Air pollution footprint of China's processing and normal exports

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Abstract

Air pollutants emissions embodied in trade have been widely studied using the input-output model in recent years. However, previous studies do not distinguish processing exports from normal exports when estimating air pollutants embodied in exports. This paper adopts an extended input-output table to estimate China's air pollutants (SO_2, NO_X and Soot) emissions generated by its processing and normal exports in 2012. Then the extended input-output table capturing processing trade is combined with hypothetical extraction method (HEM) to analyze linkages between sectors of SO_2 emissions. Results show that emissions embodied in processing exports is about 16% of that in total exports. Air pollutants emissions embodied in exports would be overestimated by 13-20% if trade heterogeneity is not taken into account. Production and Supply of Electric Power and Heat Power release massive SO_2 to support processing exports of Computer and Communication Equipment, which can not be captured without distinguishing processing exports from normal exports.

Keywords: Air pollution; China; Processing exports; Normal exports; Trade heterogeneity; Input-output model; Hypothetical extraction method (HEM).