

Structural decomposition analysis of carbon footprint

Topic: Input-output analysis for policy making I

Author: Michal Habrman

In the paper we perform an additive structural decomposition analysis of carbon footprint in selected countries. We decompose the change in carbon footprints into the factors: emission intensity, structural change, structure of consumption and total level of consumption. All these factors are also decomposed into domestic versus imported effect.

While the total amount of GHG emissions in european countries are stable or decreasing, the carbon footprint emboddied in the european consumption is increasing. With the SDA we test the pollution haven hypothesis that greater trade openness of european countries that leads to replacing domestic goods with imports (both in final and intermediate consumption goods) leads to an increase in carbon footprint of european countries. That leads to an increase in global emissions compared to the situation if domestic goods are not replaced by imports.

We carry out the analysis for period 1995 - 2009 using data from WIOD.