

## **Environmental and economic impacts of Brexit in the consumption of vegetables and fruits in RU**

Topic: Thematic IO analysis: Sustainable Production, Consumption, Technology and Innovation

Author: Maria A. Tobarra-Gomez

Co-Authors: Luis A. LOPEZ, Andre Carrascal Incera, Raquel ORTEGA ARGILES

Brexit, particularly depending on its final version, is bound to have important effects on trade as well as on other socio-economic and environmental issues. Trying to give an assessment on these questions, we apply a multi-regional input-output model, extended with international trade data, to evaluate the economic and environmental impacts from Brexit in terms of consumption of fruits and vegetables in the UK. To this aim, we followed the methodology already applied to Spanish fresh produce consumption developed in Tobarra et al. (2018). Detailed trade data from customs (HM Revenue & Customs database) allow us to include an accurate demand vector for the current situation and future potential scenarios.

Certainly, a no-deal Brexit will reduce the availability of fruits and vegetables imported into the UK from EU countries. Therefore, this reduction will generate a substitution effect, being these goods potentially replaced either by domestic production or by imports from other regions. Among other effects, this change in trade patterns, would affect where the production is located, and consequently where the jobs are created and how much resources are needed in the process. Additionally, as a by-product, this would imply also a change in the levels of CO<sub>2</sub>. In this paper, we calculate the footprint balance linked to these import changes as the difference between the footprint from imported fruits and vegetables from the EU and the footprint using a substitute origin (UK or third countries/regions). A positive sign in that avoided footprint balance would indicate a positive result, since the trade substitution outcome is linked with a lower footprint. On the contrary, a negative sign would be linked to a negative impact (increasing the footprint) caused by the trade diversion.

A second objective in our paper is to analyse economic vs. environmental impacts from the potential Brexit trade substitution effect. In other words, we aim to identify the potential synergies or trade-offs between the economic and environmental results. These include carbon and water footprints for assessing environmental impacts and employment footprint for economic effects.

Keywords: Environmental footprints, Brexit, trade patterns

Tobarra, M.A., Lpez, L.A., Cadarso, M.A., Gmez, N., Cazcarro, I. (2018) Is Seasonal Households' Consumption Good for the Nexus Carbon/Water Footprint? The Spanish Fruits and Vegetables Case. *Environmental Science & Technology* 52, 12066-12077.