Can tariffs be used to enforce Paris climate commitments?

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An MIT study estimates the impact of a trade war between the U.S. and the rest of world when the U.S. alone does not comply with the Paris Agreement. The aim of such a trade war would be to compel the U.S. to meet its Paris pledge. Credit: MAEDI/F. de La Mure; francediplomatie / Flickr

On June 14 the Trump administration announced new tariffs on $50

billion of Chinese goods, which prompted China to launch retaliatory measures in a trade war it claims the U.S. has started. A few days later, the U.S. president threatened to impose a 10 percent tariff on $200 billion of Chinese goods, sparking another warning from Beijing that it would hit back again. The administration had earlier imposed a 25 percent tariff on imports of steel, and a 10 percent tariff on aluminum, on all countries, leading several U.S. allies to devise their own plans for tariffs on U.S. goods. The European Union, for instance, just imposed penalties on $3.2 billion worth of American products. These developments may be just the beginning of an escalating trade war between the U.S. and the rest of the world.

Predicting the economic outcome of this burgeoning conflict for participating countries is no easy task, but a new study in the journal The World Economy could shed some light on what's likely to happen in the long run. Authored by Niven Winchester, a principal research scientist at the MIT Joint Program on the Science and Policy of Global Change, the study estimates the impact of a trade war between the U.S. and the rest of world when the U.S. alone does not comply with the 2015 Paris Agreement, the international accord to reduce greenhouse gas emissions and limit global temperature increases. The aim of such a trade war would be to compel the U.S. to meet its Paris pledge.

The study simulates a trade war using "strategic tariffs" imposed by both the U.S. and other nations. Strategic tariffs aim to improve the terms of trade—the ratio between a country's export prices and import prices—of the country imposing them, thus boosting national economic growth while penalizing other countries. The analysis applies a numerical economy-wide model derived from the Joint Program's Economic Projection and Policy Analysis (EPPA) model and considers a coordinated response by the rest of the world to action by the U.S.

Winchester finds that strategic tariffs result in changes that are

equivalent to reducing U.S. consumer income by 1.5 percent and the income of consumers in other nations (in aggregate) by 0.4 percent. That is, all nations lose when there is trade war, and proportional income losses in the U.S. are larger than those in other countries.

The simulated trade war was part of an evaluation of two trade strategies that countries might use to compel a non-compliant country to meet its Paris pledge to reduce emissions. In the other strategy, compliant countries imposed border carbon adjustments (BCAs)—tariffs on carbon emissions associated with a good's production—on non-compliant countries. The study focused on the potential for trade measures to incent the U.S. to reduce its greenhouse gas emissions in the aftermath of its announced withdrawal from the Paris Agreement.

The study found that when BCAs were imposed on U.S. exports, the nation's income-equivalent losses were significantly lower than what they would be if the U.S. complied with its Paris pledge. So the imposition of BCAs on its exports would offer the U.S. no economic incentive to shift from non-compliance to compliance.

In a trade war—which resulted in strategic tariffs that are much higher than BCA rates—U.S. income-equivalent losses are larger than what they would be if the U.S. complied with its Paris pledge (and avoided a trade war). At the same time, Paris-compliant countries imposing strategic tariffs on the U.S. (and facing strategic tariffs imposed by the U.S.) would also suffer considerable income-equivalent losses. Winchester concluded that strategic tariffs could be used to enforce Paris Agreement commitments as long as compliant countries are willing to absorb substantial economic losses on the home front.

"Border carbon adjustments cannot be used as an effective enforcement mechanism for the Paris Agreement, because they don't impose large enough economic costs on non-compliant countries," Winchester

concludes. "On the other extreme, strategic tariffs would likely lead to large economic losses for both non-compliant and compliant countries, but would offer those enforcing them the opportunity to punish 'free riders' who refuse to pay their own fair share in reducing emissions in line with the goals of the Paris Agreement."

More information: Niven Winchester. Can tariffs be used to enforce Paris climate commitments?, *The World Economy* (2018). DOI: 10.1111/twec.12679

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