

## **Production- vs. consumption-based CO2 accounting: A GVCs and EKC perspective**

Topic: Vertical specialization and outsourcing II

Author: Jiansuo Pei

Recent studies show that over one-fifth of greenhouse gas (GHGs) emissions are due to production for exports and imports (Peters et al., 2011). Dietzenbacher et al. (2012) argues that the international production fragmentation complicates the estimates of consumption-based accounting. A natural question is that, whether increasing degrees of the global value chains (GVCs) contributes to the reduction of global emissions?

Given the nature of global emissions, it is not clear in theory why would some countries relocate production overseas at the first place. In this study, we aim to extend the Andreoni & Levinson (2001) model, allowing for international trade.

We expect that the GVCs perspective will add insights to the story of environmental Kuznets Curve (EKC). Empirically, a novel dataset will be employed for empirical test. The dataset incorporates China's special input-output table capturing processing trade into the World Input-Output Database (WIOD).

This study is relevant to policy discussions regarding increasing fragmentation and growing GHGs emissions.