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Border adjustments: Implications of design options

Philippe Quirion (CIRED, CNRS)

Based on a joint study with Stéphanie
Monjon (CIRED, CNRS)

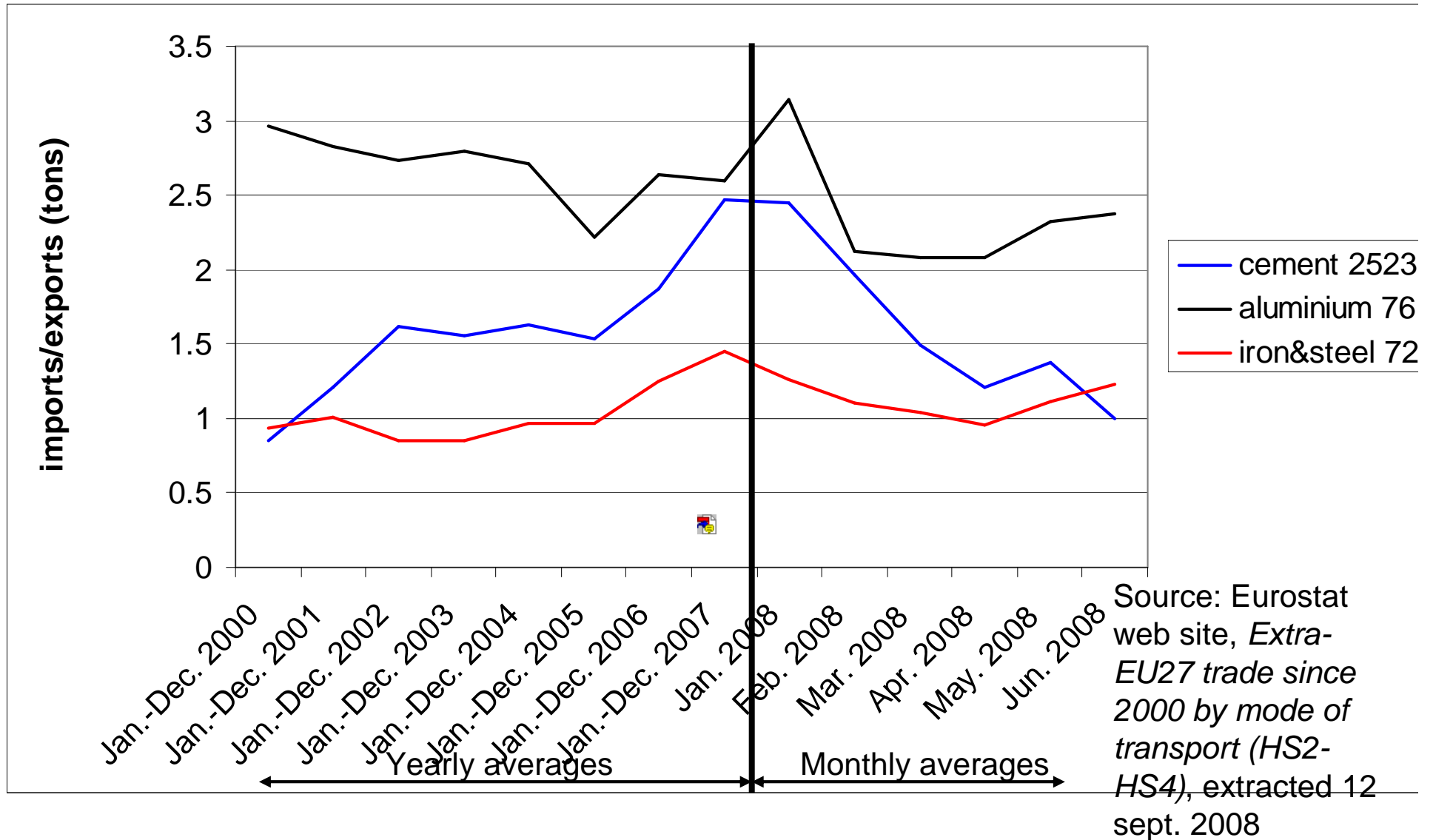
Outline

1. Import & export adjustments or just an import-based adjustment?
2. What countries should be covered?
3. What products should be covered?
4. What amount of emissions for the import adjustment?
5. What amount of emissions for the export adjustment?
6. Should the BA also cover the increase in production cost?
7. Enforcement issues

Import & export adjustments or just an import-based adjustment?

- In theory both needed:
 - Import adjustment: levels the paying field on the EU market
 - Export adjustment: levels the paying field on RoW markets
- In practice depends on the sector & business cycle

Imports/exports ratio in the EU27



Import & export adjustments or just an import-based adjustment?

- In theory both needed:
 - Import adjustment: levels the playing field on the EU market
 - Export adjustment: levels the playing field on RoW markets
- In practice depends on the sector & business cycle
- But import-based adjustment only may be easier to defend on environmental grounds:
 - Hard to explain that exempting exports reduces global emissions
 - Import adjustment may be easier to negotiate:
 - Receipts from import adjustment may be earmarked for exporting countries
 - "Export tax waiver": import adjustment reduced by the amount of the export tax in exporting countries (if any)
 - No similar possibility for the export adjustment

What countries should be covered?

- All countries: unfair and inefficient
- Only countries which do not ratify the climate treaty (or w/o climate policy)? Problem of re-exports:
 - Assume Japan: climate policy but no BA; Russia: no climate policy
 - → Russia would sell steel to Japan, Japan to the EU
- Ideal solution: multi-lateral BA. 3 options:
 - Part of the next climate treaty
 - A treaty on use and limits on BA (ongoing work by R. Ismer, M. Wemaere & K. Neuhoff for Climate Strategies)
 - US (or joint EU-US) initiative, joined by others

What products should be covered?

- Cement:
 - Clinker & cement (2523 in HS2 nomenclature)
 - Articles of cement & concrete (6810)
- Steel:
 - Iron & steel (72); includes pig iron
 - Articles of iron & steel (73); includes rails, tubes, cans, wire...
 - No need to include cars or appliances ($\text{CO}_2 < 1\%$ of the value)
 - Closer look needed for some products (car bodies?)
 - Should scrap be included? Scrap from municipal waste is from steel produced recently; scrap from buildings is not
- Aluminium and articles thereof (76)
 - Same issue for scrap
- Chemical products, paper & pulp, glass, refined petroleum products: more analysis needed

What amount of emissions for the import adjustment?

- Best Available Technology?
 - Strictly speaking: often zero emissions (even negative if biomass & CCS)
 - R. Ismer and K. Neuhoff (2007): "with a certain market share"; O. Godard (2007): "the predominant category of technology in use in Europe"
 - Cement: easy (dry process, pre-heating, pre-calcining, petcoke or coal, clinker rate ~ 80%)
 - Steel: difficult (EAF much less than EU average)
- Average level of EU sectoral emissions more effective
- Use certified information on emissions for exporters with lower emissions?
 - More WTO compatible
 - In theory incentive to reduce emissions in exporting countries
 - But low-emitting products exported to the EU, more GHG-intensive to the RoW

What amount of emissions for the export adjustment?

- Measured emissions for every plant?
 - Highly emitting plants dedicated to export
 - No incentive to cut their emissions
- Best Available Technology?
 - Same problems as with imports
- Average level of EU sectoral emissions more effective

Should the BA also cover the increase in production cost?

- Some indirect emissions should be covered:
 - electricity for aluminium
 - clinker for cement...
- Assumptions needed:
 - amount of indirect emissions
 - pass-through rate...
- Should the increase in marginal production cost (if any) be covered?
 - No: too difficult to quantify

Enforcement issues

- Same treatment as domestic emitters → free riding:
 - Only sanction on foreign firms: ex post ban on imports from this firm
 - May occur at best 1 year & 4 months after imports started
 - Exporters may create "dummy firms" to continue exporting to the EU
- Solution: exporters should surrender allowances when their products are registered at the EU border (as for the VAT)
- Exporters should have access to EU auction & EUA market

Conclusions

- Not much literature on this issue
- No reason to conclude that a border adjustment would be unmanageable
- More analysis required on some issues:
 - Earmarking of import adjustment receipts for exporting countries / export tax waiver?
 - How to have it cover all countries participating in the climate agreement?
 - Chemical products, paper & pulp, glass, refined petroleum products: more analysis needed to define coverage
 - Should steel and aluminium scrap be included?
 - For exporters with lower emissions than EU average, use certified information on emissions?
 - Quantification of indirect emissions from electricity