Trade and Environment in Spain: an Input-Output Approach

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Abstract

The relationships between economic growth and environmental pressures are undoubtedly complex, even more when a globally interdependent world is considered. Countries' activities frequently cause environmental pressures that affect, at least in part, to other countries. The spatial displacement to other territories, sometimes unavoidably, takes place due to the characteristics of the environmental problem, such as atmospheric or river pollution that crosses borders. However, other times this spatial displacement is due to the relocation of production abroad, and/or by import substitution. Through international trade, the consumption of one country is linked to the emissions produced in other countries. Then, the emissions produced in one country do not have to be the same as the emissions actually generated by its consumption.

This paper analyses the emissions embodied in international trade. We develop an environmental extended open static input-output model considering the international trade relationships endogenously. This model allows us to define and compare the producer and/or consumer responsibility concepts and calculate the trade emission balance. Finally, we compute the model to asses the Spain responsibility in the international emission trade. We obtain results for two years 1995 and 2000, and for nine different atmospheric pollutants: the six greenhouse gases (CO_2, CH_4, N_2O, SF_6, HFCs and PFCs) regulated by Kyoto protocol and three other gases (SO_x, NO_x and NH_3). We find that Spain is an emission "net exporter" of all the considered gases both in 1995 and 2000, with the exception of NH_3 in this last year.

Keywords: Input-Output Analysis, Trade, Atmospheric pollutants, Spain.
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