

European Carbon Border Tax: Much pain, little gain

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Little gain: even a perfect CBT will only address a limited problem

- Overall fairly insignificant leakage rates
- Around half of this might be indirect leakage (that cannot be addressed by CBT)
- Leakage is concentrated in few sectors
- Those are characterised by disproportionately low labour and value added
- Even within these sectors, leakage is limited

Much pain

- **[Limited effectiveness** due to legal, domestic and foreign constraints]
- **Trade deviations**
- **Cost of implementation**
- **Human and political capital**
- **Possible retaliation**

Other “adjustment mechanisms” than taxes are conceivable

Support low-carbon production of products linked to high carbon emissions:

- One approach would be a *premium for low-carbon production*, e.g. for steel set a benchmark of less than 0.75Kg/tonne of non-recycled steel to have access to a fund based on ETS revenue
- Carbon price of 40EUR/tonne = 32.5B / year.
- Such a system would both:
 - Strengthen long-term competitiveness of EU industries in high-carbon sectors
 - Potentially provide the technologies for export in a future low-carbon world: helping combat ‘indirect leakage’ which models show is a huge part of any potential carbon leakage.

Conclusion: Little Gain, Much Pain

- Carbon leakage is real but limited. It should receive the political attention it merits but no more.
 - Given the predominance of indirect leakage, it is not overwhelmingly clear that CBT would significantly address leakage.
- *Moreover;*
 - Developing a CBT will expend significant amounts of human and political capital both domestically and provoking key international partners.
- *Therefore;*
 - Work on CBT as a deterrent, but do not count on implementing it
 - Significantly support clean alternatives

Thank you

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Motivation for CBT:

Fear of carbon leakage & competitiveness loss

- **Economic argument:** unilateral climate policy resulting in a loss of competitiveness.
- **Environmental argument:** Emissions increasing elsewhere as a result of EU mitigation.
- CBT has been proposed and debated three times before in the EU:
 - 2007: a draft by the Commission
 - 2009: a French non-paper
 - 2016: a French non-paper (just cement)

Why now?

- EGD: increase target for emission reduction
- Free allowances under the ETS continue to decline

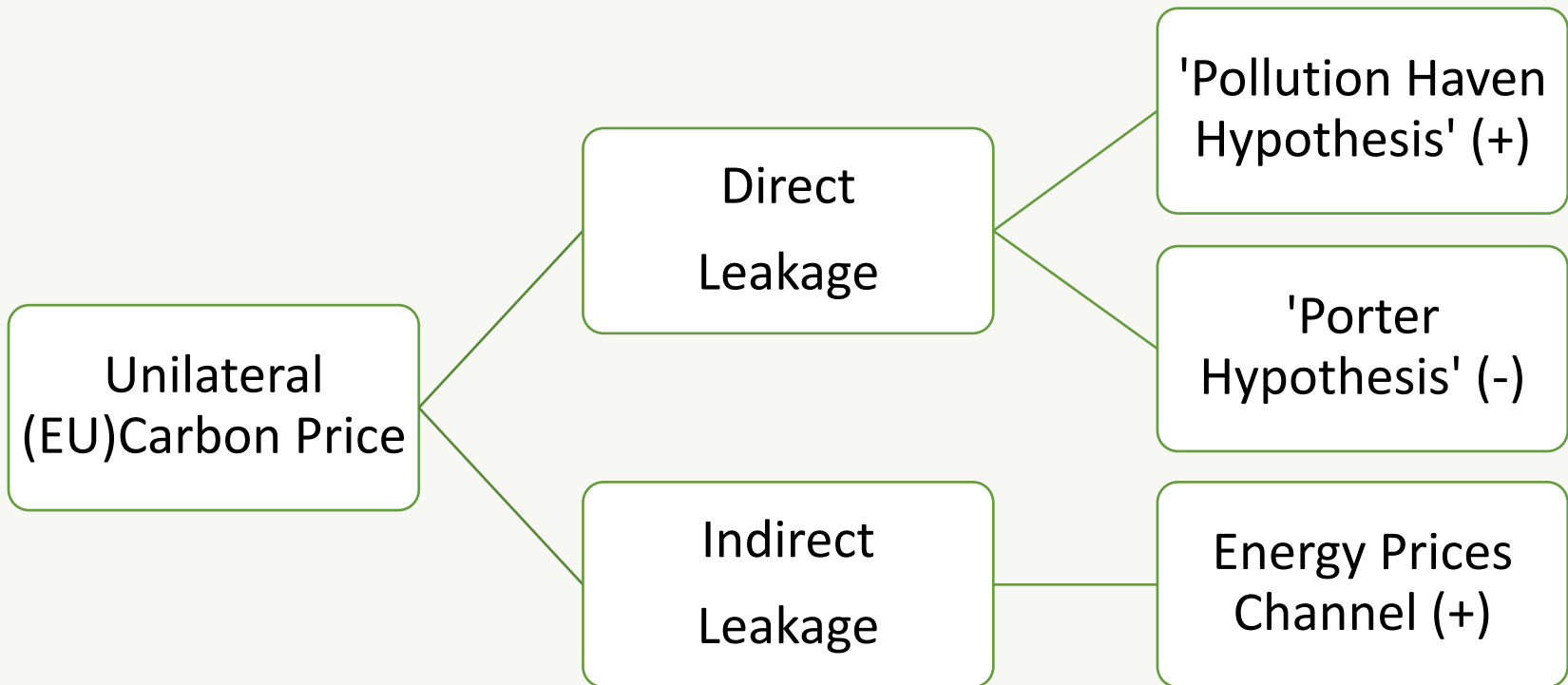
Von der Leyen Commission has re-ignited the debate:

"Should differences in levels of ambition worldwide persist, as the EU increases its climate ambition, the Commission will propose a carbon border adjustment mechanism, for selected sectors, to reduce the risk of carbon leakage"

"this measure will be designed to comply with WTO rules"

"[CBT] would be an alternative to the measures that address the risk of carbon leakage in the EU's ETS"

Different channels of Carbon Leakage



(+) emissions increasing in third countries
(-) emissions decline in third countries

Empirical studies = no clear evidence for leakage

- Empirical studies on existing carbon pricing policies typically find no leakage at the aggregate level.
 - Same conclusion arrived at by OECD (2014); World Bank (2019)
- *Plausible reasons for this:*
 - The possibility that carbon pricing does not lead to significant leakage,
 - So far carbon pricing differentials have been relatively small,
 - Schemes have tended to include generous support packages for CITE industry.

Modelling work = positive but limited

- CGE models, have tended to find *positive but limited* leakage at the **aggregate** level.
- OECD review - modelling exercises tend to show aggregate economy leakage of between 5 and 20%.
 - For every 100 tonnes of CO₂ the EU abates, extra-EU emissions increase by 5 – 20 tonnes of CO₂.
- However, a significant proportion of this is driven via the **energy prices channel** (which cannot be combatted using CBT)
- Branger & Quirion (2014) – perform a meta-analysis: Mean leakage of 14% without CBT which decreased to 6% with CBT.
 - **Assumptions** that drive modelling results are very uncertain [empirical estimates for Armington elasticities vary widely]

Limitation to CITE sectors

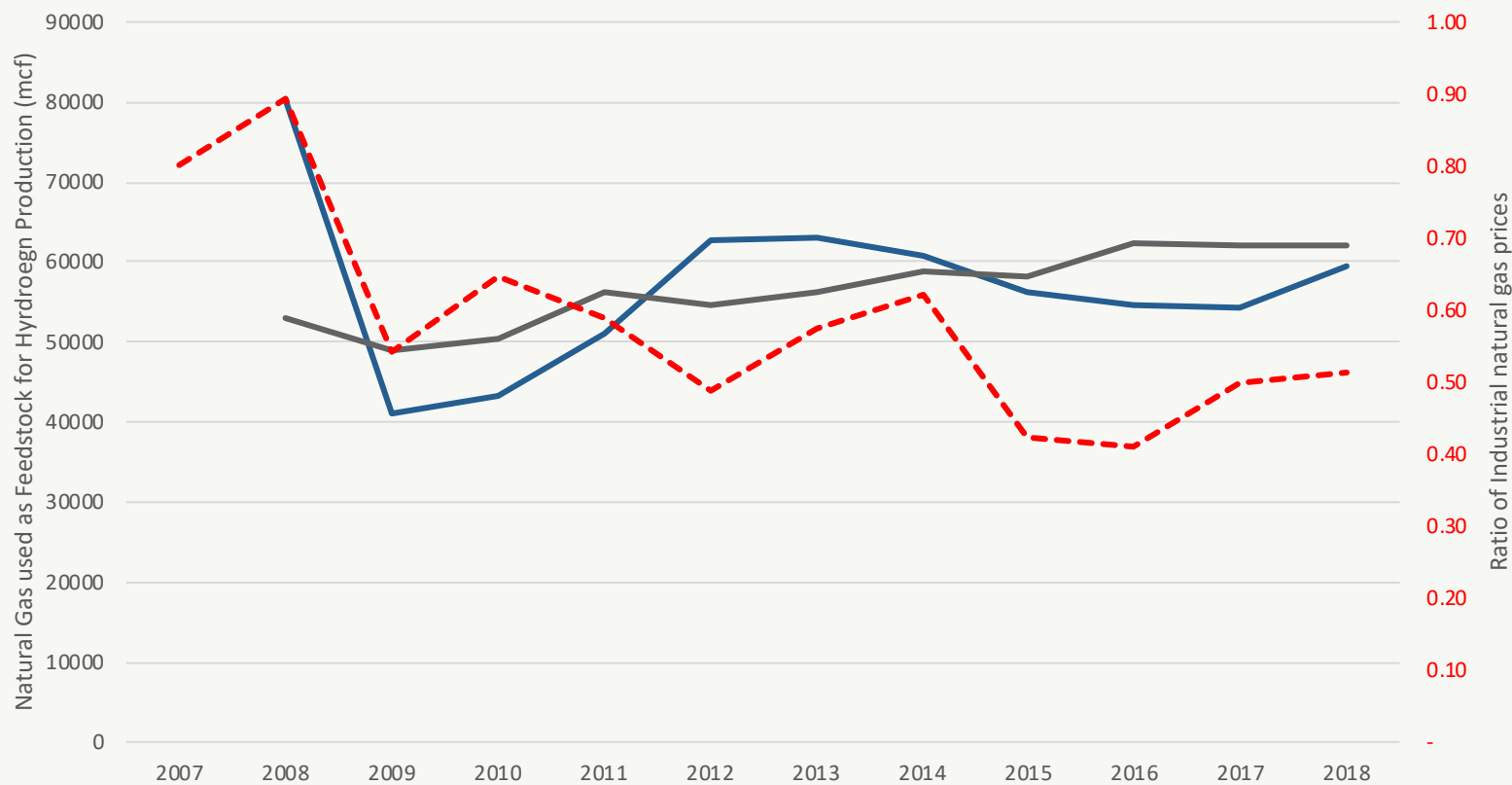
- If existing, leakage is likely to be confined to Carbon and Trade Intensive (CITE) sectors - e.g. steel, mineral products, aluminium
- empirical literature tends to find limited leakage in these sectors, whilst modelling exercises tends to predict significant leakage

But also CITE sectors will not disappear from the EU at higher carbon prices

- **Other factors matter for location:** local markets, transportation cost, non-tariff costs, infrastructure, geography, quality of available capital and skilled labour, political risk, exchange rate concern, etc.
- Aldy & Pizer (2015): US manufacturing industries, 1974-2009. Varying energy prices. For the most energy-intensive industries: Elasticity of domestic production = -0.40, net imports = 0.07.

Price sensitivities in energy intensive sectors – much less than one might expect

Regional hydrogen production from natural gas in the US appears almost insensitive to a 50% price-differential.



Natural Gas Used as Feedstock for Hydrogen Production

— Gulf Coast (PADD 3) — West Coast (PADD 5) - - - Gulf/West price

A comprehensive CBT is very difficult to implement

- A full-scale CBT would have to establish the carbon emissions linked to each product along its whole value chain.
 - ❑ Companies may object to disclosing value chains (trade secrets).
 - ❑ Differences between marginal and average emissions. Important for electricity.
 - ❑ Different carbon intensity for homogenous inputs.
 - ❑ Trade deviation to avoid CBT.
 - ❑ Substantial non-tariff barrier – especially severe for small companies and less-developed countries.
- One suggestion has been to set default carbon-values for each product whilst allowing importers to pay less if they can prove they are greener:
 - This does not alleviate the above concerns.
 - 'Lobbying' akin to that before for ETS benchmarks.

A sectoral CBT is very difficult to implement

- Previous proposals within the EU focused upon only CITE industries.
- Rational is that steel, cement, electricity and aluminium account for *31% of total EU emissions* whilst only *3% of total EU imports*.
- ❑ Such an approach may however lead to **worse competitiveness effects:**
 - ❑ CBT on steel → incentive to shift entire value chain abroad → EU ends up importing nails (final product) rather than steel from less-regulated countries.
- ❑ White House Report:
 - ❑ 23rd March 2018 – 25% ad valorem on steel & 10% of aluminium.
 - ❑ domestic capacity for steel has not increased ...
 - ❑ Indeed, steel imports decreased; however:
 - ❑ Derivatives of steel articles (nails, tacks, drawing pins, staples, etc.) increased by 33%. Derivatives of aluminium (wire, cables, etc.) increased 152%.
- ❑ Trump's solution is to now extend tariffs further down the value chain.
- ❑ Cascading protectionism

Legal Issues

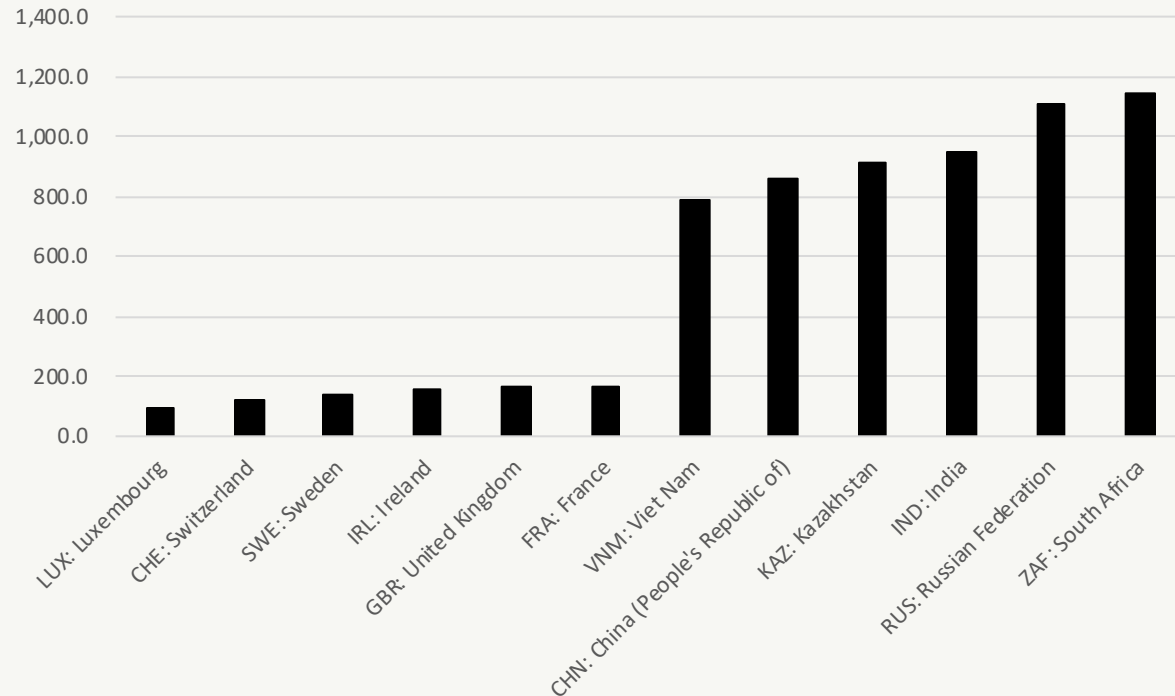
- Trade-off between ensuring compliance with WTO and true effectiveness of the adjustment in reducing carbon leakage.
- Most likely outcome is to pass via a WTO-exemption for global environmental purposes:
 - Here, it must pass on a clear environmental (i.e. not competitiveness) purpose.
 - EU would have to be careful in implementation, e.g. export rebates would be difficult to justify.

Political concerns

- **UNFCCC** rests on the principle of “*common but differentiated responsibilities and respective capabilities*” – CBT would certainly violate the spirit of this.
- **Foreign political issues:** EU will alienate trading partners.
 - China has already criticised CBT.
 - USA will certainly hit back – they promised to ‘react’.
 - Example of aviation EU ETS, scrapped in face of international retaliation.
 - What happens when US threatens tariffs on Germany’s \$21 billion annual automobile exports? (\$16 billion net).

Further Complications

- **Foreign political issues:** Impact of CBT on trading partners will depend on design, some countries may be in for a windfall profit, e.g. Switzerland.
- **Domestic political issues:** different MS and sectors will have extremely different preferences on the design. Export-oriented vs import-oriented.



*Intensity of CO2 emissions embodied in total gross exports of final products in 2015 in Tonnes per USD million for the six lowest and highest countries.
Source: OECD*