policy brief

Optimal environmental border adjustments under the General Agreement on Tariffs and Trade

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CLIMATE change is a global problem, and while coordinated efforts to mitigate climate change can reduce the global cost of action, some countries may choose to not participate. To address "free rider concerns, countries might consider trade restrictions to prevent emissions from shifting to non-regulated regions. However, international law under the World Trade Organization (WTO) is designed to favor cooperative trade, and countries have legal commitments under the General Agreement on Tariffs and Trade (GATT) to reduce trade barriers and eliminate preferential treatment of traded goods. Countries are punished if they attempt to use trade restrictions to their advantage or to harm trade partners. As such, trade policy and climate policy must be aligned carefully.

The authors analyze trade policies that could be used to support regional carbon reductions. Standard advice suggests that the carbon content of imported goods should be taxed at a rate equal to the domestic carbon price. However, this advice runs counter to traditional economic theory, which suggests taxing the carbon content of traded goods below the domestic carbon price. According to economic theory, the use of a tariff in such a manner inadvertently increases consumption of emissions-intensive goods in unregulated regions. If a country were to tax the carbon content of traded goods at the domestic carbon price, they would violate the terms of the GATT by harming trade partners that do not regulate carbon.

The authors use a simulation model to find optimal trade policies when global externalities exist. As a case study, the model uses the global aluminum market and the Annex I countries that have ratified the Kyoto Protocol to reduce greenhouse gas emissions. Aluminum is a good choice for this analysis because of its dependence on fossil energy and its high intensity of trade.

The authors find the optimal import tariff on the carbon content of aluminum is about 50% of the domestic carbon price. When there are both import tariffs and export subsidies on carbon content, the difference is only 20% of the domestic carbon price. Further, if the world price is unaffected by the trade policy of the regulating country, or if production in unregulated countries is unresponsive to changes in world price, the optimal tariff is closer to zero. In any case, countries that impose tariffs at the domestic carbon price will harm those trade partners that do not regulate carbon.

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