



Border Carbon Adjustments and Industrial Competitiveness in a European Green Deal

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*Based on joint work with Michael Mehling (MIT CEEPR) and
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EPRG 2020 Spring Seminar

Virtually anywhere, 6 May 2020

Centennial of Pigou (1920)



Arthur Cecil Pigou

Professor of Political Economy,
University of Cambridge

The Economics of Welfare (1920)

- Introduces concept of “externality”
- Creates intellectual antecedent for idea of carbon pricing

Border carbon adjustments in EU Green Deal

European Green Deal: Climate-neutral EU by 2050 as flagship policy of Commission President von der Leyen

“New” tool: Border carbon adjustment on imports

- Industrial decarbonization + competitiveness
- Incentives for trade partners to price carbon

Current policy: Free EU ETS allowances to emissions-intensive & trade-exposed (EITE) sectors

- Carbon price signal?
- Polluter pays principle?
- Compatibility with net zero?

Key points made in this paper

- ① **Economics:** Free allocation can give more holistic competitiveness support than (import-only) BCA
- ② **Policy:** Introduction of BCA does not necessarily make redundant free allocation to EITE sectors
- ③ **Law:** BCA for exports unlikely to be WTO-compatible; import-only BCA with free allocation “should work”

BCA on imports: Objectives & design

EU Inception Impact Analysis (March 2020)

“Carbon leakage occurs when production is transferred from the EU to other countries with lower ambition for emission reduction, or when EU products are replaced by more carbon-intensive imports... a carbon border adjustment mechanism would ensure that the price of imports reflects more accurately their carbon content.”

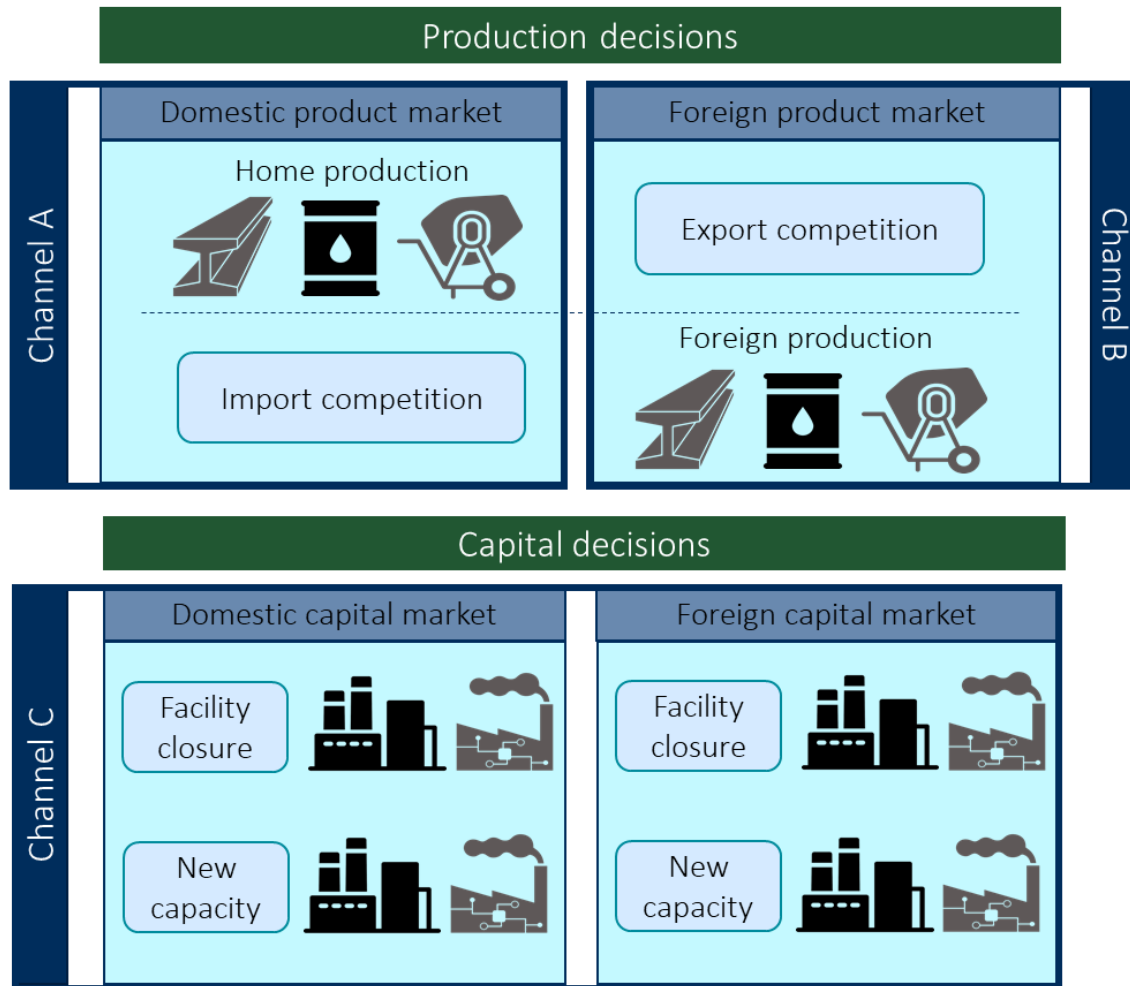
BCA design options

- ① EU ETS extended to cover imports
- ② New carbon tax on products sold (domestic & imports)
- ③ New custom duty or tax on imports

⇒ *EU policy shifting from free allocation to BCA on imports...*

Competitiveness channels & free allocation

ABC FRAMEWORK



FREE ALLOCATION

Grandfathering
Channel C
(\approx Lump sum transfer)

Output-based
Channels ABC
(\approx Output subsidy)

EU ETS hybrid
Channels ABC
(GF + OBA + benchmarking to top companies)

Competitiveness support: Local vs global

Local perspective: Competition within EU markets

- Free allocation levels playing field by diluting EU carbon price
- Import-BCA instead raises non-EU carbon price at border
⇒ Either policy instrument can address Channel A

Global perspective: Competition in markets outside EU

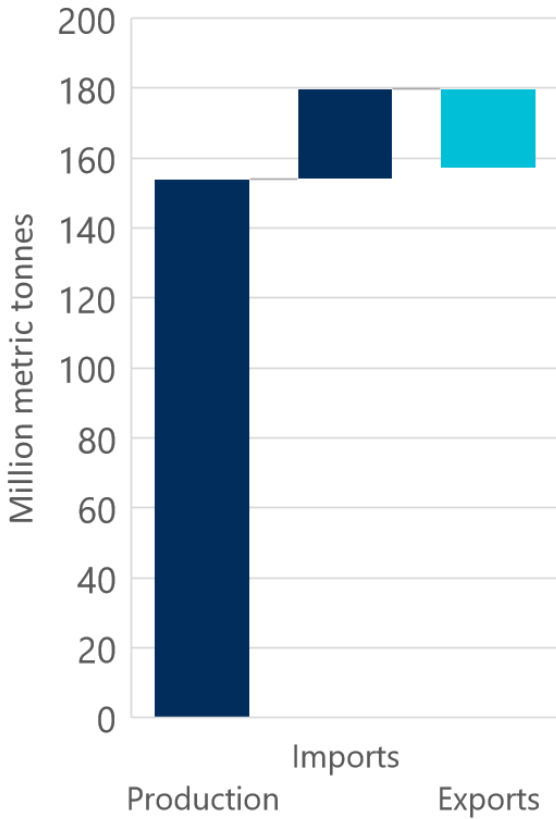
- Free allocation, in effect, provides subsidy to exports
- Import-only BCA gives no such support...
⇒ Free allocation can address Channel B but BCA cannot

+ Short-run distortions affect long-run investment (Channel C)

⇒ *Free allocation can provide more holistic competitiveness support than an import-only BCA*

Trade exposure & carbon pricing: Case of steel

EU steel trade



Top 10 export destinations



Countries with a broad-based carbon price

⇒ *Extent of trade exposure (Channel B) varies by EITE sector*

Note: Each flag represents 1% of EU exports to Top 10 receiving countries

Legal perspective on BCAs

BCA on exports

In principle, BCA could also cover exports to non-EU countries

- Exemption or compensation

Risk of violating international law:

1. Less likely to be considered necessary for **environmental protection** (GATT)
2. Likely to be considered a subsidy due to **forgone government revenue** (WTO)
3. Contingency on export performance challenged as **prohibited subsidy**

Import-BCA + free allocation

Risk of legal challenge can be lowered under certain conditions:

1. Protecting competitiveness against **non-EU products with higher CO₂ intensity**
2. Free allocation can still provide **dynamic incentives via benchmarking** to top companies
3. **Full auctioning** for products sold into domestic EU market + **free allocation for exports**

Conclusions & policy implications

Introduction of EU BCA on imports does not necessarily make redundant free allocation to EITE sectors

⇒ Free allocation could gradually decline alongside import-BCA while climate policy outside EU ramps up

More generally, policymakers in EU (in future, also in other jurisdictions) need to navigate complex trade-off

- ***Free allocation***: Broader competitiveness support
- ***BCA***: Stronger carbon price signal + extra fiscal revenue

⇒ Trade-off may resolve differently across EITE sectors (export reliance, value of stronger abatement incentive)