



Trade Effects of Carbon Pricing Policies

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Initiative

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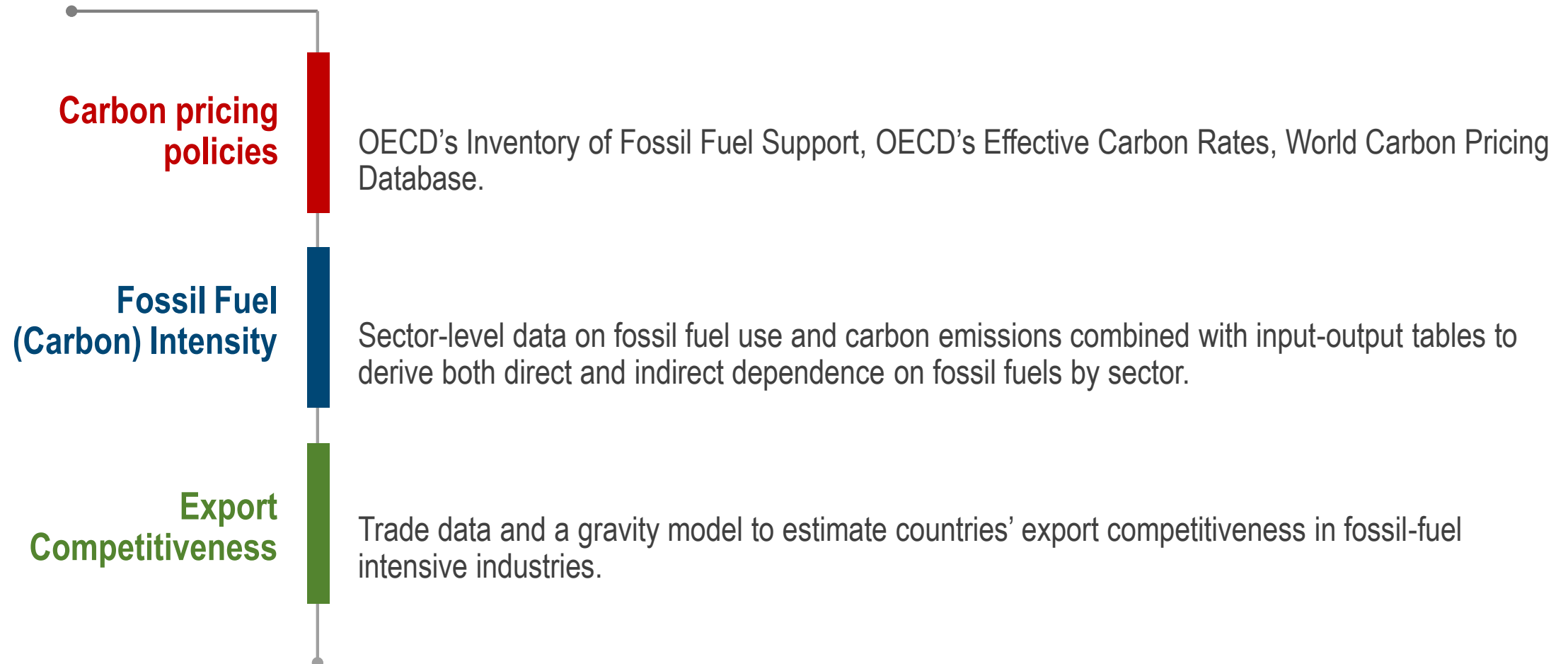
Trade effects of carbon pricing policies

- Any government policy that reduces the cost of using fossil fuels in production gives a competitive advantage to industries that use fossil fuels intensively in their production relative to other domestic industries and skews the economic structure toward fossil fuel intensive activities.
- On the international market, the competitive advantage gained from cheaper cost of production translates into larger exports of fossil fuel intensive products and a higher revealed comparative advantage.
- Policies can propagate through the supply chain so that they affect not only industries that depend on fossil fuels directly but also industries that depend on intermediate inputs that are themselves fossil fuel intensive.

Our study

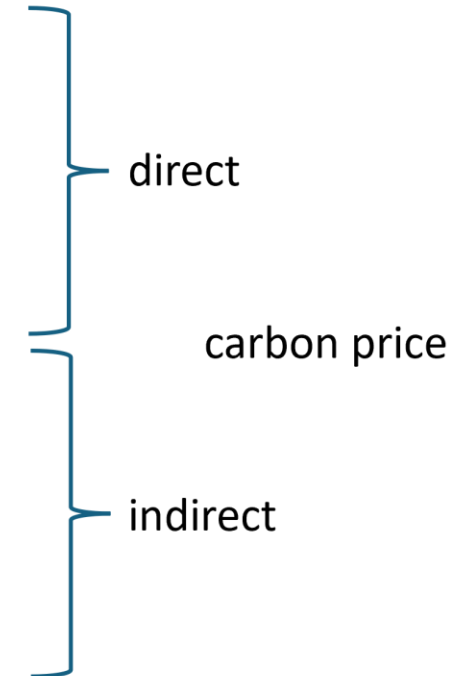
Do changes in an economy's carbon pricing policies affect its competitiveness in fossil fuel intensive industries?

- Econometric analysis at industry level for 45 economies over the period 2010 - 2018
- Complements CGE modelling and country/policy case studies



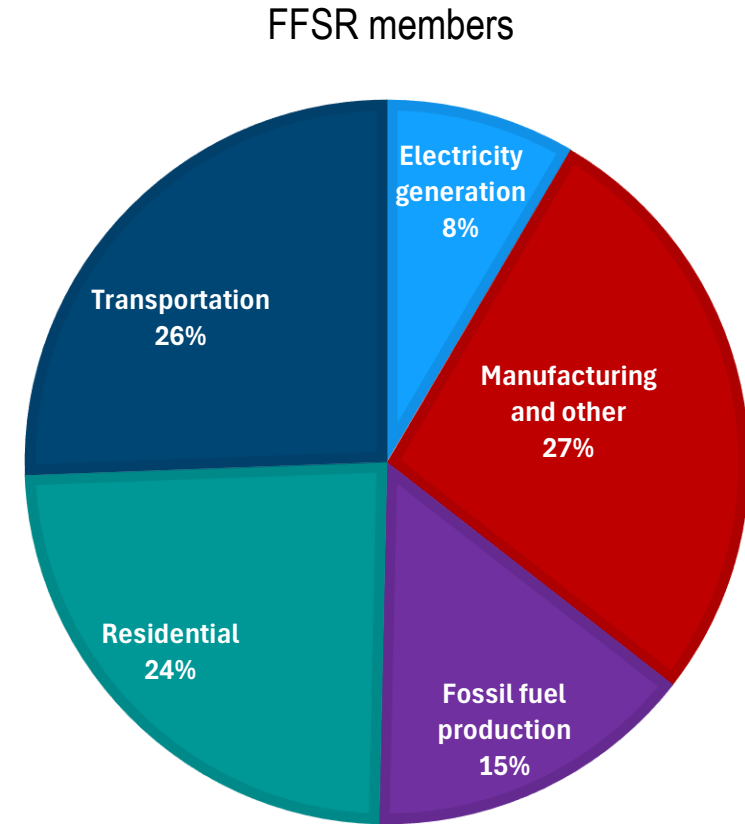
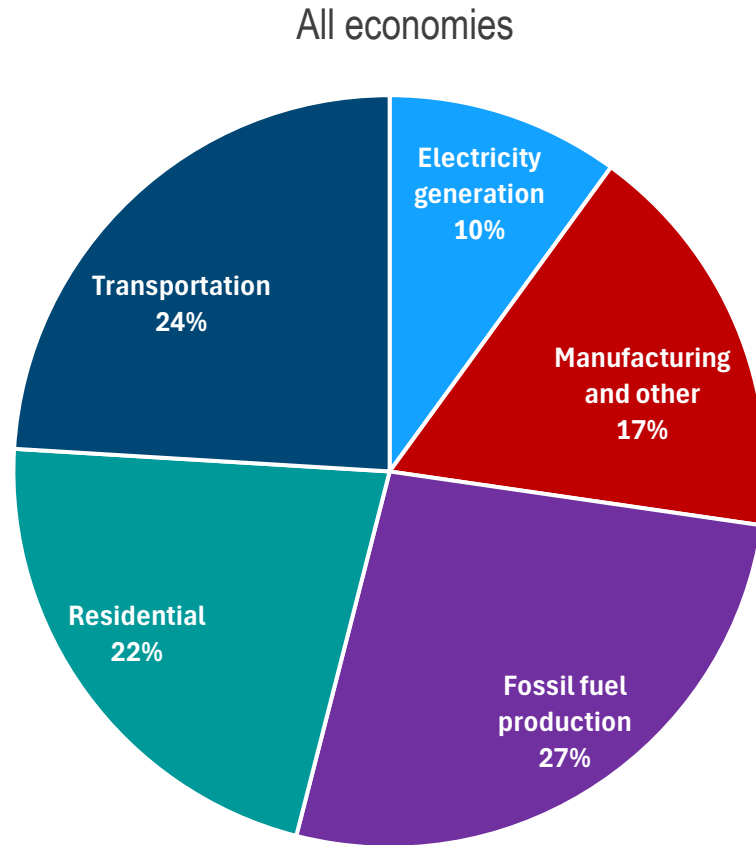
Carbon pricing policies

Instruments	OECD's Effective Carbon Rates	OECD's Fossil Fuel Support	World Carbon Pricing Database
Carbon Taxes	✓		✓
other Energy Taxes			✓
ETS Permit Prices	✓ (average)		✓ (marginal)
Fuel Excise Taxes	✓		
Exemptions from Fuel Taxes	✓	✓	
Budgetary Transfers for Fossil Fuel Consumption		✓	



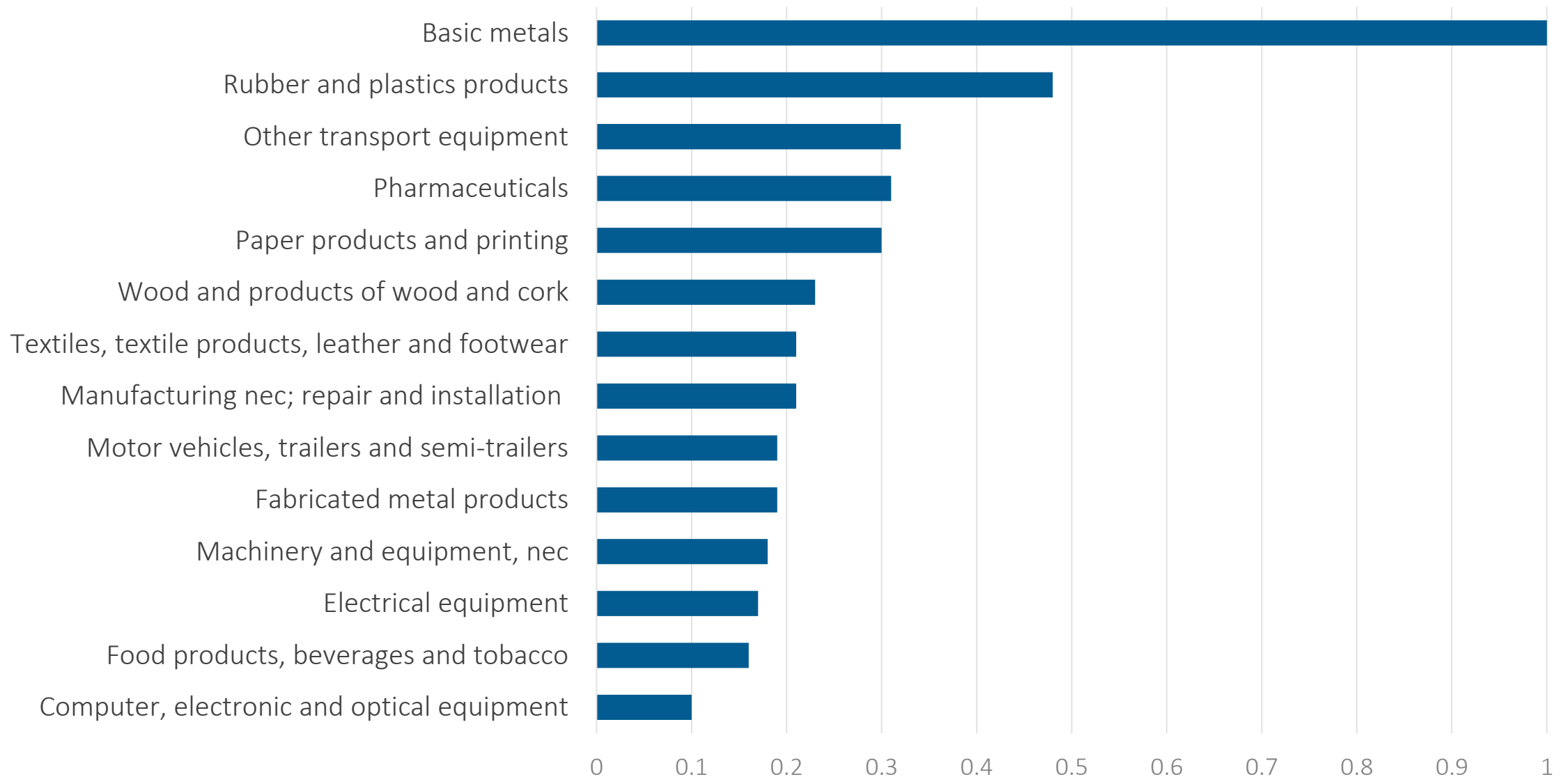
Subsidies to consumption of fossil fuels in the manufacturing and other sectors

Most support goes to the consumption, rather than production, of fossil fuels



31 FFSR members included in the database accounted for 44% of FFS in 2021

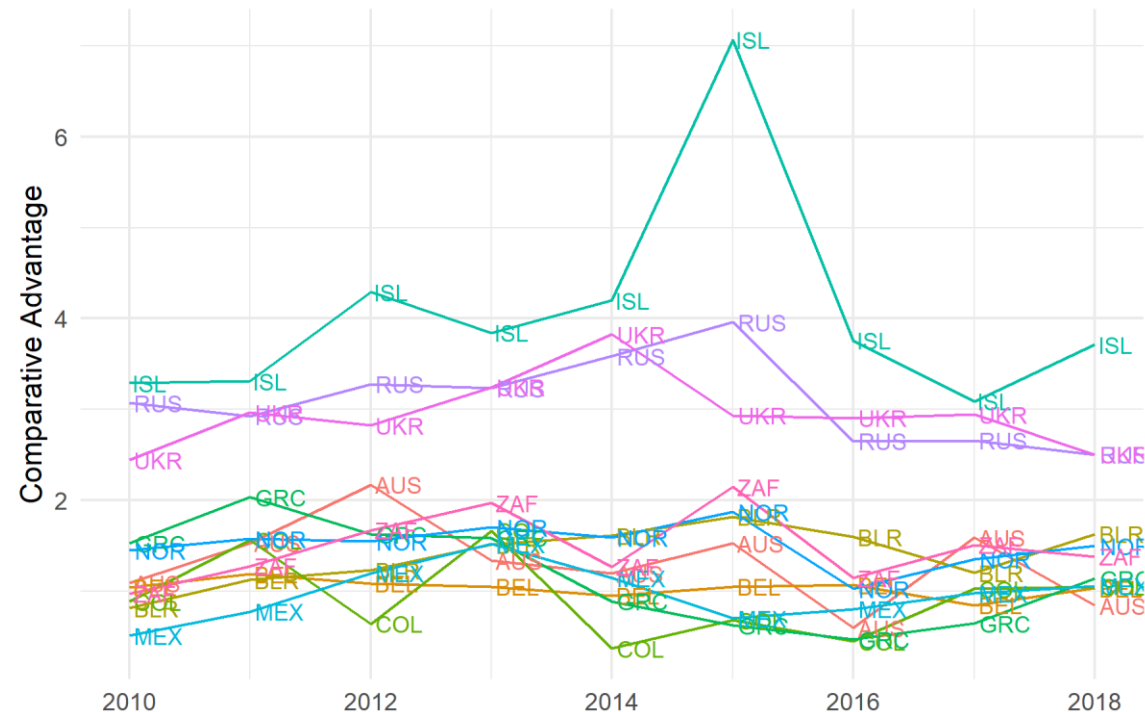
Direct fossil fuel intensity by sector



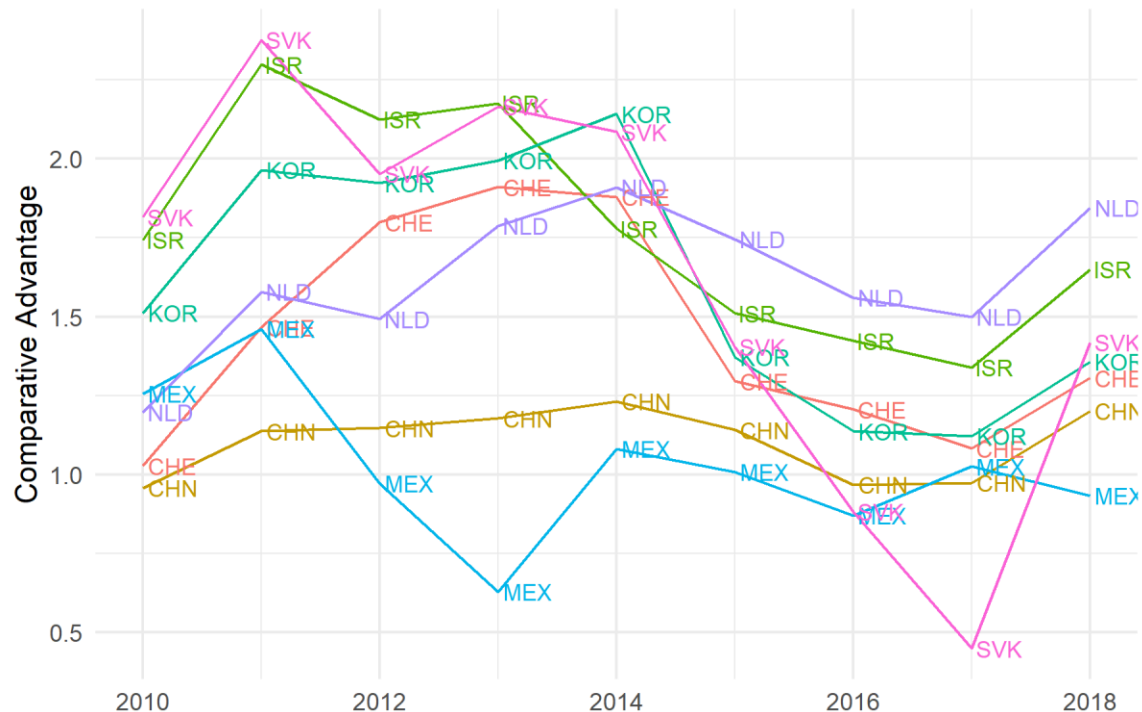
Note: The displayed intensities are normalised industry averages for 2010. Based on the input coefficients on sectors 05T06 and 19 in the OECD inter-country inter-industry input-output tables.

Comparative advantage (relative export competitiveness)

Basic metals



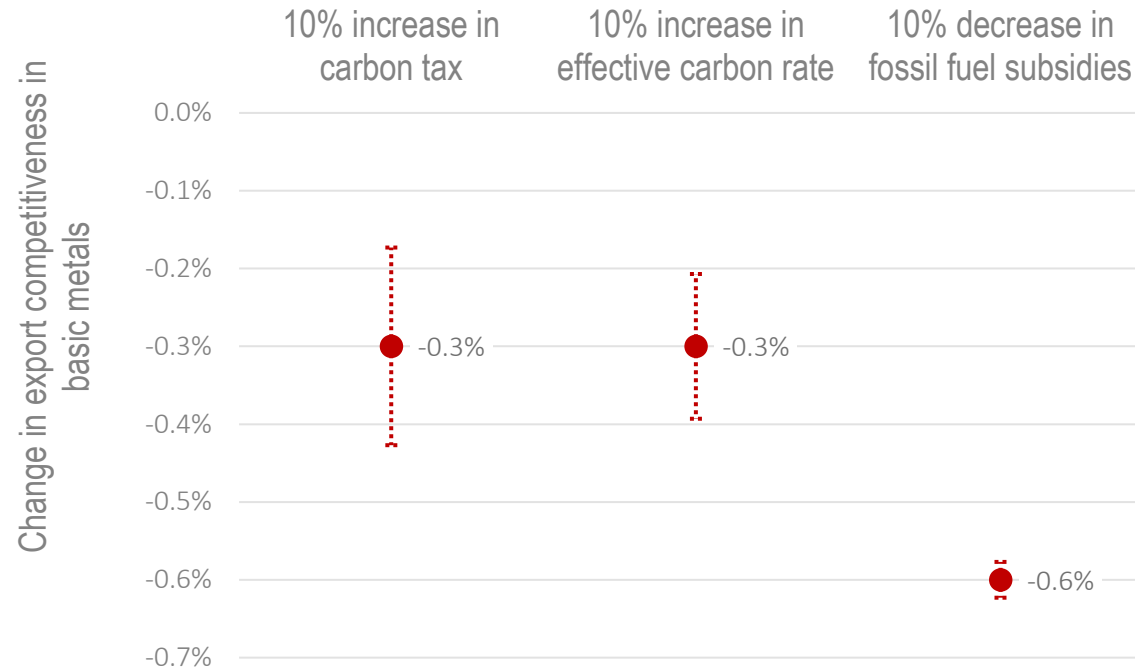
Computer, electronic and optical equipment



Evolution of comparative advantage for economies with comparative advantage in the industry in 2010 or 2018.

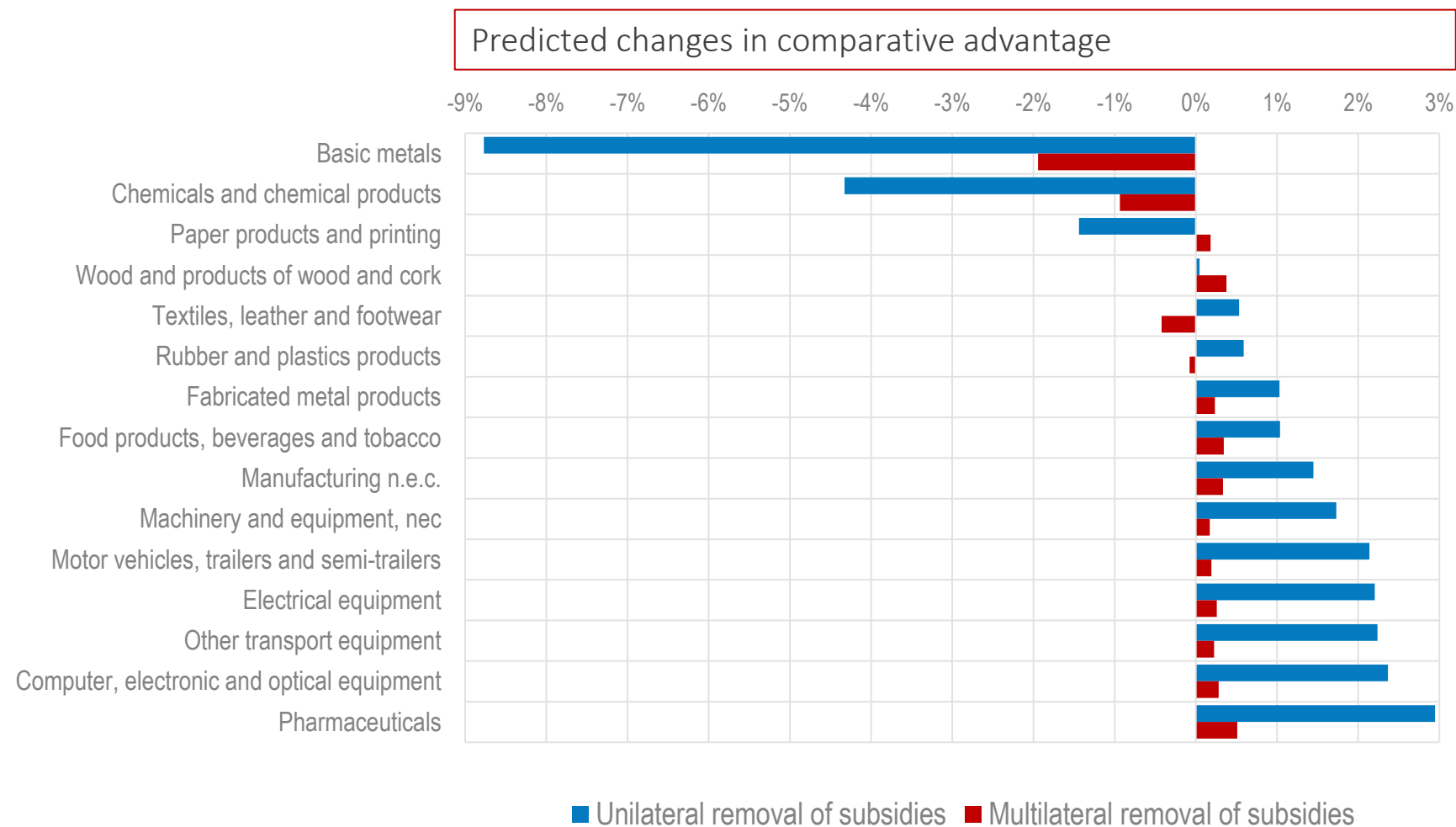
Carbon pricing policies and export competitiveness

Estimated impact of carbon pricing policies on the economy's export competitiveness in basic metals



Changes in carbon pricing policies can explain up to 1.2% of changes in country-industry export competitiveness between 2012 and 2018, most of which can be attributed to changes in taxes or their exemptions.

Back-of-the-envelope calculation – phasing out fossil fuel subsidies



Note: In the unilateral scenario, we calculate the predicted change in comparative advantage for each economy if the economy alone removed fossil fuel subsidies and then calculate the average change across all economies. In the multilateral scenario, we calculate the average predicted changes in comparative advantage when all economies remove their subsidies at once.

Thank you!

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Working paper available at

https://www.wto.org/english/res_e/reser_e/ersd202408_e.htm