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RESEARCH

A border adjustment for the EU ETS: reconciling WTO rules and capacity to tackle carbon leakage

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Abstract

This article compares several configurations of a border adjustment (BA) to the EU Emissions Trading Scheme (EU ETS) that are designed to maximize their World Trade Organisation (WTO) compatibility, either with the GATT general regime or with Article XX (its environmental exception rule). The different BAs are assessed quantitatively using the partial equilibrium model CASE II, which represents four sectors included in the EU ETS (cement, aluminium, steel and electricity). The main findings indicate that the inclusion of imports and exports would reduce world emissions more than the inclusion of imports alone, that an obligation to buy EU allowances is more compatible with WTO rules than one based on a tax, and would be better at reducing world emissions. Moreover, if the BA is based on best available technologies, more precisely on the recently defined EU product-specific benchmarks, then the adjustment would only be partial and carbon leakage would nevertheless be significantly reduced. The

popular view that a BA contributes to both carbon leakage limitation and to domestic production preservation is discussed, and it is argued on the contrary that although a BA would efficiently limit leakage, a decrease in European production of GHG-intensive products is to be expected. Industries that consume cement, aluminium and steel would pay more for these goods with a BA. Consequently, the price signal should be preserved and diffused in downstream sectors, an expected key result of climate policy. On the contrary, free allocation efficiently preserves domestic production, but does not preserve and diffuse the price signal and is less efficient in limiting leakage.

Cet article compare plusieurs configurations d'ajustements aux frontières (AF) appliqués au système communautaire d’échange de quotas d’émissions (SCEQE) conçus pour maximiser leur compatibilité avec les règles de l'OMC, que ce soit en fonction du régime général du GATT ou de son article XX (exceptions pour motifs environnementaux). Les différents AF sont évalués quantitativement avec le modèle d'équilibre partiel CASE II, qui représente quatre secteurs inclus dans le SCEQE (ciment, aluminium, acier et électricité). Les principaux résultats indiquent que l'inclusion des importations et des exportations conduirait à une plus grande réduction des émissions mondiales que l'inclusion des importations seules, qu'une obligation d'acheter des quotas européens est plus compatible avec les règles de l'OMC qu'une taxe et qu'elle serait plus favorable à la réduction des émissions mondiales. Par ailleurs, si l'AF est basé sur les meilleures technologies disponibles, plus précisément les benchmarks européens récemment définis, alors les fuites de carbone seraient considérablement réduites, bien que l'ajustement ne soit alors que partiel. Nous discutons l'opinion populaire selon laquelle les AF contribuent à la fois à la limitation des fuites de carbone et à la protection de la production domestique et concluons au contraire que les AF seraient efficaces pour limiter les fuites, mais qu'une baisse de la production européenne de produits intensifs en gaz à effet de serre est à prévoir. Les industries qui consomment du ciment, de l'aluminium et de l'acier paieraient plus pour ces matériaux avec un ajustement aux frontières. Par conséquent, le signal prix serait conservé et diffusé dans les secteurs en aval, un résultat clé attendu de la politique climatique. Au contraire, l'allocation gratuite permet une protection efficace de la production domestique mais ne préserve ni ne diffuse le signal prix et est moins efficace en ce qui concerne la limitation des fuites de carbone.

Keywords:

border adjustment | carbon leakage | emission trading system | EU ETS | World Trade Organization

Mots clés:

ajustements aux frontières | fuites de carbone | système d'échange d'émissions | SCEQE | Organisation mondiale du commerce

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Notes

A third argument is to create further incentives for countries to join an international climate agreement (Cosbey, 2008).

Free allocation still requires business to bear costs that may be significant. Genasci (2008) gives some simple examples of the difficulties with respect to WTO rules and free allocation.

Owing to the framework of the EU ETS as a multi-period scheme with a series of direct and indirect updating provisions, free allowance allocation distorts the carbon price signal for efficient investment, operation and consumption choices.

These benchmarks are set at the average specific emissions of the 10% of the EU installations with the lowest specific emissions (cf. EC, 2010).

This last point may be important for the legality of the BA. Nevertheless, serious doubts still exist about the implementation of a carbon constraint on CO_2-intensive industry in the US or Japan. The pledges taken in the Copenhagen and Cancun Accords may lead to a mix of measures that do not really affect the production cost of these industries.

Whatever measure is applied, importers must be permitted to demonstrate how much carbon they emitted individually and pay for allowances on that basis (Bordoff, 2009).

An adjustment based on foreign specific emissions is problematic to evaluate, because most non-EU production installations have no obligation to declare – and thus do not know precisely – their CO_2 emissions. An option is to ask importers to provide certified information on the carbon content of the products they want to import in the EU, but it is difficult to oblige importers to do so as for a small importer the administrative burden could be high in proportion to its sales. Another option is to use the average emissions per tonne in the exporting country for every product covered by the BA, but this value could be difficult to compute, especially if the country is reluctant to participate. Consequently, the practical feasibility of this scenario is not certain.

Conversely, if Article XX is not used, it is not possible to exempt a group of countries because, for instance, they are engaged in an international climate agreement, or are the least developed countries, due to the GATT most favoured nation principle (cf. previous section).

Because the model aggregates all foreign countries into one RoW region, a BA based on country-of-origin specific allowance obligations cannot be assessed, which could reduce leakage further.

Over 2008–2020, the limit of credits from the CDM and JI in the EU ETS is set at 1.68 Gt CO_2e, hence 6% of the cap (Turner, 2010). It is assumed that this limit will be binding and that credits will be used homogenously over the period.

In the EU ETS, a firm must emit more than a minimum threshold to receive its allocation (EC, 2010). In the model, all the firms of the same sector are symmetric and then produce the same quantity, which is higher than these thresholds in all scenarios.

The pricing behaviour of the firms is different in the EU markets and in foreign markets. Indeed, in foreign markets, the competition increases less because EU firms have only a small market share.

The variations are calculated between a scenario with the climate policy and a scenario without, and include emissions from the power sector.

The model does not allow taking into account the climate policy implemented in the rest of the economy. For instance, building retrofitting would moderate the decrease in

cement demand.

However, in some downstream industries, the cost increase would be weak. For example, according to ADEME (2007), the emissions related to the use of steel and aluminium in a car of 1 tonne is around 1.6 tonne of CO_2. If a CO_2 price of around EU€20 is assumed and that the cost pass-through is complete in the electricity, steel and aluminium sectors, the cost increase to produce a car would be around €30–35.