Econometric estimates of the Danish CO_2 emission multipliers by products on the basis of the Supply and Use System

José M. Rueda-Cantuche[a,b]; Antonio F. Amores [b*]

[a] European Commission - DG Joint Research Center
IPTS - Institute for Prospective Technological Studies
Edificio EXPO, C/ Inca Garcilaso s/n, E-41092 Sevilla, Spain
Phone +34 95 448 8363. Fax +34 95 448 8279
E-mail: Jose.Rueda-Cantuche@ec.europa.eu

[b] Pablo de Olavide University at Seville,
Department of Economics, Quantitative Methods
and History of Economics, Office 3.2.16
Ctra. Utrera Km. 1, 41013 Sevilla, Spain.
Phone: +34 95 497 7980. Fax: +34 95 434 9339.
E-mail: afamoher@upo.es

*Corresponding author

Abstract

Climate Change is currently on the mainstream of the economic science and particularly, environmental input-output analysis is increasingly playing a relevant role in measuring economic and social effects of sustainable development policies in Europe. Nevertheless, other approaches co-exist, such as the econometric modelling, where impacts are quantified on statistical grounds and with certain desirable properties (efficient estimates, confidence intervals, hypothesis testing, etc) that are not found in the input-output approach. Therefore, this paper merges both approaches to address the calculation of unbiased and consistent CO_2 emission multipliers for Denmark and their respective confidence intervals. The use of the supply and use system instead of the symmetric input-output table also brings in the chance to avoid usual problems in the construction of technical coefficients (technology assumptions, negatives, etc).

Keywords: Stochastic input-output analysis, supply and use system, input-output multipliers, emission multipliers.