

Carbon pricing and industrial competitiveness: Border adjustment or free allocation?

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The competitiveness of emissions-intensive trade-exposed (EITE) sectors and mitigating the risk of carbon leakage has been a major concern for sub-global carbon pricing systems like the EU's emissions trading system (ETS). To date, policy support to EITE sectors has largely been provided by way of free allocation of emissions allowances.

The EU's Green Deal now raises the prospect of free allocation being replaced by a carbon border adjustment mechanism (CBAM) that imposes its carbon price also on imported products. Other jurisdictions designing carbon-pricing initiatives will similarly have to confront whether to use free allocation or a CBAM—or both (or neither); border adjustments are already being discussed in countries including the UK, US and Canada.

Does a CBAM make free allocation redundant? More broadly, to what extent does a CBAM provide similar—or better—competitiveness support than free allocation? This paper presents a simple economic framework to address these questions at the level of an individual EITE sector like aluminium, cement, petrochemicals or steel. Free allocation tends to reduce the marginal production cost of “inside” (e.g., EU) firms while a CBAM instead raises the marginal cost of “outside” (e.g., non-EU) firms.

The paper shows how the rate of carbon leakage can be a “sufficient statistic” to determine the impact of a switch to a CBAM on the competitiveness of inside firms—as proxied by their production volumes or profit margins. That is, the rate of carbon leakage captures all salient features of competition—including market structure and the intensity of rivalry, the degree of product differentiation between inside and outside firms, and the relative carbon intensity of their production. From a political-economy perspective, the analysis suggests that EITE sectors with a modest risk of carbon leakage will lobby to keep a policy regime with free allocation while those with substantial carbon leakage will favour switching to the CBAM. These findings could be calibrated empirically in future work. In short, a CBAM makes free allocation redundant for some sectors—but perhaps not for others.

An advantage of the framework presented is its simplicity and application across a range of models of competition amongst which it can be difficult to choose. Limitations include the absence of abatement (other than output reductions) and the focus on competitiveness support as a proximate policy objective. Nonetheless it seems likely

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that the rate of carbon leakage will play a central role also in richer models.