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The changing of the relationships between carbon footprints and final demand: Panel data evidence for 40 major countries



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ABSTRACT

Global warming and environmental pollution have led many countries to begin to implement measures to reduce the use of fossil fuels. However, emissions reductions may have been reached because of the displacement of emissions intensive production. The objective of this study is to analyze the relationships between the emissions caused by countries from a demand point of view, the carbon footprints and the demand for goods and services in these countries, and especially in the European countries. With this aim, a two-step process was carried out. Firstly, carbon footprints were calculated during the 1995–2009 period. Secondly, the EKC hypothesis between these carbon footprints and the total final demands were tested by using panel data and a multilevel mixed-effects model. The results show that the EKC hypothesis is not supported when considering carbon footprints with respect to final demand. It is also shown that carbon footprints are slightly increasing with respect to final demand beyond proportionality. The carbon footprint elasticities are different between countries, their values increasing with the final demand per capita of countries.

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