred parties on either side.

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[1] This account of the origins of Superfund is largely drawn from Marc K. Landy *et al., The Environmental Protection Agency: Asking the Wrong Questions From Nixon to Clinton* (Oxford 1994), 133-171.
[2] ICF Consulting, *Economic Impact Analysis for the Proposed All Appropriate Inquiries Regulation* (Office of Brownfields Cleanup and Redevelopment, U.S. Environmental Protection Agency, August 3, 2004).
[3] Michael B. Gerrard & Joel M. Gross, *Amending CERCLA: The Post-SARA Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act* (American Bar Ass'n 2006).
[4] U.S. Government Accountability Office, *Superfund: Funding and Reported Costs of Enforcement and Administration Actions* (July 18, 2008), http://www.gao.gov/new.items/d08841r.pdf.

Crook cuts through energy crisis waffle but takes a step too far

Published: June 25 2008 03:00 | Last updated: June 25 2008 03:00

From Prof Jagdish Bhagwati.

Sir, Clive Crook ("Hot air clouds the energy debate", June 23) brilliantly exposes the pandering and evasions that afflict the political debate over the energy crisis and what to do about it. And he correctly notes that the rise in petrol price has done more to curb the use of gas-guzzling sports utility vehicles – which I call socially undesirable vehicles – than any exhortation or condemnation has to date.

But in opting therefore for a carbon tax and suggesting that "once the price of energy is right ... there is no need to legislate fuel economy standards", Mr Crook may be going too far. First, as the current petrol price increase shows, big price hikes create bigger political difficulties in economies that have evolved on many dimensions around lower prices for decades. In this situation, low fuel economy standards would be politically more doable than high petrol prices.

Second, how is one to measure the carbon imprint of many human activities? Sophisticated environmentalists are aware of the problem: activities that look superficially to be CO 2 -saving relative to alternatives often lose out when the CO 2 emissions are measured up and down the product chain.

Then, there is an "equity" issue that we economists tend to underplay. When there is a "crisis", as most politicians now accept, a universal tendency in the body politic is to demand that everyone put their shoulder to the wheel. If the rich can afford to pay the high petrol prices and drive their SUVs and Hummers, do not be surprised if many think that this is like the rich buying their children into college and hence avoiding the Vietnam war draft.

This is, in fact, what is also wrong with the notion that I could maintain my CO 2 -intensive lifestyle while buying "offsets" elsewhere such as saving the rainforests. Al Gore is reputed to do just this, reportedly claiming that his "carbon imprint" is zero. But this is a bit like my knifing him to death and then claiming that, because my wife is having a baby, my "population imprint" is zero!

If you wish to do something about the rainforest, do it, but do not use it to justify your unacceptable lifestyle at a time of what you claim is an immediate and planet-imperiling crisis.

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A new approach to tackling climate change

By Jagdish Bhagwati
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The resignation last week of **Yvo de Boer**, the Dutch diplomat, as executive secretary of the United Nations Framework Convention on Climate Change, reflected his frustration over the Copenhagen meeting and problems in **climate change** treaty design.

In fact, the soon-to-expire Kyoto protocol before it was also flawed. Nearly all of the 36 industrialised rich countries in annex 1 (which excluded the developing countries) failed to fulfil the emission-reduction targets they had signed on to. The US (along with Australia) had not even ratified the protocol. The Senate, in a bipartisan 99-1 demonstration of defiance, had also rejected the protocol under the administration of Bill Clinton.

The failure of Copenhagen lay in the fact that creativity was required to bridge differences between rich and poor countries. It was badly missing. Building international institutions requires that we seek their principles in actual practice, not utopian ideas. We need to build the new protocol on principles in existing international institutions, such as the World Trade Organisation. How can this be done?

First, while the Kyoto protocol had obfuscated the distinction, it is now customary for negotiators to distinguish between commitments arising from the "stock" and "flow" aspects of climate change. The former relates to commitments arising from historical carbon emissions; the latter to current emissions. But, though the language of "legally binding" commitments is routinely used, there is no process by which anyone's feet can be held to the fire if the delivery falls short.

With the new protocol we need to draw on the example of the WTO. There, failure to deliver on accepted trade-openness obligations can be challenged and a dispute settlement process exists where an adverse finding leads to penalties. A climate change protocol where the commitments on stock or flow aspects are mere declarations with no consequences would lead to a charade and breed cynicism, not produce action.

Second, **the pledge** by rich countries at **Copenhagen** to spend $100bn (€73.5bn, £64.5bn) on mitigation and local adaptation may be seen as a response to the "stock" issue of past damage. But the sum has been explained as funds to be given to the poorest countries and that it can come at the expense of normal aid. This reflects faulty thinking.

The US in addressing domestic pollution created the superfund after the Love Canal incident, where a successful tort action was filed against Pacific Gas & Electric in 1996 for leaking toxic chromium into the ground water. Under the superfund legislation, hazardous waste has to be eliminated by the offending company. This tort liability is also "strict", such that it exists even if the material discharged was not known at the time to be hazardous (as carbon emissions were until recently). In addition, the people hurt can make their own tort claims.

Rejecting this legal tradition in US domestic pollution, Todd Stern, the principal US negotiator, refused to concede any liability for past emissions. This stand is even more astonishing given that Barack Obama, the US president, belongs to a party that thrives on contributions from tort lawyers.

Evidently, the US needs to reverse this stand. Each of the rich countries needs to accept a tort liability which can be pro rata to the Intergovernmental Panel on Climate Change-estimated share of historic world carbon emissions. Since the payment would be on the tort principle, the idea that the funds would substitute for normal aid would be outrageous: you do not take away the pension of a person who has won a tort settlement.

Third, on "flow" liability for current emissions, the WTO principle of a "single undertaking", where each member state accepts obligations, is a better model than one where the world is divided into annex 1 countries and the rest. But, as with the WTO, special treatment can be accorded to developing countries in the shape of suitably extended grace periods before the obligations kick in.

Finally, in determining these obligations for developing countries such as India, it is clear that cutting emissions can damage growth. New technologies can help, provided they can be accessed at negligible cost. However, no one will subsidise the sale of technologies to India and China. But, why not take a sizeable fraction of the tort funds in each country and use them to create the technologies by open tenders and make them freely accessible to India or China – just as we did when the US used its public funds to develop new seeds in the 1960s and made them freely

accessible by India et al. Those seeds created the Green Revolution in agriculture. The same strategy could create a revolution in climate change.

The writer is a professor at Columbia University and senior fellow in international economics at the Council on Foreign Relations. He is chair of the Independent India-US Task Force on Copenhagen at Columbia Law School