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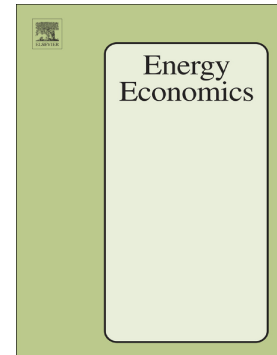
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ABSTRACT

This paper considers a recently developed consumption-based carbon emissions database from which emissions calculations are made based on the domestic use of fossil fuels plus the embodied emissions from imports minus exports, to test directly for the importance of trade in national emissions. Comparing such consumption-based emissions data to conventionally-measured territory-based emissions data produces several useful conclusions. For example, most countries are net importers of carbon emissions—their consumption-based emissions are higher than their territory-based emissions. Also, while low and high income countries tend to have the largest ratios (of consumption-based emissions to territory-based emissions), the majority of middle-income countries have ratios greater than one as well. Furthermore, China alone is responsible for over half the global outflows of carbon via trade. The econometric estimations—which were robust across income levels—determined that: (i) trade was significant for consumption-based emissions but not for territory-based emissions; (ii) exports and imports offset each other so that exports lower consumption-based emissions, whereas imports increase them; and (iii) the fossil fuel content of a country's energy mix is more important (likely significantly so) for territory-based emissions than for consumption-based emissions; and (iv) domestic fossil fuel prices (oil, gasoline) had a negative impact on territory-based emissions but were insignificant for consumption-based emissions. Hence, there is a wedge between (i) the emissions a country is responsible for—consumption-based emissions—and (ii) the emissions that a country's domestic policies affect—territory-based emissions. So, countries should have both an interest and a responsibility to help lower the carbon intensity of energy in countries that are particularly important for global carbon transfers—China and India.

Keywords: Consumption-based carbon emissions, international trade, trade and environment, cross-sectionally dependent panels, net global carbon flows.

JEL codes: C23, F18, Q56

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