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Tackling Climate Change and Competitiveness: The Relevance of WTO[1]

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Introduction

As a growing number of governments adopt constraints on CO_2 emissions arising from production processes, awareness mounts among affected industries of the cost implications of such measures. In a world where international agreement is lacking both on appropriate climate change policies and on the relative degree of responsibility for action falling upon different countries, constraining climate change policies with varying competitiveness consequences will lead increasingly to industry-level pressure for relief. These pressures engage governments in a search for offsetting measures that reduce the competitiveness impact of internationally differentiated climate change policies. A further concern – linked to competitiveness – is that patterns of investment and trade will change under differentiated policy regimes such that the effectiveness of the environmental objective, in terms of reducing carbon emissions, will be compromised.

The rest of this note will: i) briefly outline some of the factors that make different industries more or less vulnerable to higher costs and the loss of competitiveness as a result of climate change policy; ii) unbundle the two core elements of competitiveness concerns (investment and trade); iii) enumerate some of the different ways discussed in the literature of lessening competitiveness concerns; iv) consider the WTO implications of some of the elements identified in the previous section; and v) briefly conclude.

I Factors affecting vulnerability to cost-related losses in international competitiveness under differentiated climate regimes

Costs arising from carbon constraining policies raise very different degrees of concern among industries regarding competitiveness at the international level. At least one of the following industry characteristics will contribute to the strength of a possible competitiveness effect of differentiated carbon constraints: i) the industry is carbon intensive; ii) considerable scope exists within the industry for technology choices that exert a strong influence on the carbon content of production; iii) the industry can move relatively easily because its location is not strongly dependent on the input

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characteristics (e.g. their tradability); and iv) the industry's output is easily tradable. The higher is the demand elasticity for a product, the more difficult it will be for an industry to pass on extra costs from carbon constraints to consumers and maintain profit levels. A high degree of trade within an industry will generally be associated with higher elasticities. Other factors that influence the scope for passing on costs (cost "pass-through") include market structure and product substitutability. Cost pass-through appears to be more viable in oil refining and cement industries, while iron and steel, paper and pulp, and particularly aluminium, are more vulnerable in terms of having to absorb the costs of carbon constraining policies (Reinauld 2008).

These differences in vulnerability related to cost factors impinging on competitiveness provides a challenge for policy design. Governments may be tempted to exempt the most vulnerable industries, or at least apply softer carbon constraints upon them. Yet the same industries may be non-trivial parts of the climate change story. The resource allocation implications within the economy of such differentiation may be distorting not only in terms of climate change policy, but also the basic structure of the economy. There is also an international dimension in terms of competitiveness and the location of industry if carbon constraining policies are not applied equally to industries on the basis of their emissions.

II The investment and trade dimensions of climate change policies

Concerns over the effects of climate change policy on competitiveness relate both to factor and goods markets (Hufbauer et al. 2009). The first of these refers to the effects of carbon constraints on investment decisions. The costs of compliance with climate change policies may be significant enough among the range of determinants of investment location to tip the balance, and shift an investment to a location with little or no carbon constraint policy. This concern has been around for a long time, and discussed in the past in terms of the migration of dirty industries. In the current debate, investment relocation is not just a matter of lost investment and job creation. It also means that emission controls will be lessened because firm location decisions give rise to what is referred to as carbon leakage – emissions in one place increase as those in another are reduced by carbon constraint policies. This correspondingly reduces the beneficial effects of the costs incurred to limit emissions. The case would be less compelling on environmental grounds were it not for the fact that the multiplication of GHGs in the atmosphere is a commons problem. In the case of local pollution problems, factors such as location-specific absorptive capacities in relation to negative environmental externalities would have to be considered.

The degree to which climate change policy affects investment decisions is an empirical matter, and the evidence so far does not suggest that there has been a significant amount of carbon leakage. This may be because a lot of what has passed so far as carbon constraining policy has not had much bite.

As discussed below, several policies have been suggested for addressing carbon leakage, some of which have direct implications for WTO rules.

The second source of concern about international competitiveness arises in the goods market. It is often referred to in terms of the need for a "level playing field". The argument is simply that carbon constrained output bears a cost that reduces competitiveness in relation to output from countries that do not have comparable carbon constraint policies. The effects are felt in both the domestic market in relation to imports and in third markets on the export side. As noted above, the actual consequences on trade and competitiveness of different climate change policies will depend on a range of market-determined factors.

In the absence of international agreement on these matters, an argument sometimes made for unilateral policies aimed at reducing carbon leakage and levelling the playing field of competition is that the existence of such policies, or even a credible threat that they will exist in the future, might change the incentive structure facing governments that are reluctant to institute climate change policies. Not enough has been done in this direction so far to assess the effectiveness of the approach. But the political default is complicated, since governments who interpret such unilateral action as a threat rather than an inducement might be reluctant to play along.

III Some approaches for lessening competitiveness concerns

What follows is a listing of some of the policy approaches discussed in the literature for lessening competitiveness concerns. This is not intended as an exhaustive list of possibilities, and not all of them bear any relation to the rules of the trading system. The reason for broadening the discussion here beyond the interface between climate change policy and the trading rules is that the prospects of effective international cooperation on climate is likely to bear an inverse relationship to the degree of dependence placed by governments on trade measures as an instrument of climate change policy. In political and policy terms, the most promising means of managing the interface between these two areas would be where governments agreed on their respective rights and obligations in the climate change policy domain, and then the rules of the trading system would either be interpreted to accommodate the arrangements, or be modified as necessary. The least desirable outcome would be where agreement on cooperative climate change policy eludes governments, and the unilateral use of trade measures to bolster climate policy turned the WTO litigation system into a battleground (Pauwelyn, 2007). Under the latter scenario, international cooperation would take a battering. Neither effective climate change policy nor an effective trading system would be likely to result.

Negotiating for cooperation

Pre-commitment in regard to the disposition of rights and obligations in a post-Kyoto climate change regime would require an agreed interpretation of the notion of common but differentiated responsibilities. This would no doubt involve a temporal element in regard to obligations and certain transfer mechanisms from developed to developing countries. The arrangements could carry certain implications for WTO rules, in particular relating to subsidies and the regime for intellectual property rights.

Another approach to international cooperation in the first instance might be to rely upon a sectoral approach. Carbon constrained and non-carbon constrained countries could establish cooperative arrangements in relation to particular sectors, preferably those with the largest GHG emissions (Reinauld, 2008). A narrower focus of this nature may make it easier to tease out the different elements that would constitute a package.

A productivity approach: increasing technical efficiency

If firms were encouraged to emphasize improvements in technology as a means of reducing emissions – rather than cutting output or raising prices to adjust to carbon constraints – this could take pressure off competitiveness concerns (Houser et al., 2008). It may also contribute to a basis for managing access to climate-friendly technology.

Negotiating for better diffusion of climate-friendly technologies

Linked to this is the idea of reducing trade barriers to climate-friendly products, in order to lower their prices and make them more readily available. This has been referred to as the win-win climate change/trade policy nexus, yielding both the benefits of more open trade and better environmental performance. This, indeed, is part of the Doha Round negotiations, but difficulties have arisen with respect to the identification of climate-friendly products.

An input substitution approach: relying on less carbon-intensive inputs to production

Much has been written and said about the scope for substituting carbon-intensive with climate-friendly energy sources. This is a complicated and contentious issue. On the one hand there are those arguing for the elimination of subsidies on fossil fuels on the grounds that such subsidies can only exacerbate the climate change problem (unless carbon capture and storage technologies come on stream). On the other hand, subsidies to the production of biofuels have been criticized for being costly, for distorting food markets, and of questionable benefit to the environment. A further point of

contention is whether nuclear energy represents an alternative solution, given safety and proliferation concerns as well as waste disposal issues. While this is not an easy area, it may be one where enhanced international cooperation could take some pressure off competitiveness concerns.

Lessening the cost of carbon constraining policies

Lessening the impact of carbon constraining policies may amount to little more than reducing ambition in climate change policy. One might take a temporal view of this, and argue for a trade-off between the sustainability of a more gradual approach and the impracticality of excessive ambition. This argument goes to the heart of the climate change debate about how long we have to act before unsustainability and/or irreversibility of key climatic assets set in. Stern (2006), for example, embraces a low discount rate (very close to zero) and argues that decisive action is required as a matter of urgency. Nordhaus (2008) is more sanguine and opts for a discount rate closer to what the market reveals, implying more gradual approach.4 The debate is beset by enormous uncertainties about the pace and consequences of climate change, which scientists are striving to reduce. In the meanwhile, the swifter and stronger the action taken, the more challenging it will be for governments – in the absence of prior international agreement in relation to rights and obligations on climate change policy – to manage the fallout arising from the tensions over carbon leakage and competitiveness in product markets.

Neutralizing competitiveness effects

If governments have been unable to reach agreement regarding their respective commitments on climate change mitigation before national carbon constraint policies begin to impose significant costs on industry, the resolution of competitiveness concerns may take the form of unilateral corrective actions. Such actions will only be effective from the perspective of the government imposing them if they exert an influence on trade and investment flows. The unilateral application of cost-neutralizing measures may involve trade actions that conflict with WTO obligations.

IV The WTO implications of managing competitiveness concerns

A literature is emerging5 on the interface and potential clashes between climate change policies and the international trade regime.6 As noted earlier, in an orderly world of international cooperation,

[4] While the chosen discount rate reflects differing views about the value of the future in terms of the present, many other economic and scientific variables play a role in identifying preferred policy positions on dealing with climate change, as illustrated by integrated assessment models.

[5] See, for example, Pauwelyn (2007), Bordoff (2008), Cosbey (2008), Tamiotti et al. (2009), Tamiotti and Kulacoglu (2009), Marceau (2009), Veel (2009), Hufbauer et al. (2009),

[6] While the discussion here focuses on the WTO, there may also be issues within preferential trade agreements. More research is required on this question.

governments would agree on how they needed to cooperate to manage climate change, and the WTO trade regime would make any necessary accommodations to ensure consistency in these related areas of cooperation. This sequence would seem to make sense in light of the reality that maximizing trade flows is not an end in itself – rather, trade is a means of fostering growth and development in conjunction with the attainment of a range of other public policy objectives, including the management of climate change. The literature cited under footnote 2 above identifies a wide range of legal issues where climate change and trade rights and obligations might intersect. This "melding" of the regimes would therefore seem an important step in establishing coherence in international governance arrangements.

This scenario relies on agreement among governments on the international climate change regime – that is, on a successor regime to the Kyoto Protocol, which expires in 2012. The concern among many observers, however, is that if governments fail to reach agreement regarding their respective rights and obligations in the climate change field, this may place the WTO regime under severe strain as governments move to defend their perceived rights in the face of trade measures aimed at managing competitiveness pressures arising from the cost implications of varied carbon constraint polices.

This note does not aspire to an exhaustive treatment of the interface between trade and climate change policies,7 nor does it offer interpretations of the WTO legal position in respect of possible measures taken in the name of climate change policy and/or the defence of competitiveness that have an effect on trade. Instead, it merely identifies some of the main trade issues that could arise in the context of the competitiveness issue. The policy areas briefly mentioned include: i) border adjustments on imports and exports in respect of differential carbon constraint costs; ii) domestic and export subsidies; iii) standards; and iv) public policy exceptions.

Border adjustments for the carbon content of production

Much discussion has taken place about the WTO-consistency or otherwise of adjusting border charges to equalize the production costs attributable to carbon emission controls. Domestic carbon constrained producers will typically have paid a carbon tax or used emission permits that imply a cost which could be expressed as a tax equivalent.8 The competitiveness concerns arising from these taxes relate to imports as well as exports to other markets. Exporters of like products to the market concerned may have paid less or nothing at all by way of charges on emissions – hence the demand for a neutralizing charge on imports. Current WTO rules contemplate indirect charges on imports, in accordance with the destination principle of taxation. Legal analysts differ on the question whether

[7] For a listing of the relevant policy areas, see the note by Gabrielle Marceau prepared for this conference.
[8] The incidence of the tax equivalent associated with emission permits will depend on circumstances, including whether the user of the permit had to pay for it as opposed to receiving a free allocation.

adjustments can apply on taxes on inputs into production that are not physically incorporated in the product concerned.

On the export side, where producers wish to neutralize carbon constraint costs in third markets, there appears to be less questioning of the legality of remissions or rebates on domestic taxes upon exportation when inputs are not physically incorporated. The calculation of such adjustments on inputs is complicated and fairly data-intensive. It is necessary to know the technical coefficients of production and the prices of all traded inputs in relation to the final price of the product concerned. In the case of adjustments on imported products as opposed to exports, an additional question would be who would make the calculations. Would it be realistic to expect the authorities in the exporting country to do so? Moreover, such adjustments on competing imports would need to net out carbon constraining policies applied by the exporting country – which could take many different forms – and the calculations become even more complicated. It would seem, then, that even if there were to be agreement on the appropriate policy for border adjustments on imports and exports, the details of such calculations would offer fertile ground for further dispute.

Domestic and export subsidies

Subsidies obviously have a role in supporting abatement through emission reductions and adaptation. They can take many forms and affect relative prices – and therefore competitiveness – in international trade. The WTO's subsidy rules involve prohibition in certain cases (e.g. export subsidies on manufactures in the case of most WTO Members) and in others a right of action either though legal challenge or the use countervailing measures against subsidized products. Subsidies outside the prohibited category may be challenged legally when they are considered to have adverse effects on exports to the market of the subsidizing country, or on the conditions of competition in other markets (including that of the complainant). Countervailing duties may be imposed on subsidized products when the subsidies can be shown to cause injury to domestic industry. The tension, once again, is between rules intended to preserve a balance of rights and obligations in the trade field and public policies that aim to address climate change.

Standards

The WTO rules on standards cover mandatory and voluntary standards and conformity assessment procedures. They seek to guarantee non-discrimination in the use of standards and standard-related procedures and to ensure that the do not constitute an unnecessary obstacle to trade. The WTO rules also emphasize the desirability of harmonization of standards and conformity assessment procedures, and encourage the use of international standards. Standards and conformity assessment procedures

are clearly relevant to energy efficiency issues and a range of policies aimed at mitigating climate change (both emission abatement and adaptation). In the absence of clear interpretations and understandings in relation to the design and use of standards, disputes may arise at the interface between perceptions of legitimate public policy and trading rights.

The public policy override

The WTO has general exceptions provisions that allow trade restrictions that would otherwise be inconsistent with mainstream obligations. Among these public policy provisions is one that permits trade restrictions in order to protect human, animal, and plant life or health (Article XX(b)) and another to conserve exhaustible natural resources. Such measures must be non-discriminatory in both the MFN and national treatment sense, and they must not restrict trade beyond the degree necessary to achieve the stated public policy objective. These strictures aim to ensure that a measure does not embody arbitrary or unjustifiable discrimination, or constitute a disguised restriction on trade. The risk here is that national interpretations of a legitimate use of the public policy override might be interpreted as unfair or opportunistic by trading partners, leading to a trade dispute in the WTO.

V Conclusion

Two conditions are necessary to avoid a clash between climate change policy and trade policy. The first is agreement among governments on their respective rights and obligations in an international regime to manage climate change. The second is adequate interpretative flexibility in the WTO to accommodate prior understandings about the trade consequences of public policies aimed at mitigating climate change. A third desirable condition for ensuring policy harmony would be to rely as little as possible on trade policy as a rectification or enforcement mechanism where cooperation in the primary policy area – climate change policy – has eluded governments.

The more internationalized a post-Kyoto Protocol climate change regime, the greater the likelihood that pre-commitment can be forged on rights and obligations and how these impinge on the trade regime. The clearer the message in climate change policy, the easier becomes an accommodative role for the WTO. If cooperation proves elusive in the sphere of climate change management, the WTO's dispute settlement system could become the battleground where governments will take their differences on climate change policy. Such an eventuality could put unsustainable pressure on the trading system, leading to a loss in gains from trade as well as ineffectual climate change policy. It would therefore seem incumbent upon governments to recognize the links and the risks, and to work hard for coherence in both policy domains.

References

Bordoff, J. (2008), "International Trade Law and the Economics of Climate Policy: Evaluating the Legality and Effectiveness of Proposals to Address Competitiveness and Leakages Concerns," Mimeo, Climate Change, Trade and Investment Conference: Is a Collision Inevitable?, June, Brookings Institution: Washington DC.

Cosbey, A. (2008), "Border Carbon Adjustment", Mimeo, Trade and Climate Change seminar – International Institute for Sustainable Development and German Marshal Fund. IISD

Houser, T., Bradley, R., Childs, B., Werksman, J., and Heilmayr, R. (2008), Leveling the Carbon Playing Field, Peterson Institute for International Economics, World Resources Institute, Washington, DC, May 2008

Hufbauer G.C., Charnovitz S., and Kim J. (2009), Global Warming and the World Trading System. Washington, DC: Peterson Institute for International Economics

Kommerskollegium (Swedish National Board of Trade), (2008), Climate Measures and Trade: Legal and Economic Aspects of Border Carbon Adjustment, Report 2008-12-11, Stockholm

Marceau, G, (2009), "The WTO in the Emerging Energy Governance Debate" Mimeo, Paper for conference on Global Challenges at the Intersection of Trade, Energy and the Environment, 22-23 October, Centre for Trade and Economic Cooperation, The Graduate Institute of International Studies and Development, Geneva

Nordhaus W. (2008) A Question of Balance: Weighing the Options on Global Warming Policies Newhaven: Yale University Press

Pauwelyn, J. (2007), "U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law", Working Paper NI WP 07-02. Duke University: Nicholas Institute for Environmental Policy Solutions

Reinauld, J (2008) "Issues Behind Competitiveness and Carbon Leakages. Focus on Heavy Industry", International Energy Agency OECD/IEA, October.

Stern, N. (2006) The Economics of Climate Change: The Stern Review, Cambridge, CUP

Tamiotti, L., Teh, R., Kulaçoğlu, V., Christenesen, J.M., Hansen, H. E., Callaway, J. M., Simmons, B. (2009), Trade and Climate Change, A Report of the World Trade Organization and United Nations Environemnt Programme, WTO: Geneva

Tamiotti, L and Kulacoglu, V, (2009), "National Climate Change Mitigation Measures and Their Implications for the Multilateral Trading System: Key Findings of the WTO/UNEP Report on Trade and Climate Change" Journal of World Trade 43, No. 5, 1115-1144

Veel, P., (2009), "Carbon Tariffs and the WTO: An Evaluation of Feasible Policies", Journal of International Economic Law, 12(3), 749-800

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