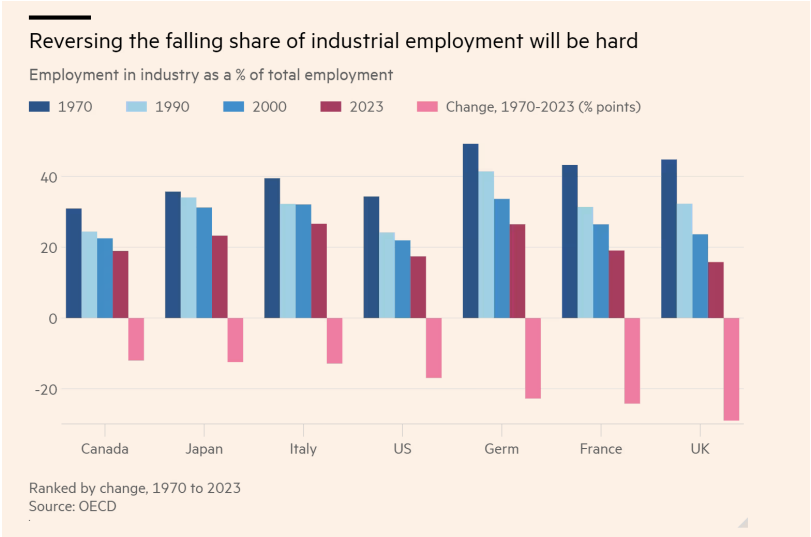
Economics of Globalization

Sciences Po Saint-Germain-en-Laye

Trade news


Reversing the falling share of industrial employment will be hard
Employment in industry as a % of total employment
1970
1990
2000
2023
Change, 1970-2023 (% points)
40
20
0
-20
Canada
Japan
Italy
US
Germ
France
UK
Ranked by change, 1970 to 2023
Source: OECD

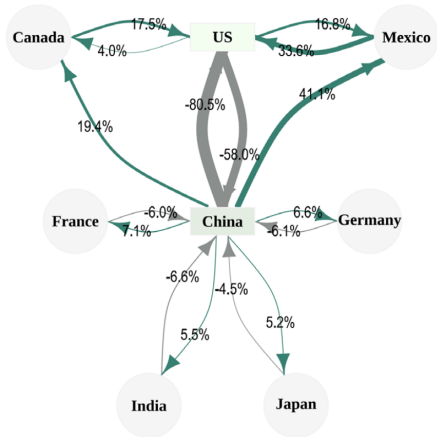
Trade news

> mattered a lot." So great is his faith in tariffs that he has proposed raising them to 60 per cent on imports from China and up to 20 per cent on imports from the rest of the world. He has even suggested a 100 per cent tariff on imports from countries threatening to move away from the dollar as their global currency of choice.

- Pros: Can increase manufacturing employment **if** workforce available with the appropriate skills. Must be targeted.

Trade news

Figure 2 – Impact of SCentral on bilateral trade flows in value at FOB prices in 2030, percentage change as compared to the baseline



Trade news

Region	GDP	Exports	Imports
ASEAN	0.2	0.4	0.3
Australia and NZ	-0.1	-1.0	-0.8
Brazil	-0.2	-2.3	-1.8
Canada	1.3	8.3	7.1
China	-1.3	-8.9	-9.4
France	-0.1	-0.5	-0.7
Germany	-0.1	-0.6	-0.7
India	-0.3	-1.3	-1.2
Japan	-0.2	-1.9	-2.1
Korea	-0.3	-1.0	-1.2
Mexico	6.6	26.1	23.4
MENA	-0.1	-0.5	-0.2
Rest America	-0.2	-1.0	-0.9
Rest Asia	-0.2	-0.9	-0.8
Rest Europe	-0.1	-0.7	-0.4
Rest EU 27	-0.1	-0.4	-0.5
Rest of Latin America	-0.2	-2.9	-2.5
Sub-Saharan Africa	-0.1	-0.8	-0.4
UK	-0.3	-1.4	-1.0
USA	-1.3	-22.9	-17.5

Past weeks

- Globalization and ...
  - Trade gains
  - Inequalities
  - MNEs
  - Taxation
  - etc.
- If we think about the Robert and Lamp's narratives, the *global threats* narrative is missing.

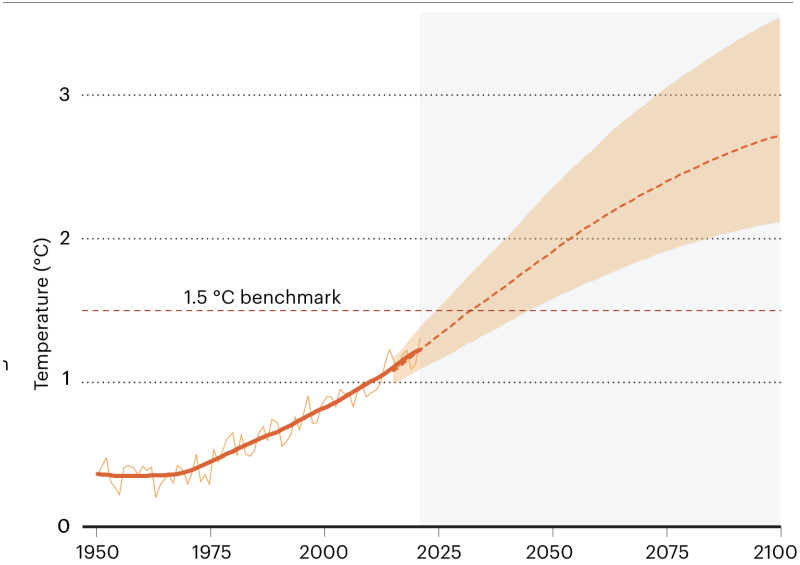
This week

- What is the relationship between globalization and the environment?
- How does globalization affect the environment?
  - Emissions due to production, transport.
  - Import/Exports of pollution.
- How do environmental policies affect globalization?
  - Collective action problem.
  - Regulatory competition.
- How to transform globalization to answer the challenges posed by environmental change?

Quick reminder

- The last century have seen a large increase in temperatures at the world level.
- This increase is driven by human activities that increased the concentration of greenhouse gas (GHG) in the atmosphere.
- The currently implemented policies are not sufficient to limit the increase of temperature below 2°C in 2050.
- Environmental damage beyond GHG emissions: biodiversity, deforestation, sea level rise, extreme events, *etc.*
- Direct costs on human life, life quality and economics.
  - Direct costs estimated to 1.3 trillion over the last decade.
  - Indirect costs: Estimations that 1°C of warming reduces GDP by 12%.

Quick reminder



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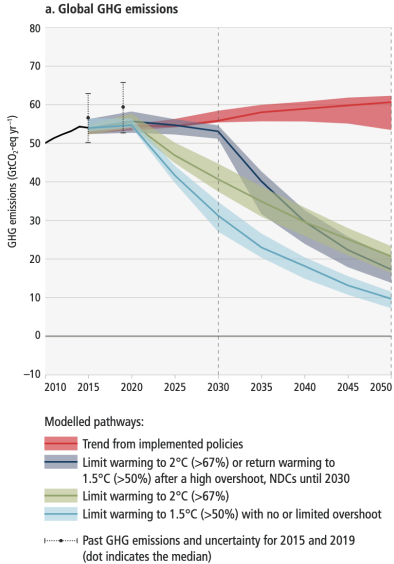

Globalization and the Environment

An important clarification

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Globalization and the Environment

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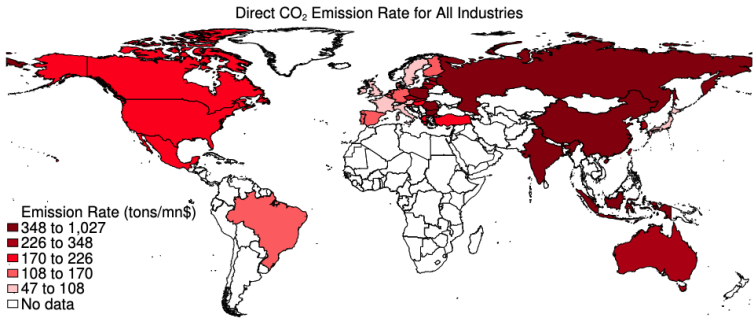
  - **Scope 1**: Direct emissions from production $\longrightarrow$ the smokestack of a Chinese vehicle manufacturing plant
  - **Scope 2**: Direct emissions + emissions due to energy $\longrightarrow$ add the emissions due to electricity generation.
  - **Scope 3**: Indirect emissions $\longrightarrow$ the pollution from the plant + from the plants supplying tires, engines to that plant + from the plants and mines supplying rubber, steel, etc. to the input plants, *etc.* + from the use of the product.

Globalization and the Environment

Fact 1: Pollution emission rates differ substantially across countries

Figure 2: Direct Emission Rate, by Country and Pollutant

(a) Carbon Dioxide (CO_2)



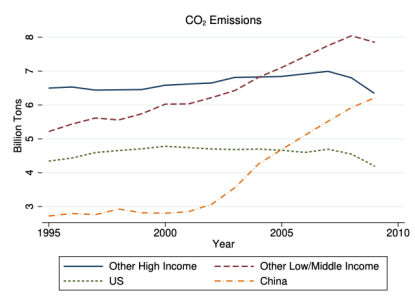
- More developed countries have lower emission rates on average.
- Dirtiest countries have 20 times the emission intensity of the cleanest industries.

Globalization and the Environment

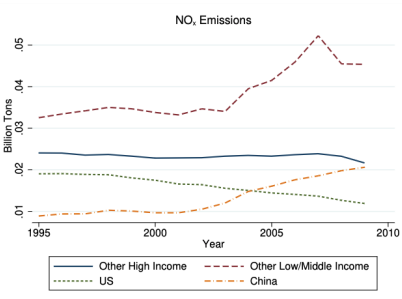
Fact 2: Most global emissions growth comes from developing countries.

Figure 3: Direct Emissions, by Group of Countries and Year

(a) Carbon Dioxide (CO_2) Emissions



(b) Nitrogen Oxides (NO_x) Emissions



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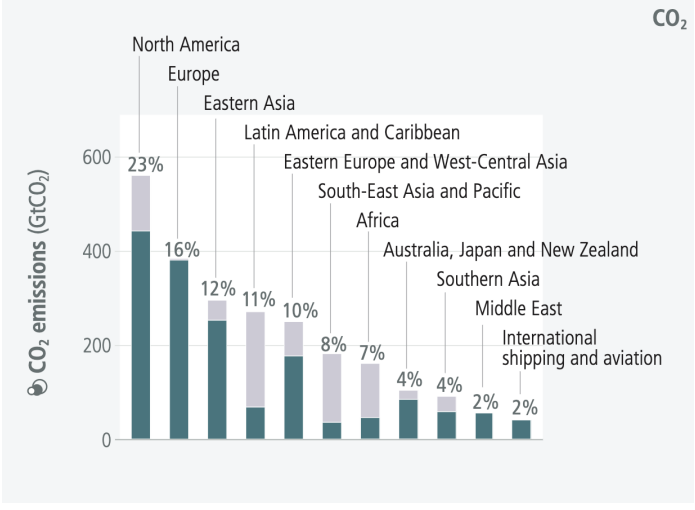

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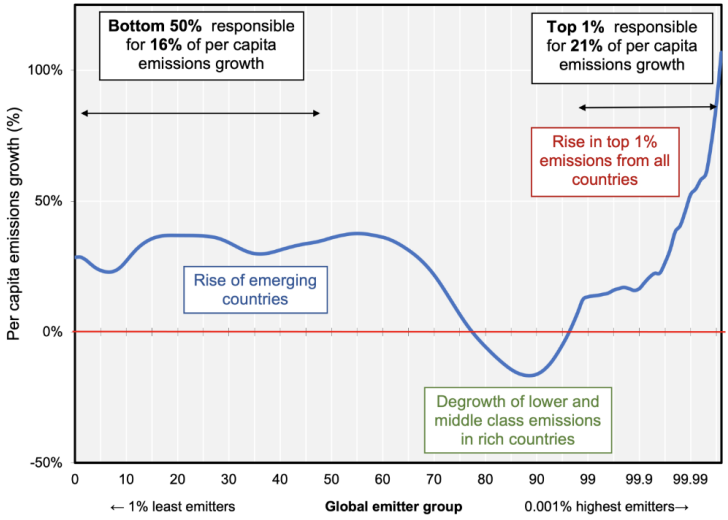

Globalization and the Environment

Fact 3: Disconnection between contributions to climate change, and the impact from climate change

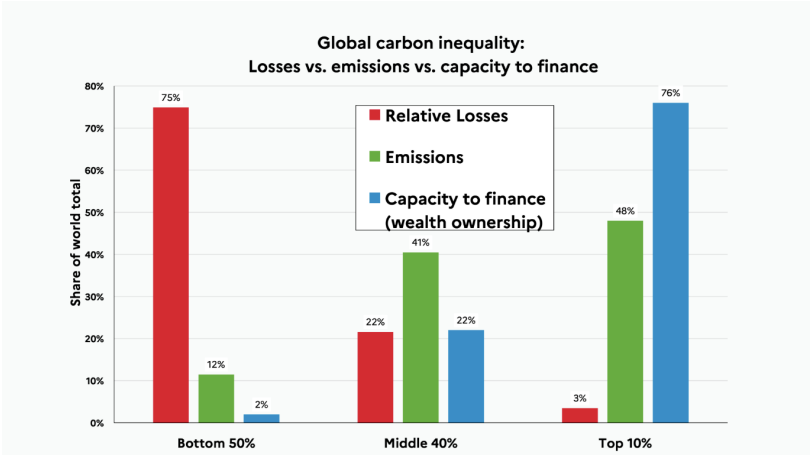

Figure A: Global climate inequality: relative losses, emissions and capacity to finance

Notes: Relative income losses due to climate change, vs. greenhouse gases emissions vs. wealth ownership. See Figure 29 for methodological details and how to read this graph.

Globalization and the Environment

Fact 4: International Trade accounts for a fourth to a third of global pollution emissions.

Figure 4: Share of Global Pollution Embodied in International Trade, by Year

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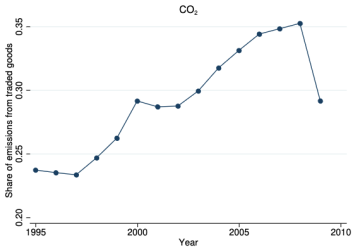

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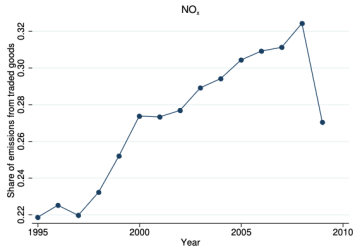
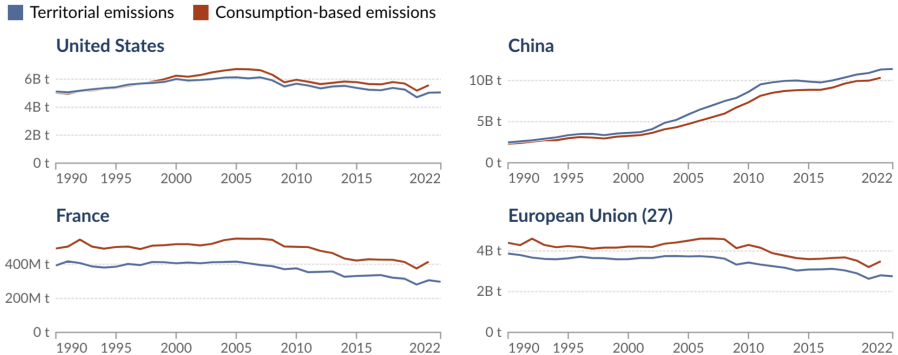


NOTES: the numerator includes total emissions from own-industry plus emissions embodied in the global value chain. The denominator includes all global emissions.

Does it mean that 1/3 of emissions will disappear if trade stops?

Globalization and the Environment

Fact 5: Rich countries are increasingly outsourcing pollution.



Climate policy and globalization

Domestic policies

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  - Limits: leakage effects, can be regressive (eg Yellow Vests), how to find the right social carbon price (between 100$ abd 1000$)?

- Alternatives:

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- Alternatives: regulatory standards and bans, industrial policies to foster innovation, investment in green infrastructure and public goods, etc.

Climate policy and globalization

Domestic policies

- Carbon pricing:

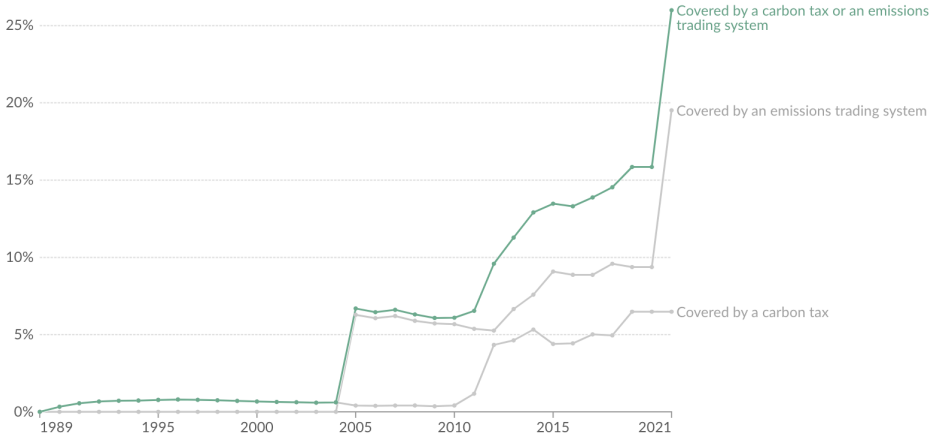
Climate policy and globalization

Domestic policies

- Carbon pricing:
  - Carbon taxes
  - Cap-and-trade policies Details
- Evaluation of carbon tax find positive effect on the reduction of emissions (between 5% and 20% depending on the tax)
- Check the Carbon Pricing Dashboard

Climate policy and globalization

Domestic policies



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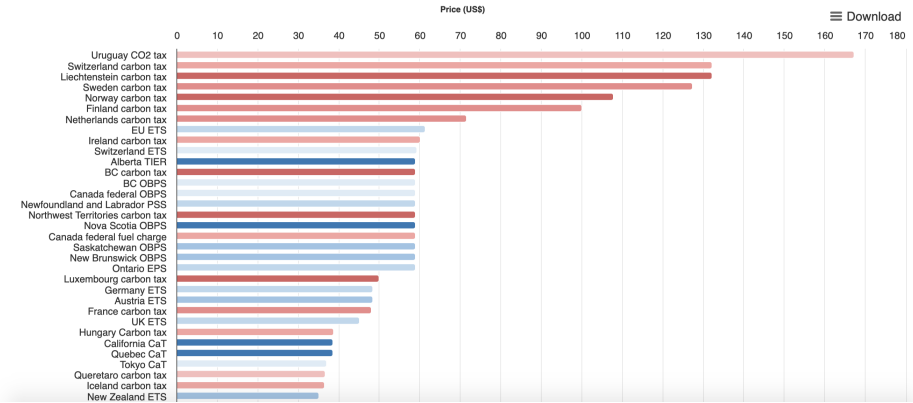


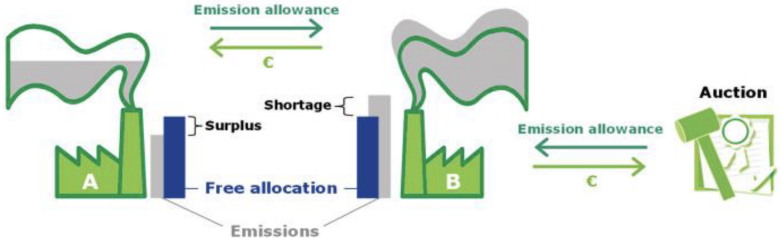
Emissions Trading Schemes

- ETS are cap and trade systems designed to limit the total amount of GHG that can be emitted.
- To emit GHG, firms need permit that they can trade among each other.
  - Given that firms vary in their production technologies, how will the total amount of required abatement be divided among them?
  - The abatement should be done by the firms for which this is least costly because this saves scarce resources that can be used elsewhere.

Emissions Trading Schemes

- The total number of permits is fixed so that the government can control the total number of emissions.
  - Works for *in-scope* industries *e.g.* 45% of the EU emissions are within the EU-ETS, 80% for the Californian ETS, 14% at the World level.
  - In the EU, private transportation, heating and agriculture are out of the scope.
- ETS in an open-economy: risk of leakage effects!
- As it is a market mechanism, it tends to privilege wealthy actors.
- What if the cost of carbon is lower than the social cost of carbon (between 100$ and 1000$ according to estimations)?
  - The externality is only partly internalized and firms might be encouraged to pollute.

Emissions Trading Schemes



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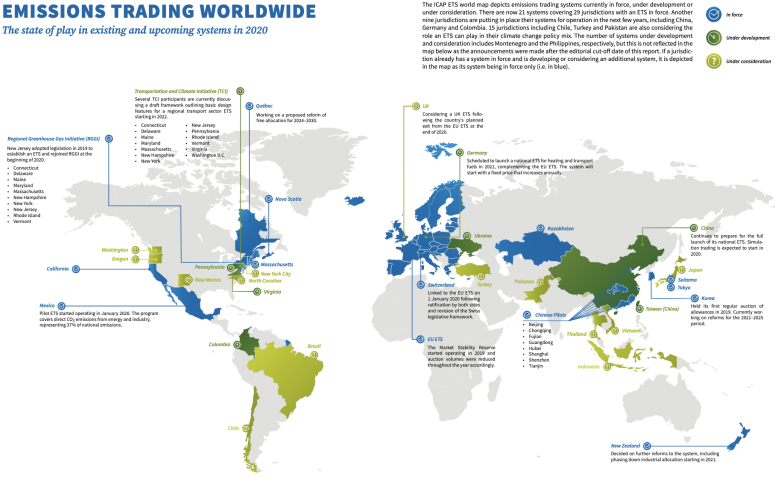
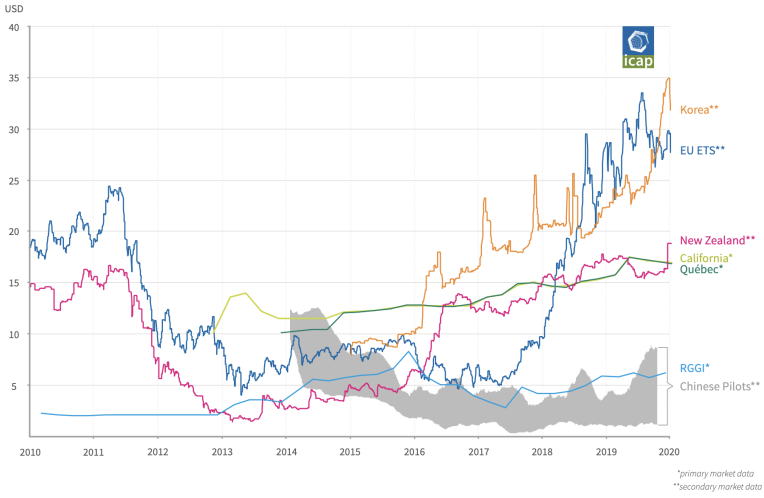
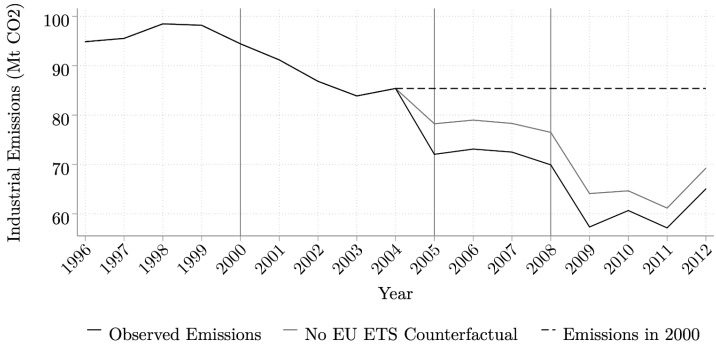


Emissions Trading Schemes



Emissions Trading Schemes

Figure 4: The Effect of the EU ETS on Aggregate Emissions Reductions



Notes: The black line presents the aggregate time series for industrial emissions in France, measured in millions of tonnes of CO_2. The dark gray line represents counterfactual emissions in the absence of the EU ETS, using our difference-in-differences estimates and assuming that 75% of industrial emissions are regulated. The dashed black line represents the level of emissions in 2000 as a benchmark.Source: Authors calculations based on French microdata and Eurostat data.

Emissions Trading Schemes

EU ETS Leakage effects.

- Competition channel: no evidence
- Energy channel: no leakage through this channel because the EU demand for fossil fuel has not yet significantly decreased (because of fuel intensive activities are out of scope).
- Innovation channel: limited impact on clean energy innovation.

$\longrightarrow$ Current estimations are based on the first phases of the implementation of EU ETS (low price, free allocations). More important effects are expected with higher carbon prices.

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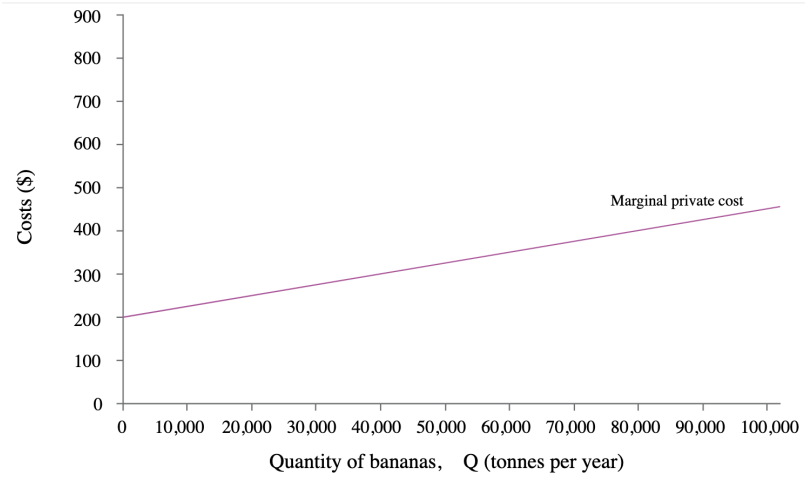
Pigouvian Taxes



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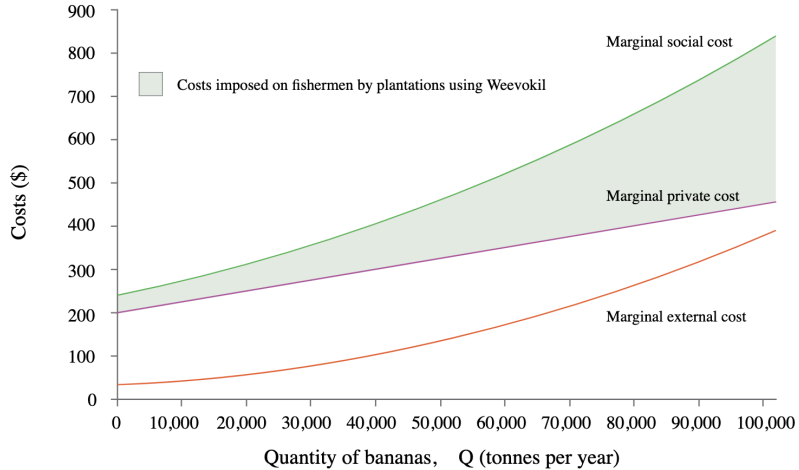

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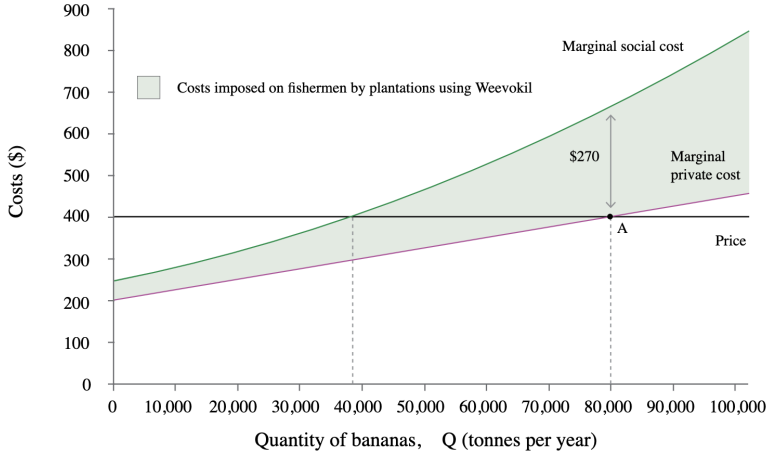

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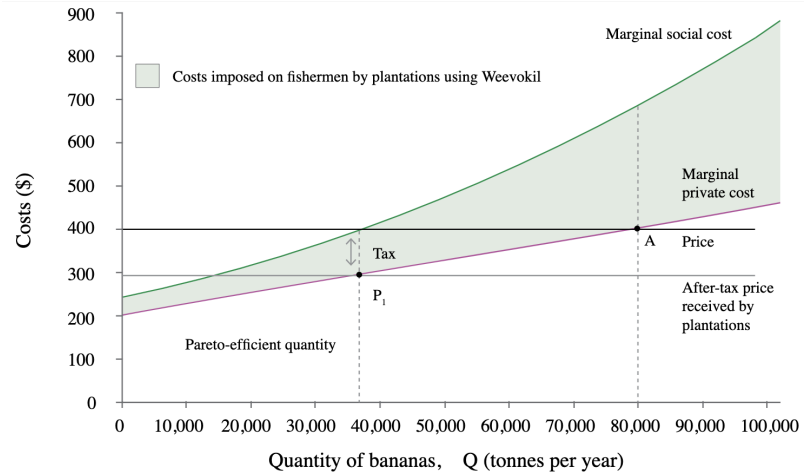

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