

Why should you blame your neighbor? A Multi-Regional Input-Output Analysis of emissions embodied in China's international trade

Topic:

Author: Yongming HUANG

Co-Authors: Xiaoli nan, Yanan Zhang, JAMAL KHAN

This paper departs from existing literature by estimating, within the same framework and not separately, emissions transfers of air pollutants (APs) and greenhouse gases (GHG) from its trading partners to China using a Multi-Regional Input-Output model. Utilizing the data from the WIOD over the period 1995 to 2009, we analyze both China's environmental cost relative to its gains from international trade, with a pollution terms-of-trade indicator, and the key drivers of emissions embodied in its net exports, with a spatial-index-decomposition analysis. We obtain three main results. First, from one seventh to one fourth of both APs and GHG emissions in China were due to foreign consumption in 2009. Between 27-39% of GHG and 23-68% of APs of the developed-world consumption-based emissions occur in China. Second, China has been paying larger environment costs than its trade partners to achieve the same value-added through exports. Third, China's emission intensity has been the major driver of embodied emissions in its net exports, with a lower contribution of the other two factors, trade balance and specialization. The link between climate change and air quality's co-benefits and trade-offs should be considered jointly in the policy process.