Full carbon pricing, average carbon intensity and the Global Steel and Aluminium Arrangement: in conversation with Bixuan Xu and Aaron Cosbey

In June 2022, the Clean Competition Act was introduced in the US Senate. Bixuan Xu has developed an insightful comparison of the Whitehouse Bill and the EU proposal for a carbon border adjustment mechanism ('CBAM'). Aaron Cosbey has followed suit with a response. This blog post engages in this discussion, developing a different form of analysis and setting the points of Bixuan Xu and Aaron Cosbey into context.

The first section explores the *advantages* of the Whitehouse Bill model, pushing the enquiry of Bixuan Xu further. The following sections analyse the *specific weaknesses* of the *Bill*, focusing on their implications. The final section addresses the *structural problems* associated with the *Bill's regulatory model*. The criterion of average sectoral carbon intensity might be employed to establish environmental equivalence between members of the Global Steel and aluminium Arrangement ('GSAA') climate club. Imposing tariffs against non-member products if their embedded emissions exceed the club's average sectoral carbon intensity, however, would not solve the problems associated with the GSAA: notably, as argued elsewhere, the arrangements/remedies would still not be even-handedly applied within and out of the club. What about the application of a 'Whitehouse Bill-like' carbon tax in the club, and corresponding border tax adjustment for products originating from out of the club? As the final section concludes, this scenario would also be problematic; *recourse to any form of carbon pricing* is associated with several coordination difficulties.

The regulatory rationale of the Whitehouse Bill and the CBAM

The CBAM aims to ensure that all products imported in the EU 'bear' the same exact economic costs 'borne' by EU products/producers due to the operation of the EU Emission Trading System ('ETS'). It provides for the payment by importers of the 'explicit' EU carbon price; symmetrically, any 'explicit' carbon price (carbon taxes or emission allowances) that imported products have already borne in their country of origin is taken into account and 'waived'.

The Whitehouse Bill draws on a different regulatory design. First, the Bill provides for the calculation of the average carbon intensity of US sectors. Second, it provides for a punitive charge to be imposed on any installations' GHG emission output that exceeds the average carbon intensity of the relevant US sector. Third, it provides for a carbon border adjustment; a corresponding charge would then be levied on imported products.

If the Whitehouse Bill operated in this way at the practical application stage, it would mark a considerable development and improvement vis-à-vis the narrow economic focus of the CBAM. The CBAM only accounts for the 'explicit' carbon prices 'borne' by imported products. By implication, as argued elsewhere, it fails to capture the environmental effectiveness and stringency of non-price-based policies in force in third countries and fails to take 'implicit' carbon prices into account. First, this means that products originating from countries where carbon leakage would not materialise may still have to pay the full EU 'explicit' carbon price. Second, it means that 'environmentally equivalent' products are not being treated in the same way. As Bixuan Xu has suggested, the *relative carbon intensity* of imported products is not accounted for. Under Bixuan Xu's practical examples, a 'green' product from a country without 'explicit' carbon prices may end up paying more than a 'polluting' product originating from a country with a carbon price as high as the EU one.

In theory, the Whitehouse Bill treats 'environmentally equivalent' domestic and imported products in the same way: the charge only applies to the excess (higher than sectoral average) GHG emissions and targets the worst polluters. However, several caveats apply. As always, the devil is in the detail; as briefly noted by Aaron Cosbey, a number of provisions enshrined in the Bill weaken the 'excess GHG emissions' rationale.

The first weakness of the Bill: 'excess GHG emissions' of the *imported products*?

To begin with, three different criteria apply to determine the carbon intensity of imported goods. Under Section 4691(b)(3)(A), the default criteria relate to *national* average sectoral carbon intensity values, rather than *product* carbon intensity. The first criterion involves the calculation of the carbon intensity of the general economy of the country of origin of the good. The second criterion, which can only apply to market economies, involves reference to the carbon intensity of the covered national industry in the country of origin of the good. The third criterion, just like the second, can only apply to market economies; it draws on the average carbon intensity with respect to the production of the relevant good by the manufacturer.

The advantages of the 'excess GHG emissions' rationale thus vanish: in most cases, national average carbon intensity values are taken into account and 'environmentally equivalent' products are not treated in the same way. In this sense, the objection of Aaron Cosbey is well-founded. Reference to national values *could* make

sense from a carbon leakage perspective. If the EU average sectoral carbon intensity is lower than the US one, the relocation of US firms to the EU will not occur. However, the Whitehouse Bill does neither rely on the notion of carbon leakage nor take the distortions of competition ensuing from full carbon pricing into account. At the initial stage, it operates as a punitive tax on 'excess GHG emissions'. The application of these criteria thus undermines the Bill's environmental rationale. This the first problem and weakness of the Bill.

The second weakness of the Bill: from punitive tax to fully-fledged carbon pricing system
The second problem and weakness of the Bill relates to its operation *after* the initial stage. Aaron Cosbey has touched upon this question, without fully developing the point. The declarations and press release of Senator Whitehouse fail to clarify a crucial aspect regarding the application of the Bill. Section 4692(a)(2)(A) lays out the criteria for the calculation of the carbon intensity charge to be applied to domestic actors. The first factor is the total weight of any covered primary goods produced by relevant facilities. The second factor is the applicable carbon price, starting at $55. The final factor is the amount, if any, by which the specific facility's carbon intensity exceeds *the applicable percentage* of the carbon intensity for the covered national industry.

Pursuant to Section 4692(b), *the applicable percentage* shall decrease on a yearly basis and at a rather fast pace. This means that, after its initial stage of operation, the Whitehouse Bill charge would start to *cover* and to *price* a greater number of GHG emissions of facilities. Over time, it would *cease to operate* as a *punitive tax* on 'excess GHG emissions' and would *start to operate* as a *full carbon pricing system* covering all GHG emissions. The same exact system would apply to imported products.

This has two implications. First, after the initial stage of application, the system would replicate the same dynamics of the CBAM and would be associated with the same exact limitations. As the GHG emissions covered by the Bill increase, the system ceases to target the worst polluters and ceases to treat 'environmentally equivalent' products in the same way. Rather, like the CBAM, it re-allocates the same exact economic burdens (carbon tax) borne by US producers to imported products. Second, at this 'full carbon pricing' stage, the default criteria relating to *national* average sectoral carbon intensity values described above also cease to operate. As the Whitehouse Bill system gets closer to covering all GHG emissions, any national average sectoral carbon intensity value – no matter how low it is – is bound to be higher than the US carbon intensity *as combined with the applicable (decreasing) percentage.* At the very stage when the Whitehouse Bill starts to operate like the CBAM, the criteria that could exclude countries where leakage would not occur will no longer apply.

The third, structural problem of the Bill's regulatory model: why environmental equivalence, product standards and bans are the most effective way forward
This final section explores the third and last weakness of the Bill's regulatory model. This is associated with *recourse to carbon pricing mechanisms* and the ensuing implications in terms of *coordination* with different (price-based and non-price-based) policies.

Let us imagine that, in the final version of the Bill, the system operates as a punitive tax and does not evolve into a fully-fledged carbon pricing mechanism. Let us imagine that product X is more carbon intensive than the US average sectoral value, but that it has already paid a full carbon price (covering all of its embedded emissions) in its country of origin. Let us also imagine that the 'explicit' carbon price that product X has borne in its country of origin is equivalent to or higher than the Whitehouse Bill charge. How should this product be treated? Should the US take into account the 'explicit' carbon price borne by product X and 'waive' the import charge? Accounting for this 'explicit' carbon price would make sense; after all, product X has already paid a carbon price on *all of its embedded GHG emissions*. From an environmental perspective, however, this would be difficult to reconcile with the operation of the Whitehouse Bill as a punitive charge on 'excess GHG emissions'; it would also end up treating 'environmentally equivalent' products differently. Further, the 'explicit' and 'implicit' carbon prices controversy would come into play; on which grounds would the system exempt any 'explicit' carbon prices, while not accounting for the (possibly higher) 'implicit' carbon prices borne by a product?

This casts some light on the complexity of the issues at stake in the design of carbon border measures. At a general level and in its broad regulatory design, the Whitehouse Bill draws on environmental equivalence and operates as a punitive tax against 'excess GHG emissions'. However, recourse to *any form of carbon pricing* is associated with several problems and difficulties; most importantly, questions surrounding the *coordination with third country price-based and non-price-based policies* comes into play. There is no way to get around these difficulties, as long as taxes or charges are applied; GHG emission reduction policies are simply too heterogeneous. A focus on *environmental equivalence* should rather be combined with the identification of specific *product standards* and the gradual imposition of *bans* on specific categories of products. As argued

elsewhere, this would be the most effective way forward for the design of competition-neutral and even-handed carbon border measures.