

## **Functional Specialization in Global Supply Chains and the Environmental Performance of Countries**

Topic: Consumption-based accounting (Chair: Bart Los, University of Groningen)

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The rapid proliferation of Global Supply Chains (GSCs) has led to a kind of trade specialization that goes beyond specialization in industries. Countries now specialize in performing business functions (also within industries), which makes fair comparisons of the performance of industries across countries complicated. One of such comparisons relate to their environmental performance. In this paper, input-output techniques and regression analyses are used to find relationships between the types of business function into which countries and industries therein have specialized and their CO<sub>2</sub>-emissions per dollar of value added. The analyses relate to the period 1999-2008, when GSCs became pervasive. The data are for 40 countries and 35 industries. The input-output tables and emission data are taken from the World Input-Output Database and the business function data from Timmer, Miroudot and De Vries (Journal of Economic Geography, 2019). We provide accounts of the extent to which trade-induced specialization in functions affect the emission performance of countries and find that trade-induced functional specialization implies that trade affects the environmental performance of countries much more than in studies focusing on trade-induced industry specialization. This finding could have implications for studies into the Environmental Kuznets Curve and the Pollution Haven Hypothesis.